

LP22-0002
Frog Pond East and South Master Plan
Planning Commission Public Hearing Record Index
DRAFT (November 9, 2022)

PLANNING COMMISSION AND CITY COUNCIL MEETINGS

- November 16, 2022 - Planning Commission Public Hearing
Resolution LP22-0002 (*included above, adoption pending*)
Staff Report and Attachments (*included above, adoption pending*)
Presentation (*not included at this time*)
Affidavit of Notice of Hearing
- November 7, 2022 - City Council Work Session
Staff Report and Attachments
Presentation
Action Minutes (*will be included when available*)
- October 19, 2022 - Planning Commission Work Session
Staff Report and Attachments
Presentation
Minutes Excerpt (*will be made available by Monday, November 14, 2022*)
- October 17, 2022 - City Council Work Session
Staff Report and Attachments
Presentation
Action Minutes
- October 3, 2022 - City Council Work Session
Staff Report and Attachments
Presentation
Action Minutes
- September 28, 2022 - Planning Commission Work Session
Staff Report and Attachments
Presentation
Minutes Excerpt
- September 14, 2022 - Planning Commission Work Session
Staff Report and Attachments
Presentation
Minutes Excerpt
- September 8, 2022 - City Council Work Session
Staff Report and Attachments
Presentation
Action Minutes
- August 10, 2022 - Planning Commission Work Session

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Staff Report and Attachments
Presentation
Minutes Excerpt

July 18, 2022 - City Council Work Session
Staff Report and Attachments
Presentation
Action Minutes

July 13, 2022 - Planning Commission Work Session
Staff Report and Attachments
Presentation
Minutes Excerpt

June 20, 2022 - City Council Work Session
Staff Report and Attachments
Presentation
Action Minutes

June 8, 2022 - Planning Commission Work Session
Staff Report and Attachments
Presentation
Minutes Excerpt

May 2, 2022 - City Council Work Session
Staff Report and Attachments
Presentation
Action Minutes

April 13, 2022 - Planning Commission Work Session
Staff Report and Attachments
Presentation
Minutes Excerpt

March 7, 2022 - City Council Work Session
Staff Report and Attachments
Presentation
Action Minutes

February 9, 2022 - Planning Commission Work Session
Staff Report and Attachments
Presentation
Minutes Excerpt

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January 20, 2022 - City Council Work Session
Staff Report and Attachments
Presentation
Action Minutes

December 8, 2022 - Planning Commission Work Session
Staff Report and Attachments
Presentation
Minutes Excerpt

October 18, 2021 - City Council Work Session
Staff Report and Attachments
Presentation
Action Minutes

October 13, 2021 - Planning Commission Work Session
Staff Report and Attachments
Presentation
Minutes Excerpt

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PUBLIC ENGAGEMENT

Focus Groups: Renter Focus Group (May 11th/13th, 2022), First-Time Homebuyer (May 25th/26th, 2022) & Spanish Public Realm (September 17, 2022)

Surveys: Housing Survey (English & Spanish), Public Design Survey (English & Spanish)

Workshops: Community Design Workshop (May 12, 2022)

Events: Popsicles in the Park (August 9, 2022) & City Block Party (August 25, 2022)

Boones ferry Messenger: May 2022, August 2022, October 2022

Online Community Conversation: January 18, 2022

Property Owner Meeting: 9/23

COMMENTS/ARTICLES

Nancy Davis Email: June 24, 2022

Doris Wehler Emails: February 9, March 7, & June 20, 2022

Mimi Doukas Email with Letter and revised draft map: September 29 & October 14, 2022

Brobert Survey Input: October 5, 2022

MissyCC Survey Input: October 5, 2022

**AFFIDAVIT OF MAILING AND POSTING NOTICE OF
PUBLIC HEARING IN THE CITY OF WILSONVILLE**

STATE OF OREGON)

COUNTIES OF CLACKAMAS)
AND WASHINGTON)

CITY OF WILSONVILLE)

I, Mandi Simmons, do hereby certify that I am Administrative Assistant for the City of Wilsonville, Counties of Clackamas and Washington, State of Oregon, that the attached copy of Notice of Public Hearing is a true copy of the originals of the following that I did cause to be mailed/displayed copies of said public hearing in the exact form hereto attached:

- Single-paged notice was mailed on October 25, 2022 to the attached list of property owners and affected agencies
- Single-paged notice was sent to the Wilsonville Spokesman for publication in the November 2, 2022 newspaper issue
- The content of the notice was posted on October 28, 2022 on the City's website
- Single-paged notice was posted at physical locations listed below on October 25, 2022
 - City Hall, 29799 SW Town Center Loop, East, Wilsonville OR 97070
 - Wilsonville Community Center, 7965 SW Wilsonville Road, Wilsonville, OR 97070
 - Library, 8200 SW Wilsonville Road, Wilsonville OR 97070

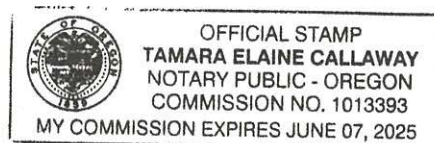
Witness my hand this 1st day of November 2022


Mandi Simmons, Administrative Assistant

Acknowledged before me this 1st day of November 2022, in Clackamas County, Oregon


Signature of Oregon Notary

Tamara E. Callaway
Printed Notary Name



NOTARY PUBLIC

My Commission Expires 6/7/25

NOTICE OF LEGISLATIVE PUBLIC HEARING BEFORE THE PLANNING COMMISSION AND CITY COUNCIL

FROG POND EAST AND SOUTH MASTER PLAN, CASE FILE LP22-0002

OREGON STATE LAW ORS 227.186. The City has not determined how or if this particular proposal will reduce or otherwise impact either the value or use of properties within Wilsonville. Any changes to permitted land uses may reduce or increase property values, depending on various factors. A written notice has been mailed to potentially impacted property owners as required.

PLANNING COMMISSION

On **Wednesday, Nov. 16, 2022, beginning at 6 pm**, the Planning Commission will hold a public hearing on the **Frog Pond East and South Master Plan**, and will consider whether to recommend adoption of the plan, along with associated amendments to the Map and Text of the Comprehensive Plan and Transportation System Plan, to City Council.

You will not receive another mailed notice unless you: submit a request in writing or by phone, or submit testimony or sign-in at the hearing.

CITY COUNCIL

On **Monday, Dec. 5, 2022 beginning at 7 pm**, the City Council will hold a public hearing regarding the **Frog Pond East and South Master Plan** after which it may make the final decision.

The hearings will take place at **Wilsonville City Hall**, 29799 SW Town Center Loop East. A complete copy of the project record, including staff report, findings, and recommendations, will be available online and at City Hall for viewing seven (7) days prior to each public hearing.

SUMMARY OF PROPOSAL

The Frog Pond East and South Master Plan sets the stage for Wilsonville's next great neighborhoods. The area covered by the Master Plan are properties currently outside the City, but planned to be added to the City and transition from rural to urban development. The Master Plan identifies the types and locations of the homes, retail, parks, open spaces, streets, trails, and infrastructure to be built over the next 10-20 years. The Master Plan focuses on providing for the community's future housing needs, including providing housing opportunities for a broad cross-section of people who wish to live in Wilsonville.

As a component of the City's Comprehensive Plan, the Frog Pond East and South Master Plan will have the force of law for the included properties. Annexation of the included properties into the City will be at the request of property owners concurrent with proposals to develop according to this Master Plan.

For more detail visit <https://www.letstalkwilsonville.com/frogpond>

HOW TO COMMENT: Oral or written testimony may be presented at the public hearings. Written comment on the proposal is also welcome prior to the public hearings. To have your written comments or testimony distributed to the Planning Commission before the meeting, it must be received by 2 pm on Nov. 8, 2022. **Direct written comments to** Mandi Simmons, Administrative Assistant, 29799 SW Town Center Loop East, Wilsonville, Oregon, 97070 or msimmons@ci.wilsonville.or.us

*Note: Assistive Listening Devices (ALD) are available for persons with impaired hearing and can be scheduled for this meeting. **The City will endeavor to provide qualified sign language interpreters and/or bilingual interpreters, without cost, if requested at least 48 hours prior to the meeting.** To obtain such services, please call Mandi Simmons, Administrative Assistant at (503) 682-4960.*

AJAMI HUSSEIN PO BOX 451 TUALATIN, OR 97062	AKSAY EVIN H & CYRUS KHEMALAAP 6675 SW BRISBAND ST WILSONVILLE, OR 97070	ANDERSON SPARKLE FULLER TRUSTEE 27480 SW STAFFORD RD WILSONVILLE, OR 97070
ARROYO JUAN C & ERIKA M PEREZ DE 27778 SW ALDER LN WILSONVILLE, OR 97070	AUBE BRYAN T & CHRISTINE Q 28263 SW WAGNER ST WILSONVILLE, OR 97070	AZAR PROPERTIES LLC 2233 NW HOOD DR CAMAS, WA 98607
BERG MICHELLE & MARK TIPPIN 28498 SW WAGNER ST WILSONVILLE, OR 97070	BROCK TIMOTHY & JULIANNE 28208 SW WAGNER ST WILSONVILLE, OR 97070	BROWN ARNOLD J & KRISTIN W 5780 SW ADVANCE RD WILSONVILLE, OR 97070
BRUCK WAYNE L 28121 SW 53RD AVE WILSONVILLE, OR 97070	CHANEY PAUL C CO-TRUSTEE 27227 SW STAFFORD RD WILSONVILLE, OR 97070	CHRISTENSEN KARI M & ERIC A 28069 SW WAGNER ST WILSONVILLE, OR 97070
CITY OF WILSONVILLE 29799 SW TOWN CENTER LOOP E WILSONVILLE, OR 97070	CIZ WILLIAM P & ELIZABETH 28300 SW 60TH AVE WILSONVILLE, OR 97070	CLANCY JOHN WILLIAM III 28043 SW WAGNER ST WILSONVILLE, OR 97070
CLARK CAMERON WAYNE & HOPE 28378 SW WAGNER ST WILSONVILLE, OR 97070	COLEMAN SPENSER 11483 SE AMITY DAYTON HWY DAYTON, OR 97114	COMMUNITY OF HOPE E L C A 27817 SW STAFFORD RD WILSONVILLE, OR 97070
COMMUNITY OF HOPE E L C A PO BOX 98 WILSONVILLE, OR 97070	CONDON ROBERT J 7250 SW MEADOWS CT WILSONVILLE, OR 97070	CONNOLLY JOSEPH A JR & JEAN C 37811 SE WILDCAT MOUNTAIN DR EAGLE CREEK, OR 97022
COOPER ERIC J 28299 SW WAGNER ST WILSONVILLE, OR 97070	COREY GLENN M & MARGUERITE 5691 SW KRUSE RD WILSONVILLE, OR 97070	DAY JOHN ALAN & CATHERINE M 28028 SW WAGNER ST WILSONVILLE, OR 97070
DECOSTER MARC TRUSTEE 5899 SW KRUSE RD WILSONVILLE, OR 97070	DEGRUCHY DANIEL L 1226 ARROYO SECO DR CAMPBELL, CA 95008	DORSEY KEVIN L & JENNIFER M 28373 SW WAGNER ST WILSONVILLE, OR 97070
DSOUZA JAYANT 28087 SW WAGNER ST WILSONVILLE, OR 97070	ENGER GRANT A & KERI M 28067 SW MORGAN ST WILSONVILLE, OR 97070	FEE CADENCE H & SEAN W 28367 SW WAGNER ST WILSONVILLE, OR 97070

FRIGAARD KENT M TRUSTEE
28500 SW 60TH AVE
WILSONVILLE, OR 97070

GEE MICHAEL WILLIAM
28146 SW WAGNER ST
WILSONVILLE, OR 97070

GUNTER MARK G & CARI L
28348 SW WAGNER ST
WILSONVILLE, OR 97070

HARMS STEPHEN D & THEREASA A
28034 SW MORGAN ST
WILSONVILLE, OR 97070

HOLMAN MICHAEL & LACEY
28386 SW WAGNER ST
WILSONVILLE, OR 97070

JACKSON LAURA D
28170 SW WAGNER ST
WILSONVILLE, OR 97070

JUSTICE TARA & ERIC HAGEMEISTER
5947 SW KAHLE RD
WILSONVILLE, OR 97070

KRUSE RICHARD D & SANDRA S
29051 SW 60TH AVE
WILSONVILLE, OR 97070

LAM ANTHONY
28056 SW WAGNER ST
WILSONVILLE, OR 97070

LANDOVER HOMEOWNERS ASSOC INC
16325 SW BOONES FRY RD #203
LAKE OSWEGO, OR 97034

FROGPOND GRANGE #111
28750 SW ASHLAND LOOP APT 155
WILSONVILLE, OR 97070

GREENE JAMES MICHAEL
28480 SW WAGNER ST
WILSONVILLE, OR 97070

GYAPONG FAY A
6360 SW ADVANCE RD
WILSONVILLE, OR 97070

HARRIS MICHAEL & GINA M
28390 SW WAGNER ST
WILSONVILLE, OR 97070

HUGHES JOHN D & JOYCE E
28668 SW 60TH AVE
WILSONVILLE, OR 97070

JEON SEONGIUN & KENAN ALDZIC
6455 SW NYBERG LN APT B208
TUALATIN, OR 97062

KOCH NATHAN
28408 SW WAGNER ST
WILSONVILLE, OR 97070

KRUSE ROGER A TRUSTEE
4839 SE CARUTHERS ST
PORTLAND, OR 97215

LAM DAVID
3918 SE 187TH LOOP
VANCOUVER, WA 98683

LAZZARETTO IRENE R TRUSTEE
28433 SW WAGNER ST
WILSONVILLE, OR 97070

FROLOV ANDREY & TATIANA
28438 SW WAGNER ST
WILSONVILLE, OR 97070

GRILL DAVID GLENN CO-TRUSTEE
26801 SW STAFFORD RD
WILSONVILLE, OR 97070

HANEGAN JOAN
5565 SW KRUSE RD
WILSONVILLE, OR 97070

HAUSSERMAN ROBERT & CARI
28050 SW 60TH AVE
WILSONVILLE, OR 97070

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PO BOX 80352
PORTLAND, OR 97280

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6691 SW BRISBAND ST
WILSONVILLE, OR 97070

KOTLER DIANA & BEN-AMI
27598 SW ALDER LN
WILSONVILLE, OR 97070

KWDS LLC
PO BOX 145
WILSONVILLE, OR 97070

LANDOVER HOMEOWNERS ASSN
PO BOX 1933
WILSONVILLE, OR 97070

LOEN LORI M
28237 SW WAGNER ST
WILSONVILLE, OR 97070

LOPEZ MIRA & JAIME COBA
27774 SW ALDER LN
WILSONVILLE, OR 97070

MARELICH MARC C & ELISA
28330 SW WAGNER ST
WILSONVILLE, OR 97070

MARTINEZ MATTHEW & RACHAEL
28027 SW WAGNER ST
WILSONVILLE, OR 97070

MARTOS ANTONIO III & LINNEA
28446 SW WAGNER ST
WILSONVILLE, OR 97070

MCANDREW EUGENE & JESSICA
28468 SW WAGNER ST
WILSONVILLE, OR 97070

MCDONALD JOHN T & ALICE L
28333 SW WAGNER ST
WILSONVILLE, OR 97070

MCKINNEY BETTY B TRUSTEE
27480 SW STAFFORD RD
WILSONVILLE, OR 97070

MEYERS KERRI L
28360 SW WAGNER ST
WILSONVILLE, OR 97070

MITCHELL ABIGAIL & ROBERT
6699 SW BRISBAND ST
WILSONVILLE, OR 97070

MONROE KAAGEN & AMBER
27776 SW ALDER LN
WILSONVILLE, OR 97070

MORGAN WILLIAM RAY TRUSTEE
4500 SW ADVANCE RD
WILSONVILLE, OR 97070

MORGAN ADEL
6698 SW BRISBAND ST
WILSONVILLE, OR 97070

NGUYEN HENRY HOANG & LIEN KIEU
28317 SW WAGNER ST
WILSONVILLE, OR 97070

OCANDO ANDRES ALBURJAS & E L
27630 SW ALDER LN
WILSONVILLE, OR 97070

OLSON TERRANCE EARL & JEAN ELISE
27606 SW ALDER LN
WILSONVILLE, OR 97070

OWENS DAVID W & MICHELE J
5738 SW ADVANCE RD
WILSONVILLE, OR 97070

PENNINGTON TRECIE M
27614 SW ALDER LN
WILSONVILLE, OR 97070

PERELLI-MINETTI JULIE TRUSTEE
5801 SW KAHLE RD
WILSONVILLE, OR 97070

PEREZ TIM TRUSTEE
28424 SW 60TH AVE
WILSONVILLE, OR 97070

PETRAS ADRIAN & ANA CAMPEAN
3673 SW HOMESTEADER RD
WEST LINN, OR 97068

PICKLES PLACE LLC
32480 SW JULIETTE DR
WILSONVILLE, OR 97070

RE THOMAS JOHN TRUSTEE
19035 SW CHESAPEAKE DR
TUALATIN, OR 97062

REITER JOSH A & ALISA D
28011 SW MORGAN ST
WILSONVILLE, OR 97070

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402 W 8TH ST
VANCOUVER, WA 98660

RICHMOND JEFFREY J & ROBYN M
28260 SW WAGNER ST
WILSONVILLE, OR 97070

RODRIGUEZ MANUEL & DONNA
3750 WESTWOOD DR
TILLAMOOK, OR 97141

SARDAM VINCENT ROSS & KAITLYNN
27590 SW ALDER LN
WILSONVILLE, OR 97070

SATTER STANLEY P & JULIA A
28476 SW WAGNER ST
WILSONVILLE, OR 97070

SHAHEEN MOHAMED YOUSSEF
28298 SW WAGNER ST
WILSONVILLE, OR 97070

SHI JUE TRUSTEE
5618 NW SKYCREST PKWY
PORTLAND, OR 97229

SMITH REX ORAN & GLENDA
6538 SW STRATFORD CT
WILSONVILLE, OR 97070

SPRECHER TRACI L & DEAN A
PO BOX 502
WILSONVILLE, OR 97070

SWOFFORD DANIEL L & TAMMY M
28420 SW WAGNER ST
WILSONVILLE, OR 97070

VAUGHN KAREN M & MICHAEL R
28580 SW 60TH AVE
WILSONVILLE, OR 97070

VILA PEDRO & HAYDEE J
6683 SW BRISBAND ST
WILSONVILLE, OR 97070

WENZ KENT L
28055 SW MORGAN ST
WILSONVILLE, OR 97070

WILLIS SAUNDRA F TRUSTEE
27622 SW ALDER LN
WILSONVILLE, OR 97070

YOSHIDA MASANORI & NOBUKO
28080 SW WAGNER ST
WILSONVILLE, OR 97070

POSTAL CUSTOMER
28359 SW WAGNER ST
WILSONVILLE, OR 97070

POSTAL CUSTOMER
28901 SW 60TH AVE
WILSONVILLE, OR 97070

SNELL BRUCE PAUL & WENDY
28152 SW 60TH AVE
WILSONVILLE, OR 97070

STAFFORD MEADOWS HOA
3330 NW YEON AVE STE 200
PORTLAND, OR 97210

TERLECKI SARA JEAN
27520 SW STAFFORD RD
WILSONVILLE, OR 97070

VENTURE PROPERTIES INC
4230 GALEWOOD ST STE 100
LAKE OSWEGO, OR 97035

WAIBLE AIRIKA L
5890 SW ADVANCE RD
WILSONVILLE, OR 97070

WEST LINN-WILS SCH DIST #3
22210 SW STAFFORD RD
TUALATIN, OR 97062

WOLFF RHODA L TRUSTEE
28118 SW WAGNER ST
WILSONVILLE, OR 97070

ZHANG ZHONG
5012 GREENSBOROUGH CT
LAKE OSWEGO, OR 97035

POSTAL CUSTOMER
6700 SW WILSONVILLE RD
WILSONVILLE, OR 97070

POSTAL CUSTOMER
6720 SW FROG POND LN
WILSONVILLE, OR 97070

SORBETS JOAN CO-TRUSTEE
68-3708 KA UHIWAI ST
WAIKOLOA, HI 96738

SUH LIGIA & SUNGWON
28209 SW WAGNER ST
WILSONVILLE, OR 97070

TGA BOULDER CREEK LLC
4675 MACARTHUR CT STE 1100
NEWPORT BEACH, CA 92660

VIKE VALERIE DEANNA TRUSTEE
62 SW CONDOLEA
LAKE OSWEGO, OR 97035

WCF LLC
9740 SW HILLMAN CT STE 200
WILSONVILLE, OR 97070

WIKLE KEVIN LEIGH & VICKI LYNN
5851 SW KAHLE RD
WILSONVILLE, OR 97070

YAMAMOTO ALLAN TRUSTEE
6690 SW BRISBAND ST
WILSONVILLE, OR 97070

POSTAL CUSTOMER
6300 SW HAZEL ST
WILSONVILLE, OR 97070

POSTAL CUSTOMER
28355 SW 60TH AVE
WILSONVILLE, OR 97070

POSTAL CUSTOMER
28416 SW WAGNER ST
WILSONVILLE, OR 97070

POSTAL CUSTOMER
6600 SW WILSONVILLE RD
WILSONVILLE, OR 97070

POSTAL CUSTOMER
6351 SW ADVANCE RD
WILSONVILLE, OR 97070

POSTAL CUSTOMER
28153 SW WAGNER ST
WILSONVILLE, OR 97070

POSTAL CUSTOMER
28316 SW WAGNER ST
WILSONVILLE, OR 97070

POSTAL CUSTOMER
6550 SW STRATFORD CT
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28236 SW WAGNER ST
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28356 SW WAGNER ST
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4795 SW ADVANCE RD
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6682 SW BRISBAND ST
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28450 SW WAGNER ST
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28519 SW WAGNER ST
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6235 SW KAHLE RD
WILSONVILLE, OR 97070

POSTAL CUSTOMER
5821 SW KAHLE RD
WILSONVILLE, OR 97070

POSTAL CUSTOMER
6674 SW BRISBAND ST
WILSONVILLE, OR 97070

POSTAL CUSTOMER
5696 SW ADVANCE RD
WILSONVILLE, OR 97070

Pat McGough
West Linn/Wilsonville School District 3J
2755 SW Borland Road
Tualatin, OR 97062

Andy Back
Wash. County Long Range Planning
155 N. First Avenue
Hillsboro, OR 97124

Aquilla Hurd-Ravich
City of Tualatin
18880 SW Martinazzi Avenue
Tualatin, OR 97062

Attn: Development Review
ODOT Region 1
123 NW Flanders Street
Portland, OR 97209

Ben Baldwin
Tri-Met Project Planning Dept
4012 SE 17th Avenue
Portland, OR 97202

Bill Ferber, Region Manager
Oregon Water Resources Department
725 Summer Street, NE
Salem, OR 97301

Dr. Kathy Ludwig
West Linn/Wilsonville School District 3J
22210 SW Stafford Road
Tualatin, OR 97062

Tracy Wilder, Department of Corrections
Facilities Services
3601 State Street
Salem, Oregon 97301

Steve Hursh, Service & Design Supervisor
Portland General Electric
2213 SW 153rd Drive
Beaverton, OR 97006

Brian Harper
Metro
600 NE Grand Avenue
Portland, OR 97232

Nina Carlson
NW Natural Gas
250 SW Taylor St.
Portland, OR 97204

John Olivares, Operations Manager
Republic Services of Clackamas &
Washington Counties
10295 SW Ridder Road
Wilsonville, OR 97070

City Planner
City of Canby
P.O. Box 930
Canby, OR 97013

Diane Taniguchi-Dennis
Clean Water Services
2550 SW Hillsboro Hwy.
Hillsboro, OR 97123

Department of Corrections
2575 Center Street NE
Salem, OR 97310

John Lilly
Department of State Lands
775 Summer Street, NE
Salem, OR 97301

Roseann Johnson, Assistant Director of
Government Affairs
Home Builders Associations
15555 SW Bangy Road, Suite 301
Lake Oswego, OR 97035

Metro
600 NE Grand Avenue
Portland, OR 97232

Clackamas County Planning Director
150 Beaver Creek Road
Oregon City, OR 97045

Oregon Dept of Environ Quality
700 NE Multnomah Street, Suite 600
Portland, OR 97232

Land Use Contact, Planning Department
Metro
600 NE Grand Ave
Portland, OR 97232

Planning Director
City of Sherwood
22560 SW Pine Street
Sherwood, OR 97140

James Clark
BPA, Realty Department
2715 Tepper Lane
Keizer, OR 97013

Sherwood School Dist Admin Office
23295 SW Main Street
Sherwood, OR 97140

Tualatin Valley Fire and Rescue
South Division
8445 SW Elligsen Road
Wilsonville, OR 97070

Tualatin Valley Fire and Rescue
29875 SW Kinsman Road
Wilsonville, OR 97070

Tualatin Valley Water District
1850 SW 170th Ave.
Beaverton, OR 97005

**NOTICE OF LEGISLATIVE PUBLIC HEARING BEFORE THE PLANNING COMMISSION
AND CITY COUNCIL:
FROG POND EAST AND SOUTH MASTER PLAN, CASE FILE LP22-0002**

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HOW TO COMMENT:

Oral or written testimony may be presented at the public hearings. Written comment on the proposal is also welcome prior to the hearings. To have your written comments or testimony distributed to the Planning Commission before the meeting, it must be received by 2 pm on Nov. 8, 2022. Direct written comments to Mandi Simmons, Administrative Assistant, 29799 SW Town Center Loop East, Wilsonville, Oregon, 97070 or msimmons@ci.wilsonville.or.us

Note: Assistive Listening Devices (ALD) are available for persons with impaired hearing and can be scheduled for this meeting. The City will endeavor to provide qualified sign language interpreters and/or bilingual interpreters, without cost, if requested at least 48 hours prior to the meeting. To obtain such services, please call Mandi Simmons, Administrative Assistant at (503) 682-4960.

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<p>Date: 10/26/22 Account #: 108863 Reference #: Company Name: WILSONVILLE, CITY OF Contact: Address: 29799 SW TOWN CENTER LOOP E WILSONVILLE Telephone: (503) 570-1510 Fax: (503) 682-1015</p>	<p>Ad ID: 263047 Start: 11/02/22 Stop: 11/03/22 Total Cost: \$180.27 Ad Size: 10.542 Column Width: 1 Column Height: 10.542 Ad Class: 1202 Phone # (971) 204-7706 Email: callsop@pamplinmedia.com</p>
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Run Dates:

Wilsonville Spokesman 11/03/22

**NOTICE OF LEGISLATIVE PUBLIC HEARING BEFORE THE PLANNING COMMISSION AND CITY COUNCIL:
FROG POND EAST AND SOUTH MASTER PLAN,
CASE FILE LP22-0002**

OREGON STATE LAW ORS 227.186. The City has not determined how or if this particular proposal will reduce or otherwise impact either the value or use of properties within Wilsonville. Any changes to permitted land uses may reduce or increase property values, depending on various factors. A written notice has been mailed to potentially impacted property owners as required.

PLANNING COMMISSION:

On **Wednesday, Nov. 16, 2022, beginning at 6pm**, the Planning Commission will hold a public hearing on the **Frog Pond East and South Master Plan**, and will consider whether to recommend adoption of the plan, along with associated amendments to the Map and Text of the Comprehensive Plan and Transportation System Plan, to City Council.

You will not receive another mailed notice unless you: submit a request in writing or by phone, or submit testimony or sign-in at the hearing.

CITY COUNCIL:

On **Monday, Dec. 5, 2022, beginning at 7pm**, the City Council will hold a public hearing regarding the **Frog Pond East and South Master Plan** after which it may make a final decision.

The hearings will take place at Wilsonville City Hall, 29799 SW Town Center Loop East. A complete copy of the project record, including staff report, findings, and recommendations, will be available online and at City Hall for viewing seven (7) days prior to each public hearing.

SUMMARY OF PROPOSAL:

The Frog Pond East and South Master Plan sets the stage for Wilsonville's next great neighborhoods. The area covered by the Master Plan are properties currently outside the City, but planned to be added to the City and transition from rural to urban development. The Master Plan identifies the types and locations of the homes, retail, parks, open spaces, streets, trails, and infrastructure to be built over the next 10-20 years. The Master Plan focuses on providing for the community's future housing needs, including providing housing opportunities for a broad cross-section of people who wish to live in Wilsonville.

As a component of the City's Comprehensive Plan, the Frog Pond East and South Master Plan will have the force of law for the included properties. Annexation of the included properties into the City will be at the request of property owners concurrent with proposals to develop according to this Master Plan.

For more detail visit

<https://www.letstalkwilsonville.com/frogpond>

HOW TO COMMENT:

Oral or written testimony may be presented at the public hearings. Written comment on the proposal is also welcome prior to the hearings. To have your written comments or testimony distributed to the Planning Commission before the meeting, it must be received by 2 pm on Nov. 8, 2022. Direct written comments to Mandi Simmons, Administrative Assistant, 29799 SW Town Center Loop East, Wilsonville, Oregon, 97070 or msimmons@ci.wilsonville.or.us

Note: Assistive Listening Devices (ALD) are available for persons with impaired hearing and can be scheduled for this meeting. The City will endeavor to provide qualified sign language interpreters and/or bilingual interpreters, without cost, if requested at least 48 hours prior to the meeting. To obtain such services, please call Mandi Simmons, Administrative Assistant at (503) 682-4960.

Publish November 3, 2022

WS263047



CITY COUNCIL
MONDAY, NOVEMBER 7, 2022

WORK SESSION

Frog Pond East and South Master Plan (Pauly)



CITY COUNCIL MEETING STAFF REPORT

Meeting Date: November 7, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable	
		Comments:	
Staff Recommendation: Provide input on the draft Frog Pond East and South Master Plan.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE COUNCIL:

Provide feedback and input on the draft Frog Pond East and South Master Plan.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City’s Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a Master Plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the urban reserve land known as Frog Pond East and South. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process will also identify water, sewer, stormwater, and transportation infrastructure needs and funding sources.

This will be the City Council’s tenth and final work session on the Frog Pond East and South Master Plan. Previous work sessions gathered Council feedback on the various aspects of the Master Plan, including: public outreach activities, needs and opportunities for affordable housing and first time home ownership opportunities, design concepts for development of land use and urban design alternatives, the draft preferred land use alternative, transportation and infrastructure analyses and plans, a housing variety policy, neighborhood commercial and main street policies, and important elements of the public realm including trees, open spaces, lighting, gateways and signage.

The Frog Pond East and South Master Plan (Attachment 1) is a compilation of these items and discussions with the Council, Commission, and community. This work session provides the Council with the opportunity to review and provide feedback on the draft Plan. The project team will update the Master Plan document to incorporate Council feedback, and prepare a final version for Council’s consideration for adoption on December 5.

EXPECTED RESULTS:

Feedback on and specific requested edits to the draft Frog Pond East and South Master Plan.

TIMELINE:

This is the tenth and final in a series of work sessions for the City Council. Council has a public hearing on the Master Plan scheduled for December 5. Review of development code language and infrastructure funding, will extend into the first half of 2023.

CURRENT YEAR BUDGET IMPACTS:

The project is funded by a combination of a \$350,000 Metro grant, an \$81,000 Oregon DLCD grant, and matching City funds in the form of staff time. \$311,000 is budgeted in FY 22/23 to complete the project.

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which laid out a robust public engagement program that included meaningful and impactful involvement of people who identify with historically marginalized communities.

POTENTIAL IMPACTS OR BENEFIT TO THE COMMUNITY:

Furthering of the City's Equitable Housing Strategic Plan and Council's goal of affordable home ownership, while creating Wilsonville next great neighborhoods.

ALTERNATIVES:

The City Council can continue to direct changes to the draft plan.

CITY MANAGER COMMENT:

N/A

ATTACHMENTS:

1. Draft Frog Pond East and South Master Plan dated October 2022

FROG POND EAST & SOUTH MASTER PLAN



Placeholder Image

A VISION AND IMPLEMENTATION PLAN FOR TWO
NEW NEIGHBORHOODS IN EAST WILSONVILLE

DRAFT - OCTOBER 2022



The October 2022 Draft Frog Pond East & South Master Plan is an in-progress draft. It is subject to change prior to the preparation of the hearings-ready draft. Some sections and graphics have placeholders for content to be revised or added at a later date.

Placeholder Image

A VISION FOR FROG POND IN 2035

The Frog Pond Area in 2035 is an integral part of the Wilsonville community, with attractive and connected neighborhoods. The community's hallmarks are the variety of quality homes; open spaces for gathering; nearby services, shops and restaurants; excellent schools; and vibrant parks and trails. The Frog Pond Area is a convenient bike, walk, drive, or bus trip to all parts of Wilsonville.

FROG POND AREA PLAN VISION STATEMENT
ADOPTED BY THE WILSONVILLE CITY COUNCIL
NOVEMBER 16, 2015





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An aerial architectural rendering of a campus, showing various buildings, courtyards, and green spaces. A large, stylized teal number '1' is overlaid on the left side of the image. The rendering is detailed, showing individual buildings, trees, and walkways.

Placeholder Image

INTRODUCTION



PURPOSE - WHAT THIS PLAN IS ABOUT

A VISION AND GUIDING BLUEPRINT

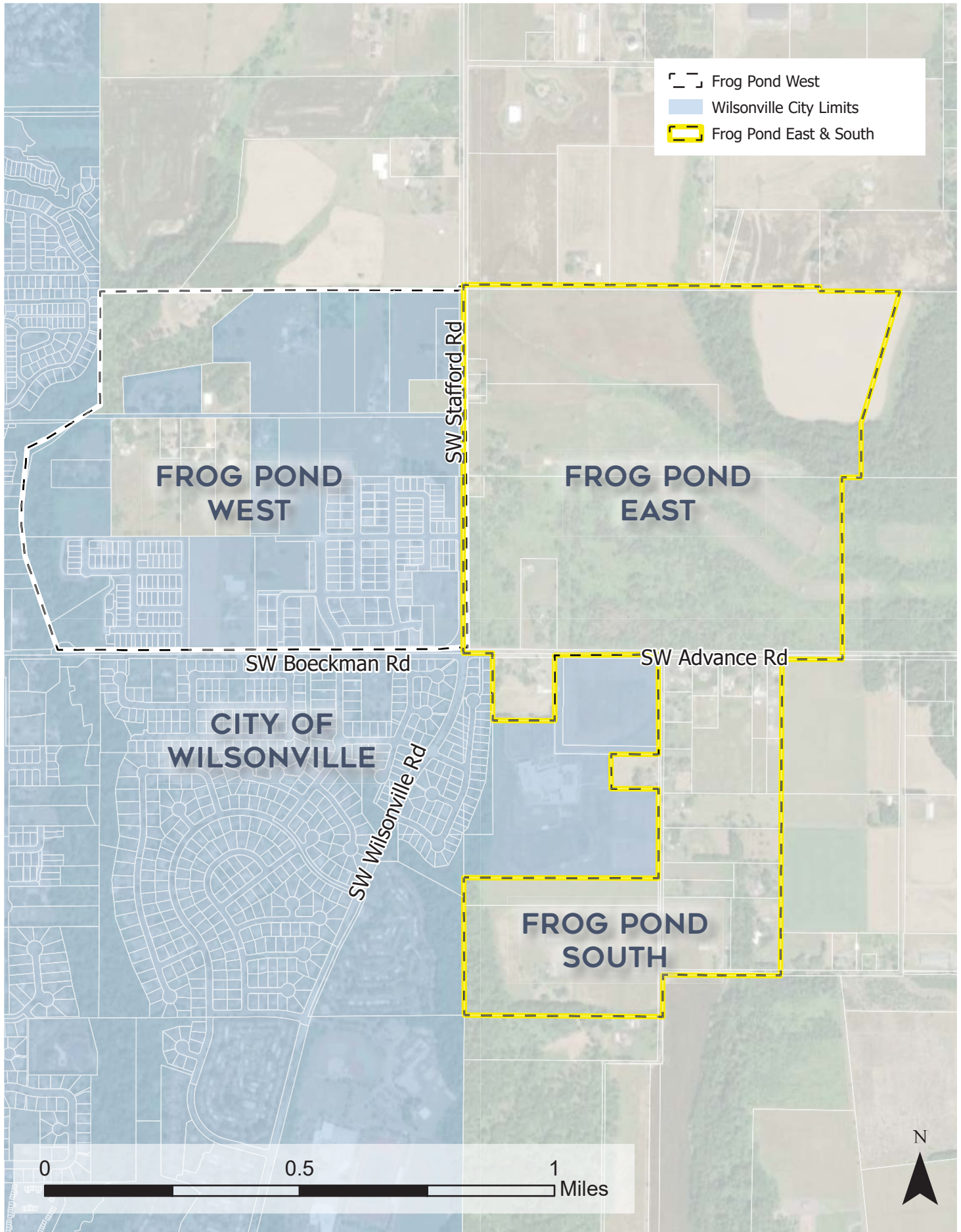
The Frog Pond East & South Master Plan (Master Plan) is a vision and guiding blueprint for the development of two new neighborhoods in East Wilsonville. It includes:

- The overall vision and intended outcomes for the Frog Pond East and South neighborhoods
- Background information on Frog Pond's context and setting
- An affordable housing analysis, with a focus on equitable housing strategies
- A market analysis of neighborhood commercial opportunities
- Design concepts to create a connected, livable community
- Neighborhood-specific plans for land use, streets, pedestrian connections, bike routes, parks and open spaces, and natural resource areas
- Transportation and utility infrastructure analysis, plans and cost estimates
- Implementation strategies for land use regulations and infrastructure funding

KNITTING TOGETHER A COMMUNITY

Frog Pond East and South will build out over a 10-20-year timeframe and occur in multiple phases and individual developments. North of Advance Road, the East Neighborhood is 172 acres in size and comprised of only 8 tax lots. The relatively large parcel sizes will use the plan to lay out phased developments that fit together in an intentional way over the years. South of Advance Road, the South neighborhood is different: its 121-acre area has 31 tax lots and about 14 existing homes. New development in the South neighborhood will need to blend seamlessly with the homes that remain, Meridian Creek Middle School, and the future 10-acre Community Park. The Master Plan plays a key role to ensure that all of the individual developments add up to connected and cohesive new neighborhoods that are an integral and treasured part of Wilsonville.

Figure 1. Frog Pond East & South Master Plan Area





SCOPE AND REGULATORY ROLE - HOW THE PLAN WILL BE USED

This Master Plan guides the 305 acre Frog Pond area that was added to the Urban Growth Boundary (UGB) in 2018, located east of SW Stafford Road and north and south of SW Advance Road East Wilsonville. See Figure 1.

The Frog Pond East & South Master Plan is a “supporting document” of the Wilsonville Comprehensive Plan (Plan), with the regulatory force and effect of the Plan. The Master Plan fits within the City’s three-part regulatory structure for development review:

- The Comprehensive Plan provides the policies and high-level intent for the Frog Pond area.
- The Master Plan establishes the overall vision and intended outcomes for the area; geographically-specific plans for land use, transportation, parks and open space, and other community elements; and implementing strategies for zoning, infrastructure development and funding.
- The Development Code (Code) establishes the specific zoning, standards, and procedures for development.

Development reviews that include housing will be subject to the Code’s clear and objective development standards as required by state law. For development applications that are reviewed through a discretionary process, the Master Plan serves a regulatory role.





The City's online engagement platform, Let's Talk, Wilsonville!, was used throughout the project.

THE PLANNING PROCESS – HOW THE PLAN WAS CREATED

Outreach summary to be included in revised version.

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VISION





VISION VISION

CONTINUING PRIORITIES FROM THE AREA PLAN AND FROG POND WEST

The vision for Frog Pond's three neighborhoods was first crafted as part of the Frog Pond Area Plan (see inside cover), and implemented for Frog Pond West. The key elements from that vision will continue as part of Frog Pond East and South.

As with Frog Pond West, Frog Pond East and South will create:

- **A great neighborhood** that is a connected part of Wilsonville.
- **A cohesive place** where individual private developments and public realm improvements fit seamlessly together into a coordinated whole.
- **A neighborhood with walkable and active streets**, a variety of housing, extensive walking and biking routes, an excellent school, and quality parks, open spaces, and natural areas.
- **Quality development and community design** that is an attractive and valued addition to the City.
- **Easy access to nature, parks and open spaces** for all neighborhood residents.

PLACEHOLDER IMAGE



VISION VISION

ADDITIONAL PRIORITIES FOR FROG POND EAST AND SOUTH

This Master Plan builds on previous work and incorporates the priorities as described below.

INCLUSIVE COMMUNITY ENGAGEMENT

The planning process invited all community members to participate and specifically reached out to people who do not typically participate in land use planning. There were many ways to participate: two focus groups to engage Spanish speakers; focus groups to involve renters and potential first-time home buyers; multiple open houses, community forums and tabling events; a design workshop; and 3 online surveys. All in all, the City took an inclusive approach to involve a broad spectrum of the Wilsonville community.

IMPLEMENTATION OF THE CITY'S EQUITABLE HOUSING STRATEGY PLAN

Frog Pond East and South will be an important part of the City of Wilsonville's efforts to meet future housing needs and provide equitable housing options for residents. The City's 2020 Equitable Housing Strategic Plan (EHSP) recognized this and called for the Master Plan to establish achievable goals/targets for affordable housing in the area and integrate affordable housing into the master plan. This Master Plan identifies potential targets and strategies for affordable housing and how they may be applied as Frog Pond East and South develop.

MIDDLE HOUSING

To help implement the City's Equitable Housing Strategic Plan and Oregon House Bill 2001 adopted by the Oregon Legislature in 2019, in 2021 the City amended the Development Code to allow townhouses, duplexes, triplexes, and fourplexes - "middle housing" - in all zones that permit single-family detached dwellings. The amendments included updates to siting and development standards for single-family and middle housing throughout Wilsonville, and new regulations specific to Frog Pond West. This Master Plan takes middle housing implementation further by including strategies and regulations that will deliver a range of middle housing types throughout Frog Pond East and South.



HOUSING VARIETY AND AFFORDABILITY

This Master Plan is built on two principles for housing implementation:

- **Housing variety throughout** - The plan creates opportunities for a wide variety of housing choices in each neighborhood and subdistrict. This concept focuses on mixing and integrating different housing choices throughout the Frog Pond neighborhoods rather than having separate areas for separate housing unit categories.
- **Affordable housing integration** - The planned variety of housing - together with minimum density, housing mix requirements, and other code standards - will provide opportunities for the development of housing types targeted toward home buyers and renters with incomes of 80-150% area median income (AMI). This is the market-based and zoning-based strategy of the plan. Additionally, the land use, transportation, open space, and infrastructure elements of the plan set the stage for affordable housing initiatives that City may wish to undertake in the future.

Please see the Residential Land Use section for more information on how the above priorities are implemented.

Placeholder Image

3

CONTEXT & SETTING



CONTEXT AND SETTING

REGIONAL AND CITY CONTEXT

Figure 4 and Figure 3 show the planning area in the context of nearby regional areas and East Wilsonville. Highlights are summarized below.

SURROUNDING AREAS

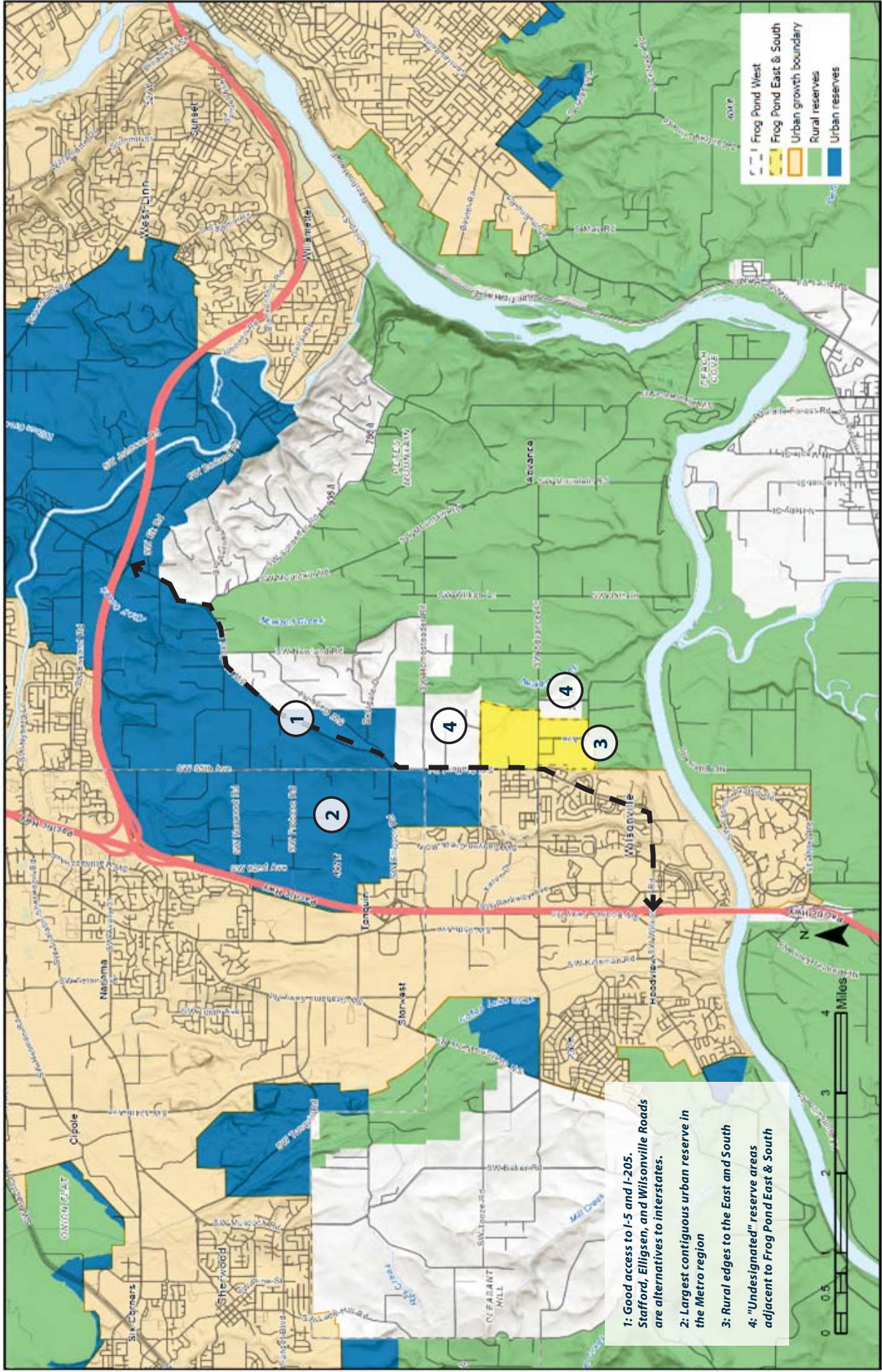
Regional access - The Frog Pond area has good access to I-5 and I-205. This proximity is convenient for regional travel, but poses congestion challenges because SW Stafford, SW Elligsen and SW Wilsonville Roads are alternate routes to the interstates.

Proximity to future Urban Growth Boundary expansion areas - Frog Pond is located at the southern end of the largest contiguous urban reserve area (the SW Stafford Basin) in the Portland Region.

Rural edge – The planning area is adjacent to lands designated “rural reserves” and “undesigned” by Metro. There will be a rural and agricultural edge to the East and South Neighborhoods for decades to come.

Gateways to Wilsonville – SW Stafford Road is a gateway into Wilsonville from the currently rural Stafford Road area and I-205 corridor. SW Advance Road is a gateway into Wilsonville for the large rural area of Clackamas County located eastward to Pete’s Mountain.

Figure 3. Regional Context



- 1: Good access to I-5 and I-205. Stafford, Elligsen, and Wilsonville Roads are alternatives to interstates.
- 2: Largest contiguous urban reserve in the Metro region
- 3: Rural edges to the East and South
- 4: "Undesignated" reserve areas adjacent to Frog Pond East & South



CONTEXT AND SETTING

EAST WILSONVILLE

Close proximity to local destinations:

- 1.7 miles to Wilsonville's Town Center and eastside employment areas (about 8 minutes by bicycle)
- 2.3 miles to Wilsonville's Old Town (about 12 minutes by bicycle)
- 1.6 miles to Memorial Park (about 8 minutes by bicycle)

Limited connectivity to adjacent areas of Wilsonville – Proximity to nearby destinations is good as noted above, but connectivity is limited. The Frog Pond area is reliant on SW Boeckman Road, SW Wilsonville Road, and SW Stafford Road. Existing and new trails, shown in Figure 4, will help supplement the street network and increase connectivity by foot and bike.

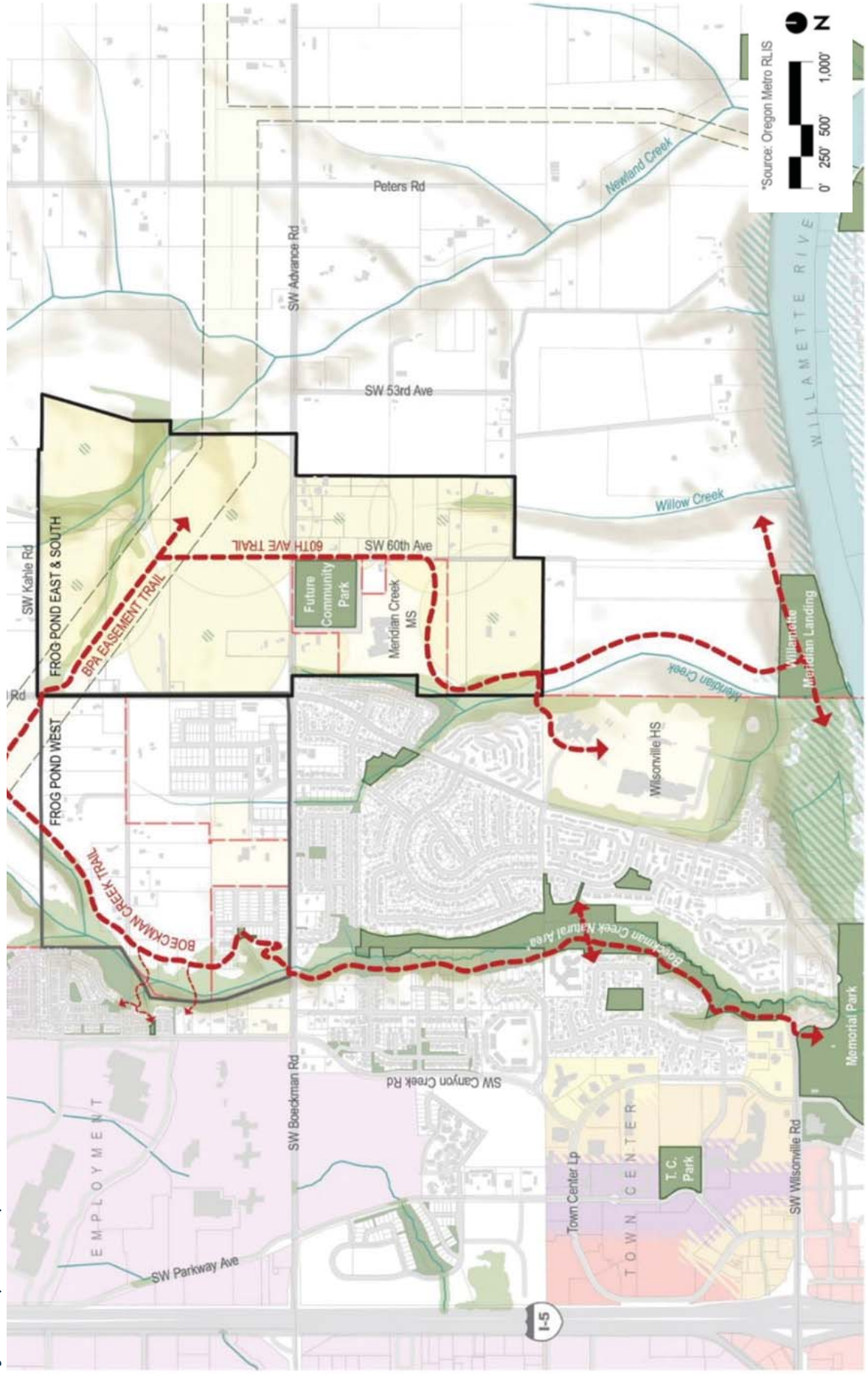
Proximity to City and regional greenspaces – The Frog Pond Area is near many City and regional greenspaces that add to the high quality of life in the Wilsonville, including: the SW Boeckman Creek Natural Area, Town Center Park, the Willamette River, Memorial Park, Corral Creek Natural Area, Graham Oaks Natural Area, Coffee Creek Wetlands, Weber Farm Natural Area, Mollala River State Park, and more.

Proximity to natural and city open space – The nearby open spaces – Newland Creek, Meridian Creek, the BPA easement, a future neighborhood park, a future community park, and Meridian Creek Middle School – are great amenities. Future residents in the East and South neighborhoods will always be “just a block or two” from the nearest open space.

A significant barrier and/or opportunity of the BPA Easement – On the plus side, the BPA easement is open area and can be used for recreation, community gardens, parking and other uses. Negatives include the towers, potential electrical “buzz”, and limitations for planting and structures.

Potential for internal connectivity – There is excellent potential for safe, direct and convenient street and path connectivity within and between the three Frog Pond neighborhoods.

Figure 4. Conceptual Trails Map





CONTEXT AND SETTING

FROG POND AREA

Frog Pond East and South are part of the larger Frog Pond Area, which totals about 500 acres in size. Contextual land uses and community destinations within the Frog Pond Area include:

Frog Pond West Neighborhood - Frog Pond West is rapidly developing. Planned for about 625 homes, about half of the area was approved for development between 2018 and 2022. The residential uses are primarily single family detached homes, affordable to families with incomes that exceed 120% of Wilsonville's median family income.

Future Frog Pond West neighborhood park and school - A new neighborhood park and elementary school are in the planning stages in Frog Pond West. These community uses will be a quarter mile west of SW Stafford Road, a 5-minute walk from the west edge of the East and South neighborhoods.

Meridian Creek Middle School and Future Community Park - The middle school property was the first Frog Pond land to annex and develop after inclusion in the Urban Growth Boundary in 2013. The 10-acre future community park site is also annexed. These existing and future community uses will be important civic uses within the Frog Pond South neighborhood.



CONTEXT AND SETTING



Frog Pond East, northern area looking NE from the Frog Pond Grange. BPA easement and natural resources visible.



Frog Pond East and South visible, Frog Pond West development underway in foreground. Meridian Creek Middle School and future Community Park site visible.



CONTEXT AND SETTING

SETTING - FROG POND EAST AND SOUTH

The Frog Pond East and South area is comprised of rural residential uses and open lands. Figure 5 shows the setting in 2022. Some portions of the plan area are expected to be unbuildable or otherwise not develop during the next 20 plus years. This includes developed homes sites that either have historic homes or high value recently constructed homes. In addition it includes natural areas, the BPA Easement, and existing right-of-way. . Key existing conditions include:

- Total acreage: 305 acres
- Parcels: 31
- Existing Homes: 20
- After deducting for developed areas and future streets, the net buildable area is estimated to be 138.5 acres (54% of the total area)
- The historic Frog Pond Grange is located on SW Stafford Road.
- Significant trees are scattered throughout the planning area, including white oak, ponderosa pine, redwood, giant sequoia, and Douglas fir, among others.
- Meridian Creek Middle School lies in Frog Pond South.
- Creek areas abut and cross the study area; these spaces will be protected by the City's Significant Resource Overlay Zone (SROZ).



Meridian Creek Middle School and neighborhoods along SW Wilsonville Road visible.

Figure 5. Existing Conditions



An aerial architectural rendering of a residential development. The scene shows a mix of building footprints, streets, and green spaces with trees. A large, bold teal number '4' is overlaid on the left side of the image. At the top center, there is a rectangular box containing the text 'Placeholder Image'.

Placeholder Image

HOUSING & MARKET CONDITIONS



HOUSING AND MARKET CONDITIONS

AFFORDABLE HOUSING NEEDS AND OPPORTUNITIES

The Frog Pond East and South areas are important for the City of Wilsonville's efforts to meet future housing needs and provide equitable housing options for residents. The City's 2020 Equitable Housing Strategic Plan (EHSP) recognized this, and called for the Frog Pond East and South Master Plan to establish targets for affordability, specifically:

As part of the master planning requirements for Frog Pond East and South, the City will establish goals or targets for accessibility to services/amenities, unit types, and unit affordability levels. The targets for affordability levels (number of units and depth of affordability for those units) should be reasonably achievable, allowing for sufficient market-rate development to support key infrastructure investments. This approach will provide a methodology and framework that can be applied in other growth areas beyond Frog Pond.

- Wilsonville Equitable Housing Strategic Plan

The EHSP also directs the Frog Pond East and South master planning effort to:

- Integrate affordable housing into the overall master plan, with access to amenities
- Identify specific properties that could help meet affordable housing targets
- Evaluate relationships to the infrastructure funding plan
- Engage affordable housing developers and other stakeholders to refine strategies

These elements were a key part of the Frog Pond East and South planning process.

HOUSING AFFORDABILITY IN WILSONVILLE

The estimated range of home prices by housing type and unit size in Frog Pond East and South is shown in Figure 7. The estimated income needed to afford these purchase prices, given standard lending assumptions is shown in Figure 8 as a percentage of the MFI for a four-person household in Clackamas County. This information was derived from 2021 data on recent home transactions for newer housing in Wilsonville and surrounding areas.



HOUSING AND MARKET CONDITIONS

Housing affordability is generally referred to in terms of “Median Family Income” (MFI) and the price at which households at a given income level can spend 30% of their income on housing. The housing needs of individuals and families at different income levels differ, as do the approaches to delivering new housing for them, as shown in Figure 6.

Figure 6. Approaches to delivering New Housing by Income Range

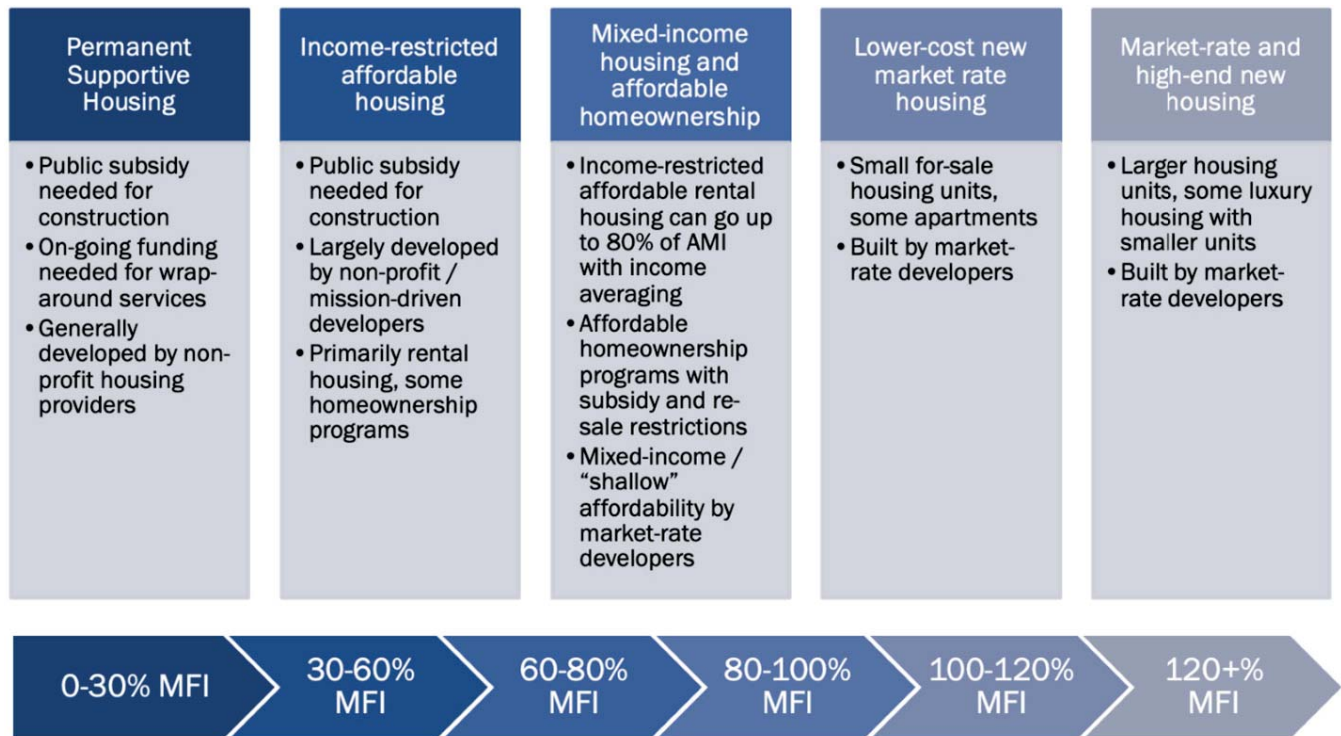


Figure Source: ECONorthwest

MARKET TRENDS

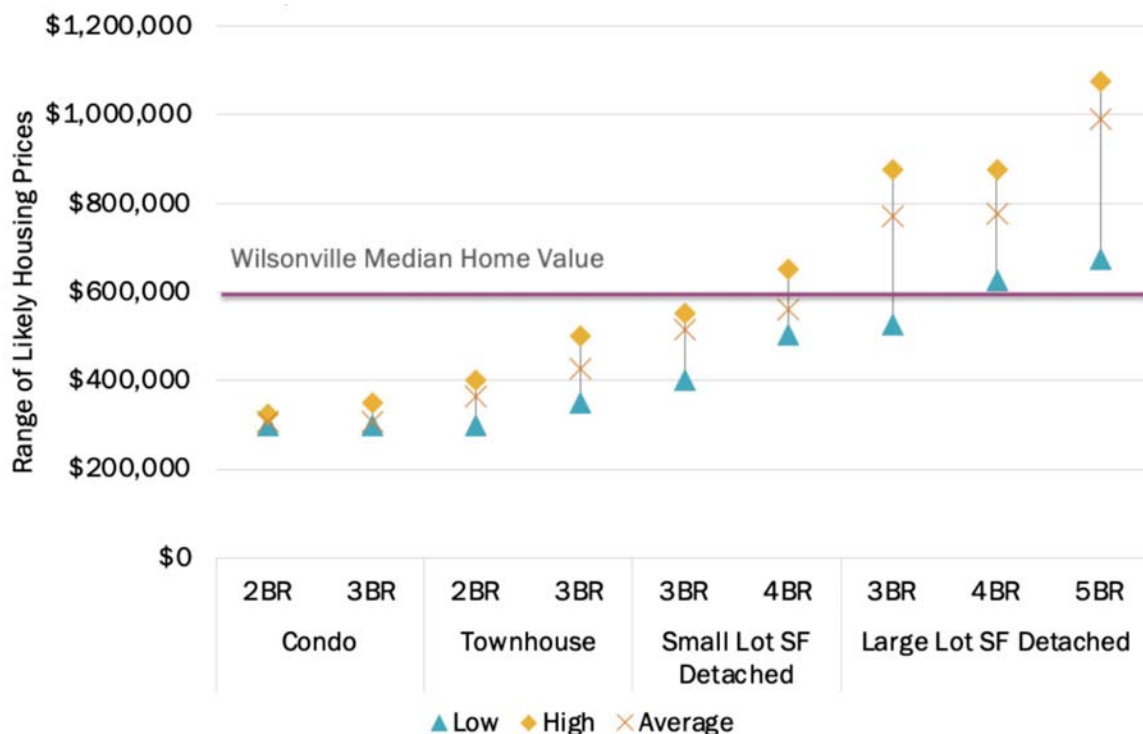
Housing prices will likely continue to escalate over the coming years, increasing the expected home values over time. In addition, recent increases in interest rates have impacted housing affordability for many and will continue to impact affordability unless rates fall to levels at or below the rates at the date of this analysis in October 2021. Based on these trends, estimates of the following ranges for affordability of new for-sale housing in Frog Pond East and South are as follows:



HOUSING AND MARKET CONDITIONS

- New large-lot detached housing in Wilsonville will more expensive than most existing homes in the City and likely be affordable only to households earning more than 120% of MFI, with many affordable only to households earning more than 150% of MFI.
- New small lot detached homes (on less than 4,500 SF lots) may sell for close to the median value of existing homes and are likely to be affordable mostly to households earning between 100% and 130% of MFI.
- New condominiums and townhouses will almost certainly sell for less than the median value of existing homes in Wilsonville and are likely to be affordable to households earning between roughly 70% and 100% of MFI depending on unit size.

Figure 7. Typical Sales Prices for Recently Built Housing by Housing Type, Wilsonville and Surrounding Area (October 2021)

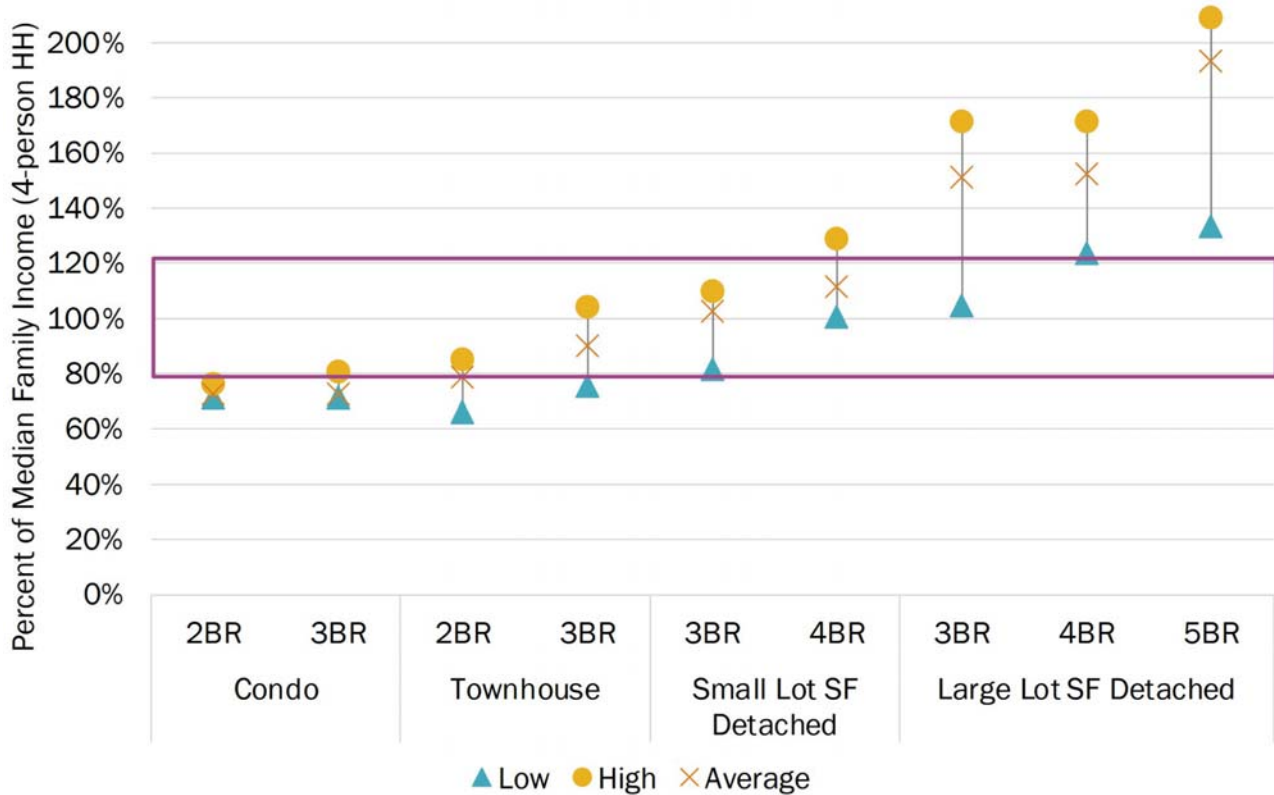


Source: ECONorthwest Analysis of Redfin Data, October 2021



HOUSING AND MARKET CONDITIONS

Figure 8. Housing Affordability as a Percent of Median Family Income by Housing Type for Recently Built Housing, Wilsonville and Surrounding Area (October 2021)



Source: ECONorthwest Analysis of Redfin Data, October 2021

AFFORDABLE HOUSING RECOMMENDATIONS FOR FROG POND EAST & SOUTH

The City can support development of affordable and mixed-income housing in a number of ways, much of which will be the subject of citywide discussion in 2023-2024 as Wilsonville completes a Housing Needs Analysis and Housing Production Strategy required by the State of Oregon. Several strategies were also identified in the City’s Equitable Housing Strategic Plan. The following strategies are likely to have the greatest impact for Frog Pond East and South.

- Zone for All Housing Types:** Enable a full range of housing types in Frog Pond East and South, including multifamily, to expand first time homebuyer opportunities and to make it possible to build affordable rental housing using common federal and state sources of funding for subsidized housing.



HOUSING AND MARKET CONDITIONS

- **Acquire Land for Affordable Housing:** Attempt to find willing sellers for suitable properties for affordable housing within Frog Pond East and/or South, to ensure an opportunity to build affordable housing in the area. This would likely require funding, particularly if the City intends to offer the land for affordable housing development for little or no cost to make affordable housing development more viable. With private developers also seeking to secure land or options to purchase property, the sooner the City acts, the better its chances.
- **Partner with a Community Land Trust:** A community land trust (CLT) such as Proud Ground could help deliver affordable homeownership housing in Frog Pond East and South. If the City is unable to secure land for affordable housing, it could explore other ways to support a CLT in building affordable homes, such as direct subsidy (e.g., using Metro Bond money), SDC waivers, or tax abatements (see further discussion below).
- **Waive, Reduce, or Defer SDCs for Affordable Units:** The cost of SDCs and other infrastructure costs for greenfield development, while often a critical part to paying for needed infrastructure, can become prohibitive for affordable housing. Options to reduce SDC cost impacts on affordable housing are being explored as part of the infrastructure funding plan for Frog Pond East and South to ensure that overall infrastructure needs can be met while minimizing impacts on housing affordability (see section X).
- **Incentivize Smaller and Lower-Cost Middle Housing:** There are several incentives that could be effective tools to support middle housing development that is affordable to middle-income households, including tax exemption programs and a tiered SDC system.

ACCESSIBLE AND VISITABLE HOUSING

With substantial new housing construction coming for Frog Pond East and South, the City can encourage units designed to be accessible or visitable to better meet the needs of individuals with mobility limitations in the community. The City can apply some of the same incentives noted above to apply to accessible or visitable units, such as tax abatements, fee reductions, or allowances to build additional units.



HOUSING AND MARKET CONDITIONS

NEIGHBORHOOD COMMERCIAL MARKET FINDINGS

A vibrant center of neighborhood commercial activity serving residents and visitors has been envisioned for the Frog Pond area since the drafting of the 2015 Frog Pond Area Plan. There are examples of retail centers in other communities that serve as good examples for the Frog Pond area, as described in this section.

This information is informed by a market analysis and several interviews with retail developers and brokers to understand the opportunities and constraints of the Frog Pond location for future retail, as well as to determine any unmet community needs that could be satisfied in Frog Pond East and South. Figure 9 depicts the "Primary Market Area" that a commercial node in Frog Pond East would serve, along with nearby multifamily developments and commercial uses. Key points include:

- Developers generally agree that Wilsonville is an attractive market, primarily due to its demographics and balance of population and jobs.
- There is limited excess demand for retail in the region, given the availability of leasable space in the Town Center and elsewhere.
- The City's focus should be on establishing a commercial hub that provides some goods and services for local residents while creating a center of activity, sense of place, and social hub for the Frog Pond neighborhoods.

PLACEHOLDER IMAGE



HOUSING AND MARKET CONDITIONS

PROJECT EXAMPLES

Retail is typically built in a series of standard formats. While each site has a unique context, retail developments are generally consistent in terms of anchor tenants, size (square footage), trade area, and other features. The most appropriate type of retail would be a corner store, convenience center, or neighborhood center, described below.

Table 1. Types of Retail Centers

RETAIL CENTER TYPE	GROSS RETAIL AREA (SF)	DWELLINGS NECESSARY TO SUPPORT	AVERAGE TRADE AREA	ANCHOR TENANTS
Corner Store	1,500 - 3,000	1,000	Neighborhood	Corner store
Convenience Center	10,000 - 30,000	2,000	1 mile radius	Specialty food or pharmacy
Neighborhood Center	60,000 - 90,000	6,000 - 8,000	2 mile radius	Supermarket and pharmacy
Community Center	100,000 - 400,000	20,000 +	5 mile radius	Junior department store

Sources: Urban Land Institute, Leland Consulting Group

CASE STUDIES AND PRECEDENTS

This section includes brief case studies summarizing different projects whose stories have some relevance to the Frog Pond Area. All of the projects are greenfield projects (built on land that was mostly previously undeveloped); were built within a surrounding suburban context; were thoughtfully planned with an emphasis on quality of place and community; and were intended as neighborhood-serving commercial centers surrounded by housing, quality streets, open spaces, and other features. While each is unique, these case studies have takeaways for the City to consider for the implementation of commercial development in Frog Pond.

LCG selected six commercial developments to study based on stakeholder interview input, industry expertise, and background research. Three of these are smaller, unanchored commercial centers, one is a commercial main street, and two are larger anchored centers with main street elements (provided primarily as points of comparison). Specific takeaways from LCG's case study research include: Many developers seek to build and lease commercial and employment space within several years of land acquisition; for them, if the commercial market is weak at the time of initial residential construction, the potential of having some vacant land for upwards of 20 years after development represents an opportunity cost. The land could have been zoned for another use (typically housing) and been rented or sold in earlier years and renters and homeowners could have had homes to live in.



HOUSING AND MARKET CONDITIONS

- From a policy and place-making point of view, if a city or other authority is seeking to ensure adequate land for long-term commercial and employment development, and associated jobs, a longer timeline for buildout of commercial uses still meets the long term purpose of creating a neighborhood destination and reducing need to make trips out of the neighborhood for provided services.
- Creating a strong sense of place is possible with a small amount of commercial development when it is carefully and deliberately built.
- A commercial main street is one important amenity that can make the rest of the community more desirable. While commercial space needs exposure to high-traffic arterials, pedestrian-oriented places should be created on main streets that are perpendicular to the arterials. It is often not comfortable for pedestrians to walk and talk or dine outside, along arterial roads, so creating a pedestrian-friendly environment is easier on perpendicular streets.
- Commercial development takes time in locations without large populations and traffic counts. Housing is often faster to build out, followed by commercial and employment areas.



HOUSING AND MARKET CONDITIONS

COMMERCIAL AREA RECOMMENDATIONS

Recommendations from the market analysis are shown below. Additional details are provided in Appendix D.

BUILDING SQUARE FEET. Up to 44,000 square feet.

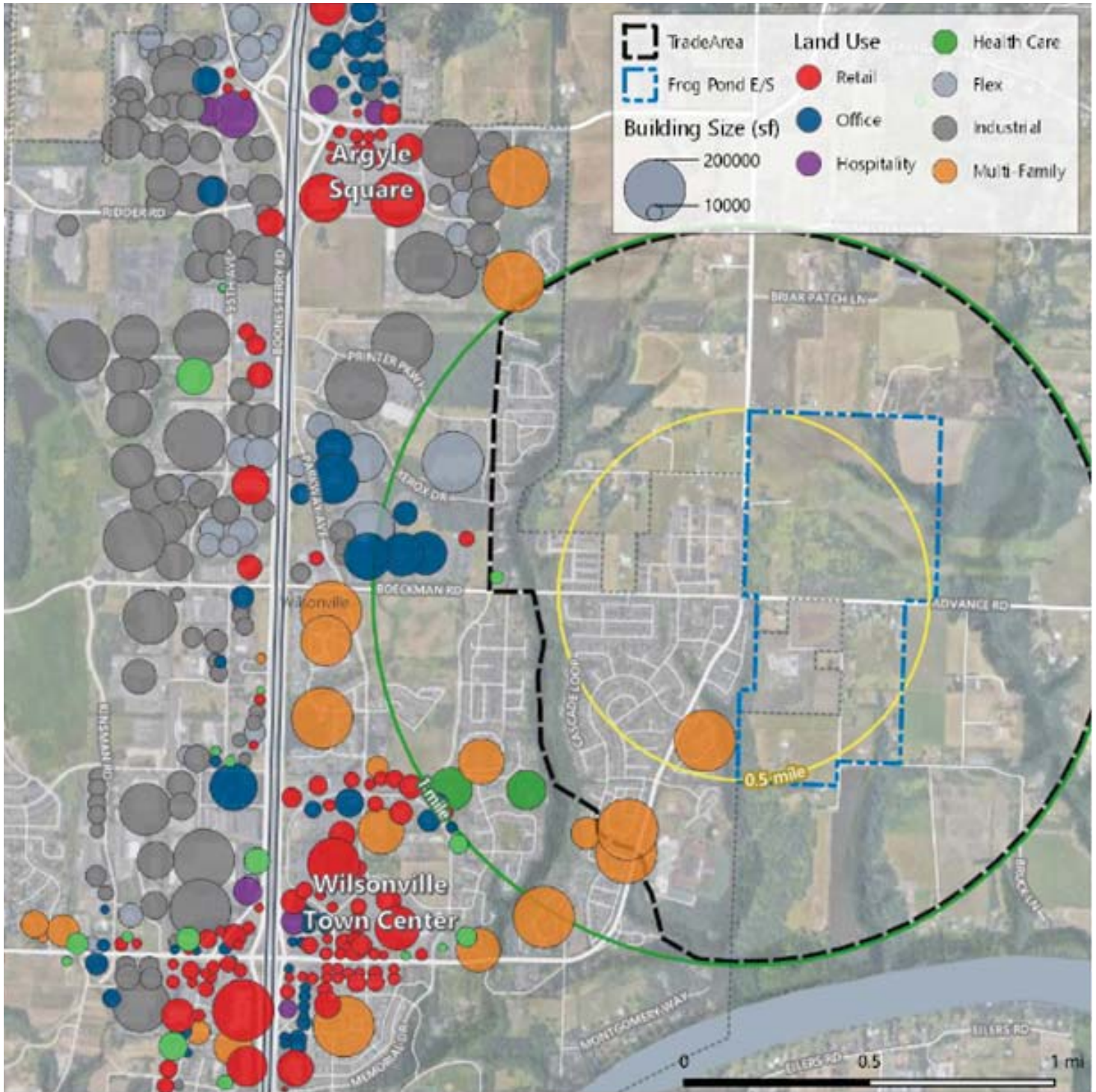
SITE ACREAGE. Up to 4.0 acres

LIKELY TENANT MIX. Commercial development today is flexible and accommodates a wide range of activities, including food and beverage, retail, general commercial, professional services/office, healthcare, fitness, daycare, banks, and more. Development should likewise be flexible to accommodate a range of potential tenants.

DEVELOPMENT TYPE. “Main Street, with buildings on both sides of the planned Brisband Street extension on the east side of Stafford Road. Buildings can be split up to address parking challenges. The main street approach can an authentic experience that promotes placemaking, creates a community amenity, and can have a positive impact on the surrounding residential uses and other commercial spaces. Vertical mixed use (residential above commercial uses) can also add vibrancy and a clientele base to the area.

URBAN DESIGN. For a main street development, pedestrian-oriented design that invites nearby residents and visitors to enjoy the area on foot is key. This can be achieved through the location of parking (behind buildings rather than in front), ample sidewalks and sidewalk furnishings, open space features such as plazas, and a visually engaging building façade.

Figure 9. Frog Pond Primary Market Area



Source: Leland Consulting Group

An aerial architectural rendering of a residential development. The scene shows a mix of building footprints, green spaces, and streets. A large, bold, teal number '5' is overlaid on the left side of the image. At the top center, there is a red text label 'Placeholder Image' with a thin red border.

Placeholder Image

COMMUNITY DESIGN CONCEPTS



COMMUNITY DESIGN CONCEPTS

FROM DESIGN CONCEPTS TO A COMMUNITY

As described previously in this report, the master plan process began with community outreach, mapping of Frog Pond's context and existing conditions, and research regarding affordable housing and neighborhood commercial opportunities. With that information in hand, the process then explored the design-related questions for the plan:

- What are the **current and future neighborhood destinations** that will serve as special places and neighborhood gathering places?
- What are the **opportunities to connect** those neighborhood destinations?
- What is the **transportation framework** of streets, trails, bikeways, walking routes and transit that will create a connected community?
- Where should a **neighborhood commercial center** be located?
- What are the opportunities for **subdistricts** – smaller areas of cohesive building form – within each of the neighborhoods.

Design sketches and precedent imagery were prepared, then the questions and related issues were: reviewed in work sessions with the Planning Commission and City Council; shared online; and discussed with the community in outreach meetings during the Spring 2022 engagement activities described in the Planning Process section of this report. There was strong support for each of the key design concepts – neighborhood destinations, strong connections, a connected transportation framework, a neighborhood commercial center, and subdistricts – that became the basis for the Plan¹. Common themes in the feedback from the community included:

- The neighborhood commercial center and future East Neighborhood Park have especially good potential for community gathering and neighborhood destinations.
- There was broad support for the neighborhood commercial center being located at the SW Brisband option, with a walkable Main Street design (pedestrian friendly streetscape, buildings close to the street and parking behind, sidewalk cafes, etc.).
- Participants had many ideas for desirable uses in the commercial center and its role in the community: e.g. ethnic food, family-owned small businesses, a setting that will draw families.
- Streets, trails, bikeways and walking routes should emphasize safety, especially for the routes to and from Meridian Creek Middle School.
- People saw the value of a plan for the BPA Corridor (e.g. including trails, potential use for parking), but were cautious about safety and noise.

1 See Technical Appendix A: Community Engagement Summary A-1



COMMUNITY DESIGN CONCEPTS

The diagrams and images on the following pages illustrate the Master Plan’s design concepts that emerged from this process. The community’s feedback was used to create the Master Plan recommendations described later in this report.

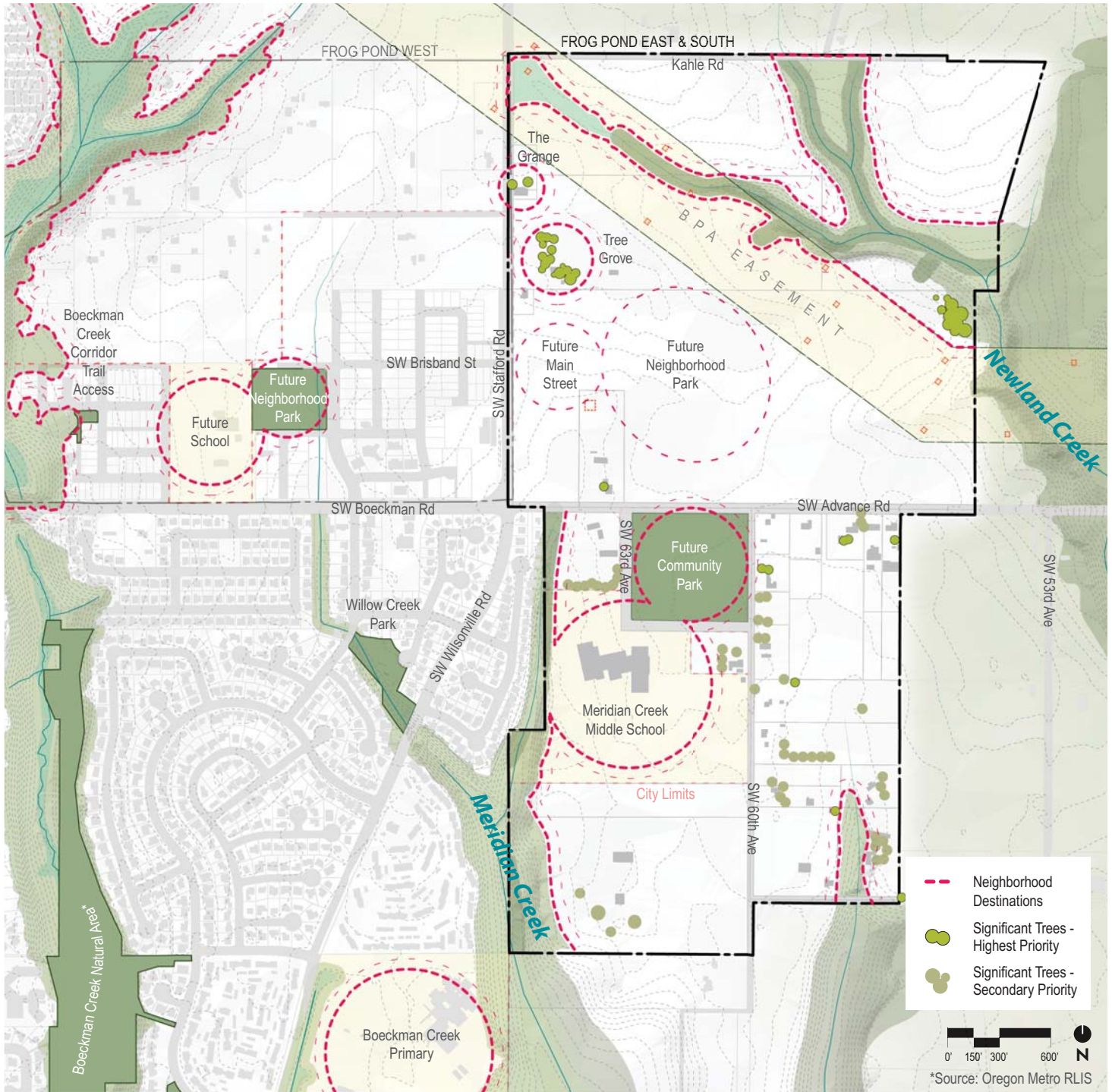
NEIGHBORHOOD DESTINATIONS

Figure 10 illustrates existing and future locations in all three Frog Pond Neighborhoods, which have the potential to be community gathering destinations or key visual amenities, or both. They include:

- The Frog Pond Grange
- Newland Creek and Meridian Creek natural areas
- Significant tree groves
- A future neighborhood park in the East Neighborhood
- Meridian Creek Middle School and the future community park
- Primary School and Neighborhood Park in Frog Pond West
- SW Boeckman Creek Primary School and Wilsonville High School (just off the map to the southwest)
- Boeckman Creek Natural Area and Corridor Trail
- Future Main Street Commercial Area

PLACEHOLDER IMAGE

Figure 10. Neighborhood Destinations





COMMUNITY DESIGN CONCEPTS

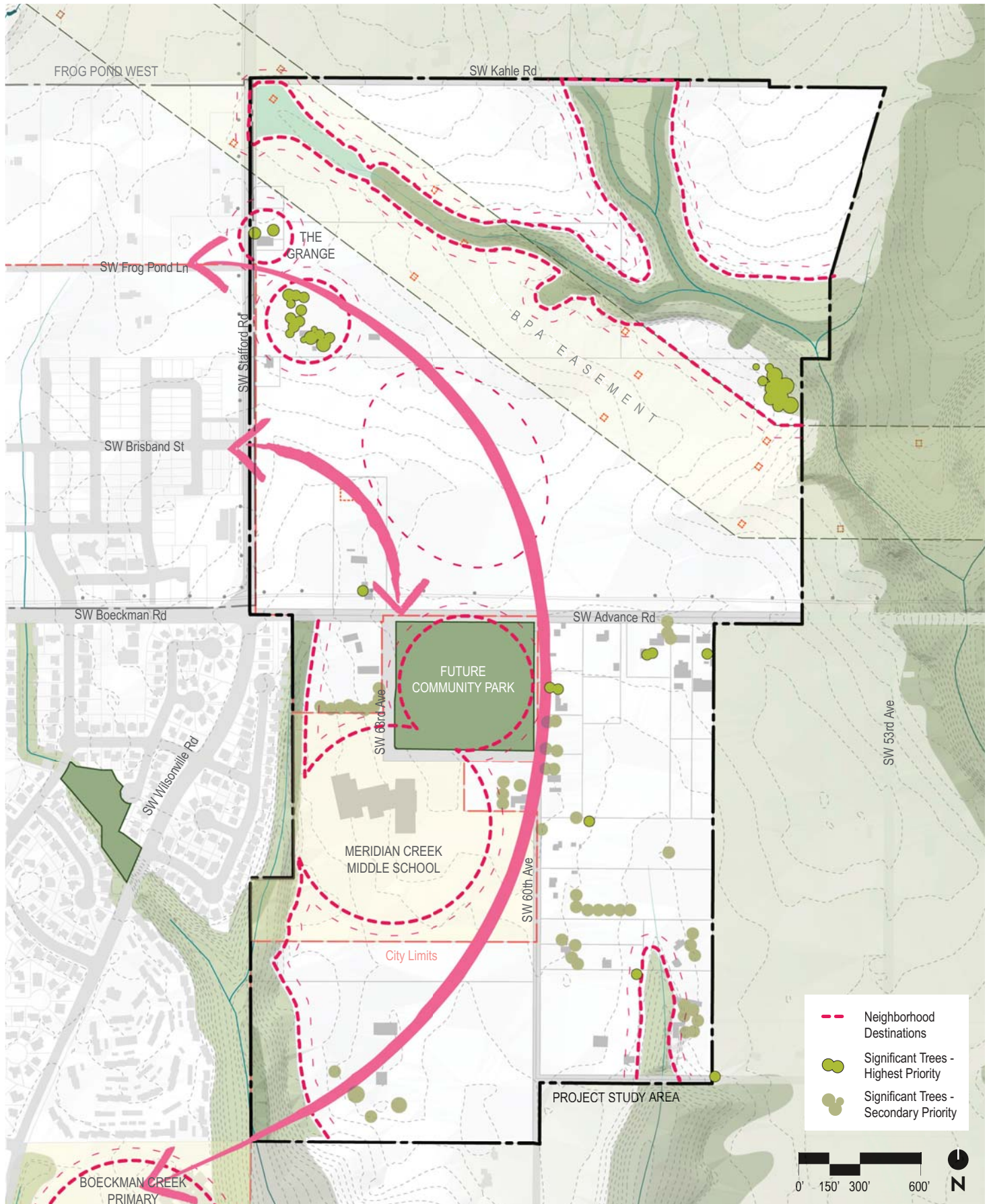
CONNECTIONS BETWEEN DESTINATIONS

This conceptual diagram (Figure 11) illustrates the area's potential for connections between neighborhood destinations. The Master Plan is an opportunity to organize and coordinate land use, transportation, and open space to support these connections.

This Plan aims to enable direct and convenient trips between these destinations by all modes of travel, focusing on walking and rolling. This conceptual diagram is guiding to the Master Plan regarding street alignments, pedestrian routes, trails, and street crossings. As such it is fundamental to the vision to create a walkable and connected community.

PLACEHOLDER IMAGE

Figure 11. Connections Between Neighborhood Destinations





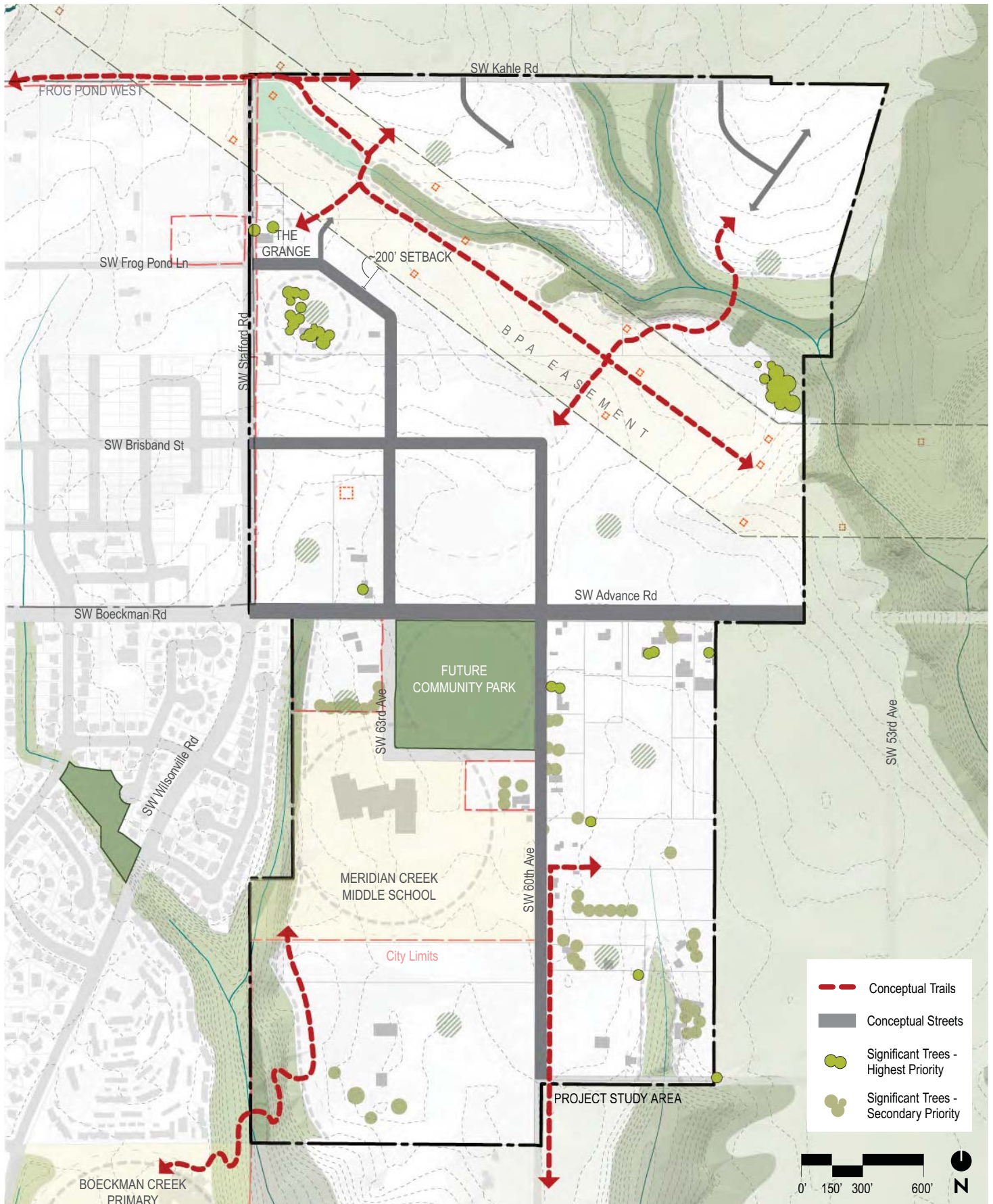
COMMUNITY DESIGN CONCEPTS

STREETS AND TRAILS TO CONNECT THE COMMUNITY

Figure 12 illustrates how the areas streets and trails are planned to create a connected Frog Pond Community. It was one of several options that were explored and ultimately led to the street and trail recommendations of the Master Plan. The streets and trails shown are the minimum “framework” of connections, with developers building additional local-level streets and trails that will connect key destinations and build out the neighborhood transportation network.



Figure 12. Street and Trail Connections





COMMUNITY DESIGN CONCEPTS

NEIGHBORHOOD CENTERS

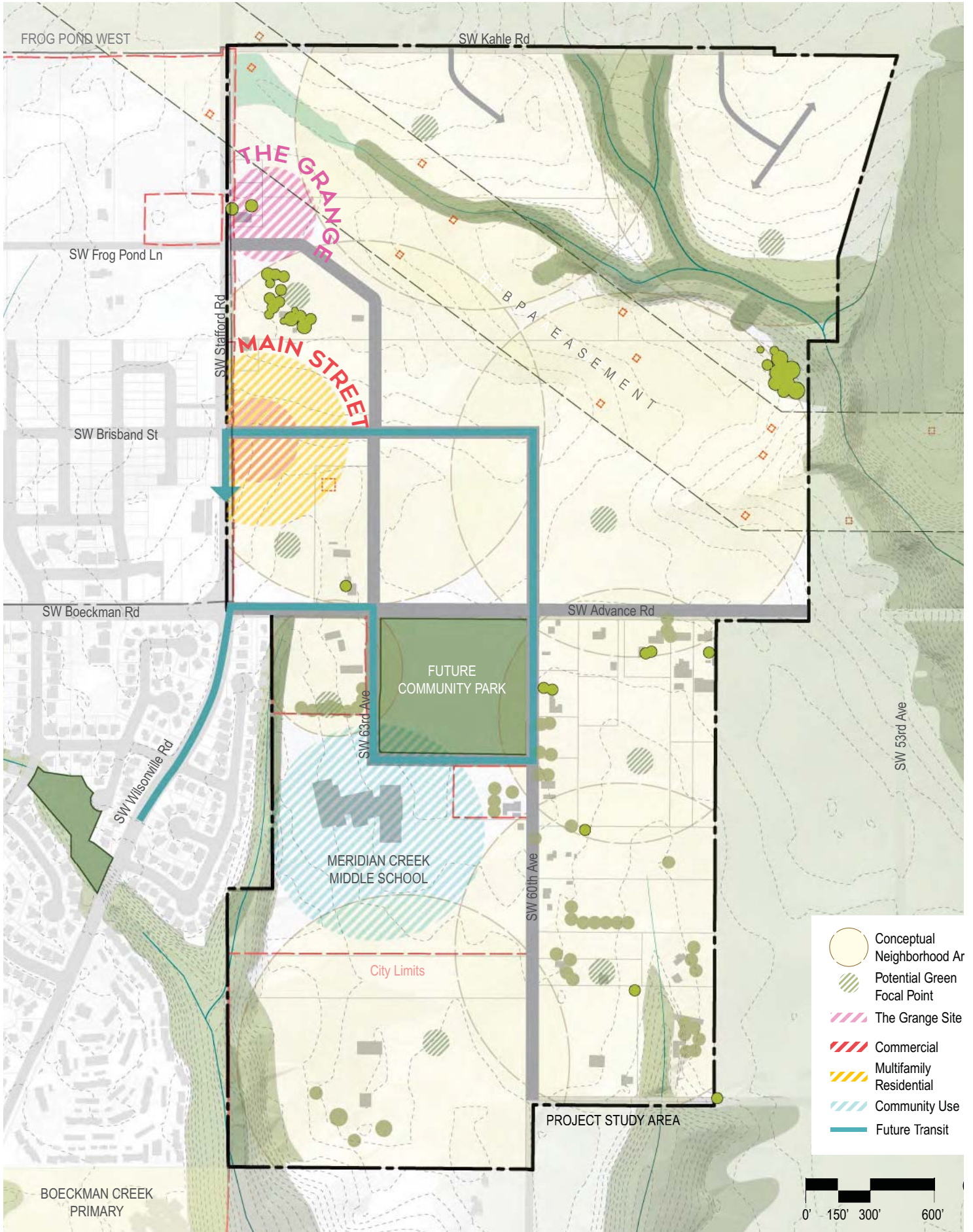
This diagram below illustrates the idea of neighborhood centers within the planning area. There are three types of centers shown, each with their unique scale and role in creating the vibrant, connected community envisioned for Frog Pond East and South:

- **Main Street** – A potential 3-acre Main Street commercial center with shops, restaurants, local services and community gathering spaces. Residential uses would be allowed within mixed-use buildings. Whether mixed use will be vertically or horizontally located is yet to be determined.
- **Frog Pond Grange** – A historic gathering place that is envisioned as a location for future civic or community use.
- **Green Focal Points** – The green focal points are small open spaces between neighborhood destinations. They might be a signature tree, a viewpoint, a storm water facility, or a small open space that is part of a development. These points are represented by green dots in the center of neighborhood bubbles, and are further defined in later diagrams.



Neighborhood Food Hall in Northwest Crossing, Bend

Figure 13. Initial Diagram of Conceptual Neighborhood Centers





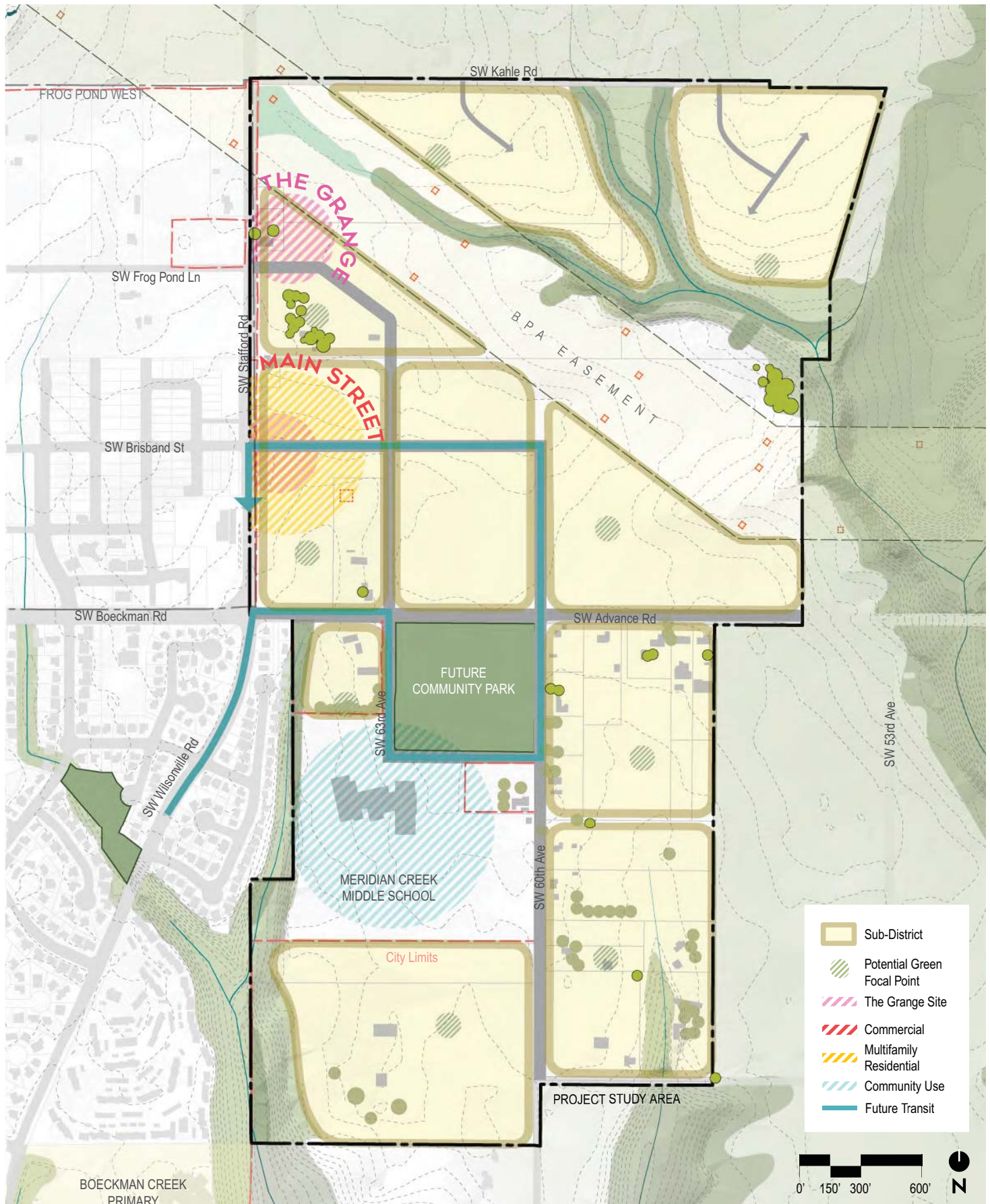
COMMUNITY DESIGN CONCEPTS

SUBDISTRICTS

Figure 14 shows the concept of “subdistricts” within Frog Pond East and South. The subdistricts are intended as “neighborhoods within neighborhoods” – areas with cohesive building form, public realm features, and other characteristics that give them identity. There are nine subdistricts planned for Frog Pond East and South. Each will have a “green focal point” that is central in the subdistrict and/or aligned with a key feature such as a tree grove. The focal points, together with the neighborhood destinations, will provide many community gathering places in Frog Pond East and South.

PLACEHOLDER IMAGE

Figure 14. Initial Diagram of Conceptual Subdistricts





COMMUNITY DESIGN CONCEPTS

IMPLEMENTING THE DESIGN CONCEPTS

The design concepts discussed above are the foundation of the Master Plan's intent to create a strong sense of place and identity in Frog Pond East and South. The Master Plan is shown in Figure 15. The following section summarizes how the Master Plan's key features and intended outcomes implement the design concepts. Additional descriptions are provided in the Land Use and Public Realm chapters of this report.

NEIGHBORHOOD DESTINATIONS WITHIN FROG POND EAST AND SOUTH

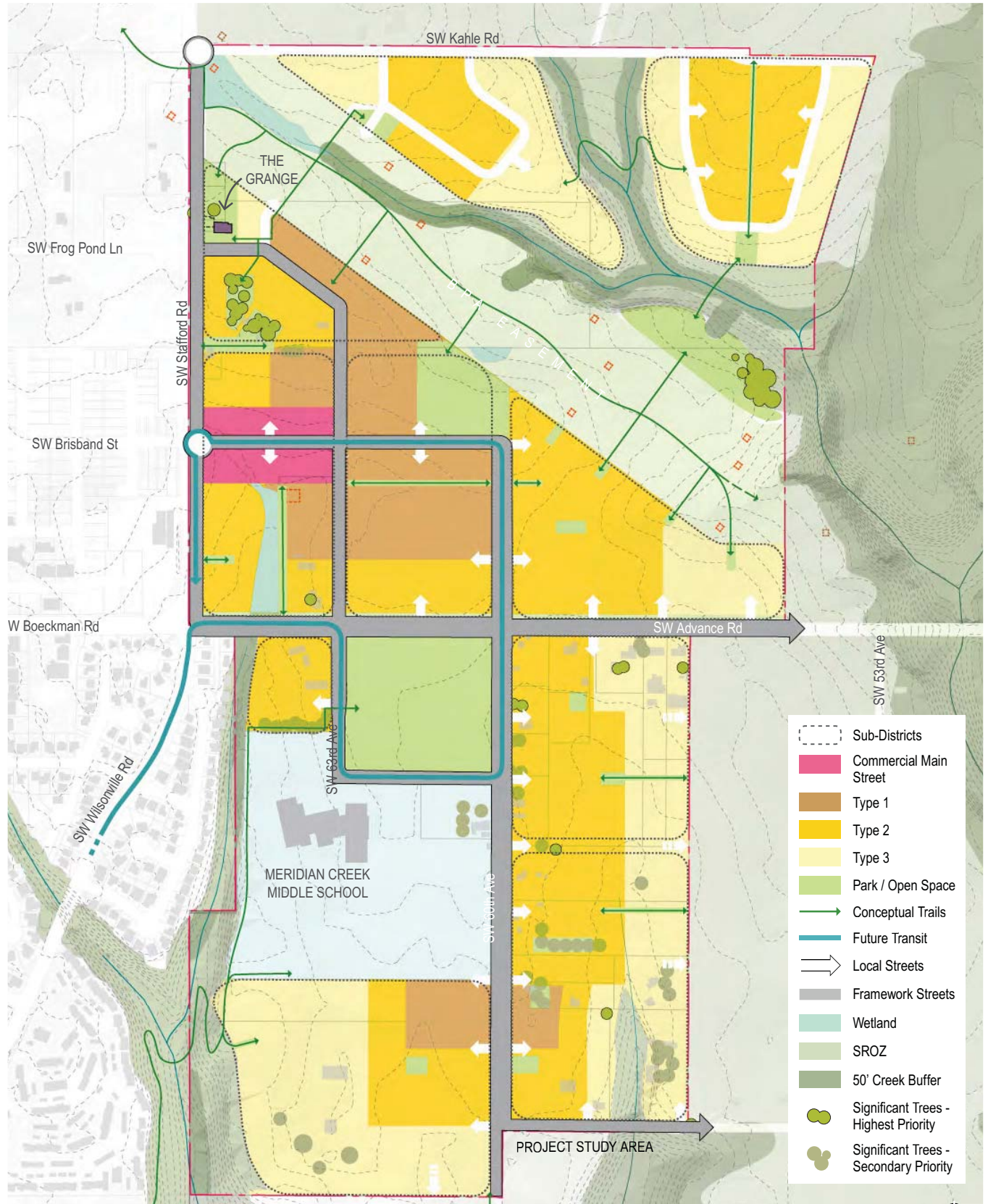
The SW Brisband Main Street as a neighborhood-scale commercial and mixed-use center

- Park/gathering space at the Frog Pond Grange
- A Future Frog Pond East Neighborhood Park
- The Frog Pond South Community Park
- Meridian Creek Middle School
- "Green focal points" within each subdistrict
- Meridian Creek and Newland Creek natural areas
- Significant tree groves

FORM BASED DESIGN AND TRANSECT

- More compact housing is in "Type 1" urban form areas (see Chapter 6 for more description of the urban form types)
- Adjacent areas are less compact and result in a transect or transition to even less compact housing form
- The East Neighborhood has its Type 1 housing in the central area adjacent to the Brisband Main Street, future Frog Pond East Neighborhood Park and BPA Easement
- The South Neighborhood has a small node of Type 1 housing located south of the Meridian Middle School property.
- In both neighborhoods, Type 2 and 3 housing form "feathers out" from the Type 1 areas.

Figure 15. Frog Pond East & South Master Plan



A WIDE VARIETY OF HOUSING CHOICES

- Opportunities for a wide spectrum of housing choices: townhomes, quadplexes, tri-plexes, duplexes, cottage clusters, cottage developments, small-lot detached homes, medium and larger lot detached homes, accessory dwelling units, apartments/condos, tiny homes and co-housing
- Requirements for a mix of housing choices in each subdistrict
- Housing capacity for an estimated minimum of 1587 dwellings (See Chapter 6 for housing and land use metrics)

THE SW BRISBAND MAIN STREET

- A 4-5 acre neighborhood commercial center designed as a walkable Main Street
- Up to 44,000 square feet of commercial
- Mixed use (residential above commercial) as an option
- Streetscape features, site design, and building orientation that make the Main Street highly walkable and support its role as a destination for the local community

PARKS AND OPEN SPACE

- Two future parks: the future Frog Pond East Neighborhood Park and future Community Park in Frog Pond South
- Retention of significant trees and integration of them into neighborhood destinations
- The BPA corridor as an opportunity to provide open space, trails, and parking and storm water features for adjacent land uses
- Significant Resource Overlay Zone areas: Meridian Creek, Newland Creek, and the unnamed creek in the southern part of the study area.
- “Green focal points” – small gathering spaces within each subdistrict

TRANSPORTATION CHOICES AND CONNECTIONS

- Framework streets – the existing and future streets that will form the backbone of a connected community
- A street demonstration plan – the illustrated vision for a fully connected and walkable block pattern. The framework streets are generally existing or extensions of existing streets and will be in the location shown. Other streets demonstrate the intent of block layout and connectivity, but refinements in the layout may occur during the development review process



COMMUNITY DESIGN CONCEPTS

- Tailored street cross sections for Stafford, Brisband Main Street, Advance Road, and the extension of 60th Avenue
- A plan for the SMART Transit service to circulate through the neighborhoods and connect key destinations
- Trails and pedestrian paths that connect the Frog Pond East and South neighborhood destinations and other Wilsonville trails and destinations
- A bicycle network comprised of protected and/or dedicated bike lanes on larger streets and “sharrows” on selected local streets
- Accessibility for all community members and users of the transportation connections

SUBDISTRICTS

- The Master Plan includes subdistricts that were selected based on their context and potential for placemaking
- The plan illustrates 6 subdistricts in the East Neighborhood and 4 subdistricts in the South Neighborhood
- The subdistricts are intended as “neighborhoods within the neighborhoods”, each with a planned number and variety of housing and a cohesive look and feel
- Each subdistrict includes a green focal point that is central in the subdistrict and/or aligned with a key feature such as a tree grove to serve as an important placemaking tool, creating a strong public realm and opportunity for community gathering.

Placeholder Image



LAND USE



RESIDENTIAL LAND USE AND URBAN FORM

KEY OUTCOMES

The Land Use Plan includes residential areas intended to create three key outcomes:

- **A variety of housing choices** throughout the East and South Neighborhoods
- **Opportunities for affordable housing choices** integrated into the neighborhoods
- A planned “**transect**” of housing form in order to create a cohesive neighborhood that maximizes the amenities available to residents while creating an urban form sensitive to the local context.

VARIETY THROUGHOUT

The Master Plan creates opportunities for a wide variety of housing choices in each neighborhood and subdistrict. This concept focuses on mixing and integrating different housing choices throughout each subdistrict and block rather than having separate areas for separate types of housing units.

The plan defines and maps three types of urban form for housing – Types 1, 2, and 3 – that define the look and feel of the different subdistricts within the neighborhoods. The focus of this typology is urban form: the bulk, height and spacing of buildings. Each urban form type allows for a full array of housing choices.

For example, a detached home may exist in any of the urban form types, but for Type 1 it would have a smaller footprint and, be closer to adjoining homes, and for Type 3 it would have a larger footprint and be farther apart from adjoining homes. Building height will also tend to be taller where Type 1 is designated with height trending down in areas with Type 2 and Type 3 building form. A multi-family building also may exist in any of the urban forms, but for Type 1 the building would be taller and wider with more units per building and closer to adjoining buildings, and for Type 3 it would be shorter and smaller (similar to the size of a larger single-family home) with fewer units per building, and buildings would be further apart, likely interspersed with single-family homes.



LAND USE

TYPE 1 RESIDENTIAL URBAN FORM

Type 1 residential urban form is the most compact and urban of the three forms:

- Buildings 2-4 stories tall close to the street
- Buildings are closely spaced from each other
- Townhouse, condo/apartment buildings, and similar are not limited in width allowing larger buildings that may even occupy an entire block face
- Lot area per building for detached homes will be small with less yard space than in Type 2 and Type 3
- Townhouses, closely spaced detached homes, and multi-family buildings are expected to be common housing choices provided; cottages or similar small-unit housing is also likely to be built





LAND USE

TYPE 2 RESIDENTIAL URBAN FORM

Type 2 residential urban form is less compact than Type 1 but more compact than Type 3:

- Buildings are intended to be 2 stories, with 3 stories allowed under applicable State law for certain housing categories
 - Moderate setbacks from the street
 - Building separation is generally 10 feet,
 - Building width is moderately limited, to maintain a building bulk consistent among multi-family, middle housing, and single-family detached housing choices
- Detached home lot size is approximately double that of Type 1 allowing for larger home footprints and larger yards than Type 1
 - Small to medium sized single-family detached homes and townhouses are expected to be common housing choices, with duplexes, triplexes, quadplexes, cottage clusters, and smaller multi-family buildings also likely to be built.





LAND USE

TYPE 3 RESIDENTIAL URBAN FORM

Type 3 is the least compact residential urban form, characteristics include:

- Buildings primarily 1-2 stories in height, with 3 stories allowed for certain housing categories consistent with applicable State law
 - Buildings are set back from the street
 - Width of buildings is limited to create smaller buildings, which limits the number of units in multifamily or middle housing structures
 - Building separation generally more than 10 feet
- Lot size for detached single-family homes generally 1.5 times that of Type 2 and 3 times that of Type 1, allowing for larger homes and yards
 - Medium to large single-family detached homes along with smaller townhouse and duplex buildings are expected to be common housing choices, cottage clusters would be well-suited to this Type, and triplexes, quadplexes, and small multi-family buildings may also be built





LAND USE

To help ensure housing variety within and throughout Frog Pond East and South, the City will use the following strategies to guide Wilsonville Development Code standards:

- Create housing categories that reflect Wilsonville’s housing needs: the categories would allow flexibility for developers and ensure provision of a wide variety of housing choices while meeting similar housing needs (such as accessibility and cost)
- Limit each subdistrict and development to a maximum percentage of any one housing category;
- Establish standards that ensure a variety of housing categories;
- Please see the Implementation section of this report for more information about code strategies for housing variety.

AFFORDABLE HOUSING INTEGRATION

The Master Plan sets the stage for affordable housing choices in the East and South neighborhoods. Two strategies are included. First, the variety of housing is intended to provide opportunities for home buyers and renters with incomes of 80-150% area median income (AMI). This is the market-based and zoning-based strategy of the Plan.

To help ensure integration of market-rate affordable housing within Frog Pond East and South the City will use the following strategies in the implementing Development Code:

1. To prevent the oversupply of higher-cost housing, limit each development to a percentage of housing categories that typically would only be affordable to households making more than 150% of median family income.
2. To ensure provision of market-rate housing that meets a variety of housing need require each development provide a minimum percentage of attached middle housing and a minimum percentage of a combination of cottages, ADUs, and other similar units that provide both relatively affordable housing choices and housing choices adaptable for accessible living.

The second strategy addresses households earning below 80% of area median income. The City may choose to proactively facilitate and/or support the development of affordable housing targeted at these households. As described in the Affordable Housing Recommendations section of this report, housing development that serves households with these incomes requires public subsidy; those initiatives for the City may include:

- Acquire Land for Affordable Housing



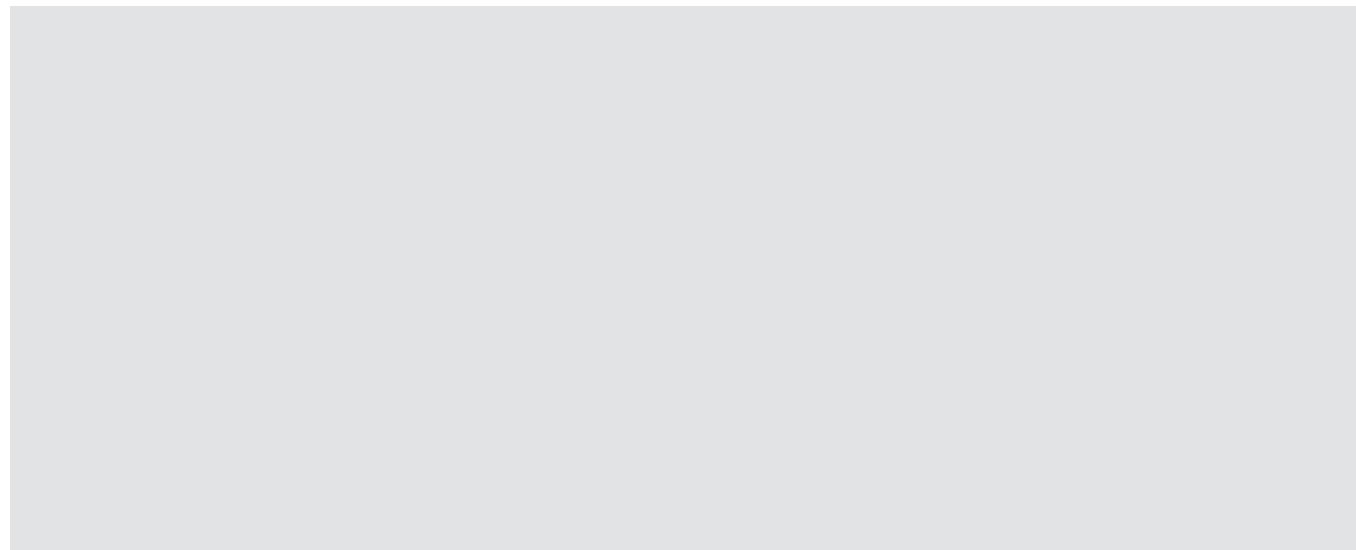
LAND USE

- Partner with a Community Land Trust
- To the extent feasible, minimize fees paid by developers while still paying for infrastructure
- Incentivize Smaller and Lower-Cost Middle Housing

The above-listed measures are options available to the City Council and subject to their direction and funding. The role of the Master Plan is to provide the land base and zoning allowances that would support such initiatives. In addition, development standards will avoid barriers for subsidized affordable housing developments, providing exemptions from variety and similar requirements if needed. Minimum design and siting standards shall continue to apply.

FORM BASED DESIGN AND TRANSECT

As described above, the Master Plan uses a form-based approach to housing. More compact housing is located in the Type 1 areas. Adjacent areas are less compact and result in a transect or transition to even less compact housing form. The East Neighborhood has its Type 1 housing in the central area adjacent to the Brisband Main Street, future Frog Pond East Neighborhood Park and BPA Easement. The South Neighborhood has a small node of Type 1 housing located south of the Meridian Middle School property. In both neighborhoods, Type 2 and 3 housing “feathers out” from the Type 1 areas.



Transect Image



LAND USE

USE OF SUBDISTRICTS

The Master Plan includes subdistricts as a tool used for neighborhood planning. The subdistricts of Frog Pond East and South are “neighborhoods within the neighborhoods” because they have a planned number and variety of housing types with a cohesive look and feel. Each includes a green focal point that is central in the subdistrict and/or aligned with a key feature such as a tree grove to serve as an important placemaking tool, creating a strong public realm and opportunity for community gathering.

The subdistrict concept for Frog Pond East and South builds off concepts used in Frog Pond West and Villebois planning. In Frog Pond West, subdistricts are used to identify the different residential lot sizes and are primarily used for zoning implementation rather than urban design. Villebois used a system of sub-geographies called Specific Area Plans (SAPs). Villebois’ SAPs had an important urban design and housing variety aspect. They were centered on walkable distances focused around gathering spaces and included a variety of housing types in each. With an urban design focus and planned housing variety, the subdistricts for Frog Pond East and South will be more similar to Villebois SAPs than Frog Pond West subdistricts. Each subdistrict in Frog Pond East and South was determined based on its context and placemaking opportunities.

HOUSING METRICS

The following summarizes the estimated housing capacity for each neighborhood and subdistrict.

Table 2. Housing Estimates

	ESTIMATED TOTAL DWELLING UNITS	UNITS IN TYPE 1 URBAN FORM AREAS	UNITS IN TYPE 2 URBAN FORM AREAS	UNITS IN TYPE 3 URBAN FORM AREAS	ESTIMATED NET RESIDENTIAL LAND*	ESTIMATED NET DENSITY
Frog Pond East & South Neighborhoods	1,587	390	886	312	119.2 acres	13.3 du/acre
East Neighborhood	1,089	306	634	150	75.84	14.4 du/acre
South Neighborhood	498	84	252	162	40.1	11.5 du/acre

*(20% assumed for ROW and other set asides)



LAND USE

Table 3. Residential Development Metrics

RESIDENTIAL FORM	GROSS ACRES	BUILDABLE ACRES (ESTIMATED)
Type 1 Residential Form	20.5	19.5
Type 2 Residential Form	86.9	73.8
Type 3 Residential Form	67.0	55.7
TOTAL	174.4	149.0

NEIGHBORHOOD COMMERCIAL

The neighborhood commercial center concept was originally articulated as part of the Frog Pond Area Plan. The Area Plan noted:

“The overall vision for the neighborhood commercial center is that it is a place that provides local goods and services within easy access of the local neighborhoods, has a high quality and pedestrian-oriented design, and serves as a gathering place for the community. Due to its small scale and local orientation, it will not compete with other commercial areas in Wilsonville.”

The above-cited vision for the center endures; it is a critical component of creating a vibrant community in the Frog Pond Area and thus is part of this Master Plan. Based on an updated market analysis, the center is approximately five acres in size and up to 44,000 square feet of retail with or without mixed use residential development above. The location along SW Brisband Street was selected because of its visibility from SW Stafford Road, centrality along the west edge of the East Neighborhood, and potential for a Main Street configuration. The vision for the center, its location and its design concept were discussed with the community – it was broadly supported as an important element of the Master Plan.

The commercial development program listed below was discussed with Planning Commission and City Council during work sessions and shared with the public during outreach.

Table 4. Commercial Development Recommendations

PLAN ELEMENT	COMMERCIAL DEVELOPMENT PROGRAM RECOMMENDATION
Building Square Feet	Up to 44,000 square feet (or 56,000 square feet if the City can attract a pharmacy or medium sized grocer)
Site Acreage	Up to 4.0 acres (or 5.1 acres if the City can attract a pharmacy or medium sized grocery)

1 Frog Pond Area Plan, page 37



LAND USE

PLAN ELEMENT

COMMERCIAL DEVELOPMENT PROGRAM RECOMMENDATION

Likely Tenant Mix

Food and beverage, retail, general commercial, professional services/office, healthcare, fitness, daycare, banks, and more. Specific retail tenants may include cafes and restaurants, a specialty food product store, a pharmacy, and other miscellaneous stores like laundromats, salons, hobby/boutique stores, and medical, professional, and financial offices.

Development Type

Main Street, with buildings on both sides of the planned SW Brisband Street or SW Frog Pond Lane extension on the east side of SW Stafford Road. Minimal setbacks, parking located behind buildings, and pedestrian orientation are important features. Main Street retail provides the greatest experience and offers an opportunity for the commercial area to be prosperous over a longer timeframe. Main street retail feels “fresher” for longer than conventional retail centers and would be more accessible to a greater number of people traveling by car, foot, and bike.

Adjacent and Supporting Uses

Higher density residential, including apartments, townhomes, and live/work spaces, surrounding the commercial center would improve viability of commercial spaces.

Figure 16. Neighborhood Commercial Examples





LAND USE

SITE DESIGN

The Brisbane Main Street neighborhood commercial area will create a destination for local and regional residents, accessible by walking, rolling, biking, and transit. Off-street parking will be tucked behind buildings, prioritizing a people-oriented environment along the Main Street itself. These parking lots can also provide future development capacity for additional housing. The site study shows vertical mixed-use buildings oriented to create a visible presence from SW Stafford Rd. The potential roundabout intersection will be thoughtfully designed to ensure easy navigation by pedestrians and to slow down cars. Key pedestrian entry points to the Main Street from SW Stafford Rd. will be marked with gateway markers or signage.

Within the two blocks of the Main Street, there is an opportunity to create small plazas or gathering areas that provide a focal point and allow people to comfortably linger and spend time. The demonstration plan shows small plazas located between buildings for outdoor dining or merchandise display.

Figure 17. Neighborhood Commercial Demonstration





LAND USE

PARKS, CIVIC USES, AND OPEN SPACES

Parks and open spaces are a valued part of every neighborhood in Wilsonville, including Frog Pond's neighborhoods. The Frog Pond East and South neighborhoods include the following parks, civic and open spaces:

- The proposed Frog Pond East Neighborhood Park
- The previously planned 10-acre Community Park
- Area around Frog Pond Grange as a civic and community destination and landmark
- Green Focal Points in each subdistrict
- The BPA Easement open space
- Significant Resource Overlay Areas along Meridian Creek, Willow Creek, and Newland Creek
- Meridian Creek Middle School

Please see the Public Realm section of this report for further description of the above and how they are part of the overall Parks and Open Space Plan.

An aerial architectural rendering of a city, showing a dense grid of buildings and streets interspersed with green spaces and trees. A large, stylized teal number '7' is overlaid on the left side of the image. At the top center, there is a rectangular area with a light blue background and the text 'Placeholder Image' in red. At the bottom, there are two horizontal bars: a teal one on the left and a light blue one on the right, both partially overlapping a dark green bar that contains the text 'PUBLIC REALM' in white.

Placeholder Image

PUBLIC REALM



PUBLIC REALM

The public realm is the combination of all public spaces, including streets, alleys, parks, plazas, and other publicly accessible areas, that define the experience of living in or visiting a city or neighborhood. A well-designed and cohesive public realm will be an essential part of the success and livability of this new area of Wilsonville. The Master Plan provides guidance about how the public realm can be designed to work together with existing site qualities and future development to create healthy, connected, sustainable, and beautiful neighborhoods for diverse families to thrive.

PRINCIPLES

The design of the public realm in Frog Pond East and South will achieve several key principles.

PRESERVED AND RESTORED NATURAL RESOURCES. Existing natural resources, including trees, wetlands and creek corridors, will be preserved and restored within and around new development. Streets, parks, and public spaces provide opportunities to protect existing trees. Additionally, incorporating stormwater planters and green infrastructure supports watershed health by cleaning and slowing runoff.

INTEGRATED PARKS AND GREEN SPACES. Parks and green spaces are a vital part of creating healthy, active, and livable neighborhoods. Parks and smaller open spaces within neighborhoods will be centrally located and visible and accessible to all. In addition to a 10-acre community park and a 3-acre neighborhood park, each walkable sub-district includes its own “green focal point”, which could be a pocket park, playground, community garden, plaza, or other gathering place.

COMMUNITY DESIGN THAT CELEBRATES AND ENHANCES NEIGHBORHOOD CHARACTER. Streets and trails will be laid out to emphasize views of natural features of the site like forested creek corridors, parks, or destinations. Unique and historical elements like the Frog Pond Grange are integrated thoughtfully into overall neighborhood design. For example, the Grange site provides co-located gathering space, green space, and visibility and direct access to the trails and open space of the BPA corridor. Additionally, more detailed elements of the public realm like lighting, street trees, and signage are cohesive with the existing fabric of Wilsonville, particularly the adjacent Frog Pond West area.



PUBLIC REALM

PLACES FOR GATHERING AND CIVIC LIFE FOR A DIVERSE COMMUNITY. The public realm will support a broad range of social activities, including opportunities to gather formally and informally. Meeting places like neighborhood commercial areas, parks, schools, and even sidewalks will be designed to provide space for varied social and cultural activities.

CONVENIENT, SAFE, AND LOW-STRESS TRANSPORTATION OPTIONS. A connected network of streets and trails prioritizes the safety and comfort of the most vulnerable road users. Streets will be designed to encourage and prioritize walking, biking, rolling, transit, and other low-carbon modes of travel. Street and block layout make it easy for residents to access schools, parks, and neighborhood services without a car.

PLACEHOLDER IMAGE



PRESERVING TREES & NATURAL RESOURCES

The master plan study area contains significant natural resources, including creek and wetland corridors, forested uplands, and clusters of mature trees. Preservation of these areas is a priority not only for their ecological importance, but for their intrinsic value to neighborhood character, health, and quality of life for current and future Wilsonville residents. As development progresses, natural features will be incorporated sensitively within public infrastructure and private development.

Some areas of the site around creek corridors are protected under Wilsonville's Significant Resource Overlay Zone (SROZ). Other sensitive natural resources, such as wetlands, may be documented through pre-development studies of individual properties and should be incorporated and protected through the City's SROZ regulations and "Habitat Friendly Development Practices".

Figure 18 shows SROZ areas and the inventory of significant trees in the planning area.

TREE PRESERVATION

The preliminary tree inventory is intended to inform preservation strategies at the Master Plan level. It was completed on January 26, 2022 by Morgan Holen Associates, followed by additional inventory of trees by AKS and Morgan Holen Associates in April 2022. The tree inventory identified potentially significant trees and groves based on species, size, and general condition. Within or outside this analysis, some trees may need closer examination to verify their significance and potential for preservation. Specifically, a portion of the treed area in the SROZ on the south side of SW Kahle Road has undetermined natural value with testimony received that many of the trees in the area are agricultural trees. If further study reveals this area does not qualify as a resource to be included in the SROZ and is developable, the area will be assigned the Type 3 Residential Urban Form matching nearby areas.

While preservation of individual trees or groves will ultimately be implemented during the design and construction of public and private development, the Master Plan identifies opportunities for preservation of significant trees in public open spaces, street rights-of-way, and within private development sites. Wilsonville's existing natural resource preservation policy and tree protection code provide a supporting framework for tree preservation in this area.

The Master Plan's tree inventory map identifies trees that are highest priority to preserve, meaning that these should be preserved within infrastructure, development, or green space to the greatest extent possible. Preservation of these trees may be achieved through development standards. Trees noted as

Figure 18. Natural Resource and Tree Inventory Map





PUBLIC REALM

secondary priority will be preserved if possible, especially if they are healthy and growing within an area that is a suitable location for green space or infrastructure that can accommodate preserved trees. While older, mature trees provide greater carbon sequestration and shade, smaller and less mature trees are also important to preserve because their root systems are not yet fully established, meaning that they can be more resilient to the impacts from surrounding development as they mature.

Public infrastructure and private development will preserve trees through thoughtful design and layout of streets and blocks, as seen on SW Willow Creek Drive and SW Brisband Street in Frog Pond West, or by locating green space strategically to preserve significant trees. Site design for individual buildings or homes can also incorporate tree preservation.



Protected tree the Right-Of-Way in Frog Pond West



PUBLIC REALM



An existing mature tree on SW Brisband Street in Frog Pond West was preserved within the design of a street corner.



Private development can preserve significant trees within central open spaces or green spaces.



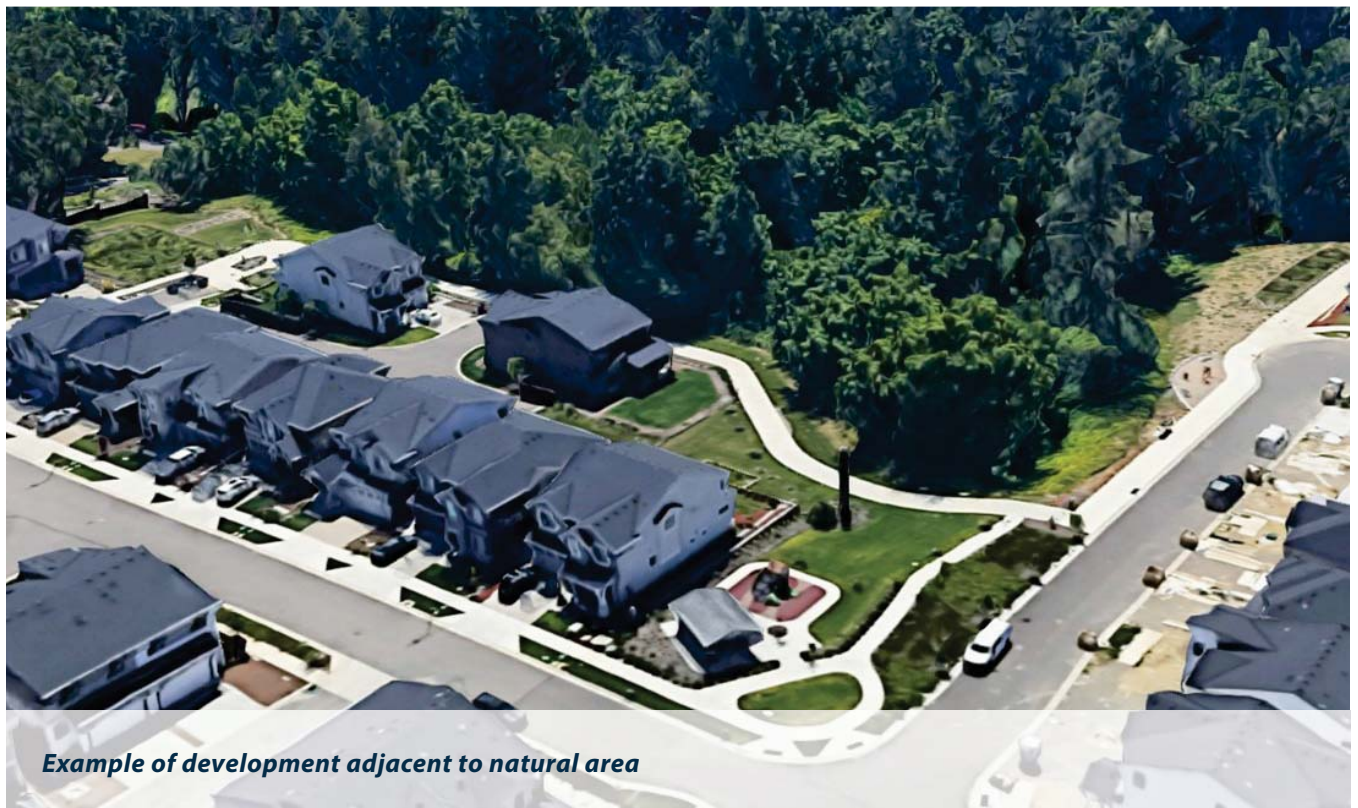
A mature white oak tree was preserved within parking lot landscaping for Wilsonville High School.



PUBLIC REALM

INCORPORATING NATURAL AREAS

Three major creek corridors intersect the study area: Meridian Creek in the southwest, Newland Creek at the northeast, and Willow Creek at the southeast. In addition to protections within the Development Code and State law, these creeks and their forested surroundings provide an opportunity for developers to enhance these environmental resources as well as the quality-of-life experience for future residents. Site design and layout of development and streets will provide physical and visual access to significant creek corridors, particularly where public trail connections are planned to enter neighborhoods. In these locations, small usable open spaces like pocket parks will ensure public access to creek corridors and trails. Additionally, public street connections will to the greatest extent possible terminate at natural resource corridors or run alongside them to ensure views and access.





PARKS AND OPEN SPACES

Access to green space, outdoor recreation opportunities, and public gathering space is a fundamental component of healthy neighborhoods and communities. The Master Plan includes a series of parks and open spaces of different sizes to be located centrally and distributed equitably throughout the East and South neighborhoods. The map illustrates two primary parks. The first is a 10-acre community park adjacent to Meridian Creek Middle School, which is owned by the City for development as a park. The second is a 3-acre neighborhood park to be located centrally in the East Neighborhood.

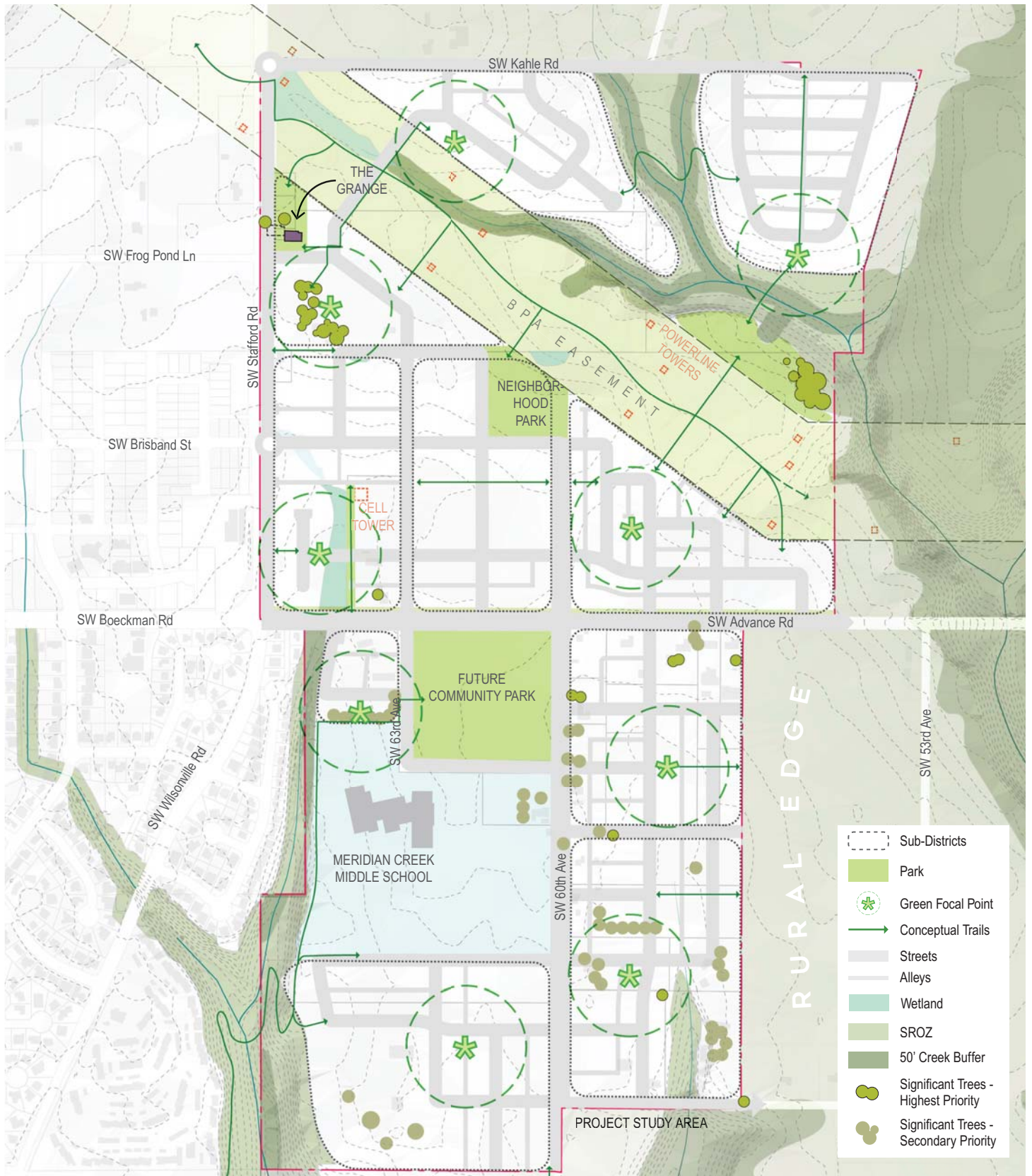
Additionally, the historic Grange building and site represent a unique opportunity to capture a piece of the site's history while enhancing this civic gathering place to support ongoing use by the community. The Grange building may need to be relocated slightly depending on the future design of SW Stafford Rd. Two significant trees are located around the Grange, and these could be incorporated and preserved as part of a small public open space that connects to the BPA easement. In the future, this site is intended to include multiple amenities like a trailhead into the BPA easement, interpretive signage, community gardens, or environmental learning opportunities.

At the time of the Master Plan ownership of the Grange building has not shared future plans. This Master Plan assumes the Grange will continue a similar use as it is under the current ownership, with small community gatherings and programming inside and outside the building. The City may pursue purchase if the building comes up for sale in the future or partnership with current or future owners to preserve the building and provide a key civic gathering space for the community.



A tract of undevelopable open space just north of the BPA easement presents another opportunity for public access to nature. This 3-acre area is contiguous with the Newland Creek natural area and contains a stand of significant trees. It can serve as a natural open space with trail access from the BPA easement and neighborhoods to the north.

Figure 19. Park and Open Space Framework





PUBLIC REALM

Beyond these primary public open spaces, the map shows an intent to provide “green focal points” in central locations to each sub-district of the planning area, ensuring that each neighborhood has a small destination or gathering place that gives it character. These green focal points are flexible in location, but the map indicates general areas that are central to each sub-district.

Parks and open spaces will occupy prominent locations within each neighborhood where they are clearly accessible and invite the public in. They will be well-connected to a system of pedestrian and bike pathways, including off-street trails that connect to the BPA easement and trails through natural areas.

EAST NEIGHBORHOOD PARK

A three-acre neighborhood park will be located centrally in the East Neighborhood to provide a prominent destination and gathering place for surrounding residents. The City of Wilsonville’s 2018 Parks and Recreation Master Plan describes a half mile to one mile distance to parks and outdoor recreation as a reasonable distance for residents to be able to access their local park by walking or biking. While the Frog Pond South neighborhood will be served by the future Community Park, The Frog Pond East neighborhood is three quarters of a mile across and has no specifically planned park facility in the Parks and Recreation Master Plan. Therefore, a neighborhood park in this area is intended to be centrally located to the Frog Pond East Neighborhood.

Wilsonville’s neighborhood parks are generally small in size, acting as a combination of a playground and a park designed primarily for spontaneous, non-organized recreation activities. Public outreach revealed strong support and appreciation for Wilsonville’s parks and the type of programming provided. Input received from community members supported a neighborhood park that is similar to others in Wilsonville. In Frog Pond East, the neighborhood park will be designed for a variety of activities, including daily use by local residents for walking, playing, and spending time outdoors. Outreach particularly emphasized the desire for shade, accessibility, and playgrounds for children. Given its proximity to a future neighborhood commercial area, it also offers the opportunity to accommodate seasonal events and programming that can bring local residents together: for example, markets, cultural festivals, or movies in the park.

The park and open space framework map shows the future East Neighborhood Park located directly adjacent to the BPA easement in order to create a significant public connection to the easement area, making the park feel like a more generous open space. Multi use paths through the BPA easement will connect directly into the neighborhood park as an entry point to the larger network of planned pedestrian and bicycle routes.



PUBLIC REALM

GREEN FOCAL POINTS

In addition to the planned Community Park in Frog Pond South and the Neighborhood Park in Frog Pond East, several “green focal points” are identified in central locations within each walkable sub-district of the planning area. These are flexible in location and size but are intended to serve as central neighborhood destinations or gathering places that contribute to neighborhood character and identity. In addition to being centrally located, these focal points will be integrated into the neighborhood with front doors facing them, where possible, and provide clear and inviting access for public use.

Many different kinds of uses and activities are envisioned for these green focal points. Examples include community garden plots, small playgrounds or splash pads, nature play areas, pocket parks or plazas, and central green courtyards within housing developments. These smaller open spaces also provide opportunities to preserve mature and significant trees and provide visible stormwater treatment.



A neighborhood park can give character to its surrounding neighborhood and preserve existing mature trees. Homes facing the park make the space feel cohesive and integrated within the neighborhood.

The size of the park and its proximity to a neighborhood commercial area could allow it to become a central gathering place where programming, events, and daily activities bring local residents together



Play areas for children will be an important feature of the future East Neighborhood Park





PUBLIC REALM





STREET & BLOCK LAYOUT

The Street and Block Demonstration Plan illustrates a potential layout of streets, blocks, and multi-use paths that would achieve the intent of providing connected, convenient, safe, and low-stress transportation options for Frog Pond East and South. The location of framework streets either exists today or will be direct continuation of existing streets as shown on the Street and Block Demonstration Plan. The remaining street locations are shown for demonstration purposes and actual street layout beyond the framework streets will be determined at the time of development review, based on standards contained in the Development Code and Public Works Standards.

A clear hierarchy of street connections is established with SW Advance Road and SW 60th Avenue acting as collector streets, SW Brisband Street as a Main Street, and all other streets as local streets. A roundabout intersection is planned where SW Brisband Street crosses SW Stafford Road, an arterial street. SW Brisband Street extends directly to the east from SW Stafford Road to intersect with SW 60th Avenue, creating a simple block layout along the planned “Main Street” corridor. SW Frog Pond Lane extends into the study area as a local street and provides connections into the local street network of the East Neighborhood, including a street that crosses the BPA easement toward SW Kahle Road to the north.

Street and block layout will be designed to maximize walkability with short blocks and alley-loaded development that reduces vehicular crossings of sidewalks. Street and block design will also protect natural resources, trees, and public view corridors. For example, a cluster of significant trees just south of the Grange can be preserved within a block of development that is clustered around its edges. The demonstration plan shows public streets intentionally connecting to public trailheads along the length of the BPA easement.

A future transit route is planned to enter the study area from SW Wilsonville Road onto SW Advance Road, head south between the future community park and the middle school, turn north on SW 60th Avenue, and exit the study area from SW Brisband Street (the Main Street) back onto SW Stafford Road. Transit service will be important to residents of this area, helping them meet their daily needs and obligations without relying on a car.

In some areas where vehicular access constraints create long blocks, such as along SW Stafford Road, green pedestrian connections are required at regular intervals to allow people to move into and through the neighborhood more easily.



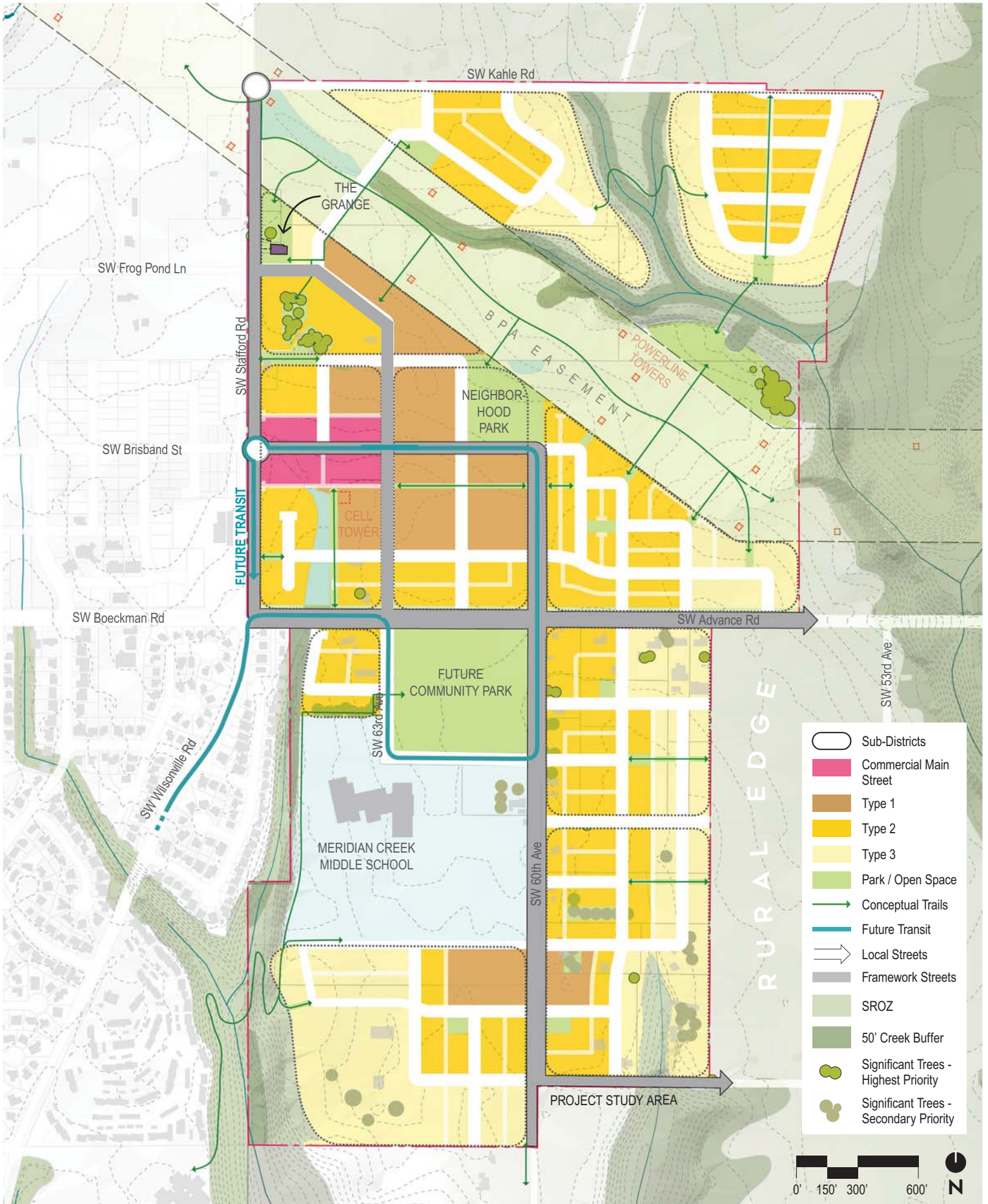
PUBLIC REALM

The Street and Block Demonstration Plan with land uses (Figure 20) shows the intended arrangement of development types and forms within overall street and block layout. Type 1 areas, which allow larger building forms, are focused centrally to the study area. It is important that Type 1 development areas are permeated by public streets and accessways to ensure integration within the neighborhood. A portion of Type 1 is shown directly adjacent to the BPA easement. This may allow multi-dwelling development in this area to take advantage of a portion of the BPA easement for parking.

The Street Demonstration Plan indicates intent for the relationship between development and major streets in the area. Blocks with development along SW Stafford Road, an arterial street, are oriented so that lots back onto the street in order to minimize impacts to those residents from road noise. A block of cottage cluster housing just south of the Grange could protect the existing stand of trees through flexible siting and orientation of buildings toward a central green space while reducing impacts from the adjacent busy road. Blocks along SW Advance Road, a collector street, are oriented to show homes facing the community park across the street. The blocks of commercial along the SW Brisband Main Street show the intent to orient buildings to the Main Street and place off-street parking and vehicular access behind buildings to create a walkable environment. The Street Design section illustrates these relationships in more detail.

PLACEHOLDER IMAGE

Figure 20. Street and Block Demonstration Plan with Land Uses





ACTIVE TRANSPORTATION

The Master Plan area will provide a complete and connected network of routes that prioritize non-car users, including cyclists, pedestrians, and those with wheelchairs or other mobility devices. Within public rights-of-way, facilities will include bike lanes, shared street markings, and wide sidewalks. A series of off-street multi-use path connections are planned to extend from the public street network into open spaces and natural areas. This combination of on-street and off-street facilities will provide multiple options for non-car users to access destinations like schools, parks, and the neighborhood commercial area.

Results from surveys and in-person outreach show a strong preference for separate off-street or physically buffered bicycle infrastructure. While this aims to maximize opportunities for separate off-street or physically buffered bicycle infrastructure shared streets and on-street facilities are still present where separated facilities are not feasible or to provide additional travel options beyond separated bicycle infrastructure.

The bicycle circulation concepts map indicates an intended hierarchy of on-street facilities for cyclists that connects to an off-street system of paths. Primary connections are shown along SW Advance Road and SW 60th Avenue, transitioning to shared street markings along the SW Brisband Main Street and key local streets in the study area that connect to destinations.

All local streets, with or without shared street markings, will be designed to focus on pedestrians and cyclists, with low speeds, street trees and planters, and alley-loaded development to minimize pedestrian-vehicle conflicts.

Crossings of SW Stafford Road and SW Advance Road will be carefully designed to prioritize safe routes to schools, parks, and other destinations within the larger Frog Pond area. Providing marked and signaled crossings as frequently as possible will mitigate out-of-direction travel for pedestrians and avoid pedestrians crossing at unmarked locations where they are more vulnerable to injury by vehicles.



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Off-street multi use paths connect bicycles and pedestrians to destinations without relying on street connections

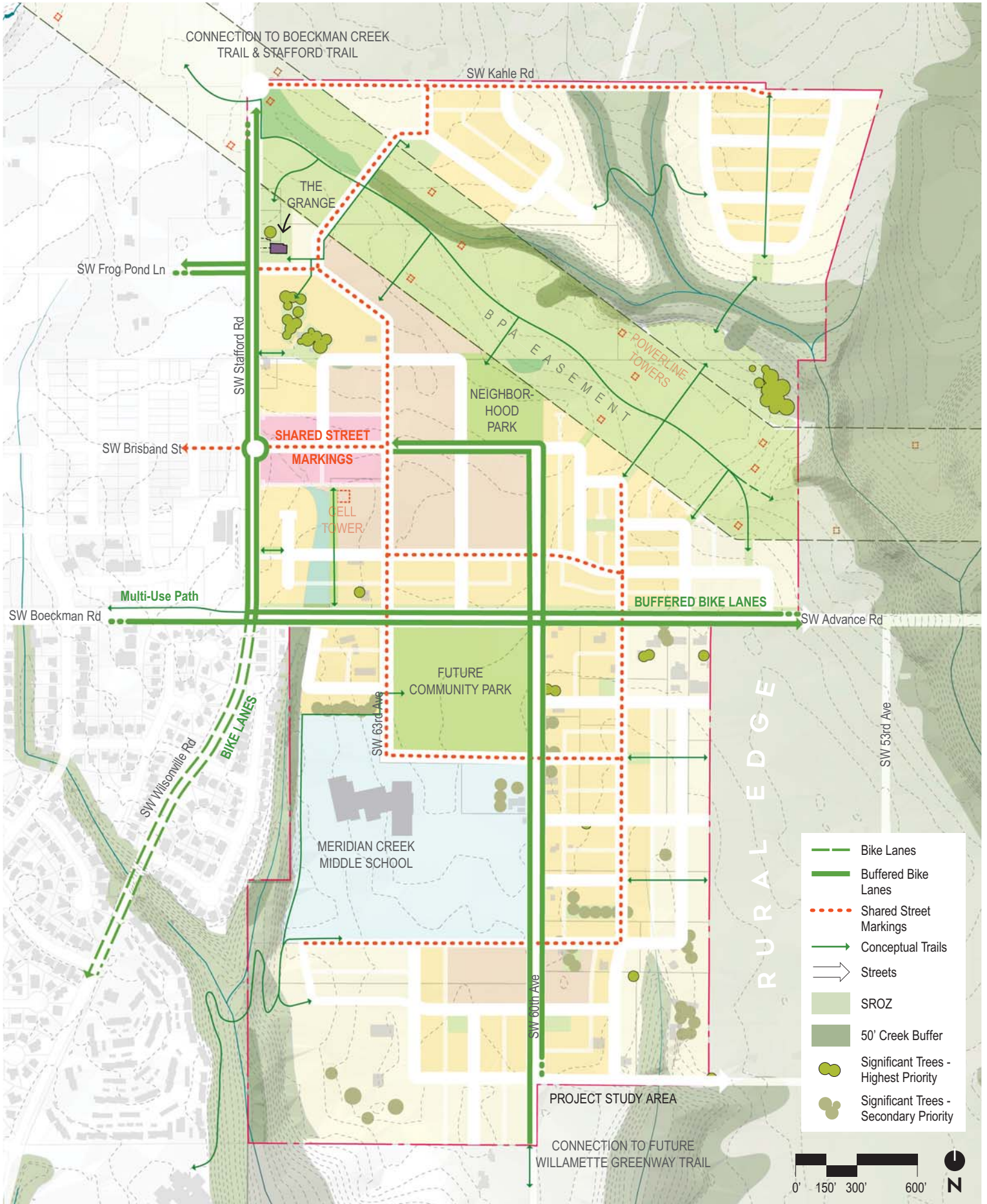


Sharrow marking on local street indicates a priority for cyclists and slows car traffic



Buffered or protected bike lanes provide safe and comfortable on-street cycling facilities

Figure 21. Active Transportation Concept



STREET DESIGN

All streets and off-street active transportation connections will be designed with the goal of creating convenient, safe, and low-stress transportation options, particularly for the most vulnerable road users. Design of streets should focus on safety, comfort, and ease for non-car users of roads, with a focus on providing multiple low-stress routes and street designs that are tailored to the multimodal circulation network within the study area.

way streets (SW Advance Road and SW 60th Avenue north of SW Advance Road) are key entry points to the neighborhoods and important connections for cyclists and pedestrians. These streets will include buffered or protected bike lanes and wide sidewalks and will be up to three lanes wide, with a planted median where a center turn lane is not needed. On-street parking may also be included in some locations

Collector street design will be implemented for SW 60th Avenue South of SW Advance Road. This cross-section will include two travel lanes, buffered or protected bike lanes, and wide, ADA-accessible sidewalks.

Local streets will be designed to focus on pedestrians and cyclists, with low speeds, street trees and planters, and alley-loaded development where possible to minimize pedestrian-vehicle conflicts and provide an appealing streetscape without garages. Key local streets that connect to destinations will include shared street markings to emphasize a priority for cyclists on the road. Local street design will continue the established pattern in Frog Pond West.

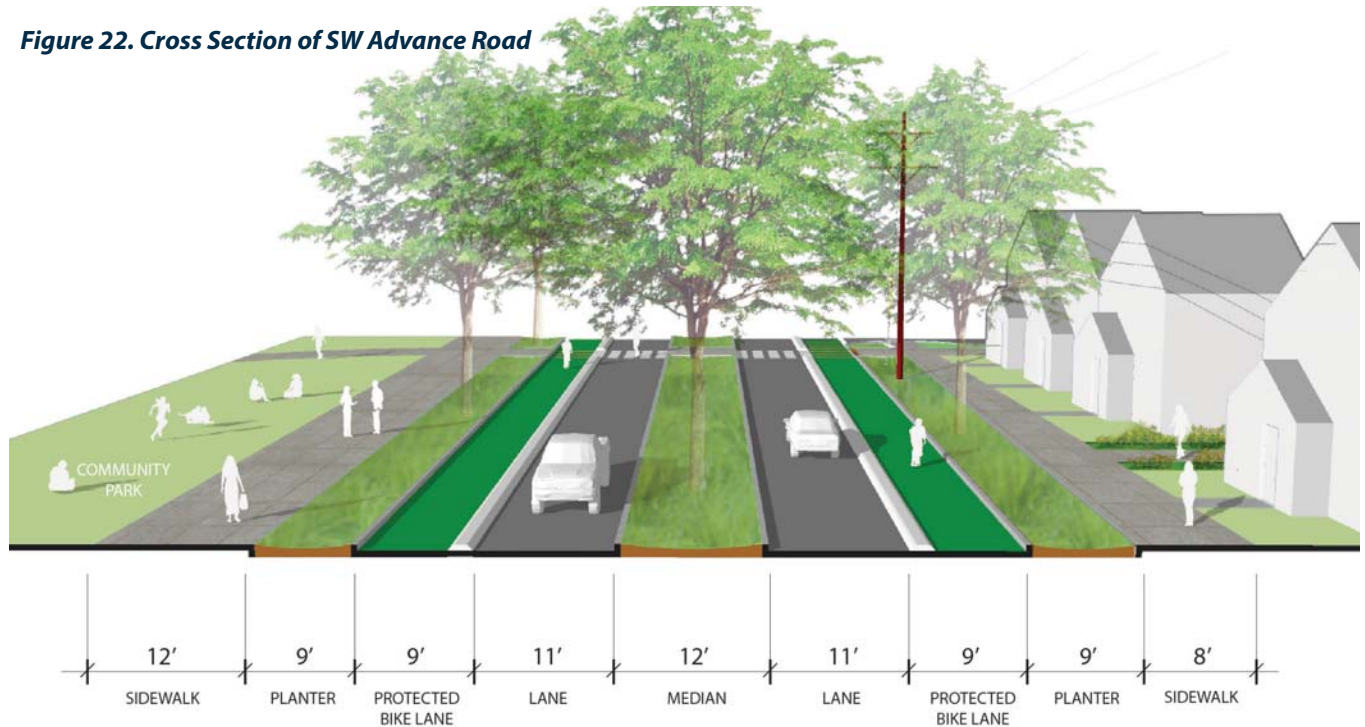
In addition to streets, mid-block public pedestrian connections will enhance neighborhood accessibility and permeability. Typical off-street pedestrian connections between blocks of development will be at least 10 feet wide and will include 8-foot planted areas on either side for a total width of 26 feet.

The following pages describe design intent for several important streets that will pass through the study area: SW Advance Road, SW 60th Avenue, and SW Brisband Street, which will serve as a neighborhood Main Street in the East Neighborhood.



PUBLIC REALM

Figure 22. Cross Section of SW Advance Road

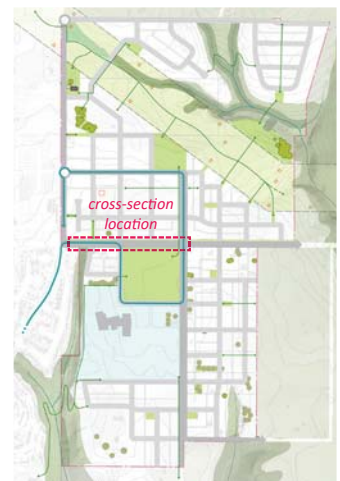


SW ADVANCE ROAD

This cross-section shows a concept for SW Advance Road, a collector street, where it passes the future community park. It includes generous sidewalks, buffered bike lanes, wide planter strips that support tree health, and a planted median to create a comfortable and inviting environment for pedestrians. On-street parking, while not shown in the image above, may also be added on either side of the street but will need to be designed carefully to avoid conflicts with cyclists. Planted areas in the right-of-way also offer opportunities for capturing and infiltrating stormwater.

Future development on the north side of the street, across from the future community park, is planned so that front doors face the park. This, combined with homes fronting the park on its east and west sides, will create a sense of community, enclosure, and integration of the park within the neighborhood.

This concept for SW Advance Road will create a continuous streetscape with SW Boeckman Road where it continues west of SW Stafford Road. Existing high-voltage power poles on the north side of the street can be incorporated within a wide planter strip.

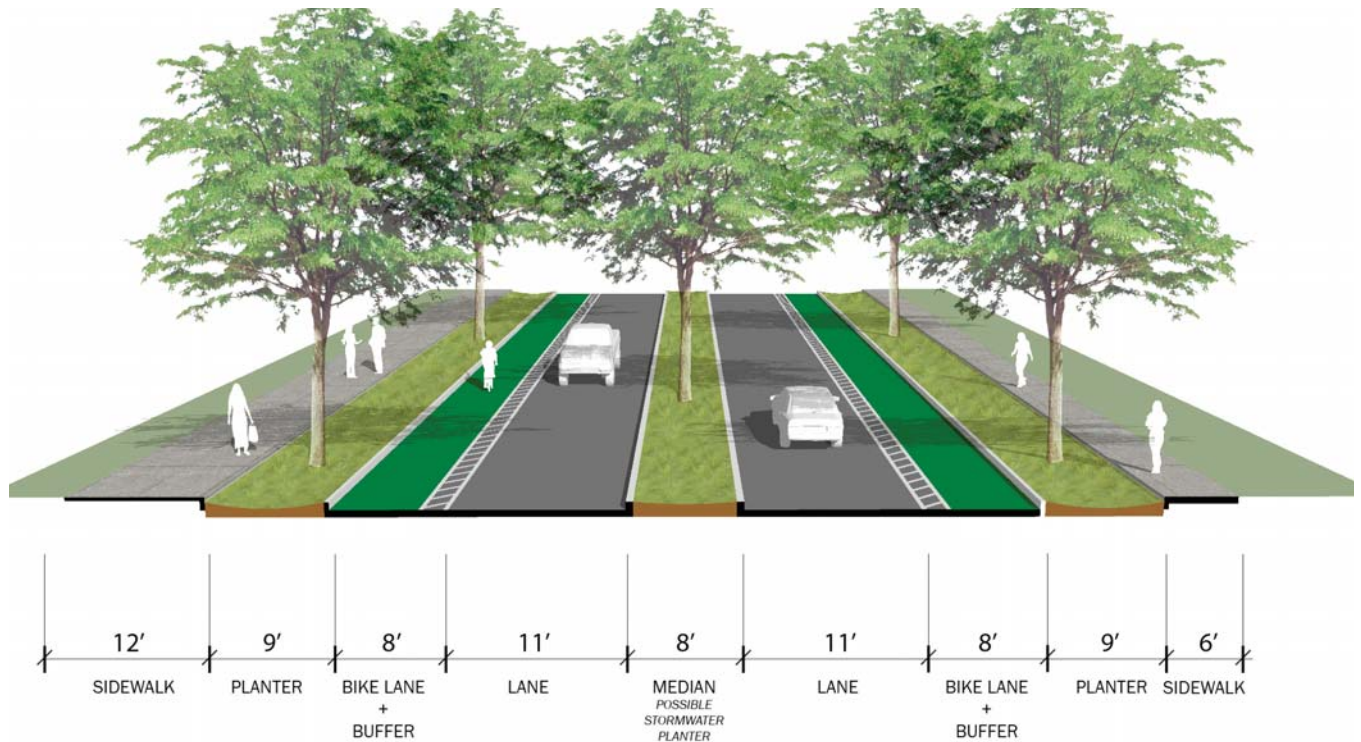


KEY MAP



PUBLIC REALM

Figure 23. Cross Section of SW 60th Avenue



SW 60TH AVENUE

This cross-section shows a concept for SW 60th Avenue north of SW Advance Road. This street will function as a key entry point to the East Neighborhood and will connect to the SW Brisband Main Street. A planted median allows for turn lanes at intersections may also include stormwater. A 12-foot sidewalk on the west side of the street provides a comfortable pedestrian connection between the Community Park to the south and Neighborhood Park to the north.

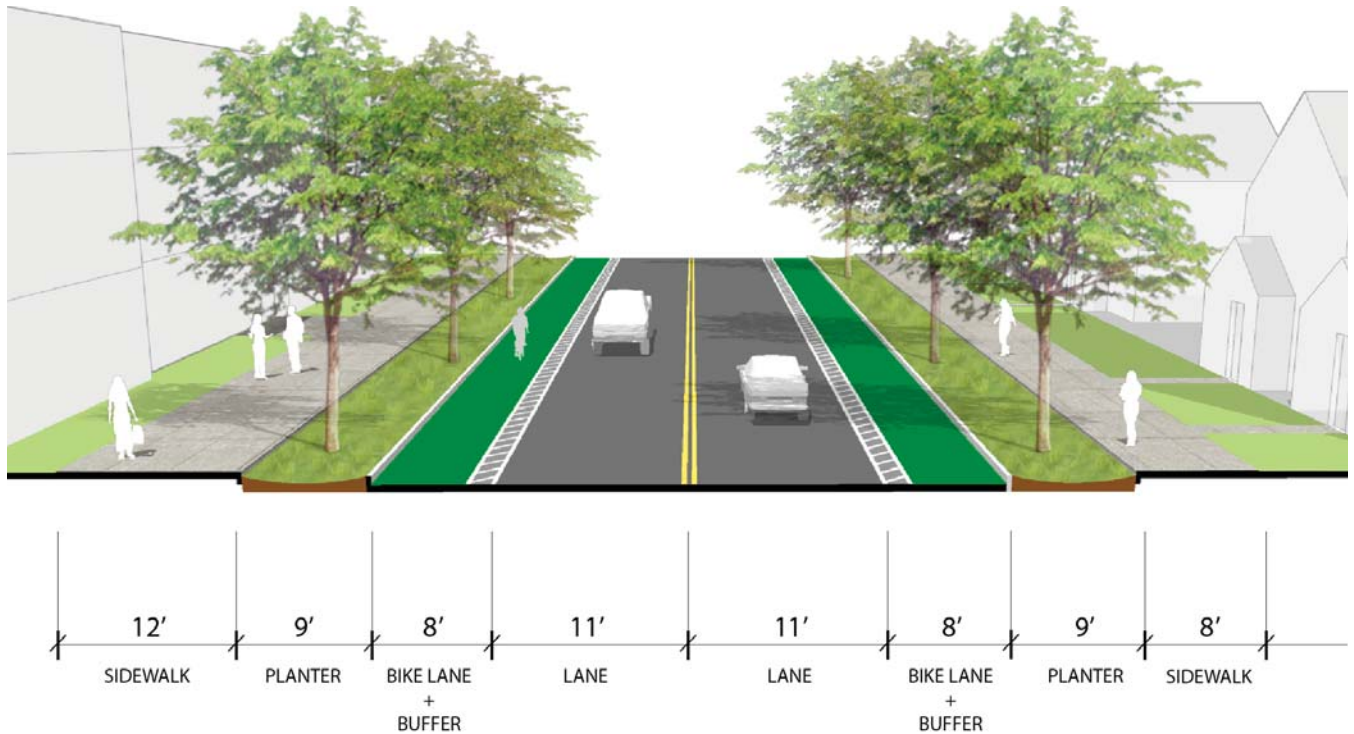


KEY MAP



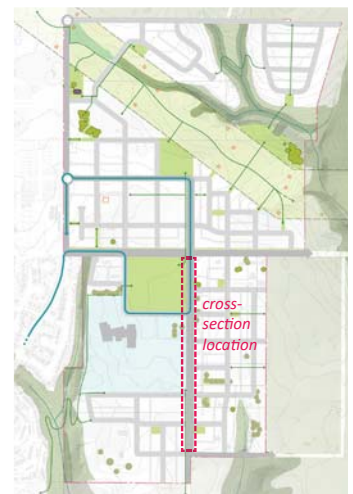
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Figure 24. Cross Section of SW 60th Avenue Collector



SW 60TH AVENUE COLLECTOR

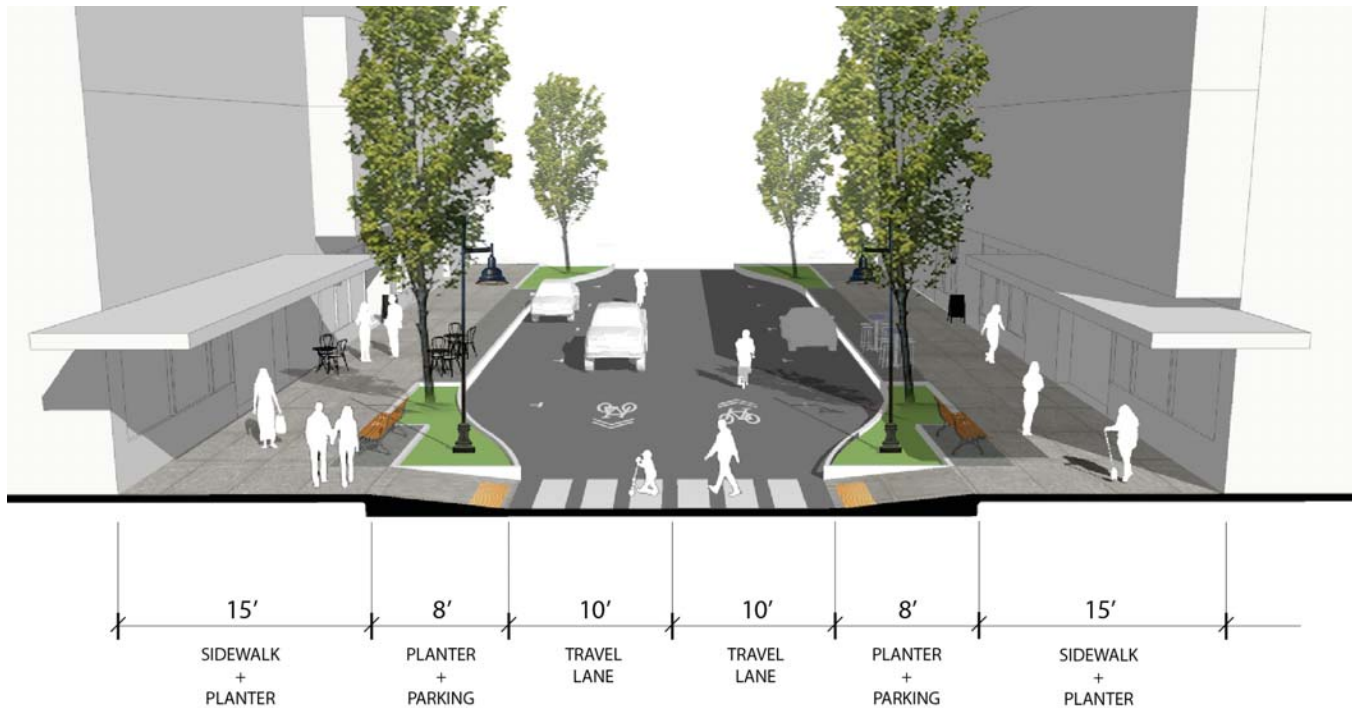
This cross-section shows a concept for SW 60th Ave., a collector street, south of SW Advance Rd. Since various building forms and residential densities are expected to be located along SW 60th Ave., this cross-section illustrates an intent to provide more sidewalk space along the west side of the street, adjacent to the Community Park. The wider sidewalk will ensure a pleasant and spacious walking environment for pedestrians and lessen the visual presence of any larger buildings. The cross-section may also include a center turn lane and planted median if needed, but a narrower street width is more desirable to shorten crossing distances and create a more pedestrian-oriented scale for this key north-south connection between the Middle School, Community Park, and Neighborhood Park.



KEY MAP



Figure 25. Cross Section SW Brisband Main Street



SW BRISBAND MAIN STREET

This cross-section shows a concept for SW Brisband Street, which will function as a neighborhood commercial “Main Street” within the Frog Pond East Neighborhood. The cross-section is based on the Wilsonville Town Center Plan and Transportation System Plan cross-section for a Main Street, with two travel lanes shared by cyclists and cars. On-street parking is provided interspersed with stormwater planters in curb extensions, and generous sidewalks allow for a furnishing zone with public and private seating. Buildings, whether commercial or vertical mixed-use, are intended to line the sidewalk and create a pleasant environment to stroll, visit local businesses, and socialize.



KEY MAP



STREET TREE PLAN

The concept for street trees in the Frog Pond East and South Neighborhoods is intended to beautify and unify the neighborhood while providing a variety of tree species. The following Street Tree Plan provides guidance tied to the street typology for Frog Pond East and South that will integrate with the street tree palette established in Frog Pond West.

PRIMARY STREETS

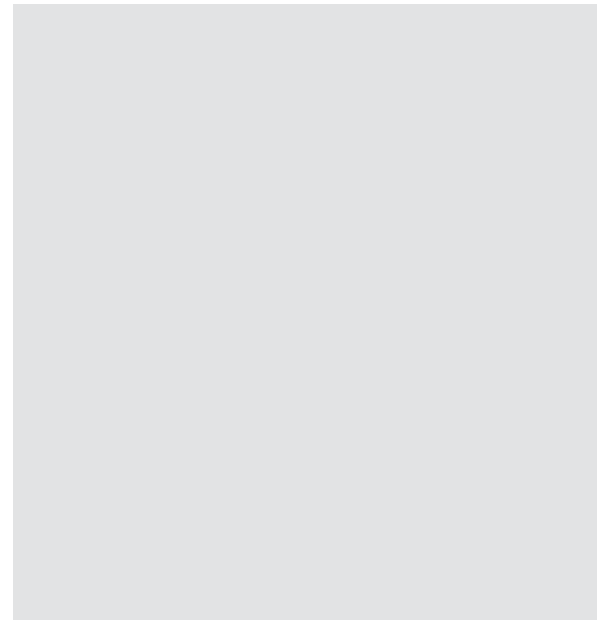
The Primary Streets in the new neighborhood should provide a clear identity to the community, and serve as a wayfinding structure, with street tree continuity serving as a useful tool.

The proposed trees for these Primary streets come partly from the City of Wilsonville's recommended tree list for "trees over 50 feet mature height" with updates to exclude some species that do not meet current practice or are known to be invasive or prone to disease or breakage.

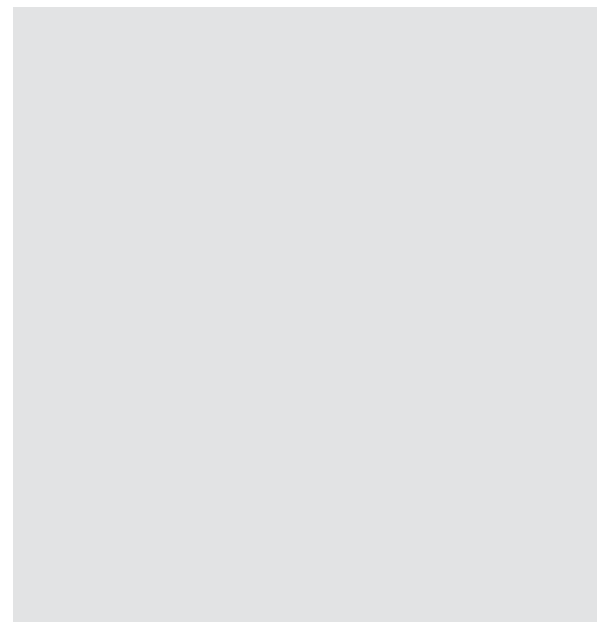
It should be noted that other species with similar characteristics may be considered, as identified and proposed by a professional landscape architect.

The Primary Street Tree List is as follows:

- Green Column Black Maple (*Aer nigrum* 'Green Column')
- Columnar Tulip Tree (*Liriodendron tulipifera* 'Fastigiatum')
- Bloodgood London Plane Tree (*Platanus x acerifolia* 'Bloodgood')
- Scarlet Oak (*Quercus coccinea*)
- Northern Red Oak (*Quercus rubra* Borealis)
- Green Vase Zelkova (*Zelkova serrata* 'Green Vase')
- Autumn Gold Gingko (*Gingko biloba* 'Autumn Gold')
- David Odom Afterburner Tupelo (*Nyssa sylvatica* 'David Odom')

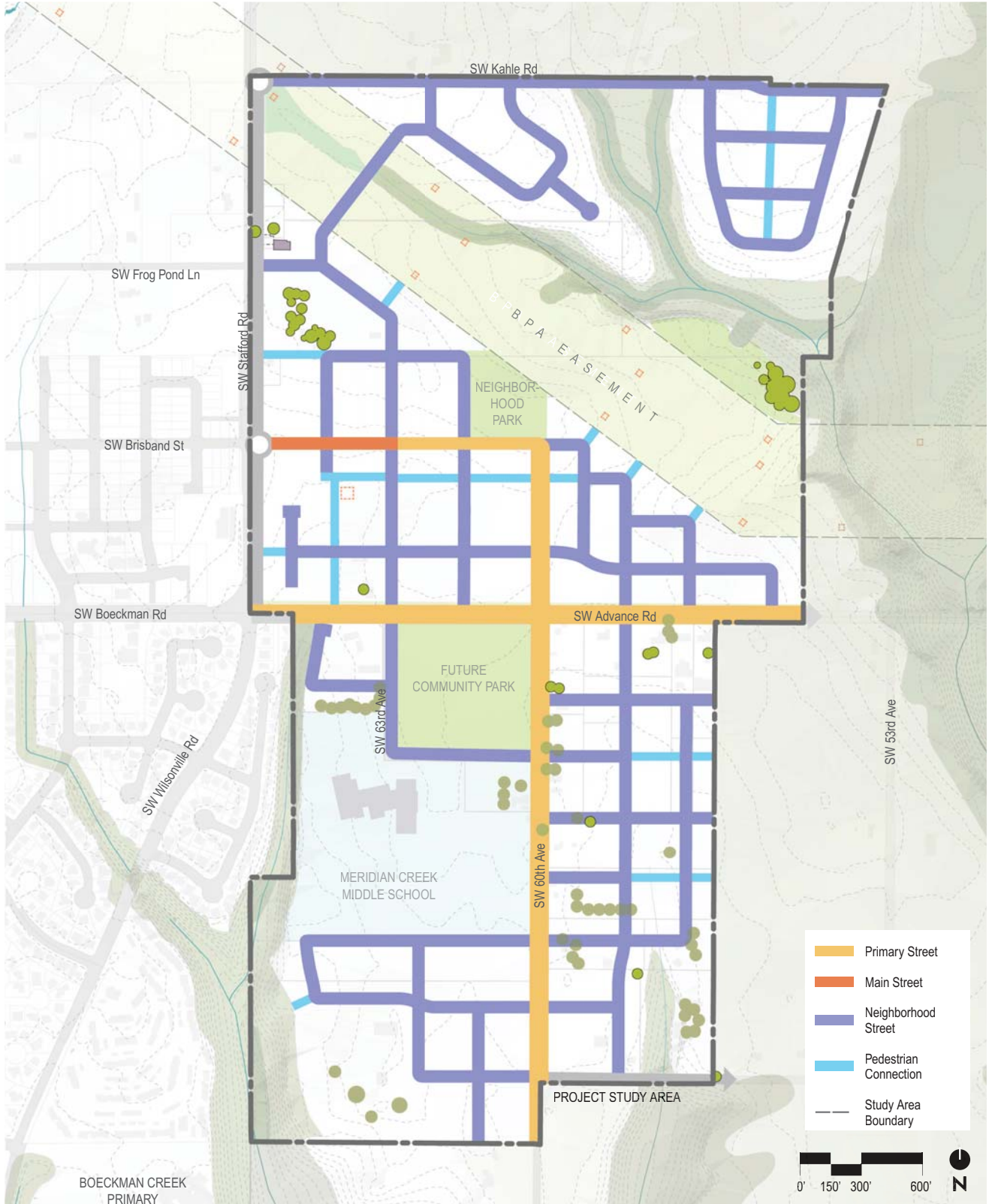


Tree Image



Tree Image

Figure 26. Street Tree Plan





PUBLIC REALM

The proposed 8' planting strips on Primary streets will help ensure these trees grow to form large canopy structures over the streets, providing future value to adjacent homes.

As required by the City's Public Works Standards, root barriers should be used in all situations to protect the sidewalk infrastructure from root damage.

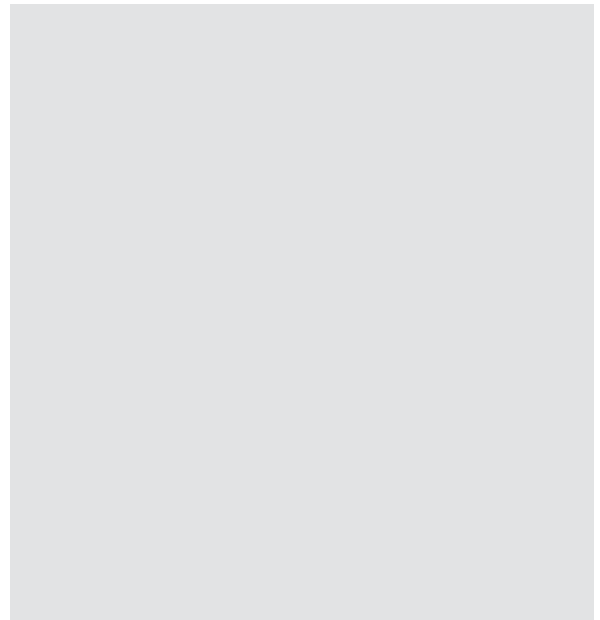
To provide strong continuity, a Primary Street should be planted with the same species for its entire length. No specific tree is proposed for a given Primary Street but each of these streets should be planted on both sides with a species unique to that street, selected from the list of 8 possibilities.

SW BRISBAND MAIN STREET

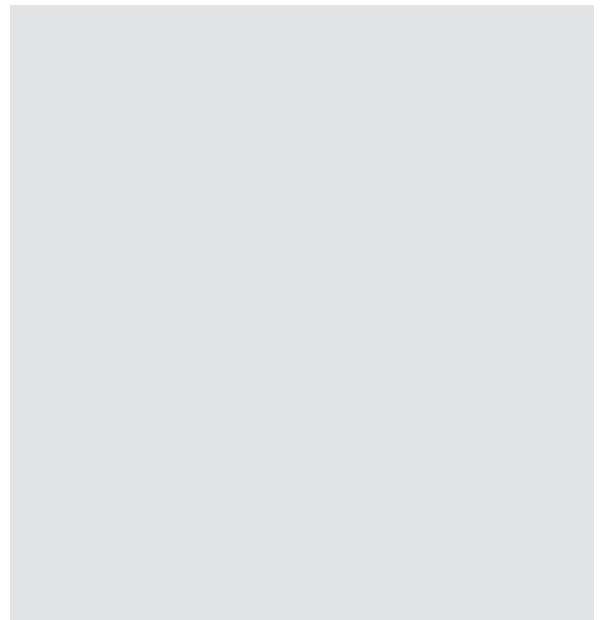
The Main Street should include street trees that provide shade and visual interest while also avoiding conflicts with buildings and leaf litter and other debris. To this end, a list of candidate trees with narrow canopies of a maximum of 25 feet are proposed. The two-block Main Street should have the same street tree on either side of each block. Each of the street trees on this list have spring blossoms or fall color that will provide beauty and identity to this center of the neighborhood.

The Main Street Tree List is as follows:

- Saratoga Ginkgo (Ginkgo biloba 'Saratoga')
- Lavalley Hawthorne (Crataegus x lavaleii)
- Rising Fire American Hornbeam (Carpinus caroliniana 'Uxbridge')
- Street Keeper Honey Locust (Gleditsia triacanthos 'Draves')
- Stellar Pink Dogwood (Cornus kousa x florida)
- Paperbark Maple (Acer griseum)



Tree Image



Tree Image



NEIGHBORHOOD STREETS

Neighborhood Streets should strive for variety. For example, east-west streets would have one tree from the recommended list and north-south streets should have another. An even finer grain of species distribution is recommended, if possible, at the city's discretion.

The Neighborhood Street Tree List is as follows:

- Katsura Tree (*Cercidiphyllum japonicum*)
- Yellow Wood (*Cladrastis kentukea*)
- Halka Honeylocust (*Gleditsia triacanthos* 'Halka')
- Skycole Honeylocust (*Gleditsia triacanthos* 'Skycole')
- Chinese Pistache (*Pistacia chinensis*)
- Accolade Elm (*Ulmus* 'Morton' Accolade)
- Maygar Ginkgo (*Ginkgo biloba* 'Maygar')
- Village Green Zelkova (*Zelkova serrata* 'Village Green')

Both sides of a street should be planted with the same tree species. A single subdivision's streets should not be planted with a single tree species. Underneath the BPA powerlines, a shorter neighborhood street tree should be used, subject to BPA requirements.

PEDESTRIAN CONNECTIONS

Pedestrian Connections would feature a columnar species, reflecting the narrow space in these connections and ensuring that there are views through the length of them, helping with safety and wayfinding.

Five trees are proposed for Pedestrian Connections:

- Common Hornbeam (*Carpinus betulus* 'Fastigiata')
- Columnar English Oak (*Quercus robur* 'Fastigiata')
- Columnar Musashino Zelkova (*Zelkova serrata* 'Musashino')
- Princeton Sentry Ginkgo (*Ginkgo biloba* 'Princeton Sentry')
- Tricolor Beech (*Fagus sylvatica* 'Roseo-marginata')

To the extent possible, existing groves of Ponderosa Pine, Oregon White Oak, and Douglas Fir should be incorporated into the neighborhood, as street trees or common area tracts or within pedestrian connections. These existing groves have been identified through the Master Plan tree inventory and are shown in the Street Tree Plan diagram.



PUBLIC REALM

PUBLIC LIGHTING PLAN

The Public Lighting Plan is intended to provide effective lighting of public streets and places to enhance neighborhood livability, night-time vitality and safety. The lighting recommendations focus on providing an even, consistent coverage, softening contrast ratios at edges and improving visibility by avoiding excess illumination and brightness. Most of these neighborhoods will be part of the Lighting Overlay Lighting Zone LZ 2: Low-density suburban neighborhoods and suburban commercial districts, industrial parks and districts, as specified in Chapter 4.199 of the City's Planning and Land Development Regulations. Dark-sky-friendly fixtures are required, as well as LED bulbs. All lights will be 3000k color and have 7-pin adapters. The City will own and maintain all lighting and PGE will provide power. Design details should follow City of Wilsonville Public Works Standards.



Double-sided Lighting Fixture in Frog Pond West

LIGHTING PLAN HIERARCHY

A subtle hierarchy in lighting is proposed, as shown in Figure 27. These categories of street lighting are tied to the Street Types Plan and unique requirements of pedestrian connections, trailheads, and paths.

ARTERIAL STREETS

- This includes the SW Stafford Road corridor as outlined in the Frog Pond West Master Plan and is intended to be the brightest standard to maximize safety for vehicles and bicycles.
- The selected street light for City arterials may be the XSP2™ LED Street/Area Luminaire – Double Module – Version C, or equivalent per City's Cobrahead light standard at the time of construction.
- Design should follow City of Wilsonville Public Works Standards Chapter 201.9.01 Roadway and Intersection Lighting.



PUBLIC REALM

KEY INTERSECTIONS

The following general recommendations apply to three key intersections: SW Frog Pond Lane and SW Stafford Road, SW Brisband Road and SW Stafford Road, and the intersection of SW Stafford, SW Boeckman, SW Wilsonville, and SW Advance Roads:

- These three areas act as transition zones between urban-scale arterial lighting and more neighborhood-scale lighting types.
- Placement of fixtures should be carefully considered to ensure the two types do not conflict visually .
- The intersections should be more brightly-lit, acting as a wayfinding ‘beacon’ when approaching them.
- Coordinate lighting with future landscaped gateway features at the intersections, including a distinct gateway and identity at the SW Brisband Main Street entry from SW Stafford Road.

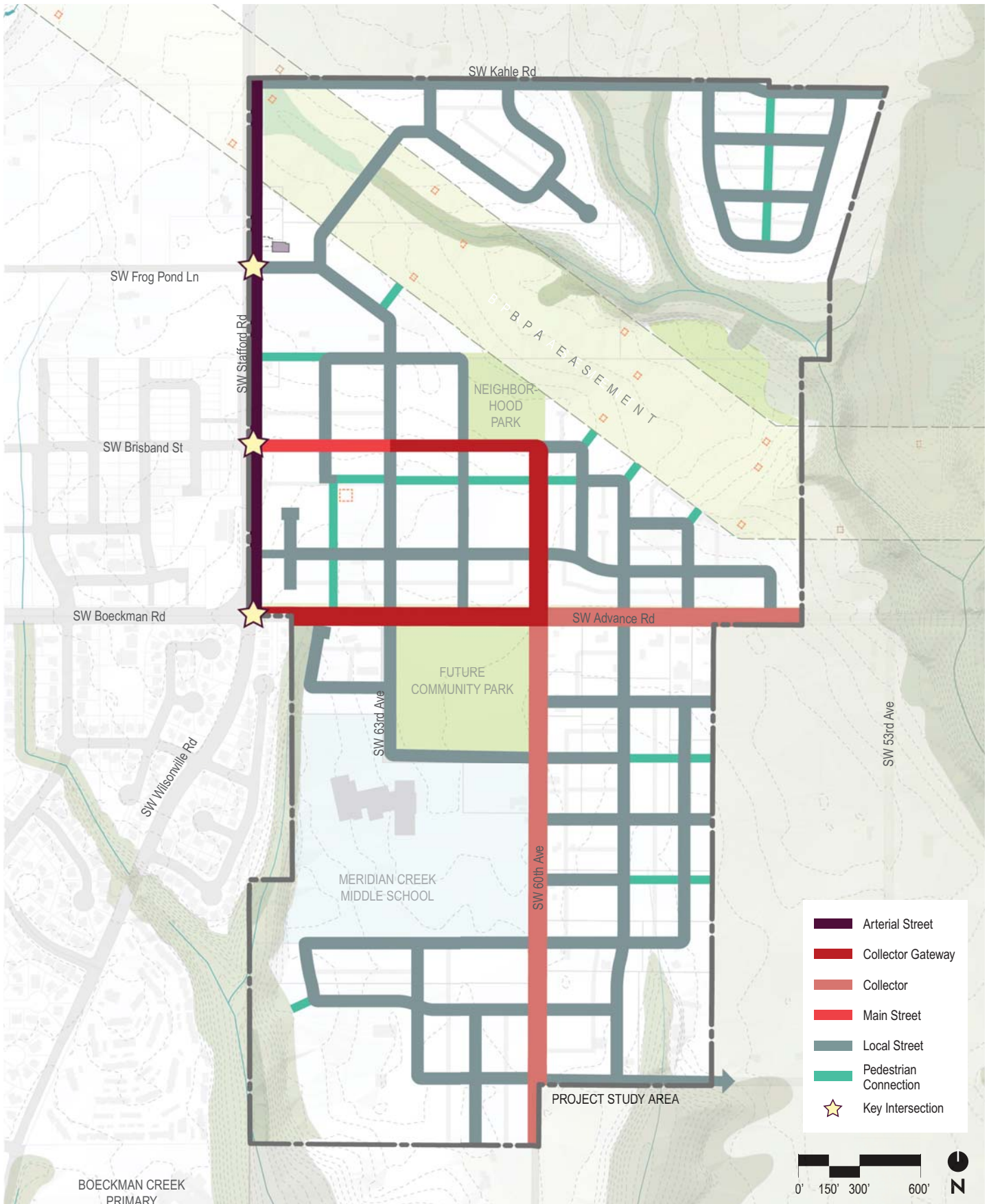
WAY STREETS

- This includes segments of SW Advance Road and SW 60th Avenue as they enter the neighborhood from adjoining major streets.
- To identify these streets as ‘Gateways’ into the neighborhood, a closer spacing than Local Street Lighting (to be determined through a lighting design plan at the time of development) is recommended and brighter illumination for these stretches of street.
- These streets should feature similar light fixtures as Arterial Streets, with shorter poles.

MAIN STREET

- The Main Street should include a closer spacing, similar to a Local Street lighting design, in order to provide an intimate scale and warm, inviting pedestrian environment to support nighttime activity .
- Poles and fixtures should match the preferred ornamental standard used elsewhere in Frog Pond, but with a maximum mounting height of 16 feet to provide lighting at the pedestrian scale
- Light poles should include the ability to attach banners or other decorative elements.
- Consider installing power access for tree lighting along with the infrastructure for street lighting.

Figure 27. Lighting Plan





PUBLIC REALM

LOCAL STREETS

- Local streets should provide minimum light levels for safe circulation, while contributing to the visual appeal of streetscapes.
- Light placement should avoid negative effects on adjacent housing
- Dark sky friendly light fixtures should be used .
- A consistent lighting standard should be used throughout the neighborhood to knit together individual subdivisions. .
- Use the following ornamental light standard: StressCrete King Aurora Pendant (40W LED).

PEDESTRIAN CONNECTIONS, TRAILHEADS AND PATHS

Consistent pedestrian lighting is an important contributor to the neighborhood's identity and can define a hierarchy of travel routes.

- Trails and paths should be uniformly illuminated
- In-ground up-lighting should be avoided
- Trailhead parking areas should be illuminated
- Coordinate lighting locations and pole heights with tree locations and landscape areas and constructed elements
- Design should follow City of Wilsonville Public Works Standards Chapter 201.9.02 Shared-Use Path Lighting. Key components include:
 - › The City Engineer may reduce the lighting standards or not require lighting of shared-use paths in designated natural resource and wildlife areas.
 - › Lighting provided along shared-use paths shall be pedestrian scale with a mounting height no greater and no less than 10 feet. A clearance of 10 feet shall be provided from the path surface for street lighting overhanging a shared-use path. Pedestrian level lighting, such as bollards, shall not be permitted.
- Use the following ornamental light standard: Phillips Hadco Westbrooke (Ledgine CXF 15)



Single-sided Lighting Fixture in Frog Pond West



PUBLIC REALM

- The SROZ area, buffers and the trailhead areas will be in Lighting Zone LZ 1, as specified in Chapter 4.199 of the City’s Planning and Land Development Regulations, which apply to “Developed areas in City and State parks, recreation areas, SROZ wetland and wildlife habitat areas; developed areas in natural settings; sensitive night environments; and rural areas. This zone is intended to be the default condition for rural areas within the City.”

GATEWAYS, MONUMENTS, AND SIGNAGE

Development of the Frog Pond East and South area presents several opportunities and issues for gateways, monuments, and signage. The key issues and opportunities are:

- The entrance into Wilsonville along SW Stafford Road will “move” from the intersection of SW Stafford-Wilsonville-SW Advance-SW Boeckman Roads to SW Stafford Road at SW Kahle Road. Additionally, the entrance to Wilsonville from the east will move to SW Advance Road at the Urban Growth Boundary.
- The new SW Brisband Main Street will create a new major entry and connection point into Frog Pond East from Frog Pond West and SW Stafford Road. If intersection design includes a roundabout, the center of the roundabout can include art, signage, or other identity elements that mark the entry to the Main Street.
- The extension of SW Frog Pond Lane into Frog Pond East provides a minor entry point into Frog Pond East. Design of this entry point can integrate with the future landscape and design of the Grange site to create a unique identity for this area.
- The crossroads of SW Advance Road and SW 60th Avenue forms a key connection point between the East and South neighborhoods.
- The internal developments in Frog Pond should not reflect a pattern of multiple subdivisions. Rather, they should be increments of a larger community that knit together phase-by-phase.

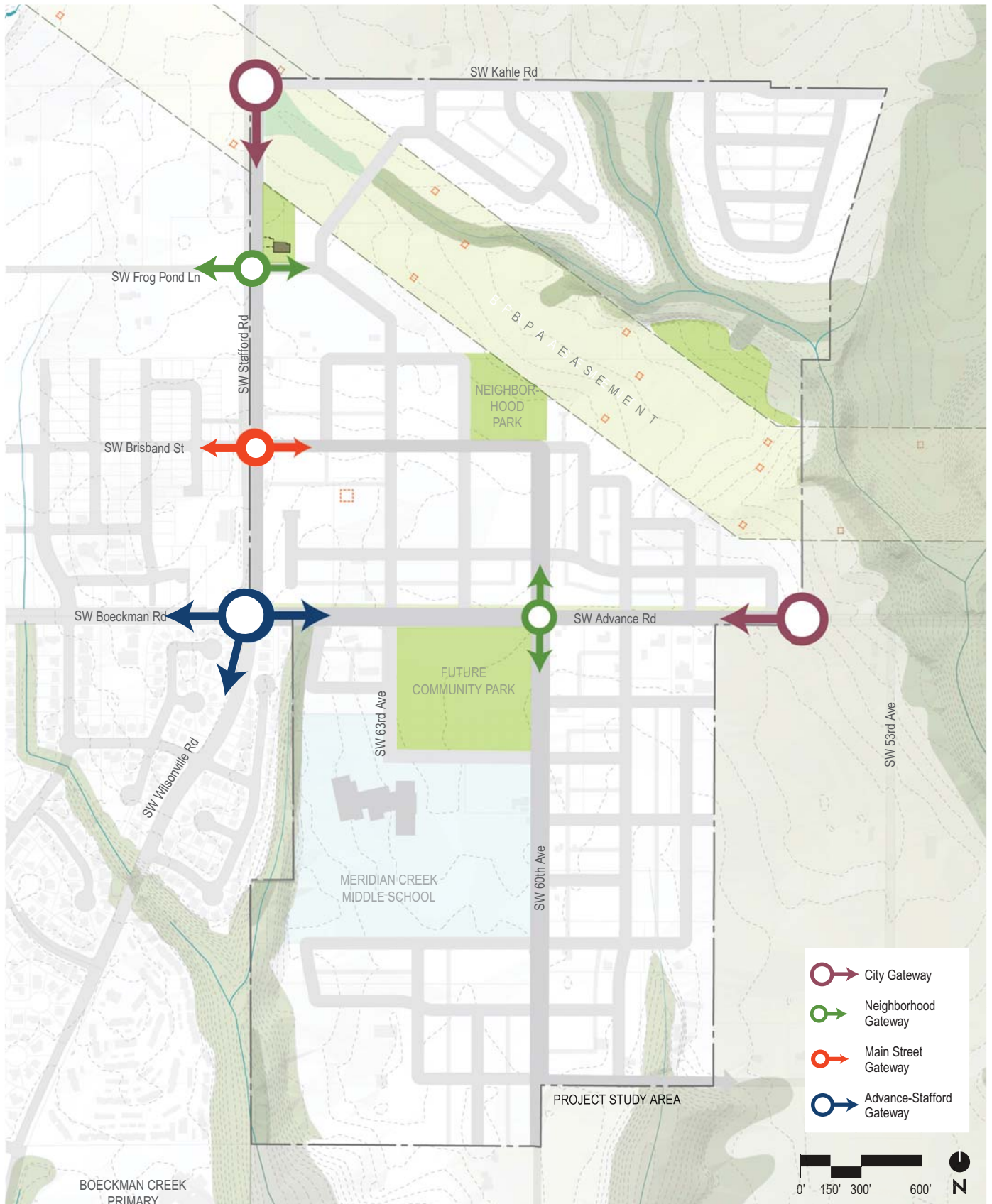
The following recommendations for gateways, monuments, and signs are intended to address the issues listed above and help knit the Frog Pond area together seamlessly into a cohesive neighborhood with a clear identity.

GATEWAYS

There are four types of Gateways planned for the Frog Pond Area:

1. City Gateway
2. SW Advance-SW Stafford Gateway

Figure 28. Gateways Map





PUBLIC REALM

- 3. Main Street Gateway
- 4. Neighborhood Gateways

The locations, roles, and design elements for each gateway type are described in Table 5 and illustrated in Figure 28.

Table 5. Gateway Types, Roles, and Design Elements

GATEWAY TYPE	LOCATION(S) AND ROLE	DESIGN ELEMENTS
City Gateway	<p>SW Stafford Road at SW Kahle Road, southbound</p> <p>SW Advance Road at UGB</p> <p>Role: Welcome visitors to Wilsonville, facilitate transition from rural to urban setting</p>	<p>Landscaping and signage reflect character of planning area</p> <p>Design should be consistent with other key entries into the City</p>
Neighborhood Gateways	<p>SW Frog Pond Lane at SW Stafford Road</p> <p>Crossroads of SW Advance Road and SW 60th Avenue</p> <p>Role: To mark the primary entries into Frog Pond East and South</p>	<p>Use brick monuments to blend with SW Boeckman property frontage wall in Frog Pond West</p> <p>Monuments should be properly scaled, respectful of their context</p> <p>Simple form, integrated with landscape</p> <p>Large lettering not as important as landscape and civic element</p> <p>Neighborhood gateway at SW Frog Pond Lane presents an opportunity to integrate with design and landscape of the Grange site</p>
SW Advance-SW Stafford Gateway	<p>NW corner of the SW Advance-SW Stafford Road intersection</p> <p>Role: Enhancement of key corner to prioritize pedestrian experience, and announce entry into neighborhood</p>	<p>Trees and tall landscaping will mark the corner and de-emphasize powerlines.</p> <p>Landscaping to include seasonal variety, color, texture, and trees (away from the powerlines).</p> <p>Opportunity for public art, in coordination with the design of the northeast side of the intersection.</p> <p>Design should support the corner as an active pedestrian cross-road and safe route to Meridian Creek school.</p>
Main Street Gateway	<p>Intersection of SW Brisband St at SW Stafford Road</p>	<p>Opportunity for public art or other landmark. Generous pedestrian walkways providing access to Main Street. Buildings oriented toward streets.</p> <p>Sidewalk paving patterns for the Main Street can extend out to the curb along SW Stafford Road, marking pedestrian entry into the Main Street environment.</p>



PUBLIC REALM

The City will lead the implementation of the City Gateway projects as part of the infrastructure funding plan and implementation. The Neighborhood Gateways are expected to be collaborative projects with developers when those intersections are improved.

MONUMENTS AND SIGNS

As noted throughout this Master Plan, it is likely that Frog Pond East and South will develop incrementally. The intent is to avoid a pattern of individual subdivisions with different names, monuments, and identities within the neighborhood. Rather, the vision is to knit each incremental project together to form a unified whole. Accordingly, the following principles and standards are required for monuments within Frog Pond East and South:

- Frog Pond will continue as a unifying name for the neighborhoods.
- Monument signs will be limited to Neighborhood Gateway locations and emphasize the Frog Pond neighborhood identity.
- Individual subdivision signs (except temporary real estate sales signage) and monuments will not be permitted.
- “Sign caps” identifying the Frog Pond neighborhood will be utilized on street signs.

Signage at non-residential developments (e.g. parks and schools) will be consistent with Neighborhood Gateway signage and the City of Wilsonville Signage and Wayfinding Plan to further tie the area together and integrate the neighborhood cohesively into the broader City of Wilsonville as a whole.



Placeholder Image



IMPLEMENTATION



IMPLEMENTATION

COMPREHENSIVE PLAN IMPLEMENTATION

The Frog Pond East and South area will be regulated by Wilsonville's Comprehensive Plan when this Master Plan is adopted. The sections below describe the amendments and actions needed to update the Comprehensive Plan in order to implement the land use regulations contained herein.

ADOPT THE FROG POND EAST AND SOUTH MASTER PLAN AS A "SUPPORTING DOCUMENT"

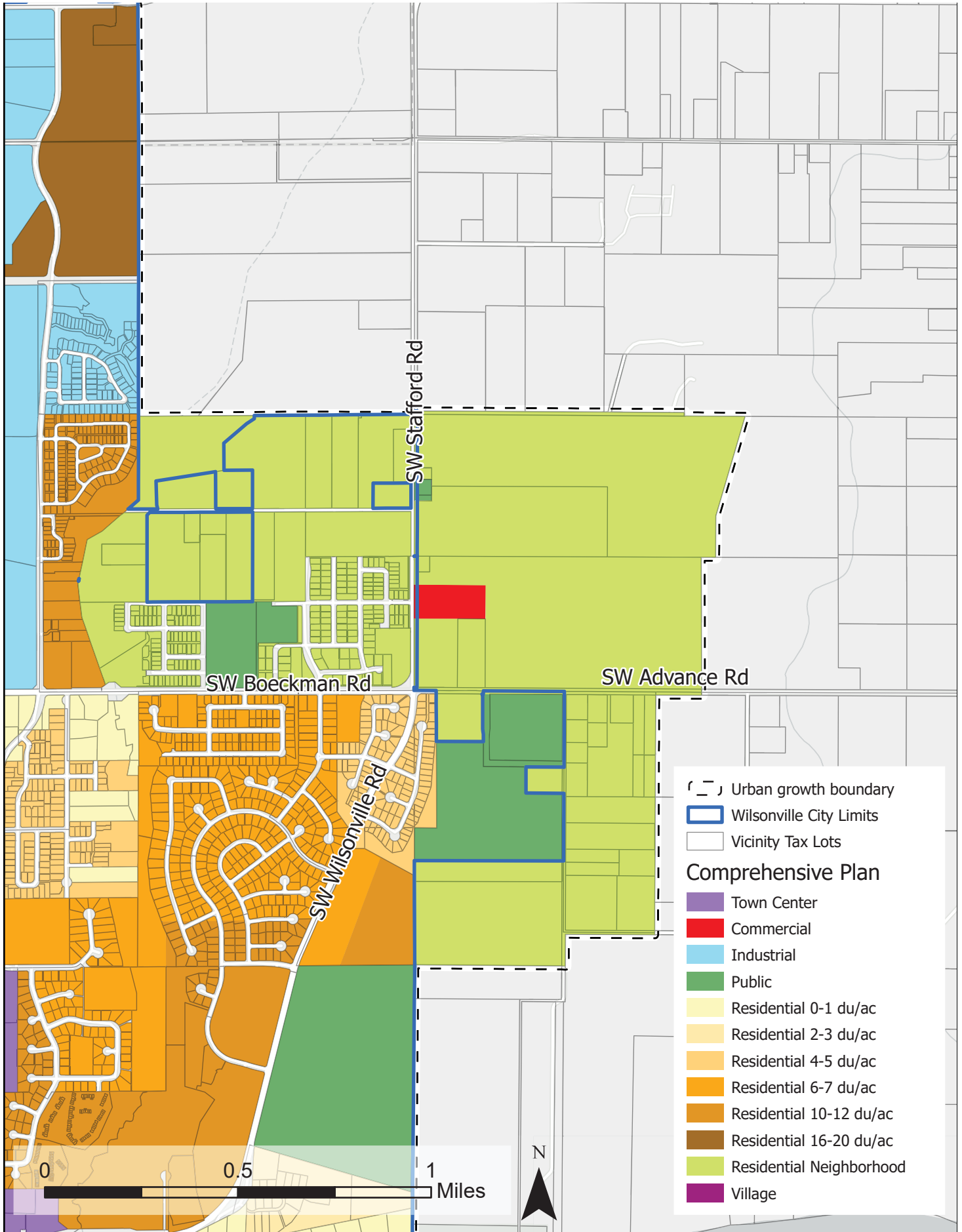
The Master Plan will be adopted as a "supporting document" of the Comprehensive Plan. As such, it will have the "...force and effect of the Plan",¹ meaning the Master Plan's regulatory authority is applicable in instances where "consistency with the Comprehensive Plan" or other reference to the Frog Pond East and South Master Plan occurs in law or code. The Master Plan also serves a key role in establishing requirements for development that are implemented through Wilsonville's Development Code.

AMEND THE COMPREHENSIVE PLAN'S LAND USE MAP

Figure 29 illustrates the proposed Comprehensive Plan Map for Frog Pond East and South, in the context of adjacent plan designations. Frog Pond East and South primarily consist of the "Residential Neighborhood" designation, mirroring Frog Pond West. This designation is designed to effectuate the goals, policies, and regulatory elements of this Master Plan.

1 Wilsonville Comprehensive Plan, page Intro-5.

Figure 29. Comprehensive Plan Map





IMPLEMENTATION

APPLY THE EXISTING GOALS, POLICIES AND IMPLEMENTATION MEASURES OF THE COMPREHENSIVE PLAN

The inclusion of the Frog Pond East and South area on the Wilsonville City Comprehensive Plan map means that applicable Goals, Policies and Implementation Measures of the Comprehensive Plan will apply as development occurs. The Plan's provisions that are specific to the Frog Pond East and South Area are in the Residential Neighborhood section of the Comprehensive Plan's Land Use and Development chapter. Policy 4.1.7.a establishes the Residential Neighborhood designation and states its purpose:

"The purpose of the Residential Neighborhood designation is to:

- a.** *Implement legislative Area Plans and Master Plans for new neighborhoods in Wilsonville.*
- b.** *Create attractive and connected residential neighborhoods.*
- c.** *Regulate and coordinate development to result in cohesive neighborhoods that include: walkable and active streets; a variety of housing appropriate to each neighborhood; connected paths and open spaces; parks and other non-residential uses that are focal points for the community; and, connections to and integration with the larger Wilsonville community.*
- d.** *Encourage and require high quality architectural and community design.*
- e.** *Provide transportation choices, including active transportation options.*
- f.** *Preserve and enhance natural resources so that they are an asset to the neighborhoods, and there is appropriate visual and physical access to nature."*²

The Frog Pond East and South Master plan is consistent with the above purpose statement.

ADOPT ADDITIONAL POLICIES AND IMPLEMENTATION MEASURES

This Master Plan includes recommendations and concepts that have not been previously considered in Wilsonville's Comprehensive Plan. The following are amendments to the Comprehensive Plan being considered concurrently with this Master Plan so there is policy-level support for their implementation through the Development Code or other follow-up actions.

2 See Comprehensive Plan starting page D-36.



IMPLEMENTATION

IMPLEMENTATION MEASURE 4.1.7.D

Implementation of the Frog Pond East and South Master Plan will include the following:

- 1.** Designation and mapping of subdistricts. Subdistricts are smaller geographic areas within each neighborhood where specific regulations may be applied to implement the Master Plan.
- 2.** Clear and objective Development Code standards that:
 - a.** Set minimum density requirements at the subdistrict or tax lot level.
 - b.** Establish height, setback and other development standards for the Type 1, Type 2, and Type 3 Urban Forms described and mapped in the Frog Pond East and South Master Plan.
 - c.** Require a variety of housing and include minimum and maximum amounts of specific housing types at the subdistrict or tax lot level.
 - d.** Require middle housing.
- 3.** Zoning provisions that provide an alternative path of discretionary review to provide flexibility for development while still achieving the intent of the Master Plan and Development Code.
- 4.** Define categories of housing for use in implementing housing variety standards.
- 5.** Coordination with the owners of the Frog Pond Grange to coordinate and support continued use and development of the Grange as a community destination.
- 6.** Coordination with the Bonneville Power Administration (BPA) on land use and development within their easement in the East Neighborhood.
- 7.** A future study of design options for the creek crossings shown on the Park and Open Space plan in this Master Plan. This work will address potential structured crossings.
- 8.** The City may initiate a Main Street study to evaluate specific designs and implementation for the SW Brisband Main Street.
- 9.** Adoption of an infrastructure funding plan. Development of the funding plan will evaluate potential use of scaled infrastructure fees as a tool to support middle housing and more affordable housing choices.



IMPLEMENTATION

ZONING IMPLEMENTATION

ZONING MAP AMENDMENTS AND IMPLEMENTATION

Table 6 lists the zone districts that will implement each of the Comprehensive Plan designations identified within the Planning Area.

Table 6. Implementing Zoning Designations

COMPREHENSIVE PLAN DESIGNATION	IMPLEMENTING ZONE
Residential Neighborhood	Residential Neighborhood (RN)
Commercial	Planned Development Commercial (PDC)
Public	Public Facilities (PF)
All, where applicable	Significant Resource Overlay Zone (SROZ)

Zoning will be applied concurrent with the annexation and development review process for individual properties.

CODING FOR VARIETY AND PRIORITY HOUSING TYPES

Providing a variety of housing types, and particular housing types, throughout the East and South neighborhoods are important intended outcomes for the Master Plan. There are many examples of how variety and specific housing is designed and delivered in master planned communities such as Northwest Crossing in Bend and like Villebois here in Wilsonville. In those communities, a master developer defines and maps the planned housing types at a very site-specific level such as individual lots or blocks. Master planned communities can also implement specific and strategic phasing of infrastructure and housing types.

The Frog Pond East and South Master Plan aspires to have the detailed variety of a master planned community like Villebois even though it does not have the oversight of a single master developer. There is an opportunity to require and encourage housing that is a priority for the City. Examples include: home ownership opportunities for households of modest income (80-120% of AMI), middle housing units, dwellings that provide for ground floor living (full kitchen, bath and master bedroom on the main floor), and dwellings that provide for ADA³ accessibility.

The standards for Frog Pond’s housing variety will also recognize and accommodate development realities:

3 Americans with Disabilities Act (1990).



IMPLEMENTATION

- The neighborhoods will develop incrementally. There may be several larger projects where a developer prepares a master plan for relatively large areas (e.g. 20+ acres). However, there will also be many smaller developments that will occur by different developers, on varied parcel sizes, and at different points of time. The code’s variety standards must work for the likely range of differently scaled projects.
- Flexibility will be needed for evolving market and housing needs over time.
- All standards that address housing must be clear and objective. A discretionary review path can be provided as an alternative to provide developers additional flexibility.

Below is a list of potential strategies for requiring variety throughout Frog Pond East and South. These show the intent of the implementing standards and are subject to refinement or change as the development code is prepared.

Strategy 1: Permit a wide variety of housing types.

Amend the RN Zone to allow the following types in Frog Pond East and South:

- Single-Family Dwelling Units⁴
- Townhouses
- Duplex, Triplex, and Quadplex
- Cluster Housing
- Multiple-Family Dwelling Units
- Cohousing
- Manufactured Homes⁵
- Accessory dwelling units

Strategy 2: Define “categories” of housing units to be used for implementing variety standards.

Each category would provide a range of housing units to choose from when meeting the variety standards. The categories will be based on the policy objectives of the Council for equitable housing opportunities. They will also include specific housing types desired by the City (e.g. accessory dwelling units). The categories will be defined as part of the development code.

Strategy 3: Establish minimum density requirements.

Establish the minimum number of dwelling units required in each subdistrict (or on each pre-existing tax lot). The base density will be an important factor in the variety of attached housing forms.

4 Tiny homes are included in this use type

5 Manufactured dwellings are subject to the definitions and requirements of ORS 443.



IMPLEMENTATION

Note: The housing capacity estimates prepared for the Master Plan could be used as the basis for the minimums.

Strategy 4: Create development standards for lots and structures that regulate built form according to the mapped Type 1, Type 2, and Type 3 urban form typologies.

This strategy uses form-based standards to create the transect of most compact urban form in Type 1 areas to least compact urban form in Type 3 areas. For each of the Urban form types, define standards for:

- Minimum lot size
- Minimum lot width/street frontage
- Maximum height setbacks for front, side, and rear yards, and garages
- Minimum building spacing
- Maximum lot coverage
- Maximum building width

Strategy 5: Establish minimum housing variety standards by subdistrict and development area.

For each subdistrict (or existing tax lots within subdistricts), define:

- The minimum number of categories required. This standard ensures variety at the subdistrict or tax lot level.
- The maximum percent of net development area for a category. This standard ensures no single category dominates a subdistrict.
- The minimum percent of net development area for categories that represent housing choices not traditionally provided by the market and Council housing objectives such more affordable and accessible housing choices.

Strategy 6: Encourage variety at the block level.

Block level variety provides a very distinctive built form. Code provisions for block level variety will be evaluated by the City.



IMPLEMENTATION

INFRASTRUCTURE PLANS

TRANSPORTATION

TRANSPORTATION ANALYSIS AND IMPROVEMENTS

A comprehensive traffic analysis was performed to determine existing and future transportation conditions for the Frog Pond East and South neighborhoods and to identify needed transportation facility improvements. The analysis focused on the major intersections both within the project vicinity and within Wilsonville at large, including the two I-5 interchange areas (i.e., Wilsonville Road and Elligsen Road). The study area includes 15 total intersections, including 4 key gateway intersections to the neighborhoods.⁶

The analysis found that, in 2040, all but three of the study intersections are expected to continue to meet standards and targets assuming the completion of the High Priority Projects stated in Wilsonville's Transportation System Plan. Those three intersections are located along Stafford Road and are the gateway intersections to the Frog Pond East neighborhood. They were analyzed as stop controlled intersections. The following transportation improvements are recommended for these intersections.

- SW Stafford Road/SW Kahle Road: Install a single-lane roundabout
- SW Stafford Road/SW Frog Pond Lane: Install a raised median to prohibit minor street through and left turns and install an enhanced pedestrian crossing with a center refuge median.
- SW Stafford Road/SW Brisband Street: Install a single-lane roundabout

Additional transportation projects were identified for the East and South neighborhood to enhance safety. They include:

- Install a roundabout at Advance Road/60th Avenue. The installation of a roundabout at this location will create a gateway between the high-speed rural traffic and the new desired slower urban speeds. The roundabout will provide for slower speeds and improved neighborhood access and visibility.
- Install various pedestrian and bicycle improvements on Stafford Road and Advance Road, as shown in Figure 31.

6 See Appendix I: Transportation Analysis: Existing and Future Conditions, DKS Associates, September 2022

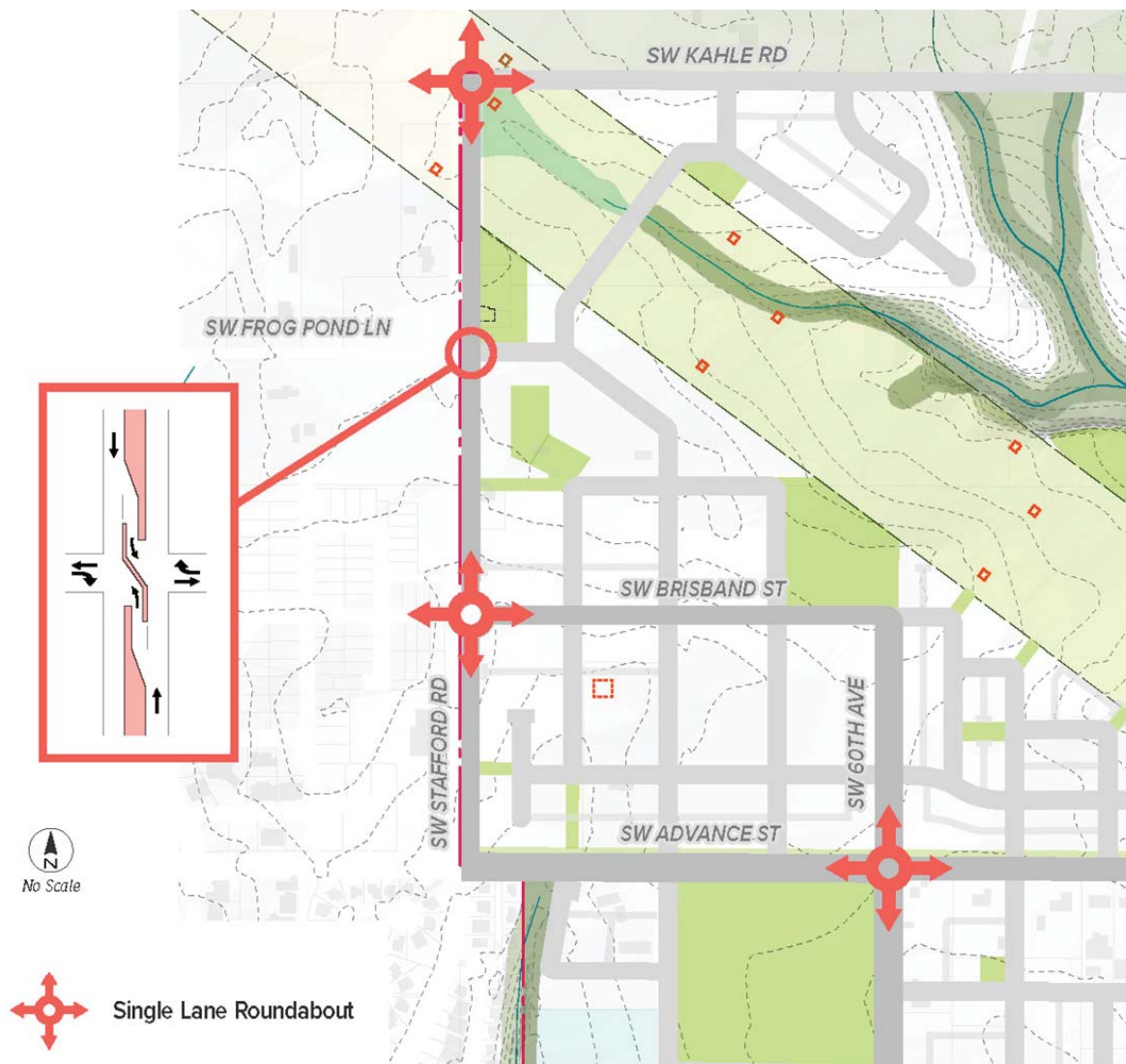


IMPLEMENTATION

STREET CLASSIFICATIONS

Figure 32 illustrates the recommended functional classifications for streets in Frog Pond East and South. The classifications for SW Stafford Road (Major Arterial), SW Advance Road (Collector), and SW 60th Avenue south of SW Advance Road (Collector) are consistent with the Frog Pond Area Plan's transportation network and classifications. The northerly extension of SW 60th Avenue from SW Advance Road into the East Neighborhood is recommended to be a Gateway Collector. SW Brisband Street is recommended to be a Neighborhood Collector. Please see the Street Design section of this report for recommended cross-sections.

Figure 30. Traffic Control Recommendations





IMPLEMENTATION

Figure 31. Pedestrian Improvements on SW Stafford Rd and SW Advance Road

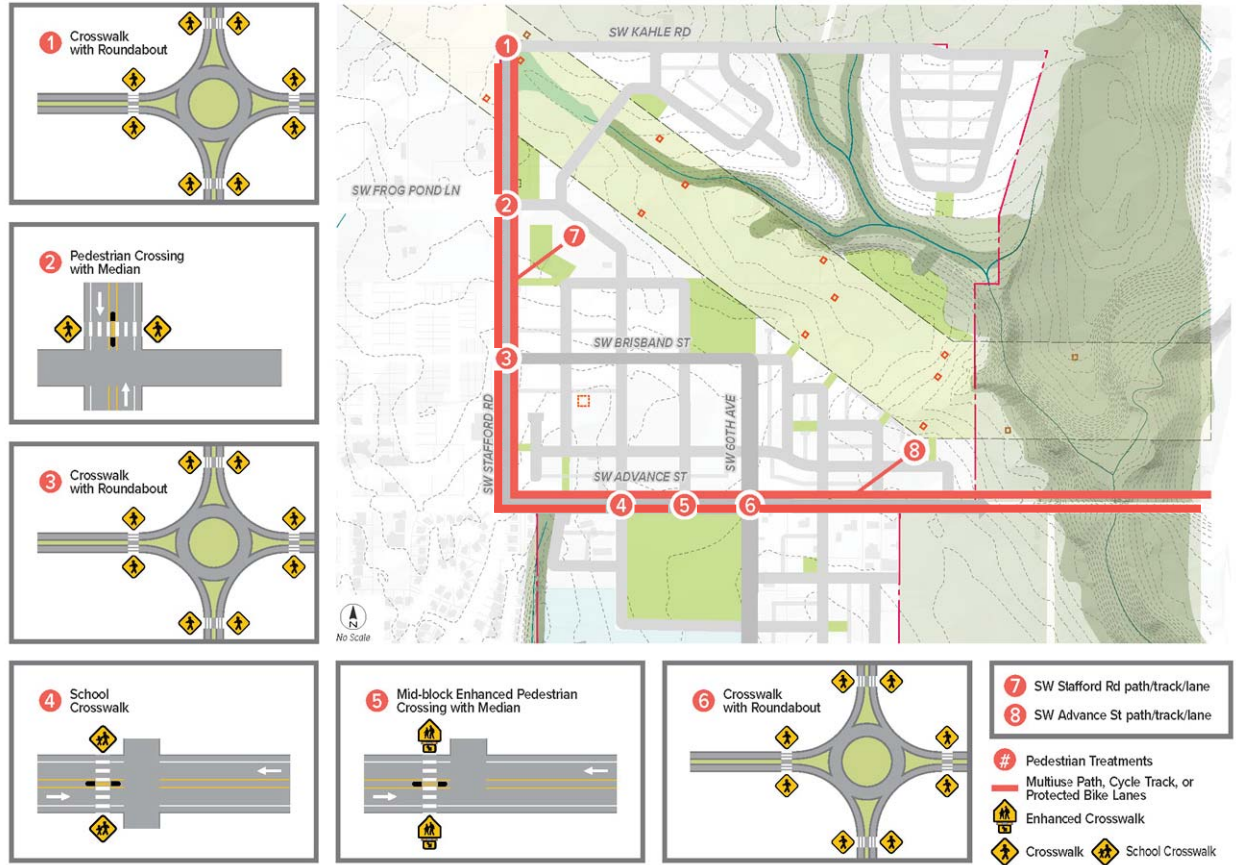
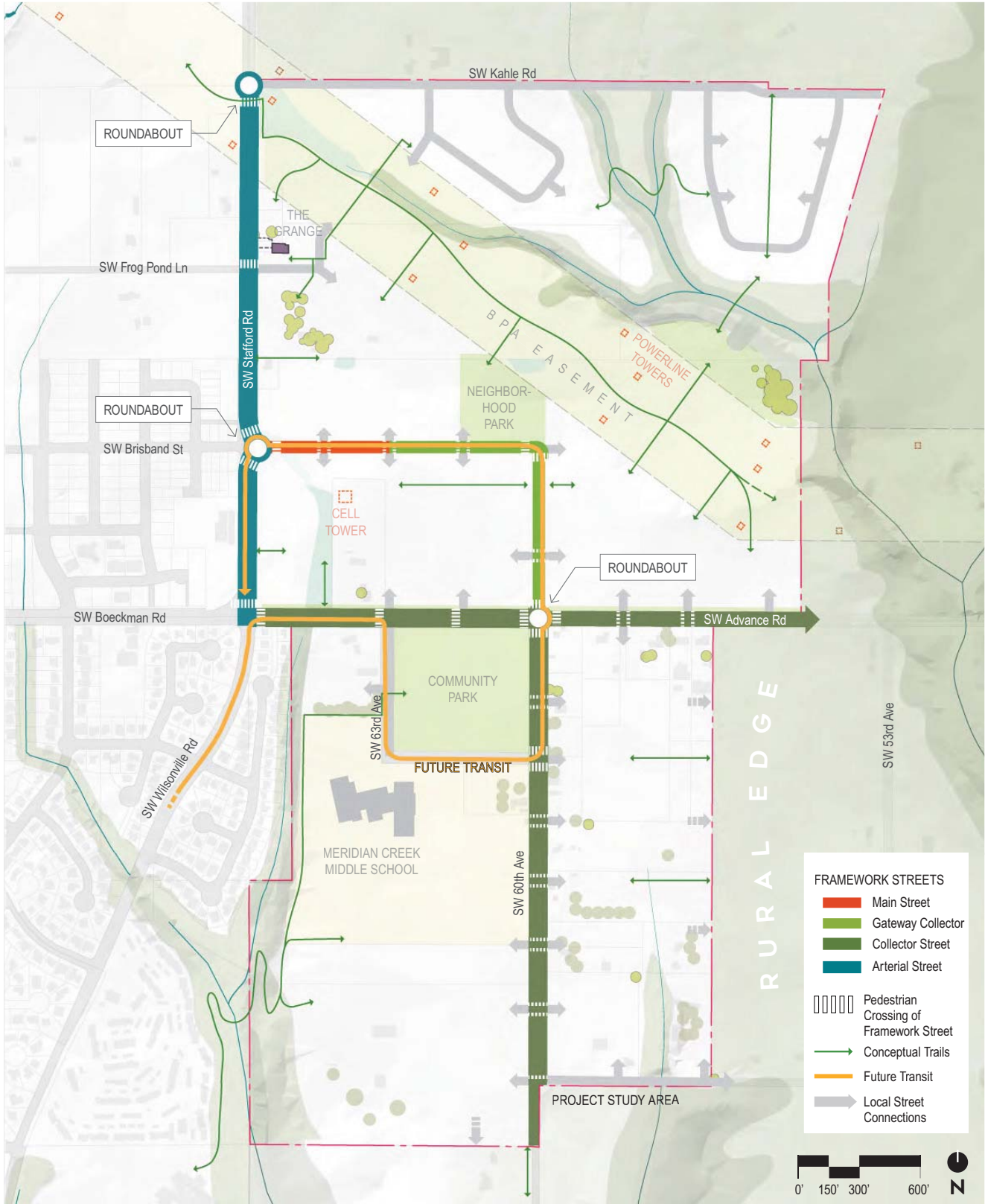


Figure 32. Street Classifications





IMPLEMENTATION

WATER SYSTEM

A water system analysis and plan were prepared to identify water system improvements required for the planned growth of the Frog Pond East and South neighborhoods.⁷ The analysis built upon previous water system planning conducted for the Frog Pond Area Plan, and updated it to coordinate with this Master Plan's land uses and transportation network. Frog Pond East and South will be served by extensions within Wilsonville's water pressure Zone B. The analysis focused on the distribution system; water treatment and storage are addressed in the City's 2016 Water System Master Plan.

Figure 33 illustrates the Master Plan's water system layout for the East and South neighborhoods, including off-site improvements needed to serve the area. A looped system consisting of 12-inch and 8-inch distribution mains is proposed for supply of domestic water to Frog Pond East and South.

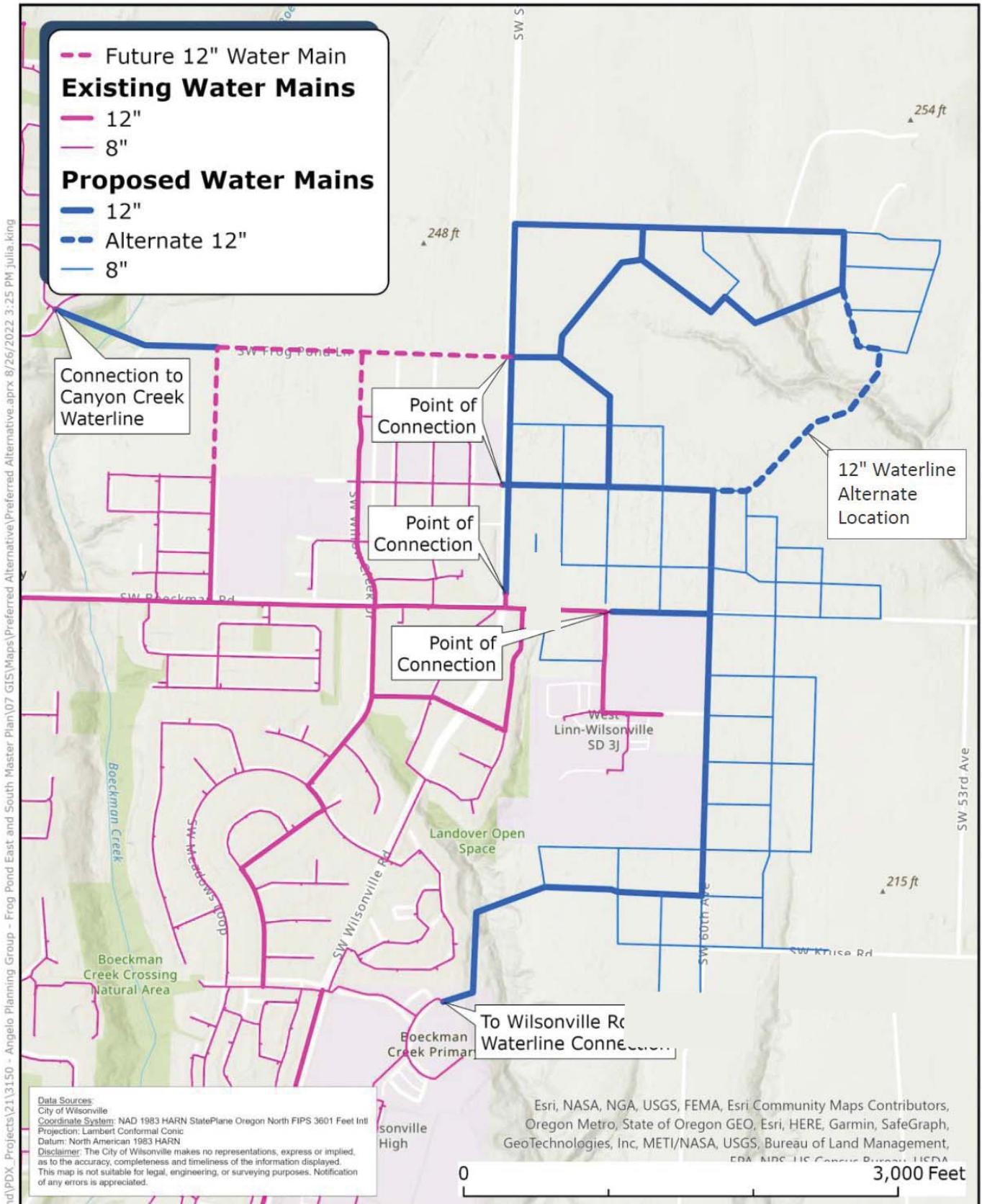
- The existing 12-inch waterline in Boeckman Road is the primary backbone connection for Frog Pond East and South to the City's water supply and storage system.
- The 12-inch main network provides a redundant capacity of 1,500 gallons per minute (gpm) for fire flow to all areas.
- In accordance with City Public Works Standards, 12-inch mains are also required for the commercial main street area proposed along SW Brisband Road in Frog Pond East.
- For all residential zones, 8-inch mains are required, with all lines interconnected as a network to prevent dead ends.

The northernmost neighborhoods in Frog Pond East along SW Kahle Road will be connected to the City's existing water system with a 12-inch loop that connects to the south side of the BPA easement in two locations. The loop can be constructed across the BPA easement either in the proposed road extending northeast from Frog Pond Lane, or across the BPA easement further to the east via the proposed pedestrian bridge over the main fork of the Newland Creek. The decision on where to route the loop will depend on what areas are developed first and whether a pedestrian bridge is built that would support the waterline. In either scenario the 12-inch mainline along SW Stafford Road and SW Kahle Road will be required.

Wilsonville's Water System Master Plan recommends two additional connections to the existing distribution system to reliably serve buildout of Frog Pond East and South. The first is a 12-inch connection to the Canyon Creek Road waterline via a crossing of Boeckman Creek at the west end of Frog Pond Lane. The second is a crossing of Meridian Creek with a 12-inch main, south of the Meridian Creek

⁷ See Appendix F: "Proposed Infrastructure Plans – Water, Wastewater, Stormwater Systems" Murraysmith, September 6

Figure 33. Proposed Water System



	<p>Frog Pond East and South Master Plan</p>	<p>Proposed Water System</p>
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September 2022

21-3150



IMPLEMENTATION

Middle School, installed in conjunction with development of Frog Pond South. Both creek crossings are assumed to be below grade directionally drilled pipelines. Alternatively, they could be installed on future pedestrian bridges if the City decides to build those structures.

SANITARY SEWER SYSTEM

A wastewater system analysis and plan were prepared to identify wastewater system improvements required for the planned growth of the Frog Pond East and South neighborhoods.⁸ The analysis drew from previous wastewater system planning conducted for the Frog Pond Area Plan, recent design work for the Boeckman Road trunk sewer and Boeckman Creek interceptor improvements, and the City's 2017 Public Works Standards. Waster water system improvements were coordinated with this Master Plan's land uses and transportation improvements.

Figure 34 illustrates the Master Plan's wastewater system layout for the Frog Pond East and South neighborhoods. The layout is based on five sewer basins, one for each of the four lift stations required and one that flows by gravity out of the Frog Pond area. The four lift station basins will each require an 8-inch gravity pipe to convey wastewater to the lift station and a 4-inch force main discharge to the downstream basin.

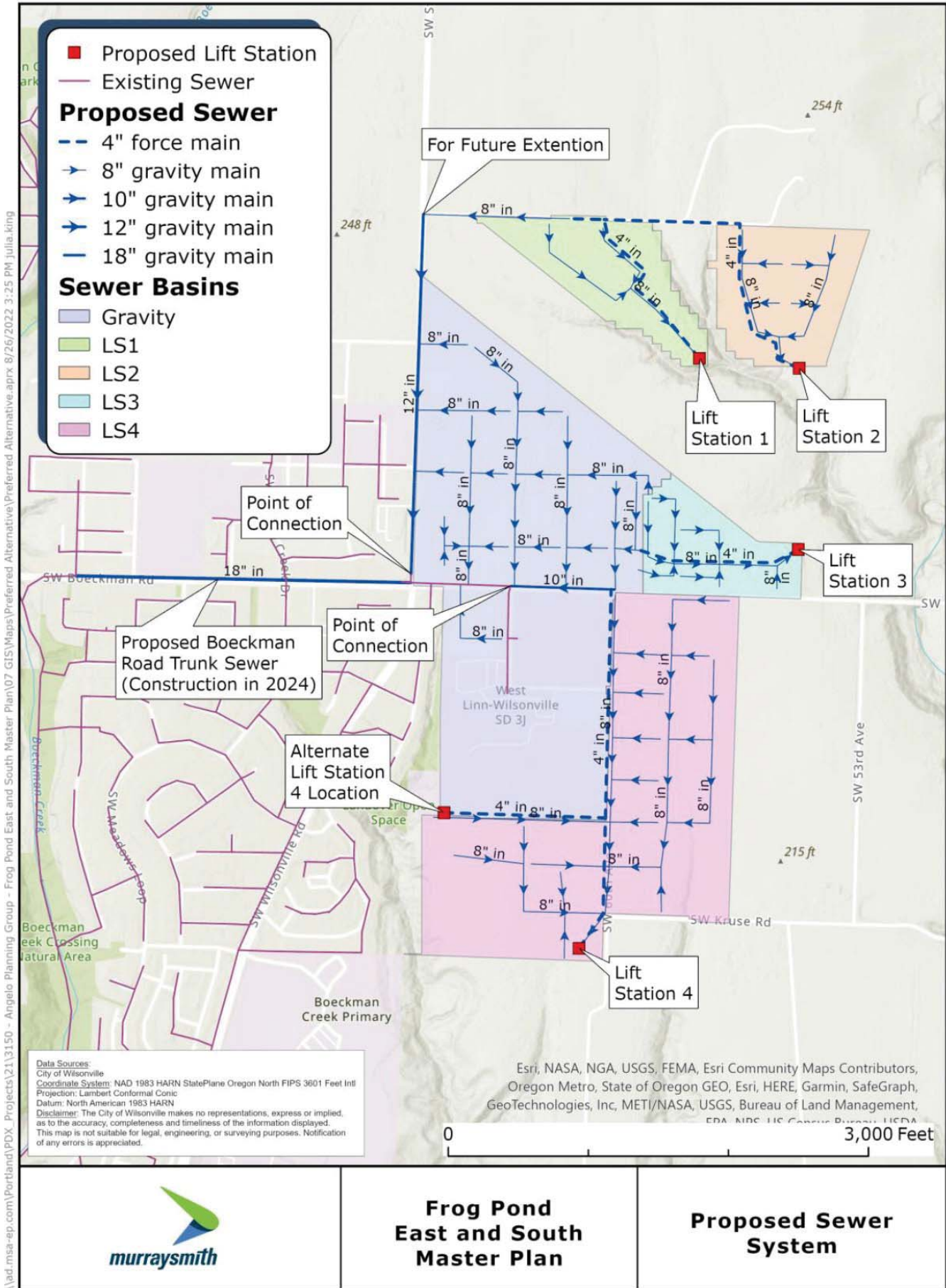
The main trunk traveling north-south on SW Stafford Road conveys sewage from both lift station 1 and 2 and a portion of the gravity basin. This pipe has the capacity to serve the area as an 8-inch line; however, this pipe is identified in the Wilsonville Wastewater Collection System Master Plan as a 12-inch line in order to serve future development to the north.

Extension of the main trunk in SW Boeckman Road eastward on SW Advance Road is needed to convey sewage from both lift stations 3 and 4 and a portion of the gravity basin. A 10-inch size is required to provide capacity necessary for projected development.

All wastewater from Frog Pond East and South is to be conveyed to the wastewater treatment plant through connection to the existing Boeckman Road Trunk Sewer, which flows west to the existing Boeckman Creek Interceptor Sewer and the Memorial Park Pump Station. As of the writing of this report, the Boeckman Road Trunk Sewer is being upsized to 18-inch diameter as part of improvements to SW Boeckman Road, including Boeckman Dip Bridge, with completion anticipated for 2024. This improvement is sufficient to serve the Frog Pond East and South area as well as future development anticipated to the north.

8 See Appendix F: "Proposed Infrastructure Plans – Water, Wastewater, Stormwater Systems" Murraysmith, September 6

Figure 34. Proposed Sewer System



\\lad.msa-sp.com\Portland\PD\Projects\21\3150 - Angelo Planning Group - Frog Pond East and South Master Plan\07 GIS Maps\Preferred Alternative\Preferred Alternative.aprx 8/26/2022 3:25 PM julia.king



IMPLEMENTATION

STORM WATER MANAGEMENT

A stormwater system analysis and plan were prepared to identify stormwater system improvements required for the planned growth of the Frog Pond East and South neighborhoods.⁹ The City of Wilsonville will be the regulatory authority for design and construction of stormwater facilities for the area, in accordance with the City's current National Pollution Discharge Elimination System (NPDES) permit.

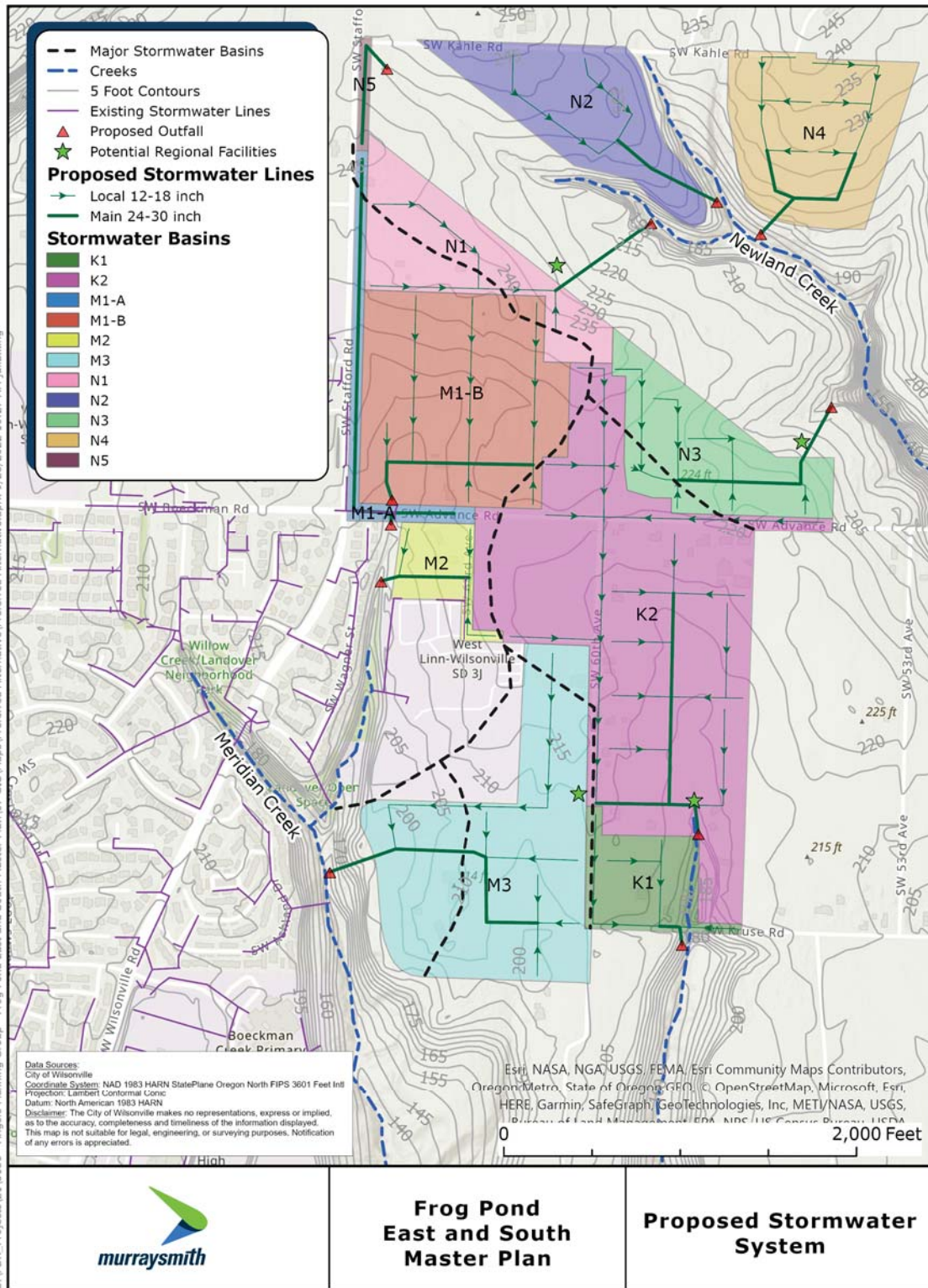
Permitting agencies require that collected stormwater runoff remain within its natural drainage basin. Natural drainage basins for Frog Pond East are Newland Creek in the northeast portion and Meridian Creek in the southwest portion. The western half of Frog Pond South discharges into Meridian Creek, with a small area draining into to an unnamed tributary to the southwest that drains directly into the Willamette River.

The City's NPDES permit and design standards require the implementation of Low Impact Development Approaches (LIDA) to the maximum extent feasible. This generally involves the construction of decentralized, integrated water quality treatment and flow control facilities near to the location where runoff is generated, for example, in streets, parking lots and on building roofs. Experience with Frog Pond West shows there is significant competition for space along street frontages to provide LIDA along with other necessary improvements such as driveways, on-street parallel parking, street trees, fire hydrants, etc., which may not be compatible with LIDA facilities. This is anticipated to be particularly acute in Frog Pond East and South, where a varying mix of residential types and higher than typical densities are proposed. Accordingly, the City will consider implementing LIDA in the following locations within Frog Pond East and South:

- Collector and arterial streets where no on-street parking is permitted;
- Local street intersections, alleys, greenways, and other midblock opportunities (e.g. curb extensions);
- Parks and open space buffers;
- Tracts of land between buildings and roadways/other buildings within a development;
- Edge of BPA right-of-way where interference with overhead powerlines is not expected.

9 See Appendix F: "Proposed Infrastructure Plans – Water, Wastewater, Stormwater Systems" Murraysmith, September 6

Figure 35. Proposed Stormwater System



September 2022

21-3150



Frog Pond East and South Master Plan

Proposed Stormwater System



IMPLEMENTATION

Where decentralized LIDA is not feasible, a combination of approaches - LIDA for treatment and downstream facilities for flow control, or regional facilities for treatment and flow control - may be considered. Regional facilities could be located in a publicly owned space such as a park where they may be integrated with passive recreational activities.

Figure 35 shows the proposed preliminary stormwater system coordinated with the Master Plan's street layout and land uses. For conveyance, the plan designates a stormwater main for each drainage basin, extending from the outfall into the basin. Storm mains will be constructed with the other key infrastructure needed to support development. Developments will be required to provide full stormwater management prior to connecting and discharging into the storm main.

For stormwater management, implementing only LIDA to meet stormwater requirements is unlikely to be feasible for higher density development. Alternative stormwater managements methods will be required. For Frog Pond East and South, the City will use a stormwater management hierarchy to provide additional guidance that will have three levels in the following order of preference.

1. All stormwater management is provided in onsite vegetated LIDA facilities.
2. Stormwater management is provided in a combination of onsite vegetated LIDA facilities and decentralized regional LIDA facilities.
3. All stormwater management is provided in vegetated regional facilities.

Figure 35 schematically shows the location of potential regional facilities. The map is a visual representation of storm water facility coverage and not an indication of where facilities are required to be placed, which is dependent on individual development proposals.



IMPLEMENTATION

INFRASTRUCTURE FUNDING

As of the writing of this Master Plan, an Infrastructure Funding Plan is in-progress. It will be completed and adopted prior to annexation and development reviews for properties in Frog Pond East and South. The Infrastructure Funding Plan is an integral part of the implementation of this Master Plan. It's primary purpose is to ensure that there are sufficient funds and explicit, actionable plans for how growth is paid for and infrastructure is delivered.

That Infrastructure Funding Plan will evaluate costs and revenues transportation, water, sanitary sewer, storm water, and park improvements. The Funding Plan will identify potential funding gaps and strategies for filling the gaps. Multiple funding options will be evaluated, including a scaled system development charge approach and application of the City's infrastructure fee approach that is in use in Frog Pond West. The City's priority is to ensure adequate funding available at the time the improvement is needed.

City Council Meeting Action Minutes
November 7, 2022

City Council members present included:

Mayor Fitzgerald
Council President Akervall
Councilor Lehan
Councilor West
Councilor Linville

Amanda Guile-Hinman, City Attorney
Kimberly Veliz, City Recorder
Andrea Villagrana, Human Resource Manager
Zach Weigel, City Engineer
Mark Ottenad, Public/Government Affairs Director
Dan Pauly, Planning Manager
Miranda Bateschell, Planning Director
Chris Neamtzu, Community Development Director
Zoe Mombert, Assistant to the City Manager

Staff present included:

Bryan Cosgrove, City Manager

AGENDA ITEM	ACTIONS
WORK SESSION	
START: 5:00 p.m.	
A. Frog Pond East and South Master Plan	Council provided staff additional feedback and input on the draft Frog Pond East and South Master Plan.
B. City of Wilsonville Flag Policy and Update to Wilsonville Code Section 6.150	The City Attorney reviewed the draft City Flag Policy and draft revision to Wilsonville Code (WC) Section 6.150 with Council and sought their feedback.
REGULAR MEETING	
<u>Mayor's Business</u>	
A. Approval of City Application to Metro for the Acquisition of the Frog Pond West Park Property Utilizing Local Share Funds	This item was voted on during the Communications portion of the agenda.
B. League of Oregon Cities (LOC) Opioid Settlement Board	Council moved to endorse and support Councilor Linville's nomination to serve on the state's Opioid Settlement Board. Passed 4-0-1.
C. Upcoming Meetings	Upcoming meetings were announced by the Mayor as well as the regional meetings she attended on behalf of the City.
<u>Communications</u>	
A. Frog Pond West Neighborhood Park Community Engagement	Council moved to approve the City's application to Metro for the acquisition of the Frog Pond West Neighborhood Park Property utilizing Local Share Funds. Passed 5-0.

<p><u>Consent Agenda</u></p> <p>A. Resolution No. 3010 A Resolution Of The City Of Wilsonville Authorizing The City Manager To Execute A Professional Services Agreement Contract Amendment With AKS Engineering & Forestry, LLC For Design And Construction Engineering Services For The 2022 Curb Ramps Upgrade Project (Capital Improvement Project # 4014, 4118, And 4717).</p> <p>B. Minutes of the October 17, 2022 City Council Meeting.</p>	<p>The Consent Agenda was approved 5-0.</p>
<p><u>New Business</u></p> <p>A. Resolution No. 3004 A Resolution Of The City Of Wilsonville Adopting The Findings And Recommendations Of The “Solid Waste Collection Rate Report, October 2022” And Maintaining The Current Republic Services Rate Schedule, Effective January 1, 2022.</p>	<p>Resolution No. 3004 was adopted 5-0.</p>
<p><u>Continuing Business</u></p> <p>A. None.</p>	
<p><u>Public Hearing</u></p> <p>A. None.</p>	
<p><u>City Manager’s Business</u></p>	<p>The City Manager announced he would check on the status of the archeologist report on Boones Ferry Landing and forward to Council once available.</p>
<p><u>Legal Business</u></p>	<p>No report.</p>
<p>ADJOURN</p>	<p>8:19 p.m.</p>



PLANNING COMMISSION
WEDNESDAY, OCTOBER 19, 2022

WORK SESSION

1. Frog Pond East and South Master Plan (Pauly) (120 minutes)



PLANNING COMMISSION MEETING STAFF REPORT

Meeting Date: October 19, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Miranda Bateschell, Planning Director	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable	
		Comments:	
Staff Recommendation: Provide input on the full draft of the Frog Pond East and South Master Plan.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE COMMISSION

Provide feedback and input on the full draft of the Frog Pond East and South Master Plan. Review and provide further guidance on implementation items, including the Housing Variety Policy strategies, stormwater, transportation network, street tree plan, lighting, and gateways.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a Master Plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the urban reserve land known as Frog Pond East and South. As part of the Metro Ordinance adopting the UGB expansion, it requires Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process will also identify water, sewer, stormwater, and transportation infrastructure needs and funding sources.

This will be the Planning Commission's tenth and final work session on the Frog Pond East and South Master Plan. The previous work sessions and their content were as follows:

Work Session 1-October 2021: Focus on overall project scope and the outreach plan.

Work Session 2-December 2021: Initial feedback on the needs and opportunities for affordable housing and housing variety.

Work Session 3-February 2022: Continuation of the topic of housing needs for more detailed feedback and direction, introduction of the neighborhood commercial evaluation.

Work Session 4-April 2022: Further discussion of the neighborhood commercial center and discussion of the design concepts for development of land use and urban design alternatives.

Work Session 5-June 2022: Review and direction on draft land use alternatives, including mapping the locations of different housing design types and forms (grouped into Type 1, Type 2, and Type 3).

Work Session 6-July 2022: Review of draft preferred land use alternative and direction on land use policies around housing variety.

Work Session 7-August 2022: Direction on criteria for evaluating housing variety policy options and public realm master plan components.

Work Session 8-September 14, 2022: Reviewed transportation and infrastructure analyses.

Work Session 9-September 28, 2022: Reviewed policies related to providing a variety of housing choices policies for main street area.

This *Work Session 10* provides the Commission the opportunity to review and discuss the draft Master Plan document, revisiting the topics of the previous work sessions. This is an in-progress draft, subject to input and refinement by staff, the Planning Commission, and the City Council.

The project team will also present information on components of the Master Plan that have either not been previously discussed with the Commission or that have been substantially refined since these prior work sessions. These components include the Housing Variety Policy strategies, stormwater, transportation network, street tree plan, lighting, and gateways.

At the last Planning Commission work session, there was strong support for a Housing Variety Policy that: permitted a wide variety of housing types, established minimum density requirements, regulated building form by the Type 1, Type 2, and Type 3 urban form typologies of the Plan, defined categories of housing types and would set minimum variety standards based on those housing type categories. This work session is an opportunity for the Commission to review these draft strategies (see Attachment 1, pages 100-102), further discuss, and provide additional guidance on the best way to frame the Housing Variety Policy in the Master Plan.

At a prior work session, the Commission also reviewed the infrastructure components of the Master Plan, all except for Stormwater. A summary of the Stormwater System can be found on pages 111-113 of the Master Plan. At this work session, the project team will present information on the stormwater system strategies and facilities planned for Frog Pond East and South for Commission consideration and feedback.

The Public Realm Chapter of the Master Plan covers details for the future streets, park and open spaces, lighting, and gateways of the planning area. The Street Tree, Lighting, and Gateway components (see Attachment 1, pages 83-94) take guidance from the Frog Pond West Master Plan in order to create a seamless and integrated community among the three neighborhoods. The Commission has not reviewed these components yet, and the project team will want guidance on whether there are additional recommendations or areas for changes to these components of the public realm. Streets as well as Parks and Open Space were previously discussed at the August work session. Based on feedback, the project team made refinements to the transportation network, which will be presented at this work session for further consideration by the Commission.

The project team will update the Master Plan document after receiving feedback from the Commission, along with that of the City Council and City staff, and prepare an updated hearings-draft version for the Commission's consideration at a public hearing on November 16.

EXPECTED RESULTS:

Feedback on and specific requested edits to the draft Frog Pond East and South Master Plan.

TIMELINE:

This is the tenth and final in a series of work sessions for the Planning Commission. The Commission has a public hearing on the Master Plan scheduled for November 16. The City Council will consider the Planning Commission's recommendation at a December 5 public hearing. Review of development code language and infrastructure financing, will extend into the first half of 2023.

CURRENT YEAR BUDGET IMPACTS:

The project is funded by a combination of a \$350,000 Metro grant, an \$81,000 Oregon DLCD grant, and matching City funds in the form of staff time. \$311,000 is budgeted in FY 22/23 to complete the project.

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which laid out a robust public engagement program that included meaningful and impactful involvement of people who identify with historically marginalized communities.

POTENTIAL IMPACTS OR BENEFIT TO THE COMMUNITY:

Furthering of the City's Equitable Housing Strategic Plan and Council's goal of affordable home ownership, while creating Wilsonville next great neighborhoods.

ALTERNATIVES:

The Planning Commission can continue to direct changes to the draft plan.

ATTACHMENTS:

1. Draft Frog Pond East and South Master Plan (dated October, 2022)

FROG POND EAST & SOUTH MASTER PLAN



Placeholder Image

A VISION AND IMPLEMENTATION PLAN FOR TWO
NEW NEIGHBORHOODS IN EAST WILSONVILLE

DRAFT - OCTOBER 2022



The October 2022 Draft Frog Pond East & South Master Plan is an in-progress draft. It is subject to change prior to the preparation of the hearings-ready draft. Some sections and graphics have placeholders for content to be revised or added at a later date.

Placeholder Image

A VISION FOR FROG POND IN 2035

The Frog Pond Area in 2035 is an integral part of the Wilsonville community, with attractive and connected neighborhoods. The community's hallmarks are the variety of quality homes; open spaces for gathering; nearby services, shops and restaurants; excellent schools; and vibrant parks and trails. The Frog Pond Area is a convenient bike, walk, drive, or bus trip to all parts of Wilsonville.

FROG POND AREA PLAN VISION STATEMENT
ADOPTED BY THE WILSONVILLE CITY COUNCIL
NOVEMBER 16, 2015





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Placeholder Image



INTRODUCTION



PURPOSE - WHAT THIS PLAN IS ABOUT

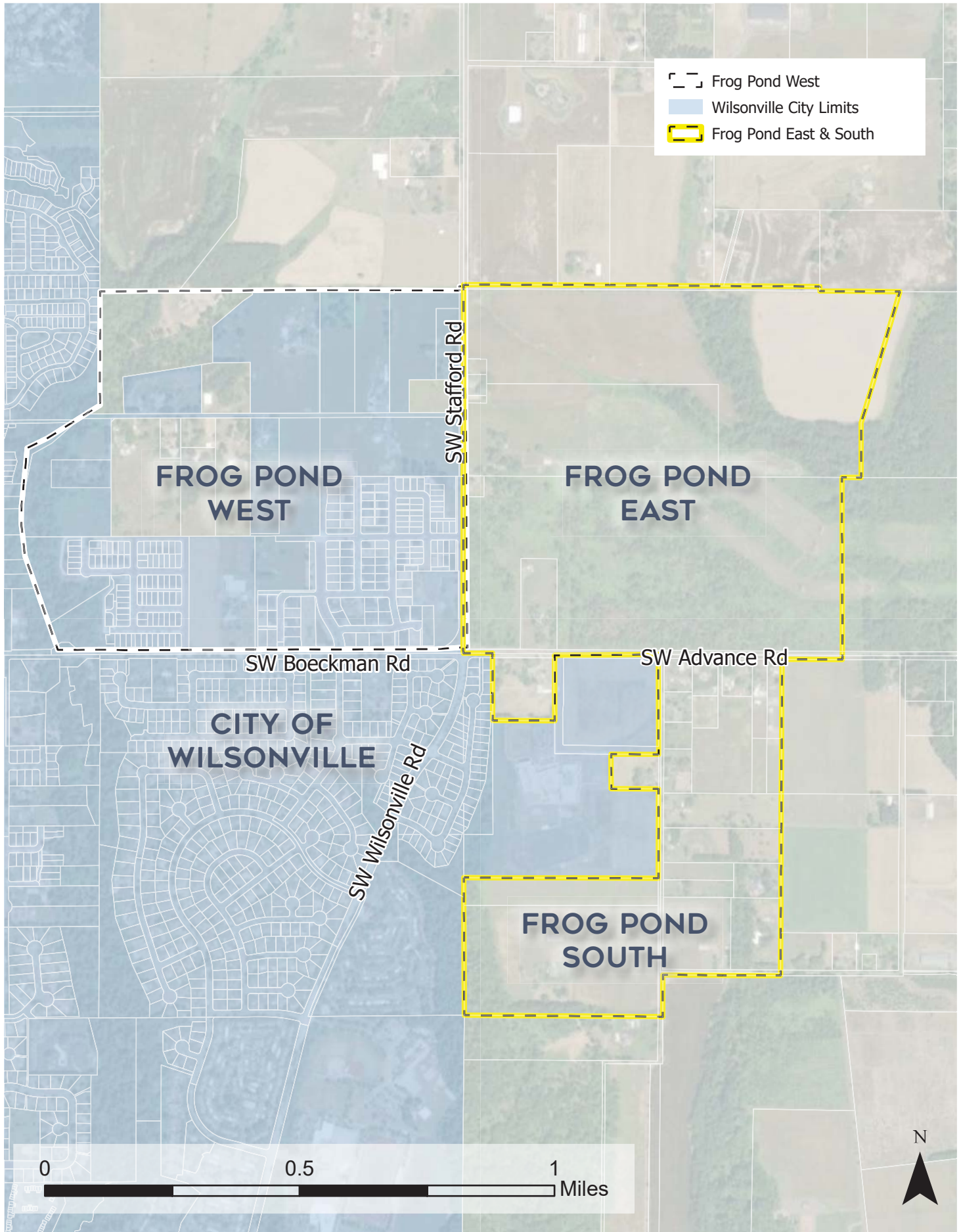
A VISION AND GUIDING BLUEPRINT

The Frog Pond East & South Master Plan (Master Plan) is a vision and guiding blueprint for the development of two new neighborhoods in East Wilsonville. It includes:

- The overall vision and intended outcomes for the Frog Pond East and South neighborhoods
- Background information on Frog Pond’s context and setting
- An affordable housing analysis, with a focus on equitable housing strategies
- A market analysis of neighborhood commercial opportunities
- Design concepts to create a connected, livable community
- Neighborhood-specific plans for land use, streets, pedestrian connections, bike routes, parks and open spaces, and natural resource areas
- Transportation and utility infrastructure analysis, plans and cost estimates
- Implementation strategies for land use regulations and infrastructure funding

KNITTING TOGETHER A COMMUNITY

Frog Pond East and South will build out over a 10-20-year timeframe and occur in multiple phases and individual developments. North of Advance Road, the East Neighborhood is 172 acres in size and comprised of only 8 tax lots. The relatively large parcel sizes will use the plan to lay out phased developments that fit together in an intentional way over the years. South of Advance Road, the South neighborhood is different: its 121-acre area has 31 tax lots and about 14 existing homes. New development in the South neighborhood will need to blend seamlessly with the homes that remain, Meridian Creek Middle School, and the future 10-acre Community Park. The Master Plan plays a key role to ensure that all of the individual developments add up to connected and cohesive new neighborhoods that are an integral and treasured part of Wilsonville.





SCOPE AND REGULATORY ROLE - HOW THE PLAN WILL BE USED

This Master Plan guides the 305 acre Frog Pond area that was added to the Urban Growth Boundary (UGB) in 2018, located east of SW Stafford Road and north and south of SW Advance Road East Wilsonville. See Figure 1.

The Frog Pond East & South Master Plan is a “supporting document” of the Wilsonville Comprehensive Plan (Plan), with the regulatory force and effect of the Plan. The Master Plan fits within the City’s three-part regulatory structure for development review:

- The Comprehensive Plan provides the policies and high-level intent for the Frog Pond area.
- The Master Plan establishes the overall vision and intended outcomes for the area; geographically-specific plans for land use, transportation, parks and open space, and other community elements; and implementing strategies for zoning, infrastructure development and funding.
- The Development Code (Code) establishes the specific zoning, standards, and procedures for development.

Development reviews that include housing will be subject to the Code’s clear and objective development standards as required by state law. For development applications that are reviewed through a discretionary process, the Master Plan serves a regulatory role.





The City's online engagement platform, Let's Talk, Wilsonville!, was used throughout the project.

THE PLANNING PROCESS – HOW THE PLAN WAS CREATED

Outreach summary to be included in revised version.

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VISION



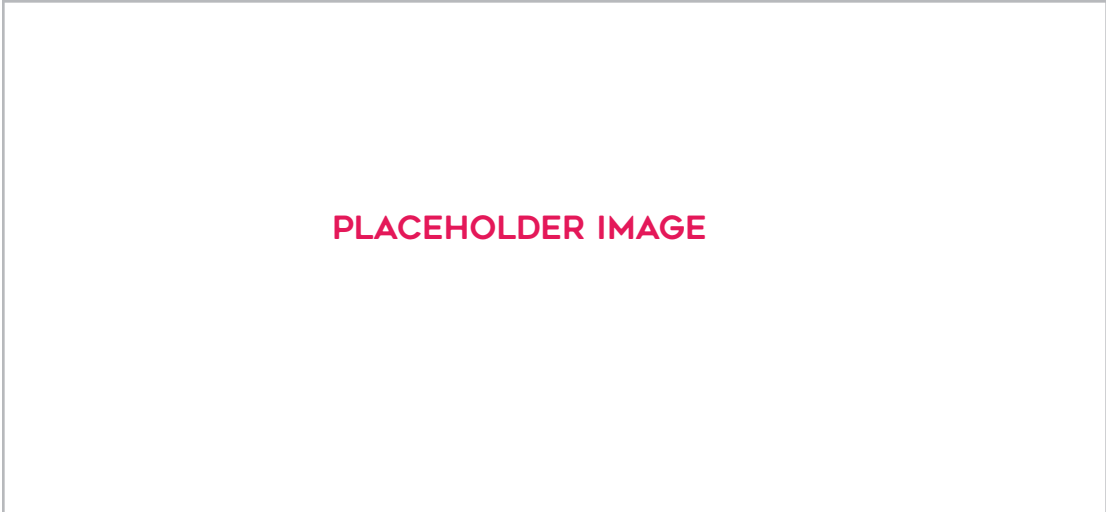
VISION

CONTINUING PRIORITIES FROM THE AREA PLAN AND FROG POND WEST

The vision for Frog Pond’s three neighborhoods was first crafted as part of the Frog Pond Area Plan (see inside cover), and implemented for Frog Pond West. The key elements from that vision will continue as part of Frog Pond East and South.

As with Frog Pond West, Frog Pond East and South will create:

- **A great neighborhood** that is a connected part of Wilsonville.
- **A cohesive place** where individual private developments and public realm improvements fit seamlessly together into a coordinated whole.
- **A neighborhood with walkable and active streets**, a variety of housing, extensive walking and biking routes, an excellent school, and quality parks, open spaces, and natural areas.
- **Quality development and community design** that is an attractive and valued addition to the City.
- **Easy access to nature, parks and open spaces** for all neighborhood residents.





VISION VISION

ADDITIONAL PRIORITIES FOR FROG POND EAST AND SOUTH

This Master Plan builds on previous work and incorporates the priorities as described below.

INCLUSIVE COMMUNITY ENGAGEMENT

The planning process invited all community members to participate and specifically reached out to people who do not typically participate in land use planning. There were many ways to participate: two focus groups to engage Spanish speakers; focus groups to involve renters and potential first-time home buyers; multiple open houses, community forums and tabling events; a design workshop; and 3 online surveys. All in all, the City took an inclusive approach to involve a broad spectrum of the Wilsonville community.

IMPLEMENTATION OF THE CITY’S EQUITABLE HOUSING STRATEGY PLAN

Frog Pond East and South will be an important part of the City of Wilsonville’s efforts to meet future housing needs and provide equitable housing options for residents. The City’s 2020 Equitable Housing Strategic Plan (EHSP) recognized this and called for the Master Plan to establish achievable goals/targets for affordable housing in the area and integrate affordable housing into the master plan. This Master Plan identifies potential targets and strategies for affordable housing and how they may be applied as Frog Pond East and South develop.

MIDDLE HOUSING

To help implement the City's Equitable Housing Strategic Plan and Oregon House Bill 2001 adopted by the Oregon Legislature in 2019, in 2021 the City amended the Development Code to allow townhouses, duplexes, triplexes, and fourplexes - “middle housing” – in all zones that permit single-family detached dwellings. The amendments included updates to siting and development standards for single-family and middle housing throughout Wilsonville, and new regulations specific to Frog Pond West. This Master Plan takes middle housing implementation further by including strategies and regulations that will deliver a range of middle housing types throughout Frog Pond East and South.



VISION VISION

HOUSING VARIETY AND AFFORDABILITY

This Master Plan is built on two principles for housing implementation:

- **Housing variety throughout** - The plan creates opportunities for a wide variety of housing choices in each neighborhood and subdistrict. This concept focuses on mixing and integrating different housing choices throughout the Frog Pond neighborhoods rather than having separate areas for separate housing unit categories.
- **Affordable housing integration** - The planned variety of housing - together with minimum density, housing mix requirements, and other code standards – will provide opportunities for the development of housing types targeted toward home buyers and renters with incomes of 80-150% area median income (AMI). This is the market-based and zoning-based strategy of the plan. Additionally, the land use, transportation, open space, and infrastructure elements of the plan set the stage for affordable housing initiatives that City may wish to undertake in the future.

Please see the Residential Land Use section for more information on how the above priorities are implemented.

Placeholder Image



CONTEXT & SETTING



CONTEXT AND SETTING

REGIONAL AND CITY CONTEXT

Figure 4 and Figure 3 show the planning area in the context of nearby regional areas and East Wilsonville. Highlights are summarized below.

SURROUNDING AREAS

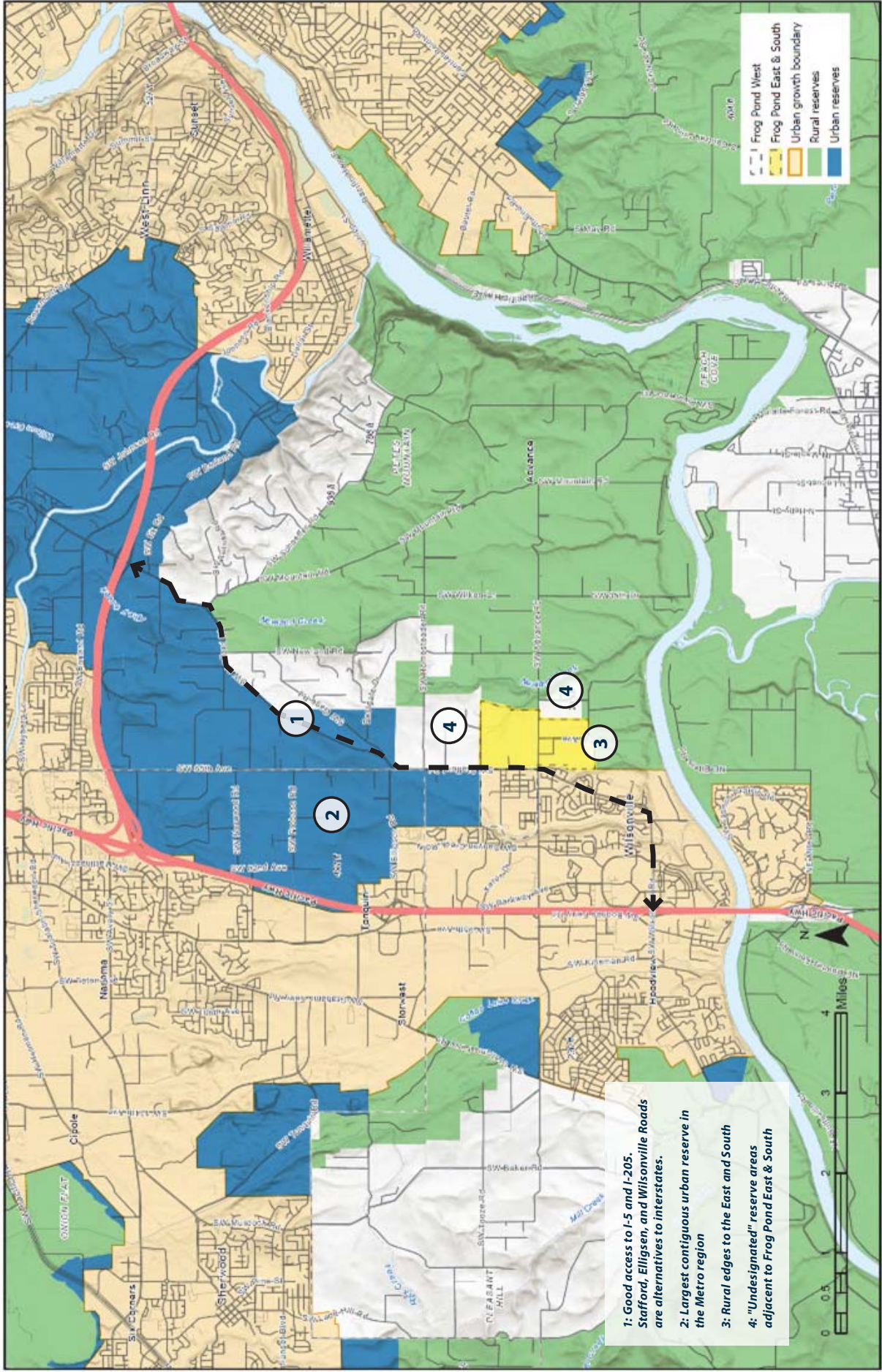
Regional access - The Frog Pond area has good access to I-5 and I-205. This proximity is convenient for regional travel, but poses congestion challenges because SW Stafford, SW Elligsen and SW Wilsonville Roads are alternate routes to the interstates.

Proximity to future Urban Growth Boundary expansion areas - Frog Pond is located at the southern end of the largest contiguous urban reserve area (the SW Stafford Basin) in the Portland Region.

Rural edge – The planning area is adjacent to lands designated “rural reserves” and “undesigned” by Metro. There will be a rural and agricultural edge to the East and South Neighborhoods for decades to come.

Gateways to Wilsonville – SW Stafford Road is a gateway into Wilsonville from the currently rural Stafford Road area and I-205 corridor. SW Advance Road is a gateway into Wilsonville for the large rural area of Clackamas County located eastward to Pete’s Mountain.

Figure 3. Regional Context





CONTEXT AND SETTING

EAST WILSONVILLE

Close proximity to local destinations:

- 1.7 miles to Wilsonville's Town Center and eastside employment areas (about 8 minutes by bicycle)
- 2.3 miles to Wilsonville's Old Town (about 12 minutes by bicycle)
- 1.6 miles to Memorial Park (about 8 minutes by bicycle)

Limited connectivity to adjacent areas of Wilsonville – Proximity to nearby destinations is good as noted above, but connectivity is limited. The Frog Pond area is reliant on SW Boeckman Road, SW Wilsonville Road, and SW Stafford Road. Existing and new trails, shown in Figure 4, will help supplement the street network and increase connectivity by foot and bike.

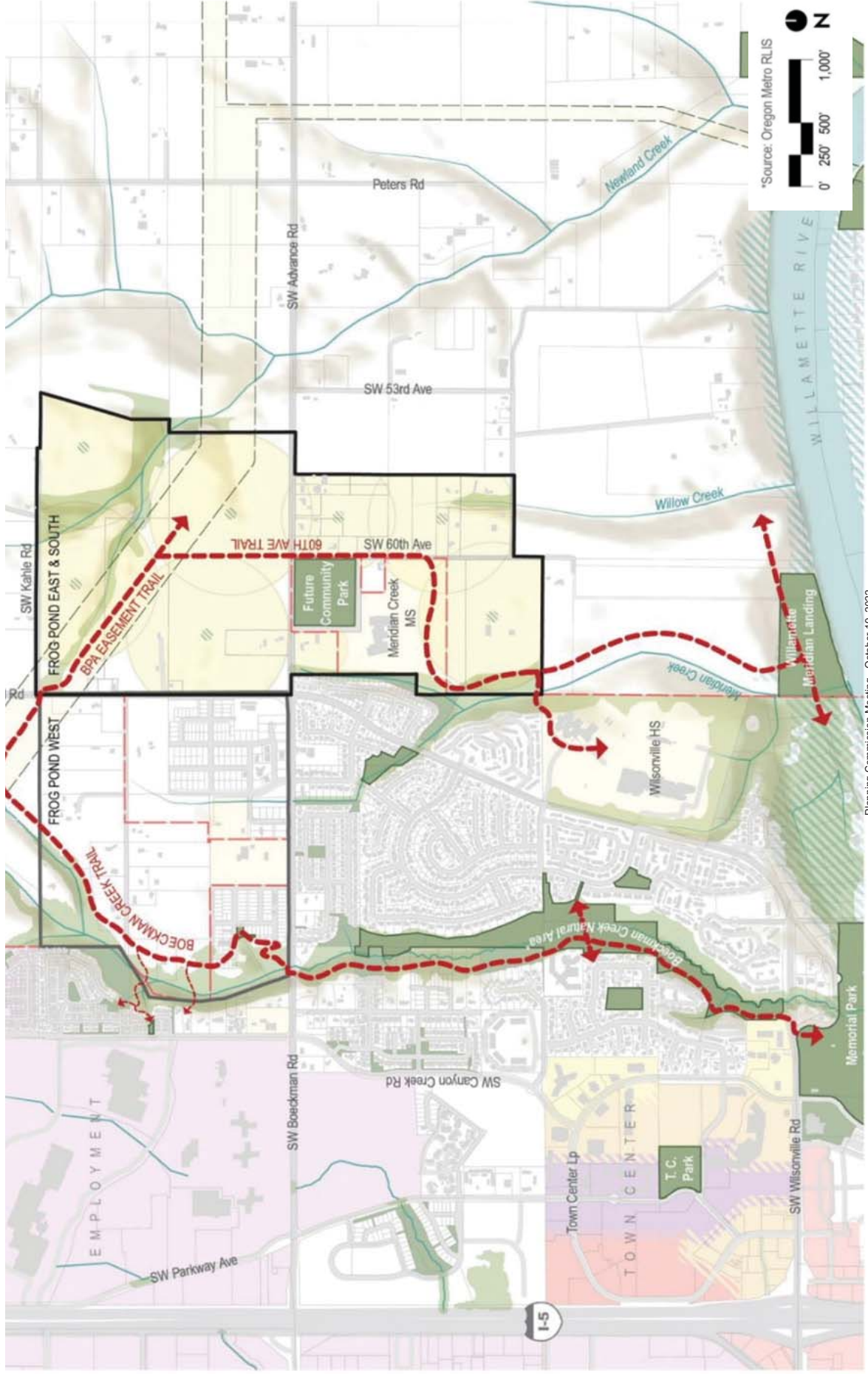
Proximity to City and regional greenspaces – The Frog Pond Area is near many City and regional greenspaces that add to the high quality of life in the Wilsonville, including: the SW Boeckman Creek Natural Area, Town Center Park, the Willamette River, Memorial Park, Corral Creek Natural Area, Graham Oaks Natural Area, Coffee Creek Wetlands, Weber Farm Natural Area, Mollala River State Park, and more.

Proximity to natural and city open space – The nearby open spaces – Newland Creek, Meridian Creek, the BPA easement, a future neighborhood park, a future community park, and Meridian Creek Middle School – are great amenities. Future residents in the East and South neighborhoods will always be “just a block or two” from the nearest open space.

A significant barrier and/or opportunity of the BPA Easement – On the plus side, the BPA easement is open area and can be used for recreation, community gardens, parking and other uses. Negatives include the towers, potential electrical “buzz”, and limitations for planting and structures.

Potential for internal connectivity – There is excellent potential for safe, direct and convenient street and path connectivity within and between the three Frog Pond neighborhoods.

Figure 4. Conceptual Trails Map





CONTEXT AND SETTING

FROG POND AREA

Frog Pond East and South are part of the larger Frog Pond Area, which totals about 500 acres in size. Contextual land uses and community destinations within the Frog Pond Area include:

Frog Pond West Neighborhood - Frog Pond West is rapidly developing. Planned for about 625 homes, about half of the area was approved for development between 2018 and 2022. The residential uses are primarily single family detached homes, affordable to families with incomes that exceed 120% of Wilsonville's median family income.

Future Frog Pond West neighborhood park and school - A new neighborhood park and elementary school are in the planning stages in Frog Pond West. These community uses will be a quarter mile west of SW Stafford Road, a 5-minute walk from the west edge of the East and South neighborhoods.

Meridian Creek Middle School and Future Community Park - The middle school property was the first Frog Pond land to annex and develop after inclusion in the Urban Growth Boundary in 2013. The 10-acre future community park site is also annexed. These existing and future community uses will be important civic uses within the Frog Pond South neighborhood.



CONTEXT AND SETTING



Frog Pond East, northern area looking NE from the Frog Pond Grange. BPA easement and natural resources visible.



Frog Pond East and South visible, Frog Pond West development underway in foreground. Meridian Creek Middle School and future Community Park site visible.



CONTEXT AND SETTING

SETTING - FROG POND EAST AND SOUTH

The Frog Pond East and South area is comprised of rural residential uses and open lands. Figure 5 shows the setting in 2022. Some portions of the plan area are expected to be unbuildable or otherwise not develop during the next 20 plus years. This includes developed homes sites that either have historic homes or high value recently constructed homes. In addition it includes natural areas, the BPA Easement, and existing right-of-way. . Key existing conditions include:

- Total acreage: 305 acres
- Parcels: 31
- Existing Homes: 20
- After deducting for developed areas and future streets, the net buildable area is estimated to be 138.5 acres (54% of the total area)
- The historic Frog Pond Grange is located on SW Stafford Road.
- Significant trees are scattered throughout the planning area, including white oak, ponderosa pine, redwood, giant sequoia, and Douglas fir, among others.
- Meridian Creek Middle School lies in Frog Pond South.
- Creek areas abut and cross the study area; these spaces will be protected by the City's Significant Resource Overlay Zone (SROZ).



Meridian Creek Middle School and neighborhoods along SW Wilsonville Road visible.

Figure 5. Existing Conditions



Placeholder Image

4

HOUSING & MARKET CONDITIONS



HOUSING AND MARKET CONDITIONS

AFFORDABLE HOUSING NEEDS AND OPPORTUNITIES

The Frog Pond East and South areas are important for the City of Wilsonville’s efforts to meet future housing needs and provide equitable housing options for residents. The City’s 2020 Equitable Housing Strategic Plan (EHSP) recognized this, and called for the Frog Pond East and South Master Plan to establish targets for affordability, specifically:

As part of the master planning requirements for Frog Pond East and South, the City will establish goals or targets for accessibility to services/amenities, unit types, and unit affordability levels. The targets for affordability levels (number of units and depth of affordability for those units) should be reasonably achievable, allowing for sufficient market-rate development to support key infrastructure investments. This approach will provide a methodology and framework that can be applied in other growth areas beyond Frog Pond.

- Wilsonville Equitable Housing Strategic Plan

The EHSP also directs the Frog Pond East and South master planning effort to:

- Integrate affordable housing into the overall master plan, with access to amenities
- Identify specific properties that could help meet affordable housing targets
- Evaluate relationships to the infrastructure funding plan
- Engage affordable housing developers and other stakeholders to refine strategies

These elements were a key part of the Frog Pond East and South planning process.

HOUSING AFFORDABILITY IN WILSONVILLE

The estimated range of home prices by housing type and unit size in Frog Pond East and South is shown in Figure 7. The estimated income needed to afford these purchase prices, given standard lending assumptions is shown in Figure 8 as a percentage of the MFI for a four-person household in Clackamas County. This information was derived from 2021 data on recent home transactions for newer housing in Wilsonville and surrounding areas.



HOUSING AND MARKET CONDITIONS

Housing affordability is generally referred to in terms of “Median Family Income” (MFI) and the price at which households at a given income level can spend 30% of their income on housing. The housing needs of individuals and families at different income levels differ, as do the approaches to delivering new housing for them, as shown in Figure 6.

Figure 6. Approaches to delivering New Housing by Income Range

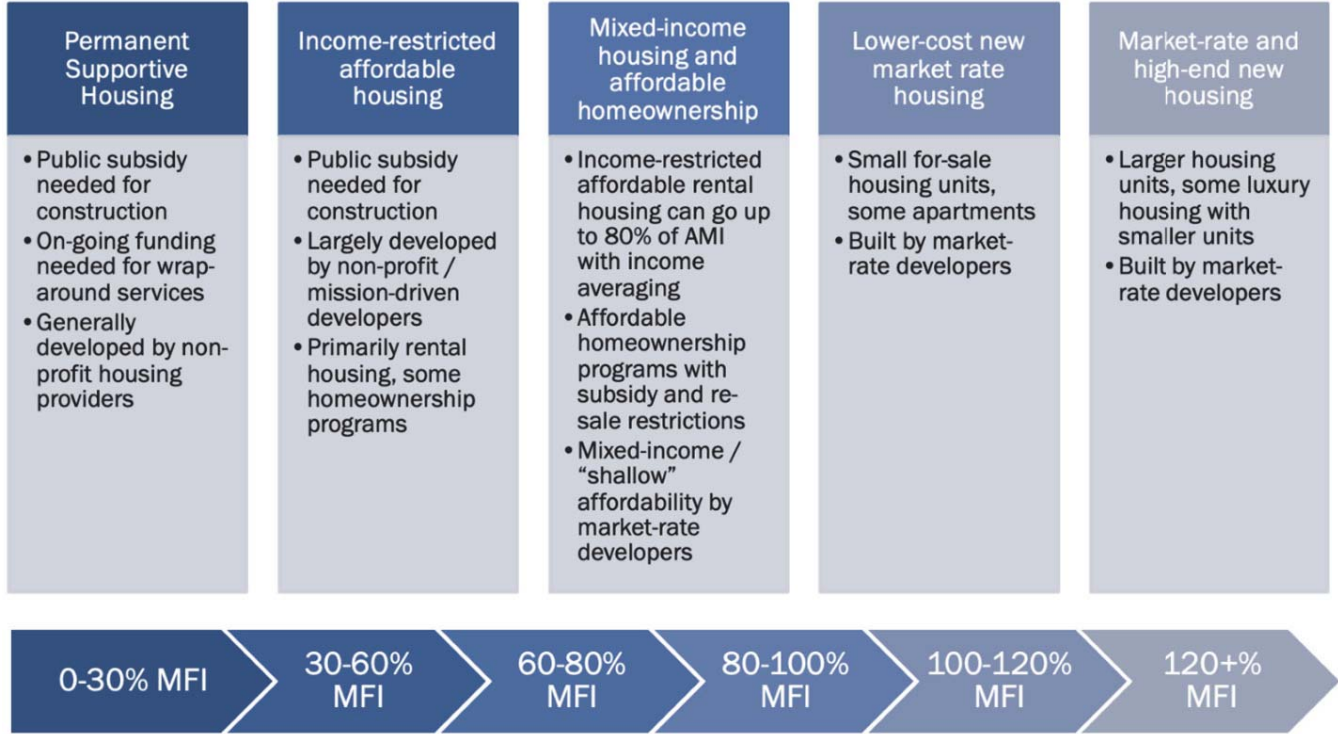


Figure Source: ECONorthwest

MARKET TRENDS

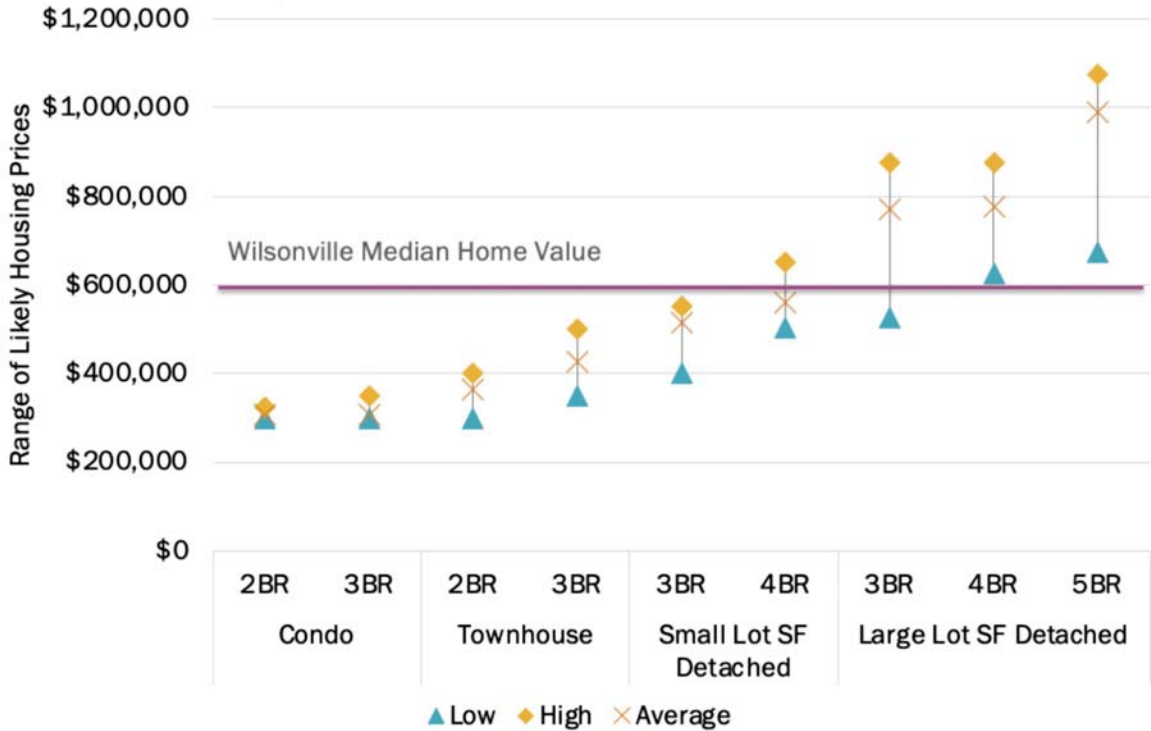
Housing prices will likely continue to escalate over the coming years, increasing the expected home values over time. In addition, recent increases in interest rates have impacted housing affordability for many and will continue to impact affordability unless rates fall to levels at or below the rates at the date of this analysis in October 2021. Based on these trends, estimates of the following ranges for affordability of new for-sale housing in Frog Pond East and South are as follows:



HOUSING AND MARKET CONDITIONS

- New large-lot detached housing in Wilsonville will more expensive than most existing homes in the City and likely be affordable only to households earning more than 120% of MFI, with many affordable only to households earning more than 150% of MFI.
- New small lot detached homes (on less than 4,500 SF lots) may sell for close to the median value of existing homes and are likely to be affordable mostly to households earning between 100% and 130% of MFI.
- New condominiums and townhouses will almost certainly sell for less than the median value of existing homes in Wilsonville and are likely to be affordable to households earning between roughly 70% and 100% of MFI depending on unit size.

Figure 7. Typical Sales Prices for Recently Built Housing by Housing Type, Wilsonville and Surrounding Area (October 2021)

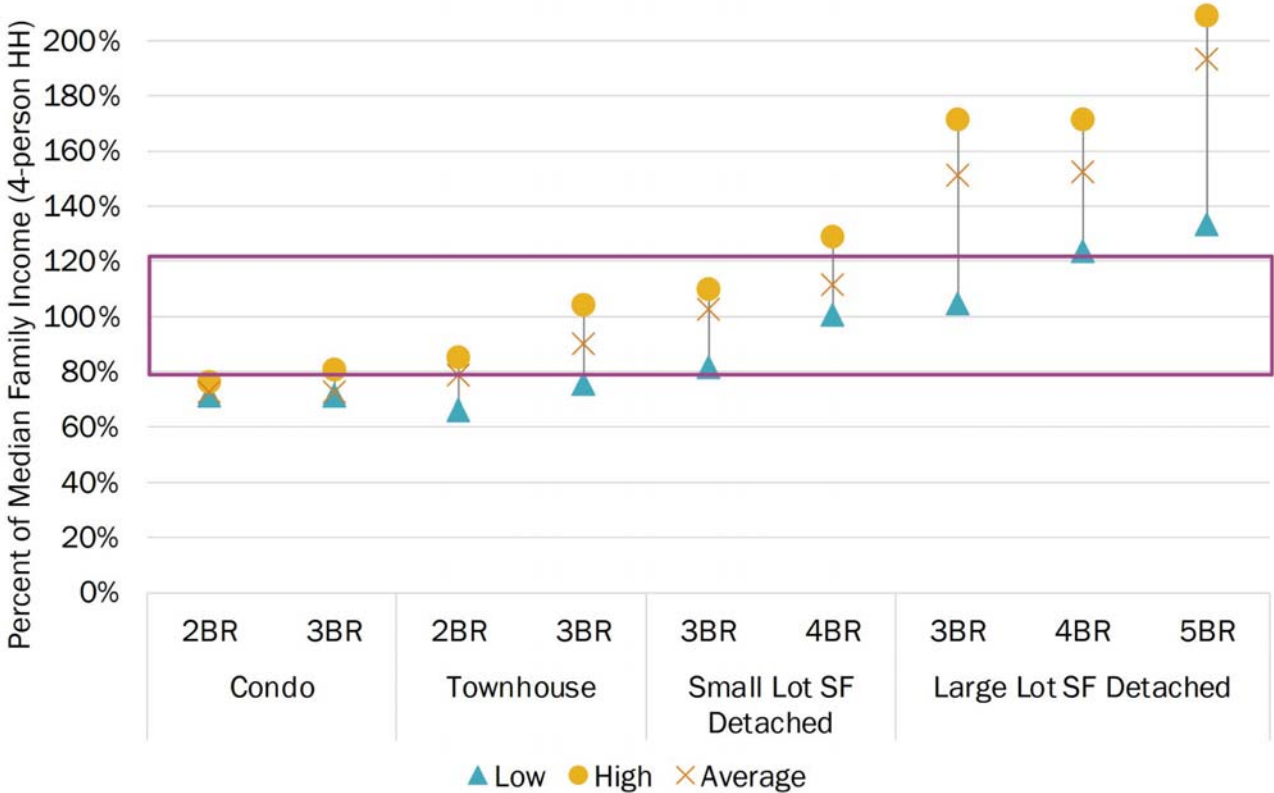


Source: ECONorthwest Analysis of Redfin Data, October 2021



HOUSING AND MARKET CONDITIONS

Figure 8. Housing Affordability as a Percent of Median Family Income by Housing Type for Recently Built Housing, Wilsonville and Surrounding Area (October 2021)



Source: ECONorthwest Analysis of Redfin Data, October 2021

AFFORDABLE HOUSING RECOMMENDATIONS FOR FROG POND EAST & SOUTH

The City can support development of affordable and mixed-income housing in a number of ways, much of which will be the subject of citywide discussion in 2023-2024 as Wilsonville completes a Housing Needs Analysis and Housing Production Strategy required by the State of Oregon. Several strategies were also identified in the City’s Equitable Housing Strategic Plan. The following strategies are likely to have the greatest impact for Frog Pond East and South.

- **Zone for All Housing Types:** Enable a full range of housing types in Frog Pond East and South, including multifamily, to expand first time homebuyer opportunities and to make it possible to build affordable rental housing using common federal and state sources of funding for subsidized housing.



HOUSING AND MARKET CONDITIONS

- Acquire Land for Affordable Housing:** Attempt to find willing sellers for suitable properties for affordable housing within Frog Pond East and/or South, to ensure an opportunity to build affordable housing in the area. This would likely require funding, particularly if the City intends to offer the land for affordable housing development for little or no cost to make affordable housing development more viable. With private developers also seeking to secure land or options to purchase property, the sooner the City acts, the better its chances.
- Partner with a Community Land Trust:** A community land trust (CLT) such as Proud Ground could help deliver affordable homeownership housing in Frog Pond East and South. If the City is unable to secure land for affordable housing, it could explore other ways to support a CLT in building affordable homes, such as direct subsidy (e.g., using Metro Bond money), SDC waivers, or tax abatements (see further discussion below).
- Waive, Reduce, or Defer SDCs for Affordable Units:** The cost of SDCs and other infrastructure costs for greenfield development, while often a critical part to paying for needed infrastructure, can become prohibitive for affordable housing. Options to reduce SDC cost impacts on affordable housing are being explored as part of the infrastructure funding plan for Frog Pond East and South to ensure that overall infrastructure needs can be met while minimizing impacts on housing affordability (see section X).
- Incentivize Smaller and Lower-Cost Middle Housing:** There are several incentives that could be effective tools to support middle housing development that is affordable to middle-income households, including tax exemption programs and a tiered SDC system.

ACCESSIBLE AND VISITABLE HOUSING

With substantial new housing construction coming for Frog Pond East and South, the City can encourage units designed to be accessible or visitable to better meet the needs of individuals with mobility limitations in the community. The City can apply some of the same incentives noted above to apply to accessible or visitable units, such as tax abatements, fee reductions, or allowances to build additional units.



HOUSING AND MARKET CONDITIONS

NEIGHBORHOOD COMMERCIAL MARKET FINDINGS

A vibrant center of neighborhood commercial activity serving residents and visitors has been envisioned for the Frog Pond area since the drafting of the 2015 Frog Pond Area Plan. There are examples of retail centers in other communities that serve as good examples for the Frog Pond area, as described in this section.

This information is informed by a market analysis and several interviews with retail developers and brokers to understand the opportunities and constraints of the Frog Pond location for future retail, as well as to determine any unmet community needs that could be satisfied in Frog Pond East and South. Figure 9 depicts the "Primary Market Area" that a commercial node in Frog Pond East would serve, along with nearby multifamily developments and commercial uses. Key points include:

- Developers generally agree that Wilsonville is an attractive market, primarily due to its demographics and balance of population and jobs.
- There is limited excess demand for retail in the region, given the availability of leasable space in the Town Center and elsewhere.
- The City's focus should be on establishing a commercial hub that provides some goods and services for local residents while creating a center of activity, sense of place, and social hub for the Frog Pond neighborhoods.





HOUSING AND MARKET CONDITIONS

PROJECT EXAMPLES

Retail is typically built in a series of standard formats. While each site has a unique context, retail developments are generally consistent in terms of anchor tenants, size (square footage), trade area, and other features. The most appropriate type of retail would be a corner store, convenience center, or neighborhood center, described below.

Table 1. Types of Retail Centers

RETAIL CENTER TYPE	GROSS RETAIL AREA (SF)	DWELLINGS NECESSARY TO SUPPORT	AVERAGE TRADE AREA	ANCHOR TENANTS
Corner Store	1,500 - 3,000	1,000	Neighborhood	Corner store
Convenience Center	10,000 - 30,000	2,000	1 mile radius	Specialty food or pharmacy
Neighborhood Center	60,000 - 90,000	6,000 - 8,000	2 mile radius	Supermarket and pharmacy
Community Center	100,000 - 400,000	20,000 +	5 mile radius	Junior department store

Sources: Urban Land Institute, Leland Consulting Group

CASE STUDIES AND PRECEDENTS

This section includes brief case studies summarizing different projects whose stories have some relevance to the Frog Pond Area. All of the projects are greenfield projects (built on land that was mostly previously undeveloped); were built within a surrounding suburban context; were thoughtfully planned with an emphasis on quality of place and community; and were intended as neighborhood-serving commercial centers surrounded by housing, quality streets, open spaces, and other features. While each is unique, these case studies have takeaways for the City to consider for the implementation of commercial development in Frog Pond.

LCG selected six commercial developments to study based on stakeholder interview input, industry expertise, and background research. Three of these are smaller, unanchored commercial centers, one is a commercial main street, and two are larger anchored centers with main street elements (provided primarily as points of comparison). Specific takeaways from LCG's case study research include: Many developers seek to build and lease commercial and employment space within several years of land acquisition; for them, if the commercial market is weak at the time of initial residential construction, the potential of having some vacant land for upwards of 20 years after development represents an opportunity cost. The land could have been zoned for another use (typically housing) and been rented or sold in earlier years and renters and homeowners could have had homes to live in.



HOUSING AND MARKET CONDITIONS

- From a policy and place-making point of view, if a city or other authority is seeking to ensure adequate land for long-term commercial and employment development, and associated jobs, a longer timeline for buildout of commercial uses still meets the long term purpose of creating a neighborhood destination and reducing need to make trips out of the neighborhood for provided services.
- Creating a strong sense of place is possible with a small amount of commercial development when it is carefully and deliberately built.
- A commercial main street is one important amenity that can make the rest of the community more desirable. While commercial space needs exposure to high-traffic arterials, pedestrian-oriented places should be created on main streets that are perpendicular to the arterials. It is often not comfortable for pedestrians to walk and talk or dine outside, along arterial roads, so creating a pedestrian-friendly environment is easier on perpendicular streets.
- Commercial development takes time in locations without large populations and traffic counts. Housing is often faster to build out, followed by commercial and employment areas.



HOUSING AND MARKET CONDITIONS

COMMERCIAL AREA RECOMMENDATIONS

Recommendations from the market analysis are shown below. Additional details are provided in Appendix D.

BUILDING SQUARE FEET. Up to 44,000 square feet.

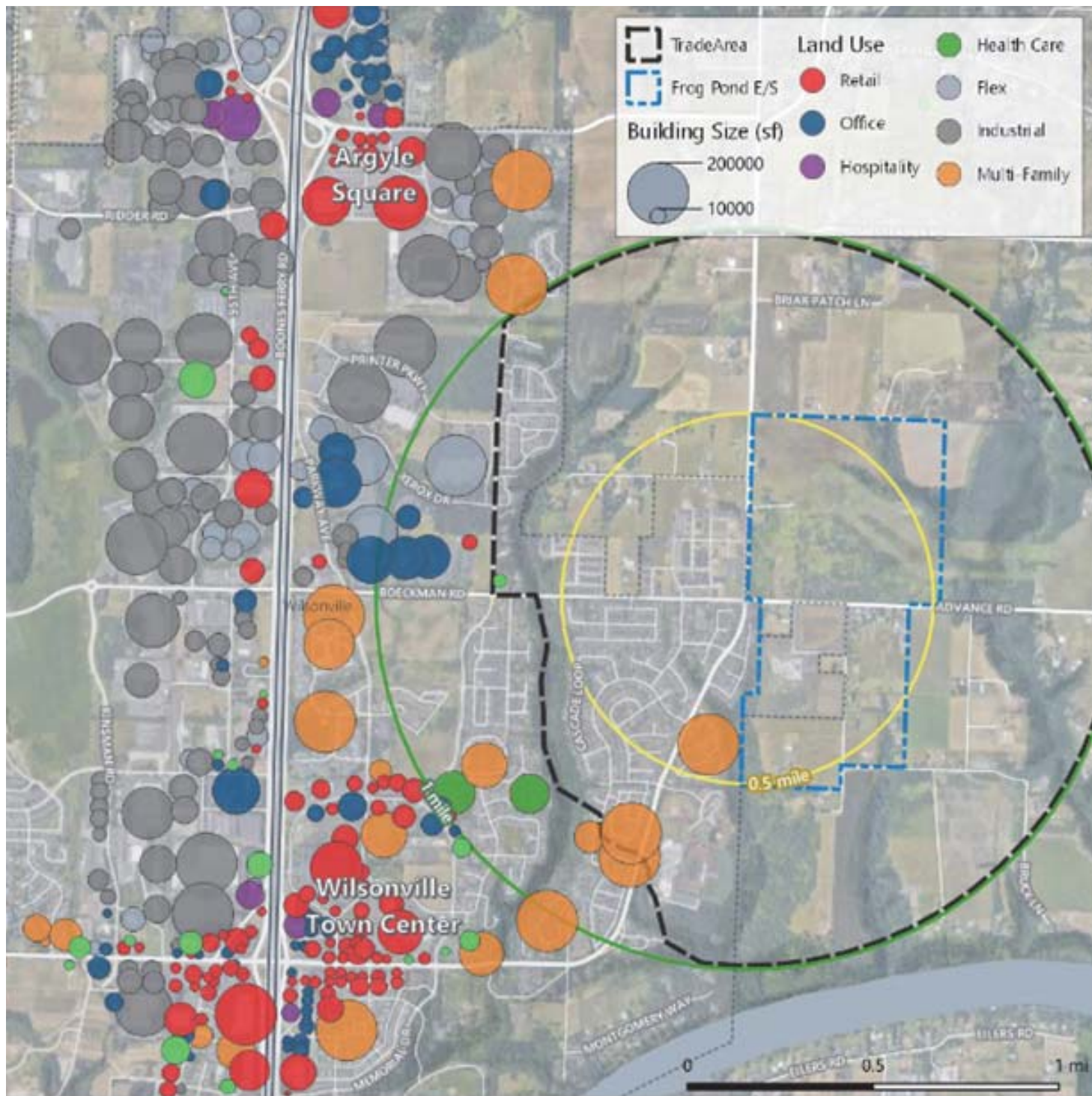
SITE ACREAGE. Up to 4.0 acres

LIKELY TENANT MIX. Commercial development today is flexible and accommodates a wide range of activities, including food and beverage, retail, general commercial, professional services/office, healthcare, fitness, daycare, banks, and more. Development should likewise be flexible to accommodate a range of potential tenants.

DEVELOPMENT TYPE. “Main Street, with buildings on both sides of the planned Brisband Street extension on the east side of Stafford Road. Buildings can be split up to address parking challenges. The main street approach can an authentic experience that promotes placemaking, creates a community amenity, and can have a positive impact on the surrounding residential uses and other commercial spaces. Vertical mixed use (residential above commercial uses) can also add vibrancy and a clientele base to the area.

URBAN DESIGN. For a main street development, pedestrian-oriented design that invites nearby residents and visitors to enjoy the area on foot is key. This can be achieved through the location of parking (behind buildings rather than in front), ample sidewalks and sidewalk furnishings, open space features such as plazas, and a visually engaging building façade.

Figure 9. Frog Pond Primary Market Area



Source: Leland Consulting Group

Placeholder Image

5

COMMUNITY DESIGN CONCEPTS



COMMUNITY DESIGN CONCEPTS

FROM DESIGN CONCEPTS TO A COMMUNITY

As described previously in this report, the master plan process began with community outreach, mapping of Frog Pond’s context and existing conditions, and research regarding affordable housing and neighborhood commercial opportunities. With that information in hand, the process then explored the design-related questions for the plan:

- What are the **current and future neighborhood destinations** that will serve as special places and neighborhood gathering places?
- What are the **opportunities to connect** those neighborhood destinations?
- What is the **transportation framework** of streets, trails, bikeways, walking routes and transit that will create a connected community?
- Where should a **neighborhood commercial center** be located?
- What are the opportunities for **subdistricts** – smaller areas of cohesive building form – within each of the neighborhoods.

Design sketches and precedent imagery were prepared, then the questions and related issues were: reviewed in work sessions with the Planning Commission and City Council; shared online; and discussed with the community in outreach meetings during the Spring 2022 engagement activities described in the Planning Process section of this report. There was strong support for each of the key design concepts – neighborhood destinations, strong connections, a connected transportation framework, a neighborhood commercial center, and subdistricts – that became the basis for the Plan¹. Common themes in the feedback from the community included:

- The neighborhood commercial center and future East Neighborhood Park have especially good potential for community gathering and neighborhood destinations.
- There was broad support for the neighborhood commercial center being located at the SW Brisband option, with a walkable Main Street design (pedestrian friendly streetscape, buildings close to the street and parking behind, sidewalk cafes, etc.).
- Participants had many ideas for desirable uses in the commercial center and its role in the community: e.g. ethnic food, family-owned small businesses, a setting that will draw families.
- Streets, trails, bikeways and walking routes should emphasize safety, especially for the routes to and from Meridian Creek Middle School.
- People saw the value of a plan for the BPA Corridor (e.g. including trails, potential use for parking), but were cautious about safety and noise.

1 See Technical Appendix A: Community Engagement Summary A-1



COMMUNITY DESIGN CONCEPTS

The diagrams and images on the following pages illustrate the Master Plan’s design concepts that emerged from this process. The community’s feedback was used to create the Master Plan recommendations described later in this report.

NEIGHBORHOOD DESTINATIONS

Figure 10 illustrates existing and future locations in all three Frog Pond Neighborhoods, which have the potential to be community gathering destinations or key visual amenities, or both. They include:

- The Frog Pond Grange
- Newland Creek and Meridian Creek natural areas
- Significant tree groves
- A future neighborhood park in the East Neighborhood
- Meridian Creek Middle School and the future community park
- Primary School and Neighborhood Park in Frog Pond West
- SW Boeckman Creek Primary School and Wilsonville High School (just off the map to the southwest)
- Boeckman Creek Natural Area and Corridor Trail
- Future Main Street Commercial Area

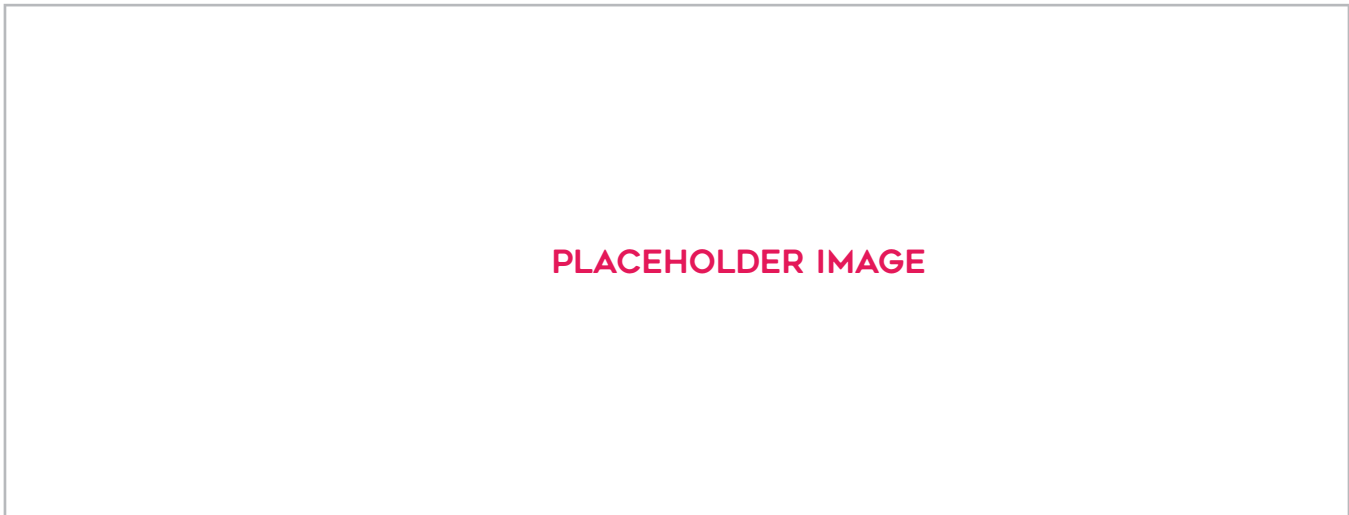
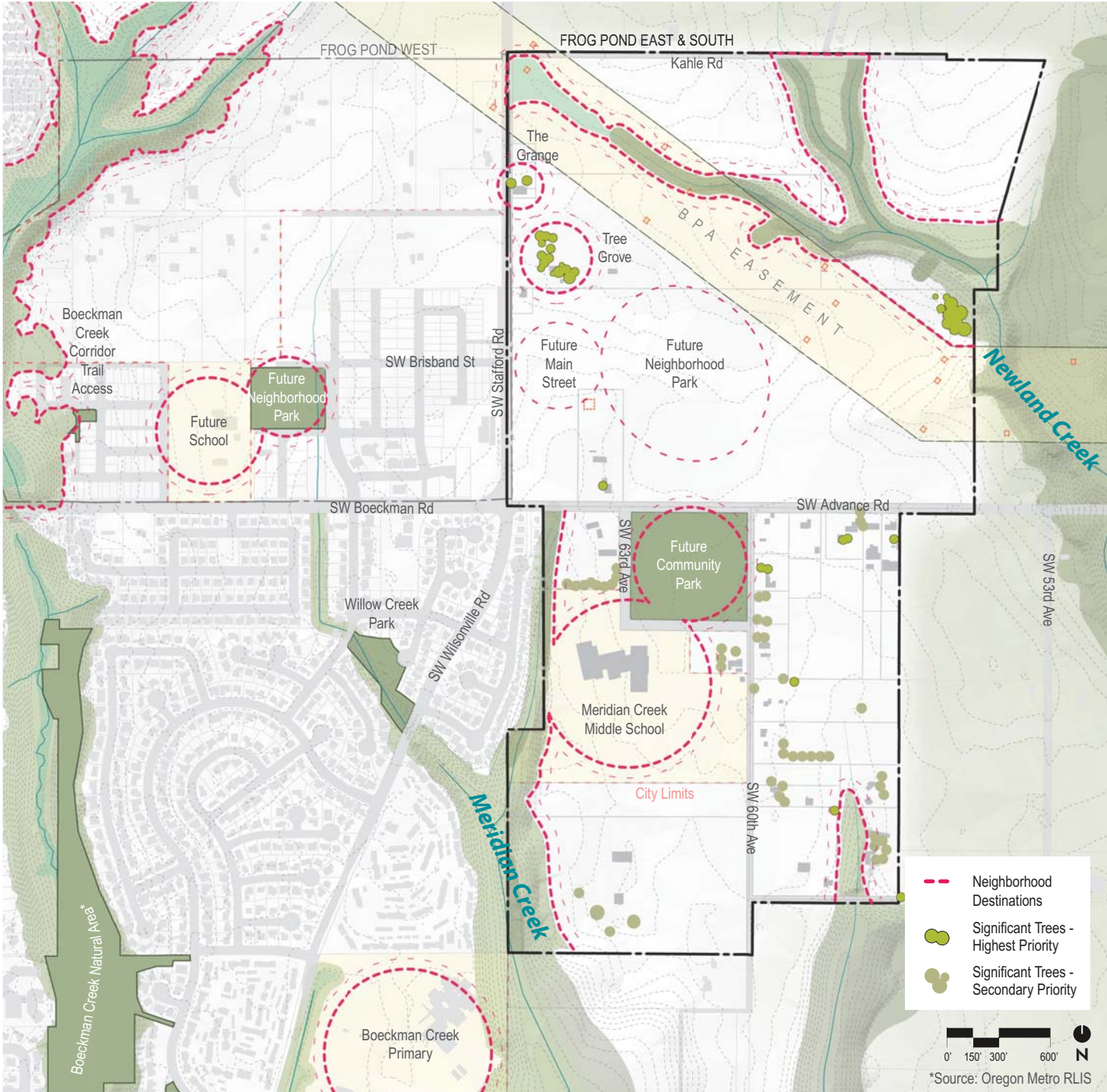


Figure 10. Neighborhood Destinations





COMMUNITY DESIGN CONCEPTS

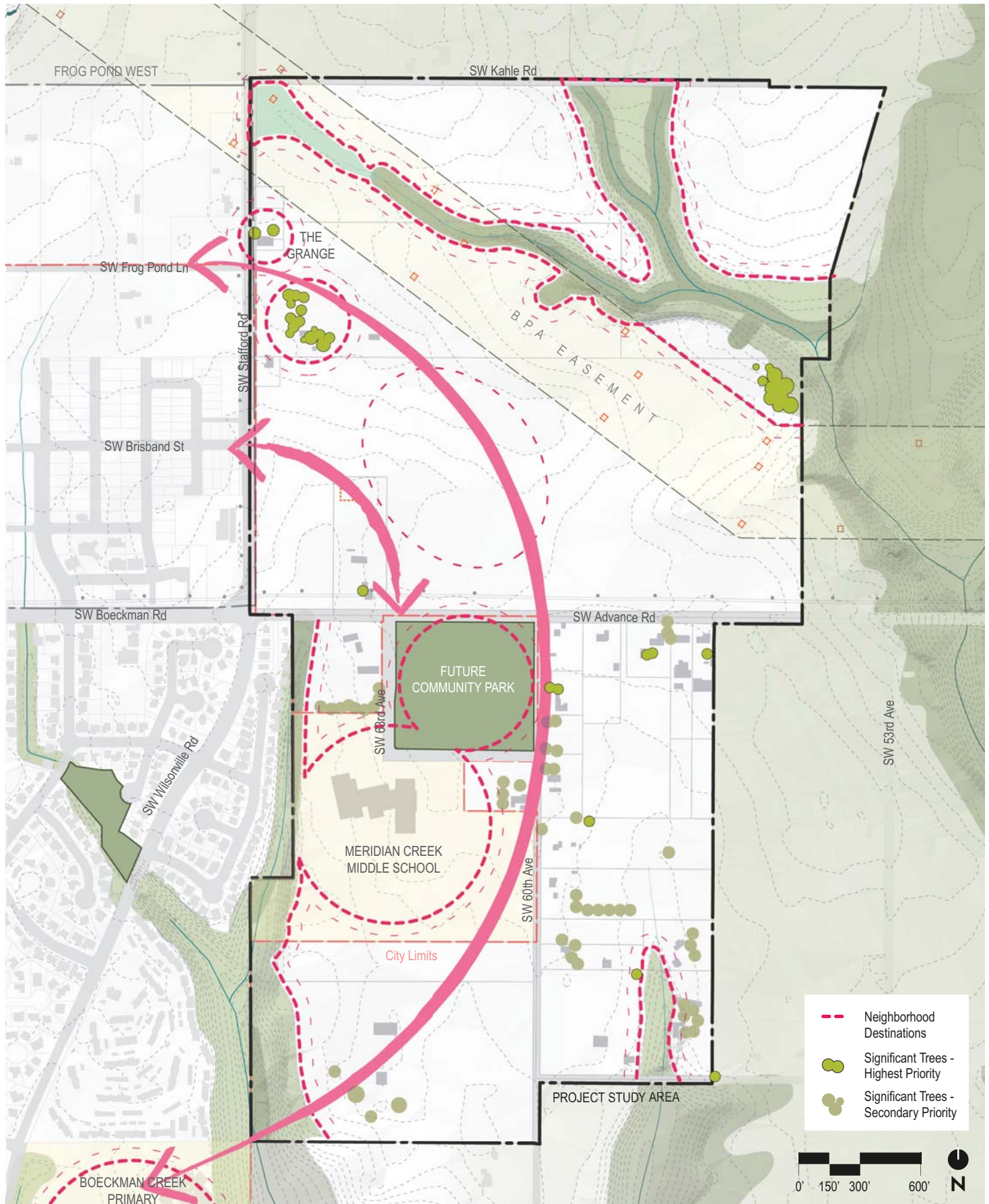
CONNECTIONS BETWEEN DESTINATIONS

This conceptual diagram (Figure 11) illustrates the area’s potential for connections between neighborhood destinations. The Master Plan is an opportunity to organize and coordinate land use, transportation, and open space to support these connections.

This Plan aims to enable direct and convenient trips between these destinations by all modes of travel, focusing on walking and rolling. This conceptual diagram is guiding to the Master Plan regarding street alignments, pedestrian routes, trails, and street crossings. As such it is fundamental to the vision to create a walkable and connected community.



Figure 11. Connections Between Neighborhood Destinations





COMMUNITY DESIGN CONCEPTS

STREETS AND TRAILS TO CONNECT THE COMMUNITY

Figure 12 illustrates how the areas streets and trails are planned to create a connected Frog Pond Community. It was one of several options that were explored and ultimately led to the street and trail recommendations of the Master Plan. The streets and trails shown are the minimum “framework” of connections, with developers building additional local-level streets and trails that will connect key destinations and build out the neighborhood transportation network.

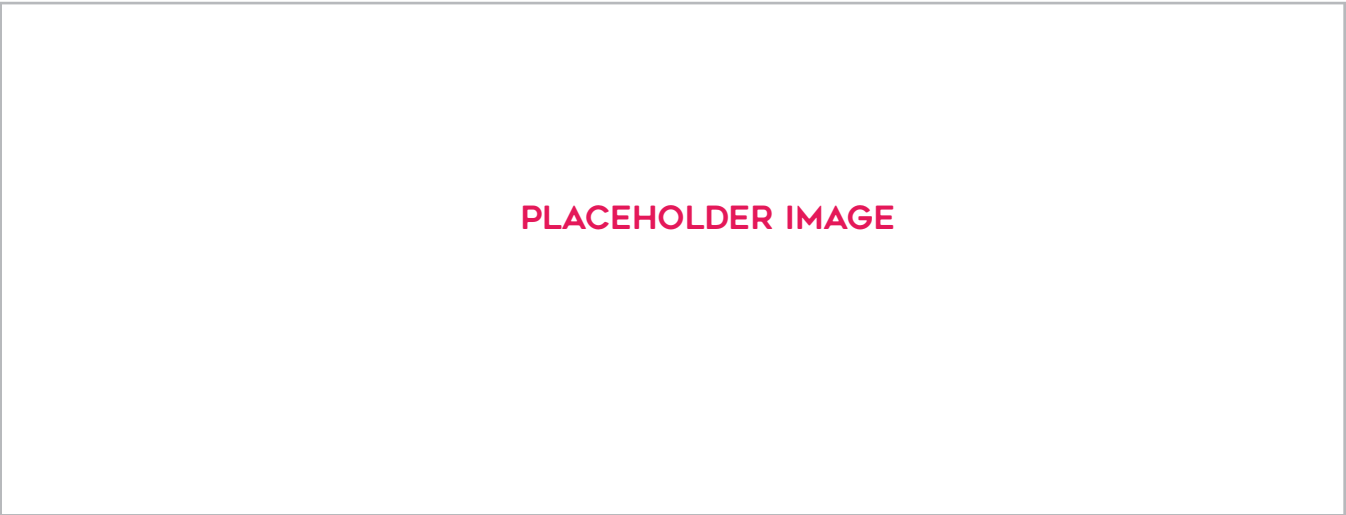
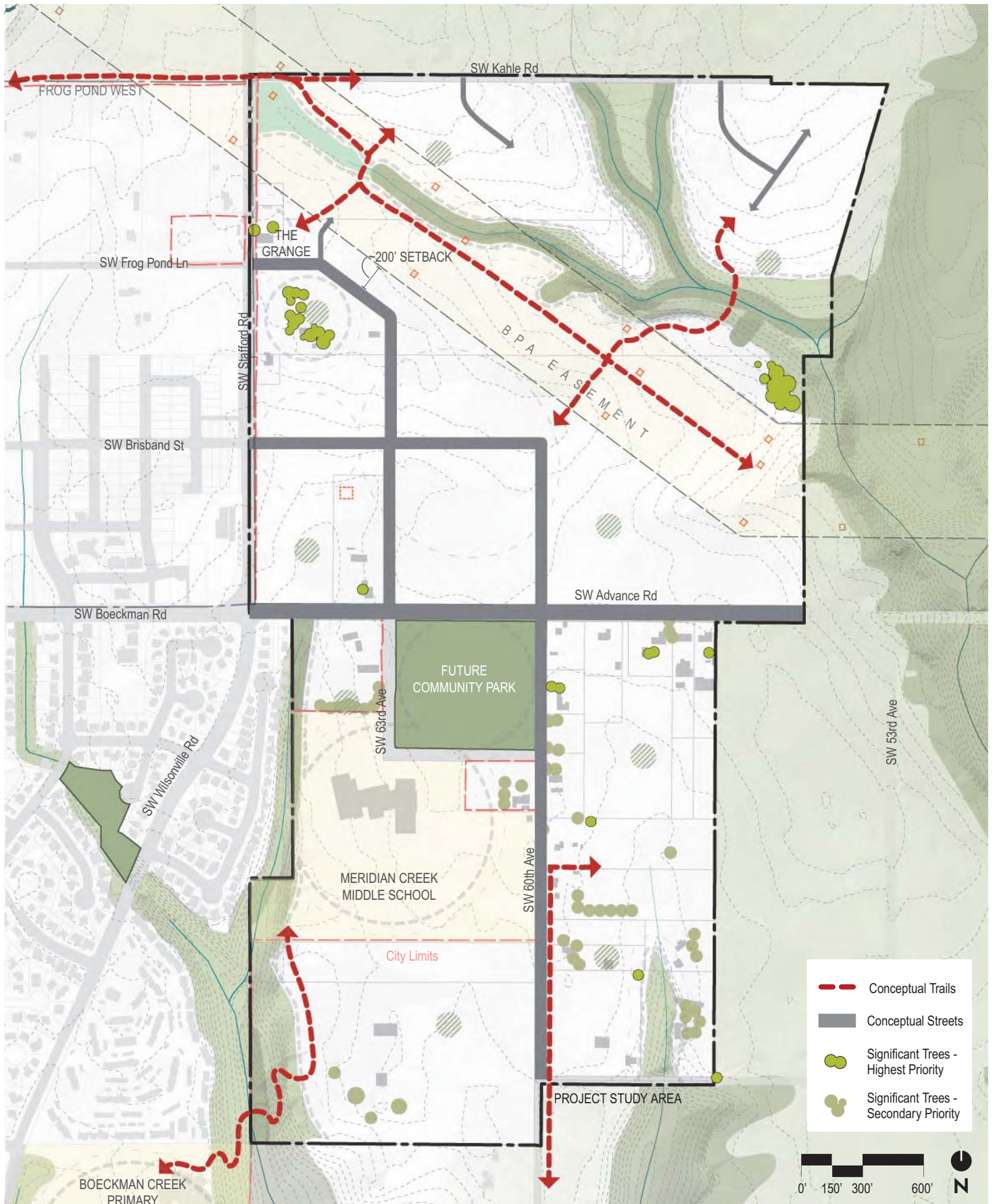


Figure 12. Street and Trail Connections





COMMUNITY DESIGN CONCEPTS

NEIGHBORHOOD CENTERS

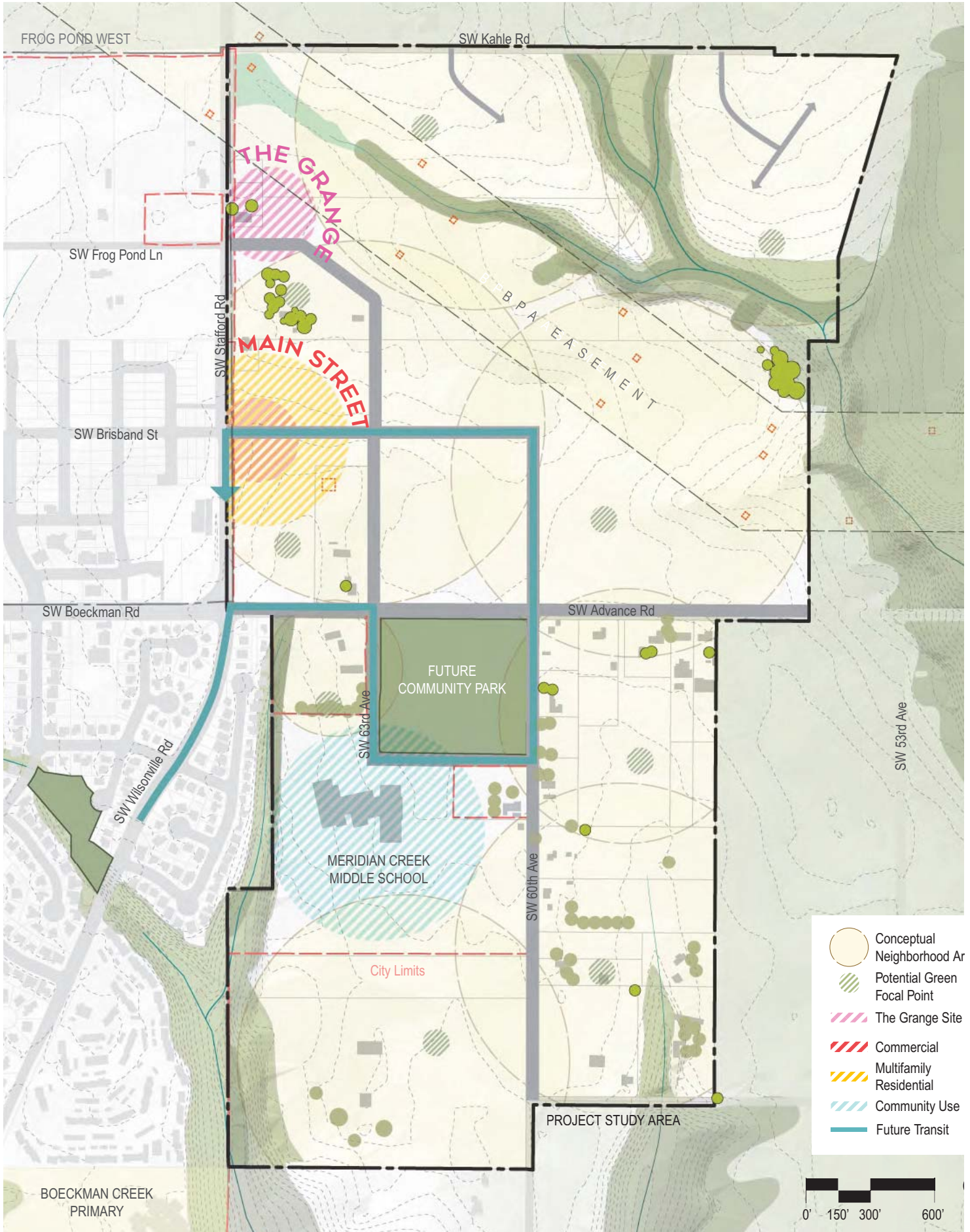
This diagram below illustrates the idea of neighborhood centers within the planning area. There are three types of centers shown, each with their unique scale and role in creating the vibrant, connected community envisioned for Frog Pond East and South:

- **Main Street** – A potential 3-acre Main Street commercial center with shops, restaurants, local services and community gathering spaces. Residential uses would be allowed within mixed –use buildings. Whether mixed use will be vertically or horizontally located is yet to be determined.
- **Frog Pond Grange** – A historic gathering place that is envisioned as a location for future civic or community use.
- **Green Focal Points** – The green focal points are small open spaces between neighborhood destinations. They might be a signature tree, a viewpoint, a storm water facility, or a small open space that is part of a development. These points are represented by green dots in the center of neighborhood bubbles, and are further defined in later diagrams.



Neighborhood Food Hall in Northwest Crossing, Bend

Figure 13. Initial Diagram of Conceptual Neighborhood Centers

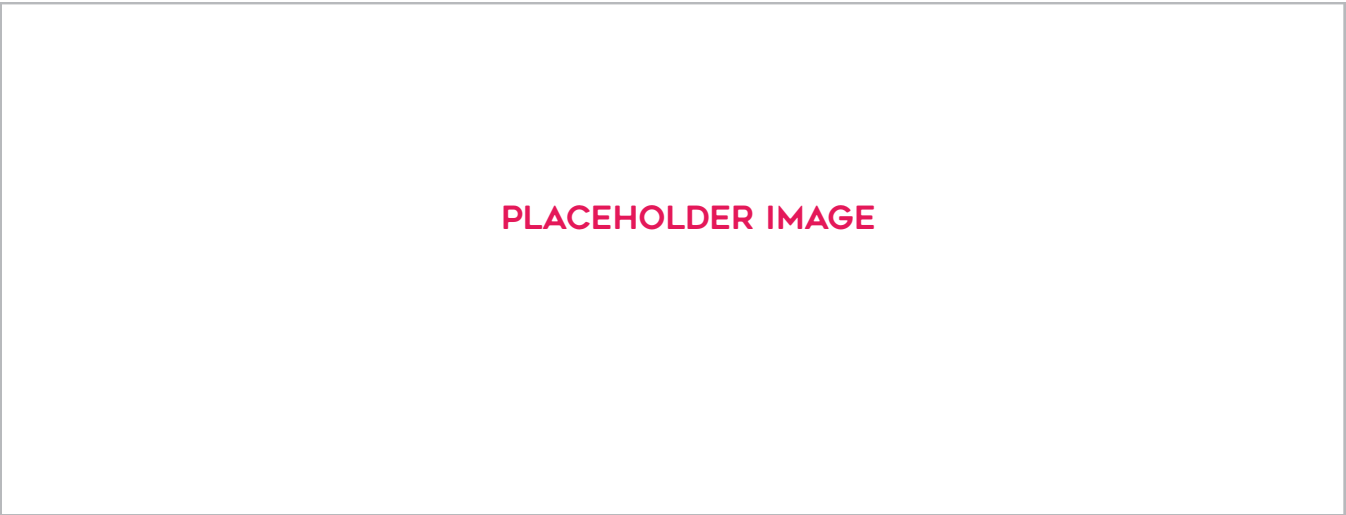


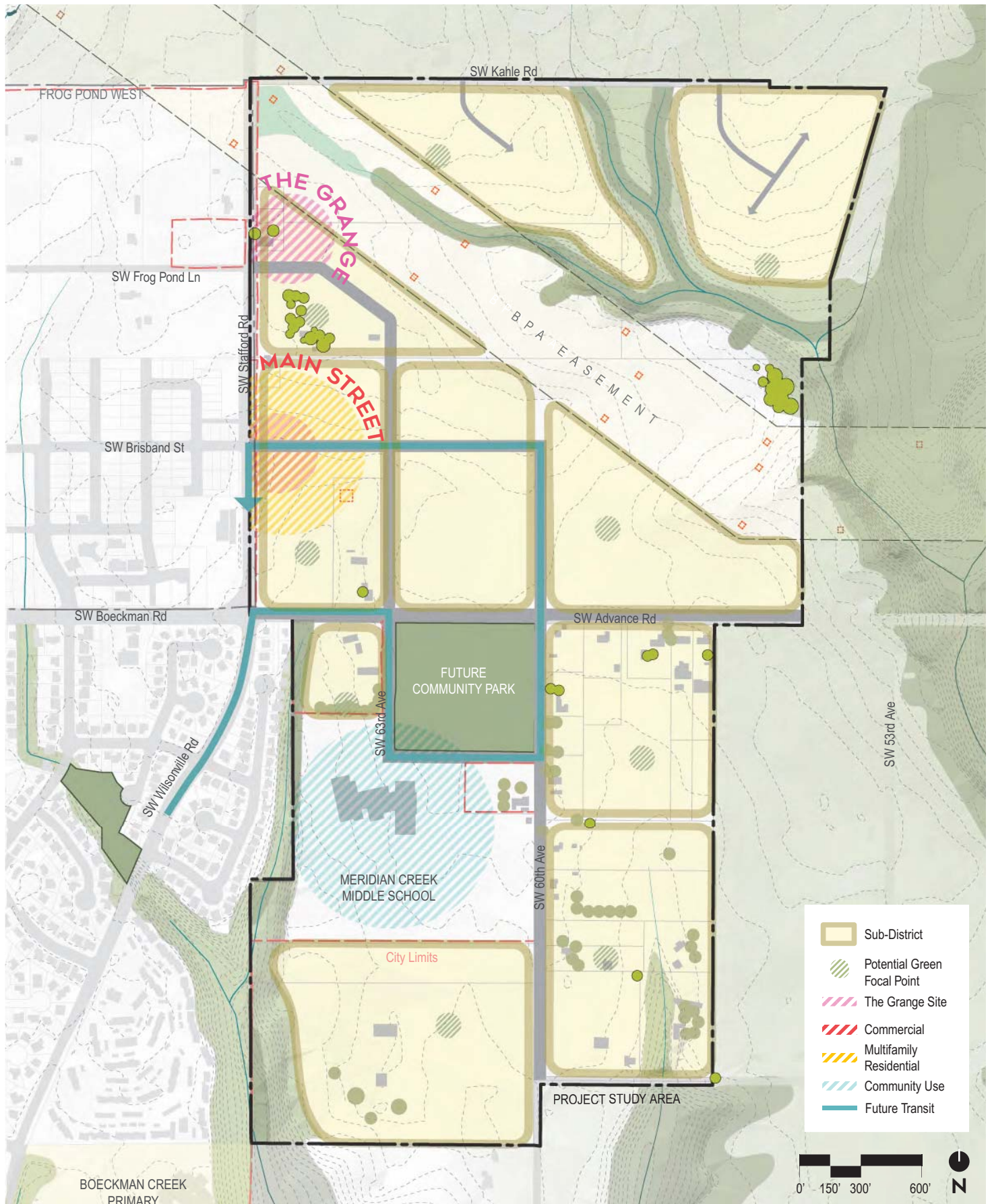


COMMUNITY DESIGN CONCEPTS

SUBDISTRICTS

Figure 14 shows the concept of “subdistricts” within Frog Pond East and South. The subdistricts are intended as “neighborhoods within neighborhoods” – areas with cohesive building form, public realm features, and other characteristics that give them identity. There are nine subdistricts planned for Frog Pond East and South. Each will have a “green focal point” that is central in the subdistrict and/or aligned with a key feature such as a tree grove. The focal points, together with the neighborhood destinations, will provide many community gathering places in Frog Pond East and South.







COMMUNITY DESIGN CONCEPTS

IMPLEMENTING THE DESIGN CONCEPTS

The design concepts discussed above are the foundation of the Master Plan’s intent to create a strong sense of place and identity in Frog Pond East and South. The Master Plan is shown in Figure 15. The following section summarizes how the Master Plan’s key features and intended outcomes implement the design concepts. Additional descriptions are provided in the Land Use and Public Realm chapters of this report.

NEIGHBORHOOD DESTINATIONS WITHIN FROG POND EAST AND SOUTH

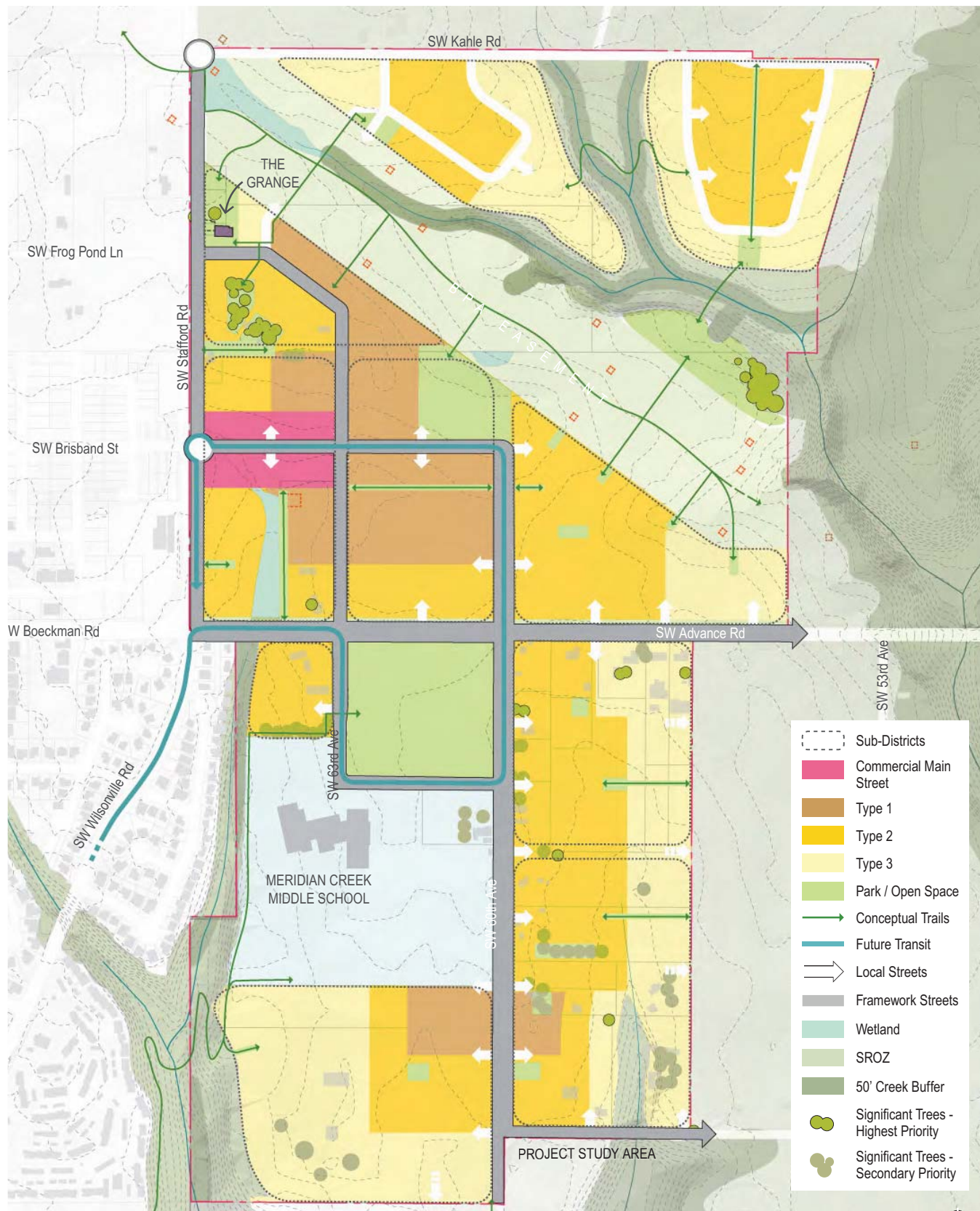
The SW Brisband Main Street as a neighborhood-scale commercial and mixed-use center

- Park/gathering space at the Frog Pond Grange
- A Future Frog Pond East Neighborhood Park
- The Frog Pond South Community Park
- Meridian Creek Middle School
- “Green focal points” within each subdistrict
- Meridian Creek and Newland Creek natural areas
- Significant tree groves

FORM BASED DESIGN AND TRANSECT

- More compact housing is in “Type 1” urban form areas (see Chapter 6 for more description of the urban form types)
- Adjacent areas are less compact and result in a transect or transition to even less compact housing form
- The East Neighborhood has its Type 1 housing in the central area adjacent to the Brisband Main Street, future Frog Pond East Neighborhood Park and BPA Easement
- The South Neighborhood has a small node of Type 1 housing located south of the Meridian Middle School property.
- In both neighborhoods, Type 2 and 3 housing form “feathers out” from the Type 1 areas.

Figure 15. Frog Pond East & South Master Plan



A WIDE VARIETY OF HOUSING CHOICES

- Opportunities for a wide spectrum of housing choices: townhomes, quadplexes, tri-plexes, duplexes, cottage clusters, cottage developments, small-lot detached homes, medium and larger lot detached homes, accessory dwelling units, apartments/condos, tiny homes and co-housing
- Requirements for a mix of housing choices in each subdistrict
- Housing capacity for an estimated minimum of 1587 dwellings (See Chapter 6 for housing and land use metrics)

THE SW BRISBAND MAIN STREET

- A 4-5 acre neighborhood commercial center designed as a walkable Main Street
- Up to 44,000 square feet of commercial
- Mixed use (residential above commercial) as an option
- Streetscape features, site design, and building orientation that make the Main Street highly walkable and support its role as a destination for the local community

PARKS AND OPEN SPACE

- Two future parks: the future Frog Pond East Neighborhood Park and future Community Park in Frog Pond South
- Retention of significant trees and integration of them into neighborhood destinations
- The BPA corridor as an opportunity to provide open space, trails, and parking and storm water features for adjacent land uses
- Significant Resource Overlay Zone areas: Meridian Creek, Newland Creek, and the unnamed creek in the southern part of the study area.
- “Green focal points” – small gathering spaces within each subdistrict

TRANSPORTATION CHOICES AND CONNECTIONS

- Framework streets – the existing and future streets that will form the backbone of a connected community
- A street demonstration plan – the illustrated vision for a fully connected and walkable block pattern. The framework streets are generally existing or extensions of existing streets and will be in the location shown. Other streets demonstrate the intent of block layout and connectivity, but refinements in the layout may occur during the development review process



COMMUNITY DESIGN CONCEPTS

- Tailored street cross sections for Stafford, Brisband Main Street, Advance Road, and the extension of 60th Avenue
- A plan for the SMART Transit service to circulate through the neighborhoods and connect key destinations
- Trails and pedestrian paths that connect the Frog Pond East and South neighborhood destinations and other Wilsonville trails and destinations
- A bicycle network comprised of protected and/or dedicated bike lanes on larger streets and “sharrows” on selected local streets
- Accessibility for all community members and users of the transportation connections

SUBDISTRICTS

- The Master Plan includes subdistricts that were selected based on their context and potential for placemaking
- The plan illustrates 6 subdistricts in the East Neighborhood and 4 subdistricts in the South Neighborhood
- The subdistricts are intended as “neighborhoods within the neighborhoods”, each with a planned number and variety of housing and a cohesive look and feel
- Each subdistrict includes a green focal point that is central in the subdistrict and/or aligned with a key feature such as a tree grove to serve as an important placemaking tool, creating a strong public realm and opportunity for community gathering.

Placeholder Image



LAND USE



LAND USE

RESIDENTIAL LAND USE AND URBAN FORM

KEY OUTCOMES

The Land Use Plan includes residential areas intended to create three key outcomes:

- **A variety of housing choices** throughout the East and South Neighborhoods
- **Opportunities for affordable housing choices** integrated into the neighborhoods
- A planned **“transect”** of housing form in order to create a cohesive neighborhood that maximizes the amenities available to residents while creating an urban form sensitive to the local context.

VARIETY THROUGHOUT

The Master Plan creates opportunities for a wide variety of housing choices in each neighborhood and subdistrict. This concept focuses on mixing and integrating different housing choices throughout each subdistrict and block rather than having separate areas for separate types of housing units.

The plan defines and maps three types of urban form for housing – Types 1, 2, and 3 – that define the look and feel of the different subdistricts within the neighborhoods. The focus of this typology is urban form: the bulk, height and spacing of buildings. Each urban form type allows for a full array of housing choices.

For example, a detached home may exist in any of the urban form types, but for Type 1 it would have a smaller footprint and, be closer to adjoining homes, and for Type 3 it would have a larger footprint and be farther apart from adjoining homes. Building height will also tend to be taller where Type 1 is designated with height trending down in areas with Type 2 and Type 3 building form. A multi-family building also may exist in any of the urban forms, but for Type 1 the building would be taller and wider with more units per building and closer to adjoining buildings, and for Type 3 it would be shorter and smaller (similar to the size of a larger single-family home) with fewer units per building, and buildings would be further apart, likely interspersed with single-family homes.



LAND USE

TYPE 1 RESIDENTIAL URBAN FORM

Type 1 residential urban form is the most compact and urban of the three forms:

- Buildings 2-4 stories tall close to the street
- Buildings are closely spaced from each other
- Townhouse, condo/apartment buildings, and similar are not limited in width allowing larger buildings that may even occupy an entire block face
- Lot area per building for detached homes will be small with less yard space than in Type 2 and Type 3
- Townhouses, closely spaced detached homes, and multi-family buildings are expected to be common housing choices provided; cottages or similar small-unit housing is also likely to be built





LAND USE

TYPE 2 RESIDENTIAL URBAN FORM

Type 2 residential urban form is less compact than Type 1 but more compact than Type 3:

- Buildings are intended to be 2 stories, with 3 stories allowed under applicable State law for certain housing categories
- Moderate setbacks from the street
- Building separation is generally 10 feet,
- Building width is moderately limited, to maintain a building bulk consistent among multi-family, middle housing, and single-family detached housing choices
- Detached home lot size is approximately double that of Type 1 allowing for larger home footprints and larger yards than Type 1
- Small to medium sized single-family detached homes and townhouses are expected to be common housing choices, with duplexes, triplexes, quadplexes, cottage clusters, and smaller multi-family buildings also likely to be built.





LAND USE

TYPE 3 RESIDENTIAL URBAN FORM

Type 3 is the least compact residential urban form, characteristics include:

- Buildings primarily 1-2 stories in height, with 3 stories allowed for certain housing categories consistent with applicable State law
- Buildings are set back from the street
- Width of buildings is limited to create smaller buildings, which limits the number of units in multifamily or middle housing structures
- Building separation generally more than 10 feet
- Lot size for detached single-family homes generally 1.5 times that of Type 2 and 3 times that of Type 1, allowing for larger homes and yards
- Medium to large single-family detached homes along with smaller townhouse and duplex buildings are expected to be common housing choices, cottage clusters would be well-suited to this Type, and triplexes, quadplexes, and small multi-family buildings may also be built





LAND USE

To help ensure housing variety within and throughout Frog Pond East and South, the City will use the following strategies to guide Wilsonville Development Code standards:

- Create housing categories that reflect Wilsonville’s housing needs: the categories would allow flexibility for developers and ensure provision of a wide variety of housing choices while meeting similar housing needs (such as accessibility and cost)
- Limit each subdistrict and development to a maximum percentage of any one housing category;
- Establish standards that ensure a variety of housing categories;
- Please see the Implementation section of this report for more information about code strategies for housing variety.

AFFORDABLE HOUSING INTEGRATION

The Master Plan sets the stage for affordable housing choices in the East and South neighborhoods. Two strategies are included. First, the variety of housing is intended to provide opportunities for home buyers and renters with incomes of 80-150% area median income (AMI). This is the market-based and zoning-based strategy of the Plan.

To help ensure integration of market-rate affordable housing within Frog Pond East and South the City will use the following strategies in the implementing Development Code:

1. To prevent the oversupply of higher-cost housing, limit each development to a percentage of housing categories that typically would only be affordable to households making more than 150% of median family income.
2. To ensure provision of market-rate housing that meets a variety of housing need require each development provide a minimum percentage of attached middle housing and a minimum percentage of a combination of cottages, ADUs, and other similar units that provide both relatively affordable housing choices and housing choices adaptable for accessible living.

The second strategy addresses households earning below 80% of area median income. The City may choose to proactively facilitate and/or support the development of affordable housing targeted at these households. As described in the Affordable Housing Recommendations section of this report, housing development that serves households with these incomes requires public subsidy; those initiatives for the City may include:

- Acquire Land for Affordable Housing



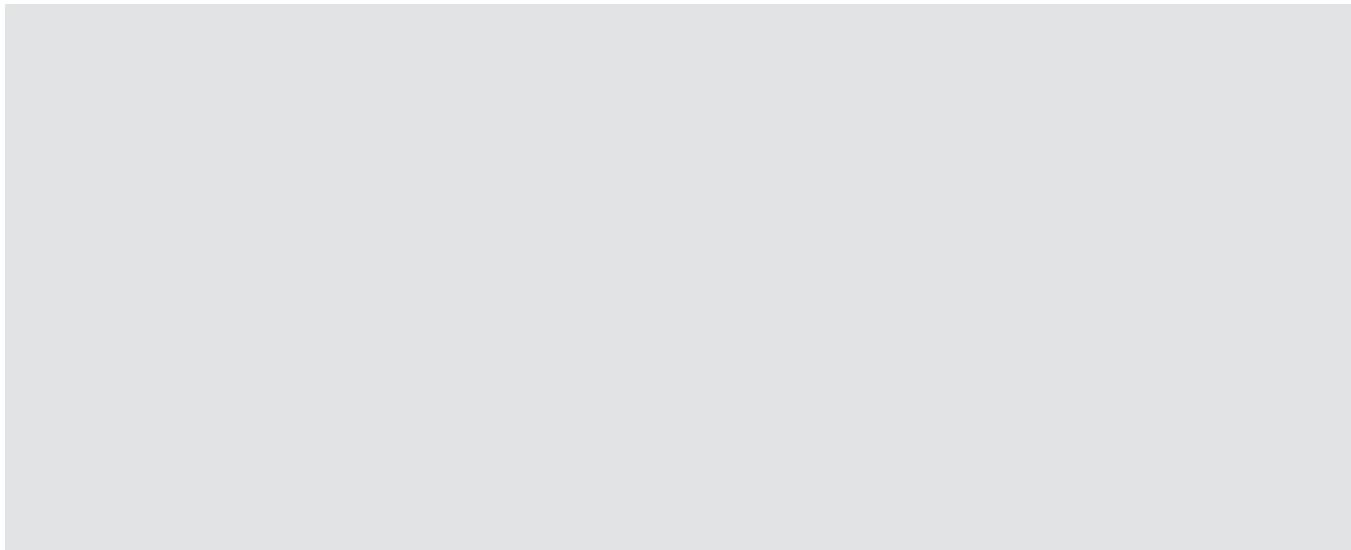
LAND USE

- Partner with a Community Land Trust
- To the extent feasible, minimize fees paid by developers while still paying for infrastructure
- Incentivize Smaller and Lower-Cost Middle Housing

The above-listed measures are options available to the City Council and subject to their direction and funding. The role of the Master Plan is to provide the land base and zoning allowances that would support such initiatives. In addition, development standards will avoid barriers for subsidized affordable housing developments, providing exemptions from variety and similar requirements if needed. Minimum design and siting standards shall continue to apply.

FORM BASED DESIGN AND TRANSECT

As described above, the Master Plan uses a form-based approach to housing. More compact housing is located in the Type 1 areas. Adjacent areas are less compact and result in a transect or transition to even less compact housing form. The East Neighborhood has its Type 1 housing in the central area adjacent to the Brisband Main Street, future Frog Pond East Neighborhood Park and BPA Easement. The South Neighborhood has a small node of Type 1 housing located south of the Meridian Middle School property. In both neighborhoods, Type 2 and 3 housing “feathers out” from the Type 1 areas.



Transect Image



LAND USE

USE OF SUBDISTRICTS

The Master Plan includes subdistricts as a tool used for neighborhood planning. The subdistricts of Frog Pond East and South are “neighborhoods within the neighborhoods” because they have a planned number and variety of housing types with a cohesive look and feel. Each includes a green focal point that is central in the subdistrict and/or aligned with a key feature such as a tree grove to serve as an important placemaking tool, creating a strong public realm and opportunity for community gathering.

The subdistrict concept for Frog Pond East and South builds off concepts used in Frog Pond West and Villebois planning. In Frog Pond West, subdistricts are used to identify the different residential lot sizes and are primarily used for zoning implementation rather than urban design. Villebois used a system of sub-geographies called Specific Area Plans (SAPs). Villebois’ SAPs had an important urban design and housing variety aspect. They were centered on walkable distances focused around gathering spaces and included a variety of housing types in each. With an urban design focus and planned housing variety, the subdistricts for Frog Pond East and South will be more similar to Villebois SAPs than Frog Pond West subdistricts. Each subdistrict in Frog Pond East and South was determined based on its context and placemaking opportunities.

HOUSING METRICS

The following summarizes the estimated housing capacity for each neighborhood and subdistrict.

Table 2. Housing Estimates

	ESTIMATED TOTAL DWELLING UNITS	UNITS IN TYPE 1 URBAN FORM AREAS	UNITS IN TYPE 2 URBAN FORM AREAS	UNITS IN TYPE 3 URBAN FORM AREAS	ESTIMATED NET RESIDENTIAL LAND*	ESTIMATED NET DENSITY
Frog Pond East & South Neighborhoods	1,587	390	886	312	119.2 acres	13.3 du/acre
East Neighborhood	1,089	306	634	150	75.84	14.4 du/acre
South Neighborhood	498	84	252	162	40.1	11.5 du/acre

*(20% assumed for ROW and other set asides)



LAND USE

Table 3. Residential Development Metrics

RESIDENTIAL FORM	GROSS ACRES	BUILDABLE ACRES (ESTIMATED)
Type 1 Residential Form	20.5	19.5
Type 2 Residential Form	86.9	73.8
Type 3 Residential Form	67.0	55.7
TOTAL	174.4	149.0

NEIGHBORHOOD COMMERCIAL

The neighborhood commercial center concept was originally articulated as part of the Frog Pond Area Plan. The Area Plan noted:

“The overall vision for the neighborhood commercial center is that it is a place that provides local goods and services within easy access of the local neighborhoods, has a high quality and pedestrian-oriented design, and serves as a gathering place for the community. Due to its small scale and local orientation, it will not compete with other commercial areas in Wilsonville.”

The above-cited vision for the center endures; it is a critical component of creating a vibrant community in the Frog Pond Area and thus is part of this Master Plan. Based on an updated market analysis, the center is approximately five acres in size and up to 44,000 square feet of retail with or without mixed use residential development above. The location along SW Brisband Street was selected because of its visibility from SW Stafford Road, centrality along the west edge of the East Neighborhood, and potential for a Main Street configuration. The vision for the center, its location and its design concept were discussed with the community – it was broadly supported as an important element of the Master Plan.

The commercial development program listed below was discussed with Planning Commission and City Council during work sessions and shared with the public during outreach.

Table 4. Commercial Development Recommendations

PLAN ELEMENT	COMMERCIAL DEVELOPMENT PROGRAM RECOMMENDATION
Building Square Feet	Up to 44,000 square feet (or 56,000 square feet if the City can attract a pharmacy or medium sized grocer)
Site Acreage	Up to 4.0 acres (or 5.1 acres if the City can attract a pharmacy or medium sized grocery)

1 Frog Pond Area Plan, page 37



LAND USE

PLAN ELEMENT

COMMERCIAL DEVELOPMENT PROGRAM RECOMMENDATION

Likely Tenant Mix

Food and beverage, retail, general commercial, professional services/office, healthcare, fitness, daycare, banks, and more. Specific retail tenants may include cafes and restaurants, a specialty food product store, a pharmacy, and other miscellaneous stores like laundromats, salons, hobby/boutique stores, and medical, professional, and financial offices.

Development Type

Main Street, with buildings on both sides of the planned SW Brisband Street or SW Frog Pond Lane extension on the east side of SW Stafford Road. Minimal setbacks, parking located behind buildings, and pedestrian orientation are important features. Main Street retail provides the greatest experience and offers an opportunity for the commercial area to be prosperous over a longer timeframe. Main street retail feels “fresher” for longer than conventional retail centers and would be more accessible to a greater number of people traveling by car, foot, and bike.

Adjacent and Supporting Uses

Higher density residential, including apartments, townhomes, and live/work spaces, surrounding the commercial center would improve viability of commercial spaces.

Figure 16. Neighborhood Commercial Examples





LAND USE

SITE DESIGN

The Brisband Main Street neighborhood commercial area will create a destination for local and regional residents, accessible by walking, rolling, biking, and transit. Off-street parking will be tucked behind buildings, prioritizing a people-oriented environment along the Main Street itself. These parking lots can also provide future development capacity for additional housing. The site study shows vertical mixed-use buildings oriented to create a visible presence from SW Stafford Rd. The potential roundabout intersection will be thoughtfully designed to ensure easy navigation by pedestrians and to slow down cars. Key pedestrian entry points to the Main Street from SW Stafford Rd. will be marked with gateway markers or signage.

Within the two blocks of the Main Street, there is an opportunity to create small plazas or gathering areas that provide a focal point and allow people to comfortably linger and spend time. The demonstration plan shows small plazas located between buildings for outdoor dining or merchandise display.

Figure 17. Neighborhood Commercial Demonstration





LAND USE

PARKS, CIVIC USES, AND OPEN SPACES

Parks and open spaces are a valued part of every neighborhood in Wilsonville, including Frog Pond’s neighborhoods. The Frog Pond East and South neighborhoods include the following parks, civic and open spaces:

- The proposed Frog Pond East Neighborhood Park
- The previously planned 10-acre Community Park
- Area around Frog Pond Grange as a civic and community destination and landmark
- Green Focal Points in each subdistrict
- The BPA Easement open space
- Significant Resource Overlay Areas along Meridian Creek, Willow Creek, and Newland Creek
- Meridian Creek Middle School

Please see the Public Realm section of this report for further description of the above and how they are part of the overall Parks and Open Space Plan.

Placeholder Image



PUBLIC REALM



PUBLIC REALM

The public realm is the combination of all public spaces, including streets, alleys, parks, plazas, and other publicly accessible areas, that define the experience of living in or visiting a city or neighborhood. A well-designed and cohesive public realm will be an essential part of the success and livability of this new area of Wilsonville. The Master Plan provides guidance about how the public realm can be designed to work together with existing site qualities and future development to create healthy, connected, sustainable, and beautiful neighborhoods for diverse families to thrive.

PRINCIPLES

The design of the public realm in Frog Pond East and South will achieve several key principles.

PRESERVED AND RESTORED NATURAL RESOURCES. Existing natural resources, including trees, wetlands and creek corridors, will be preserved and restored within and around new development. Streets, parks, and public spaces provide opportunities to protect existing trees. Additionally, incorporating stormwater planters and green infrastructure supports watershed health by cleaning and slowing runoff.

INTEGRATED PARKS AND GREEN SPACES. Parks and green spaces are a vital part of creating healthy, active, and livable neighborhoods. Parks and smaller open spaces within neighborhoods will be centrally located and visible and accessible to all. In addition to a 10-acre community park and a 3-acre neighborhood park, each walkable sub-district includes its own “green focal point”, which could be a pocket park, playground, community garden, plaza, or other gathering place.

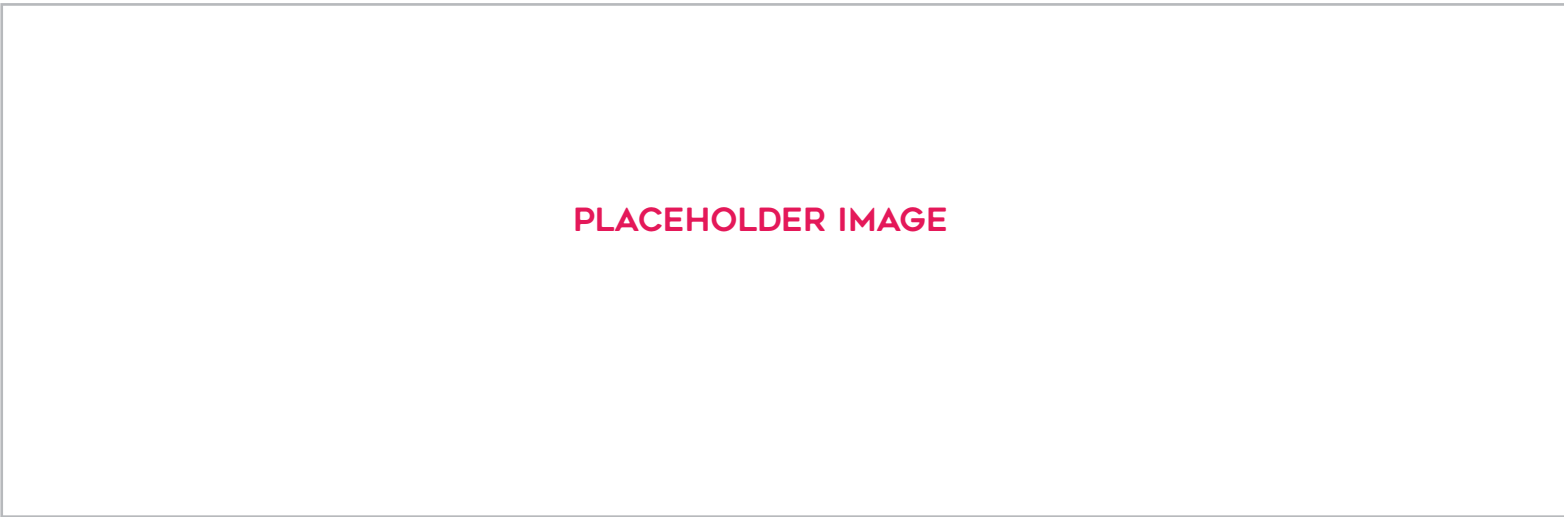
COMMUNITY DESIGN THAT CELEBRATES AND ENHANCES NEIGHBORHOOD CHARACTER. Streets and trails will be laid out to emphasize views of natural features of the site like forested creek corridors, parks, or destinations. Unique and historical elements like the Frog Pond Grange are integrated thoughtfully into overall neighborhood design. For example, the Grange site provides co-located gathering space, green space, and visibility and direct access to the trails and open space of the BPA corridor. Additionally, more detailed elements of the public realm like lighting, street trees, and signage are cohesive with the existing fabric of Wilsonville, particularly the adjacent Frog Pond West area.



PUBLIC REALM

PLACES FOR GATHERING AND CIVIC LIFE FOR A DIVERSE COMMUNITY. The public realm will support a broad range of social activities, including opportunities to gather formally and informally. Meeting places like neighborhood commercial areas, parks, schools, and even sidewalks will be designed to provide space for varied social and cultural activities.

CONVENIENT, SAFE, AND LOW-STRESS TRANSPORTATION OPTIONS. A connected network of streets and trails prioritizes the safety and comfort of the most vulnerable road users. Streets will be designed to encourage and prioritize walking, biking, rolling, transit, and other low-carbon modes of travel. Street and block layout make it easy for residents to access schools, parks, and neighborhood services without a car.





PUBLIC REALM

PRESERVING TREES & NATURAL RESOURCES

The master plan study area contains significant natural resources, including creek and wetland corridors, forested uplands, and clusters of mature trees. Preservation of these areas is a priority not only for their ecological importance, but for their intrinsic value to neighborhood character, health, and quality of life for current and future Wilsonville residents. As development progresses, natural features will be incorporated sensitively within public infrastructure and private development.

Some areas of the site around creek corridors are protected under Wilsonville’s Significant Resource Overlay Zone (SROZ). Other sensitive natural resources, such as wetlands, may be documented through pre-development studies of individual properties and should be incorporated and protected through the City’s SROZ regulations and “Habitat Friendly Development Practices”.

Figure 18 shows SROZ areas and the inventory of significant trees in the planning area.

TREE PRESERVATION

The preliminary tree inventory is intended to inform preservation strategies at the Master Plan level. It was completed on January 26, 2022 by Morgan Holen Associates, followed by additional inventory of trees by AKS and Morgan Holen Associates in April 2022. The tree inventory identified potentially significant trees and groves based on species, size, and general condition. Within or outside this analysis, some trees may need closer examination to verify their significance and potential for preservation. Specifically, a portion of the treed area in the SROZ on the south side of SW Kahle Road has undetermined natural value with testimony received that many of the trees in the area are agricultural trees. If further study reveals this area does not qualify as a resource to be included in the SROZ and is developable, the area will be assigned the Type 3 Residential Urban Form matching nearby areas.

While preservation of individual trees or groves will ultimately be implemented during the design and construction of public and private development, the Master Plan identifies opportunities for preservation of significant trees in public open spaces, street rights-of-way, and within private development sites. Wilsonville’s existing natural resource preservation policy and tree protection code provide a supporting framework for tree preservation in this area.

The Master Plan’s tree inventory map identifies trees that are highest priority to preserve, meaning that these should be preserved within infrastructure, development, or green space to the greatest extent possible. Preservation of these trees may be achieved through development standards. Trees noted as

Figure 18. Natural Resource and Tree Inventory Map





PUBLIC REALM

secondary priority will be preserved if possible, especially if they are healthy and growing within an area that is a suitable location for green space or infrastructure that can accommodate preserved trees. While older, mature trees provide greater carbon sequestration and shade, smaller and less mature trees are also important to preserve because their root systems are not yet fully established, meaning that they can be more resilient to the impacts from surrounding development as they mature.

Public infrastructure and private development will preserve trees through thoughtful design and layout of streets and blocks, as seen on SW Willow Creek Drive and SW Brisband Street in Frog Pond West, or by locating green space strategically to preserve significant trees. Site design for individual buildings or homes can also incorporate tree preservation.



Protected tree the Right-Of-Way in Frog Pond West



PUBLIC REALM



An existing mature tree on SW Brisband Street in Frog Pond West was preserved within the design of a street corner.



Private development can preserve significant trees within central open spaces or green spaces.

3



A mature white oak tree was preserved within parking lot landscaping for Wilsonville High School.



PUBLIC REALM

INCORPORATING NATURAL AREAS

Three major creek corridors intersect the study area: Meridian Creek in the southwest, Newland Creek at the northeast, and Willow Creek at the southeast. In addition to protections within the Development Code and State law, these creeks and their forested surroundings provide an opportunity for developers to enhance these environmental resources as well as the quality-of-life experience for future residents. Site design and layout of development and streets will provide physical and visual access to significant creek corridors, particularly where public trail connections are planned to enter neighborhoods. In these locations, small usable open spaces like pocket parks will ensure public access to creek corridors and trails. Additionally, public street connections will to the greatest extent possible terminate at natural resource corridors or run alongside them to ensure views and access.



Example of development adjacent to natural area



PUBLIC REALM

PARKS AND OPEN SPACES

Access to green space, outdoor recreation opportunities, and public gathering space is a fundamental component of healthy neighborhoods and communities. The Master Plan includes a series of parks and open spaces of different sizes to be located centrally and distributed equitably throughout the East and South neighborhoods. The map illustrates two primary parks. The first is a 10-acre community park adjacent to Meridian Creek Middle School, which is owned by the City for development as a park. The second is a 3-acre neighborhood park to be located centrally in the East Neighborhood.

Additionally, the historic Grange building and site represent a unique opportunity to capture a piece of the site’s history while enhancing this civic gathering place to support ongoing use by the community. The Grange building may need to be relocated slightly depending on the future design of SW Stafford Rd. Two significant trees are located around the Grange, and these could be incorporated and preserved as part of a small public open space that connects to the BPA easement. In the future, this site is intended to include multiple amenities like a trailhead into the BPA easement, interpretive signage, community gardens, or environmental learning opportunities.

At the time of the Master Plan ownership of the Grange building has not shared future plans. This Master Plan assumes the Grange will continue a similar use as it is under the current ownership, with small community gatherings and programming inside and outside the building. The City may pursue purchase if the building comes up for sale in the future or partnership with current or future owners to preserve the building and provide a key civic gathering space for the community.



A tract of undevelopable open space just north of the BPA easement presents another opportunity for public access to nature. This 3-acre area is contiguous with the Newland Creek natural area and contains a stand of significant trees. It can serve as a natural open space with trail access from the BPA easement and neighborhoods to the north.

Figure 19. Park and Open Space Framework





PUBLIC REALM

Beyond these primary public open spaces, the map shows an intent to provide “green focal points” in central locations to each sub-district of the planning area, ensuring that each neighborhood has a small destination or gathering place that gives it character. These green focal points are flexible in location, but the map indicates general areas that are central to each sub-district.

Parks and open spaces will occupy prominent locations within each neighborhood where they are clearly accessible and invite the public in. They will be well-connected to a system of pedestrian and bike pathways, including off-street trails that connect to the BPA easement and trails through natural areas.

EAST NEIGHBORHOOD PARK

A three-acre neighborhood park will be located centrally in the East Neighborhood to provide a prominent destination and gathering place for surrounding residents. The City of Wilsonville’s 2018 Parks and Recreation Master Plan describes a half mile to one mile distance to parks and outdoor recreation as a reasonable distance for residents to be able to access their local park by walking or biking. While the Frog Pond South neighborhood will be served by the future Community Park, The Frog Pond East neighborhood is three quarters of a mile across and has no specifically planned park facility in the Parks and Recreation Master Plan. Therefore, a neighborhood park in this area is intended to be centrally located to the Frog Pond East Neighborhood.

Wilsonville’s neighborhood parks are generally small in size, acting as a combination of a playground and a park designed primarily for spontaneous, non-organized recreation activities. Public outreach revealed strong support and appreciation for Wilsonville’s parks and the type of programming provided. Input received from community members supported a neighborhood park that is similar to others in Wilsonville. In Frog Pond East, the neighborhood park will be designed for a variety of activities, including daily use by local residents for walking, playing, and spending time outdoors. Outreach particularly emphasized the desire for shade, accessibility, and playgrounds for children. Given its proximity to a future neighborhood commercial area, it also offers the opportunity to accommodate seasonal events and programming that can bring local residents together: for example, markets, cultural festivals, or movies in the park.

The park and open space framework map shows the future East Neighborhood Park located directly adjacent to the BPA easement in order to create a significant public connection to the easement area, making the park feel like a more generous open space. Multi use paths through the BPA easement will connect directly into the neighborhood park as an entry point to the larger network of planned pedestrian and bicycle routes.



PUBLIC REALM

GREEN FOCAL POINTS

In addition to the planned Community Park in Frog Pond South and the Neighborhood Park in Frog Pond East, several “green focal points” are identified in central locations within each walkable sub-district of the planning area. These are flexible in location and size but are intended to serve as central neighborhood destinations or gathering places that contribute to neighborhood character and identity. In addition to being centrally located, these focal points will be integrated into the neighborhood with front doors facing them, where possible, and provide clear and inviting access for public use.

Many different kinds of uses and activities are envisioned for these green focal points. Examples include community garden plots, small playgrounds or splash pads, nature play areas, pocket parks or plazas, and central green courtyards within housing developments. These smaller open spaces also provide opportunities to preserve mature and significant trees and provide visible stormwater treatment.



A neighborhood park can give character to its surrounding neighborhood and preserve existing mature trees. Homes facing the park make the space feel cohesive and integrated within the neighborhood.

The size of the park and its proximity to a neighborhood commercial area could allow it to become a central gathering place where programming, events, and daily activities bring local residents together



Play areas for children will be an important feature of the future East Neighborhood Park





PUBLIC REALM





PUBLIC REALM

STREET & BLOCK LAYOUT

The Street and Block Demonstration Plan illustrates a potential layout of streets, blocks, and multi-use paths that would achieve the intent of providing connected, convenient, safe, and low-stress transportation options for Frog Pond East and South. The location of framework streets either exists today or will be direct continuation of existing streets as shown on the Street and Block Demonstration Plan. The remaining street locations are shown for demonstration purposes and actual street layout beyond the framework streets will be determined at the time of development review, based on standards contained in the Development Code and Public Works Standards.

A clear hierarchy of street connections is established with SW Advance Road and SW 60th Avenue acting as collector streets, SW Brisband Street as a Main Street, and all other streets as local streets. A roundabout intersection is planned where SW Brisband Street crosses SW Stafford Road, an arterial street. SW Brisband Street extends directly to the east from SW Stafford Road to intersect with SW 60th Avenue, creating a simple block layout along the planned "Main Street" corridor. SW Frog Pond Lane extends into the study area as a local street and provides connections into the local street network of the East Neighborhood, including a street that crosses the BPA easement toward SW Kahle Road to the north.

Street and block layout will be designed to maximize walkability with short blocks and alley-loaded development that reduces vehicular crossings of sidewalks. Street and block design will also protect natural resources, trees, and public view corridors. For example, a cluster of significant trees just south of the Grange can be preserved within a block of development that is clustered around its edges. The demonstration plan shows public streets intentionally connecting to public trailheads along the length of the BPA easement.

A future transit route is planned to enter the study area from SW Wilsonville Road onto SW Advance Road, head south between the future community park and the middle school, turn north on SW 60th Avenue, and exit the study area from SW Brisband Street (the Main Street) back onto SW Stafford Road. Transit service will be important to residents of this area, helping them meet their daily needs and obligations without relying on a car.

In some areas where vehicular access constraints create long blocks, such as along SW Stafford Road, green pedestrian connections are required at regular intervals to allow people to move into and through the neighborhood more easily.



PUBLIC REALM

The Street and Block Demonstration Plan with land uses (Figure 20) shows the intended arrangement of development types and forms within overall street and block layout. Type 1 areas, which allow larger building forms, are focused centrally to the study area. It is important that Type 1 development areas are permeated by public streets and accessways to ensure integration within the neighborhood. A portion of Type 1 is shown directly adjacent to the BPA easement. This may allow multi-dwelling development in this area to take advantage of a portion of the BPA easement for parking.

The Street Demonstration Plan indicates intent for the relationship between development and major streets in the area. Blocks with development along SW Stafford Road, an arterial street, are oriented so that lots back onto the street in order to minimize impacts to those residents from road noise. A block of cottage cluster housing just south of the Grange could protect the existing stand of trees through flexible siting and orientation of buildings toward a central green space while reducing impacts from the adjacent busy road. Blocks along SW Advance Road, a collector street, are oriented to show homes facing the community park across the street. The blocks of commercial along the SW Brisband Main Street show the intent to orient buildings to the Main Street and place off-street parking and vehicular access behind buildings to create a walkable environment. The Street Design section illustrates these relationships in more detail.

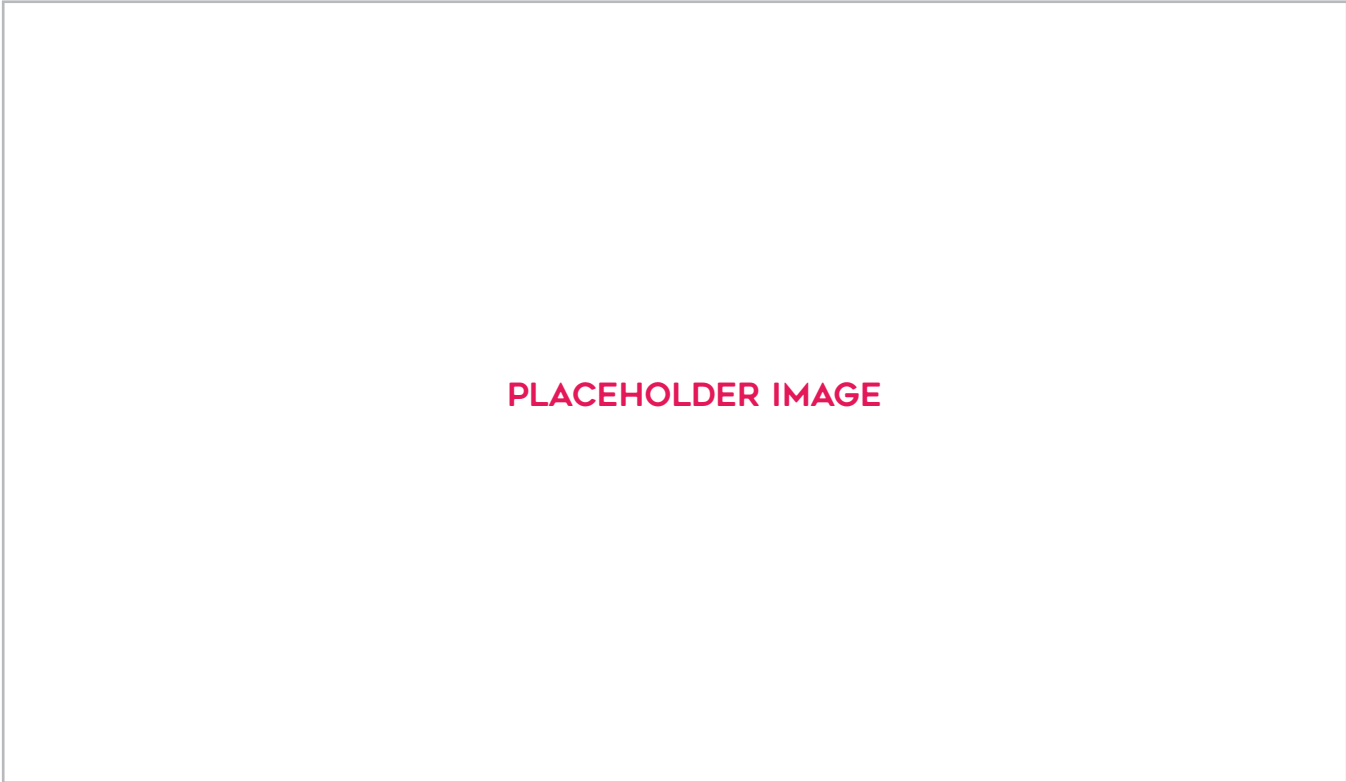
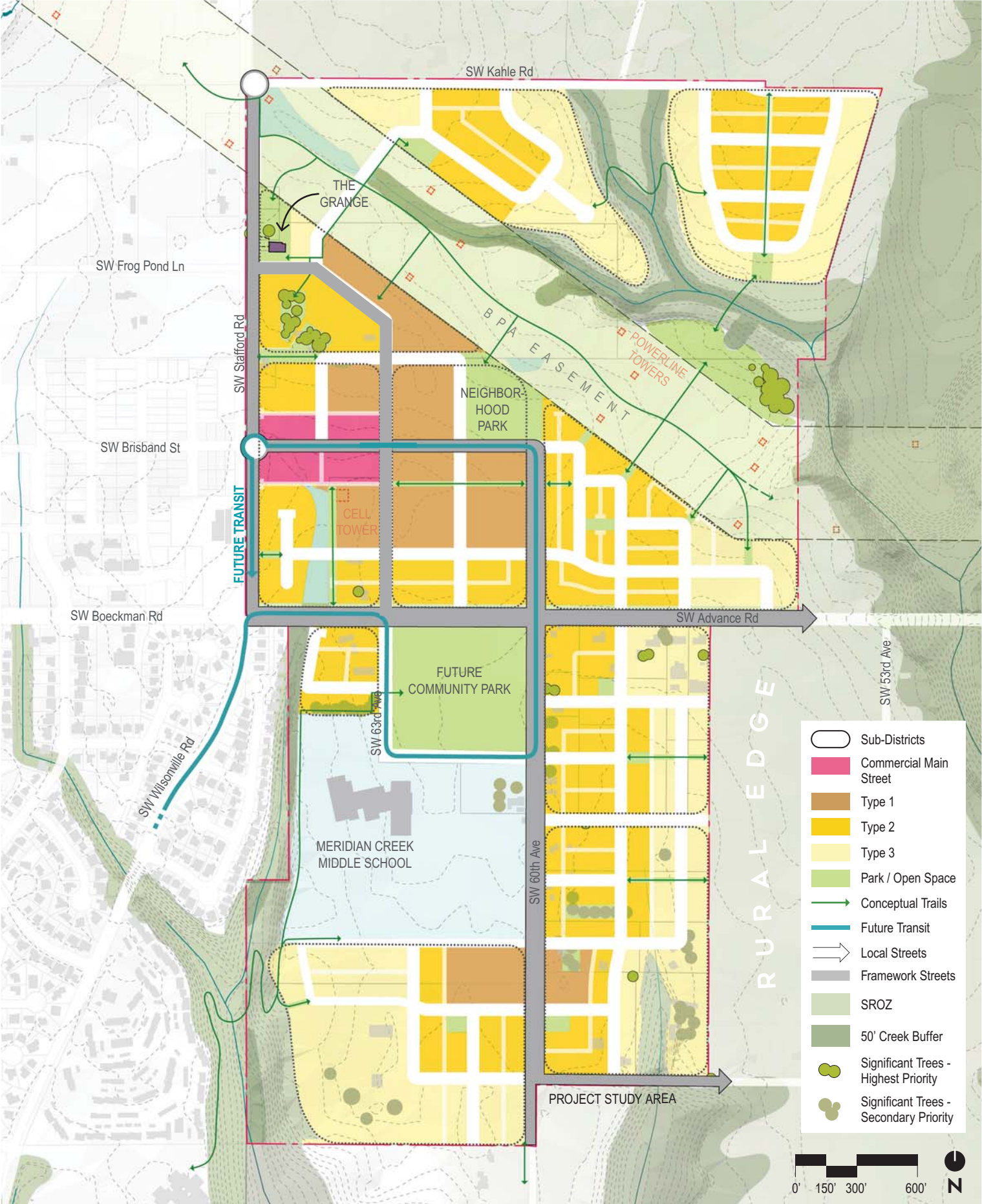


Figure 20. Street and Block Demonstration Plan with Land Uses





PUBLIC REALM

ACTIVE TRANSPORTATION

The Master Plan area will provide a complete and connected network of routes that prioritize non-car users, including cyclists, pedestrians, and those with wheelchairs or other mobility devices. Within public rights-of-way, facilities will include bike lanes, shared street markings, and wide sidewalks. A series of off-street multi-use path connections are planned to extend from the public street network into open spaces and natural areas. This combination of on-street and off-street facilities will provide multiple options for non-car users to access destinations like schools, parks, and the neighborhood commercial area.

Results from surveys and in-person outreach show a strong preference for separate off-street or physically buffered bicycle infrastructure. While this aims to maximize opportunities for separate off-street or physically buffered bicycle infrastructure shared streets and on-street facilities are still present where separated facilities are not feasible or to provide additional travel options beyond separated bicycle infrastructure.

The bicycle circulation concepts map indicates an intended hierarchy of on-street facilities for cyclists that connects to an off-street system of paths. Primary connections are shown along SW Advance Road and SW 60th Avenue, transitioning to shared street markings along the SW Brisband Main Street and key local streets in the study area that connect to destinations.

All local streets, with or without shared street markings, will be designed to focus on pedestrians and cyclists, with low speeds, street trees and planters, and alley-loaded development to minimize pedestrian-vehicle conflicts.

Crossings of SW Stafford Road and SW Advance Road will be carefully designed to prioritize safe routes to schools, parks, and other destinations within the larger Frog Pond area. Providing marked and signaled crossings as frequently as possible will mitigate out-of-direction travel for pedestrians and avoid pedestrians crossing at unmarked locations where they are more vulnerable to injury by vehicles.



PUBLIC REALM



Off-street multi use paths connect bicycles and pedestrians to destinations without relying on street connections

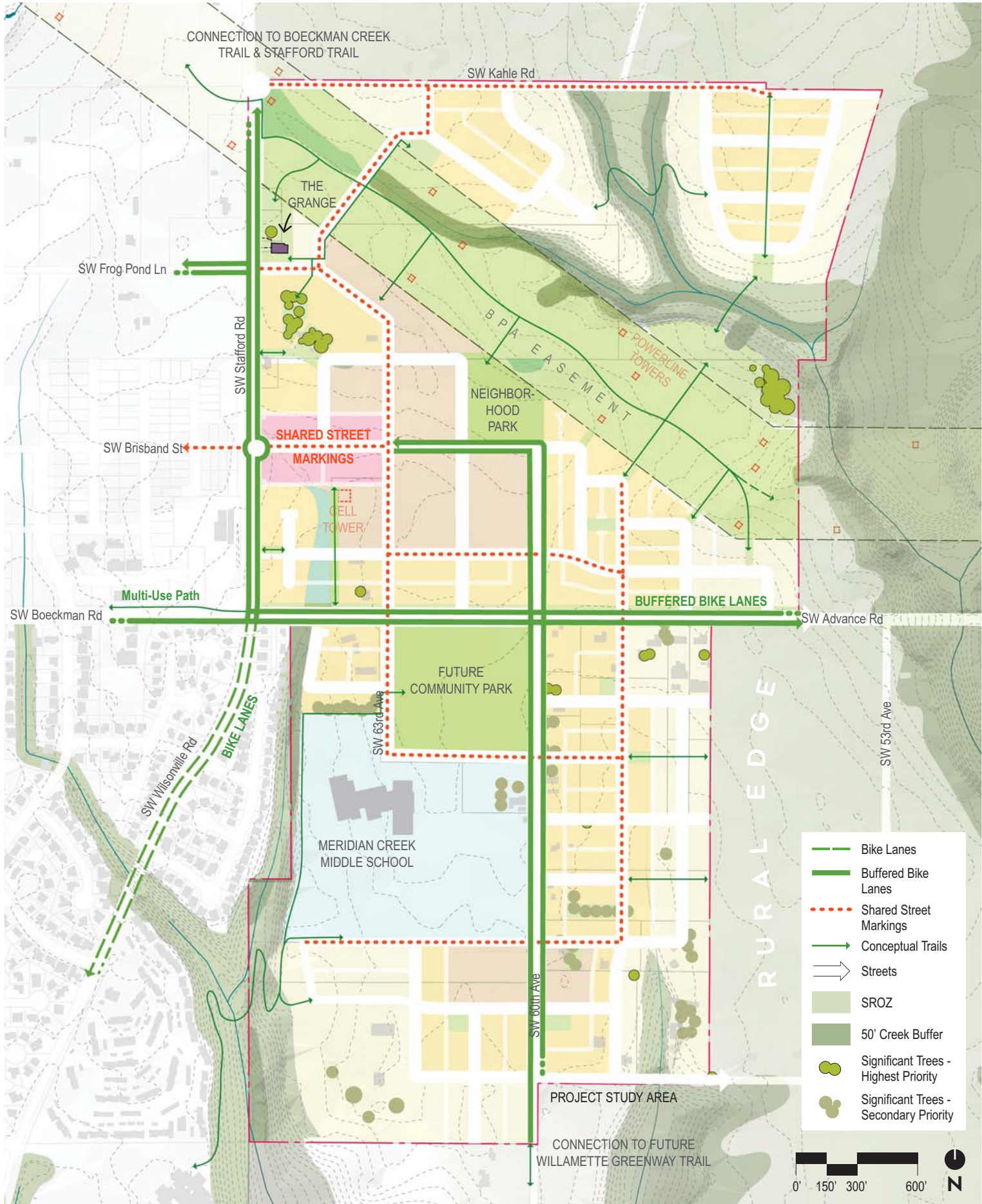


Sharrow marking on local street indicates a priority for cyclists and slows car traffic



Buffered or protected bike lanes provide safe and comfortable on-street cycling facilities

Figure 21. Active Transportation Concept



STREET DESIGN

All streets and off-street active transportation connections will be designed with the goal of creating convenient, safe, and low-stress transportation options, particularly for the most vulnerable road users. Design of streets should focus on safety, comfort, and ease for non-car users of roads, with a focus on providing multiple low-stress routes and street designs that are tailored to the multimodal circulation network within the study area.

way streets (SW Advance Road and SW 60th Avenue north of SW Advance Road) are key entry points to the neighborhoods and important connections for cyclists and pedestrians. These streets will include buffered or protected bike lanes and wide sidewalks and will be up to three lanes wide, with a planted median where a center turn lane is not needed. On-street parking may also be included in some locations

Collector street design will be implemented for SW 60th Avenue South of SW Advance Road. This cross-section will include two travel lanes, buffered or protected bike lanes, and wide, ADA-accessible sidewalks.

Local streets will be designed to focus on pedestrians and cyclists, with low speeds, street trees and planters, and alley-loaded development where possible to minimize pedestrian-vehicle conflicts and provide an appealing streetscape without garages. Key local streets that connect to destinations will include shared street markings to emphasize a priority for cyclists on the road. Local street design will continue the established pattern in Frog Pond West.

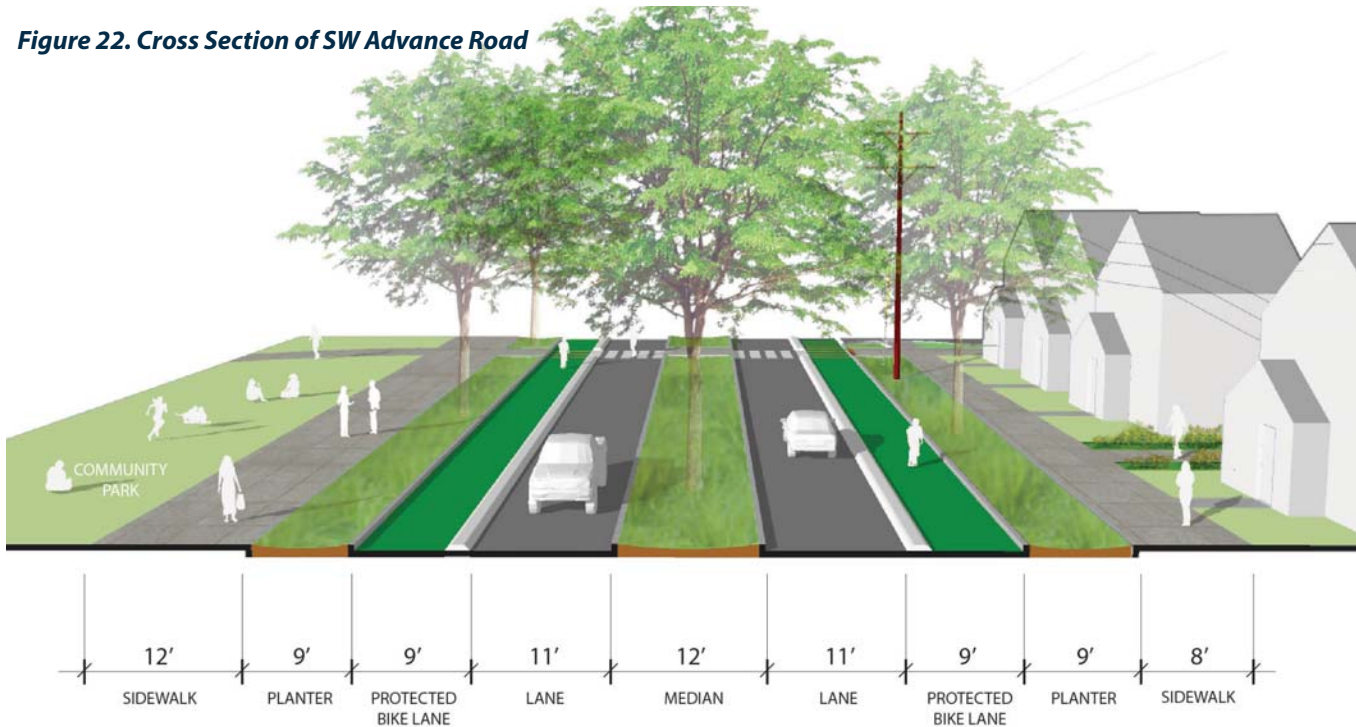
In addition to streets, mid-block public pedestrian connections will enhance neighborhood accessibility and permeability. Typical off-street pedestrian connections between blocks of development will be at least 10 feet wide and will include 8-foot planted areas on either side for a total width of 26 feet.

The following pages describe design intent for several important streets that will pass through the study area: SW Advance Road, SW 60th Avenue, and SW Brisband Street, which will serve as a neighborhood Main Street in the East Neighborhood.



PUBLIC REALM

Figure 22. Cross Section of SW Advance Road

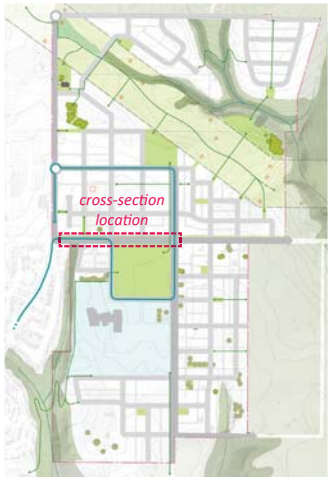


SW ADVANCE ROAD

This cross-section shows a concept for SW Advance Road, a collector street, where it passes the future community park. It includes generous sidewalks, buffered bike lanes, wide planter strips that support tree health, and a planted median to create a comfortable and inviting environment for pedestrians. On-street parking, while not shown in the image above, may also be added on either side of the street but will need to be designed carefully to avoid conflicts with cyclists. Planted areas in the right-of-way also offer opportunities for capturing and infiltrating stormwater.

Future development on the north side of the street, across from the future community park, is planned so that front doors face the park. This, combined with homes fronting the park on its east and west sides, will create a sense of community, enclosure, and integration of the park within the neighborhood.

This concept for SW Advance Road will create a continuous streetscape with SW Boeckman Road where it continues west of SW Stafford Road. Existing high-voltage power poles on the north side of the street can be incorporated within a wide planter strip.

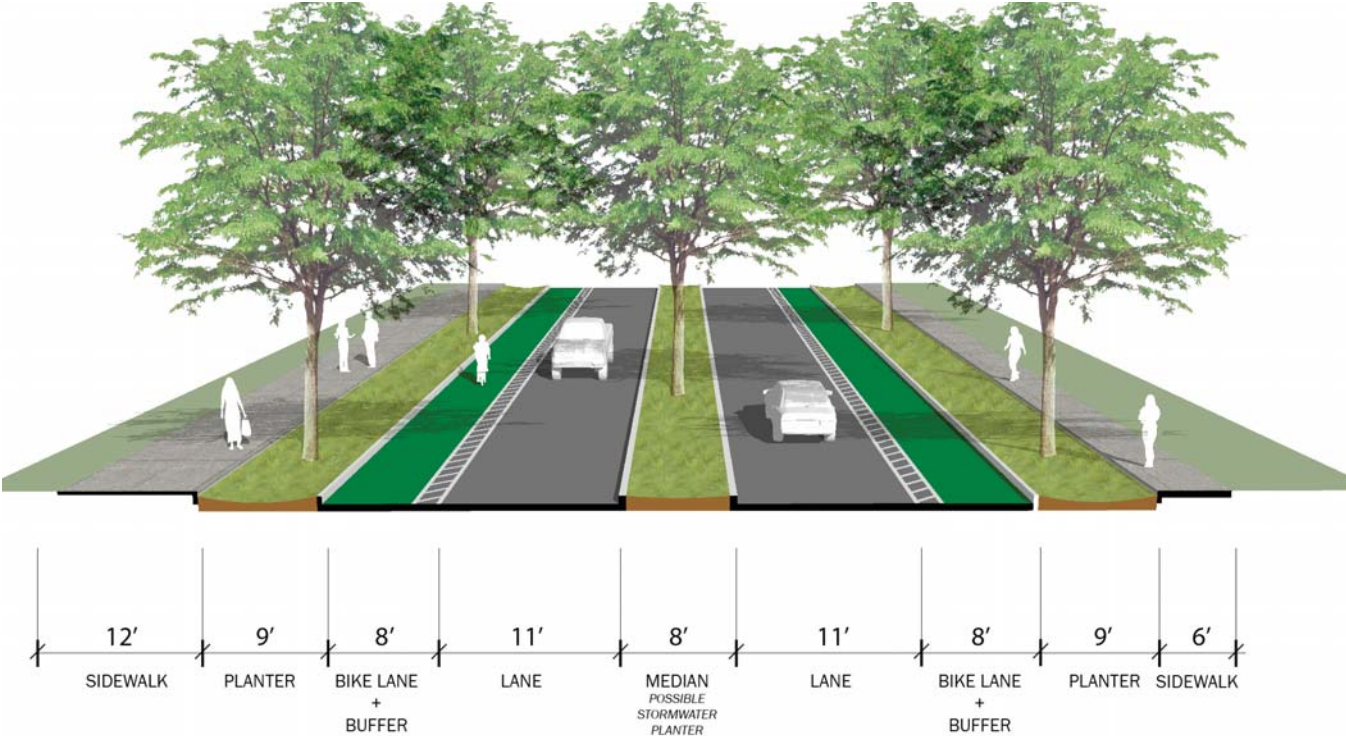


KEY MAP



PUBLIC REALM

Figure 23. Cross Section of SW 60th Avenue



SW 60TH AVENUE

This cross-section shows a concept for SW 60th Avenue north of SW Advance Road. This street will function as a key entry point to the East Neighborhood and will connect to the SW Brisband Main Street. A planted median allows for turn lanes at intersections may also include stormwater. A 12-foot sidewalk on the west side of the street provides a comfortable pedestrian connection between the Community Park to the south and Neighborhood Park to the north.

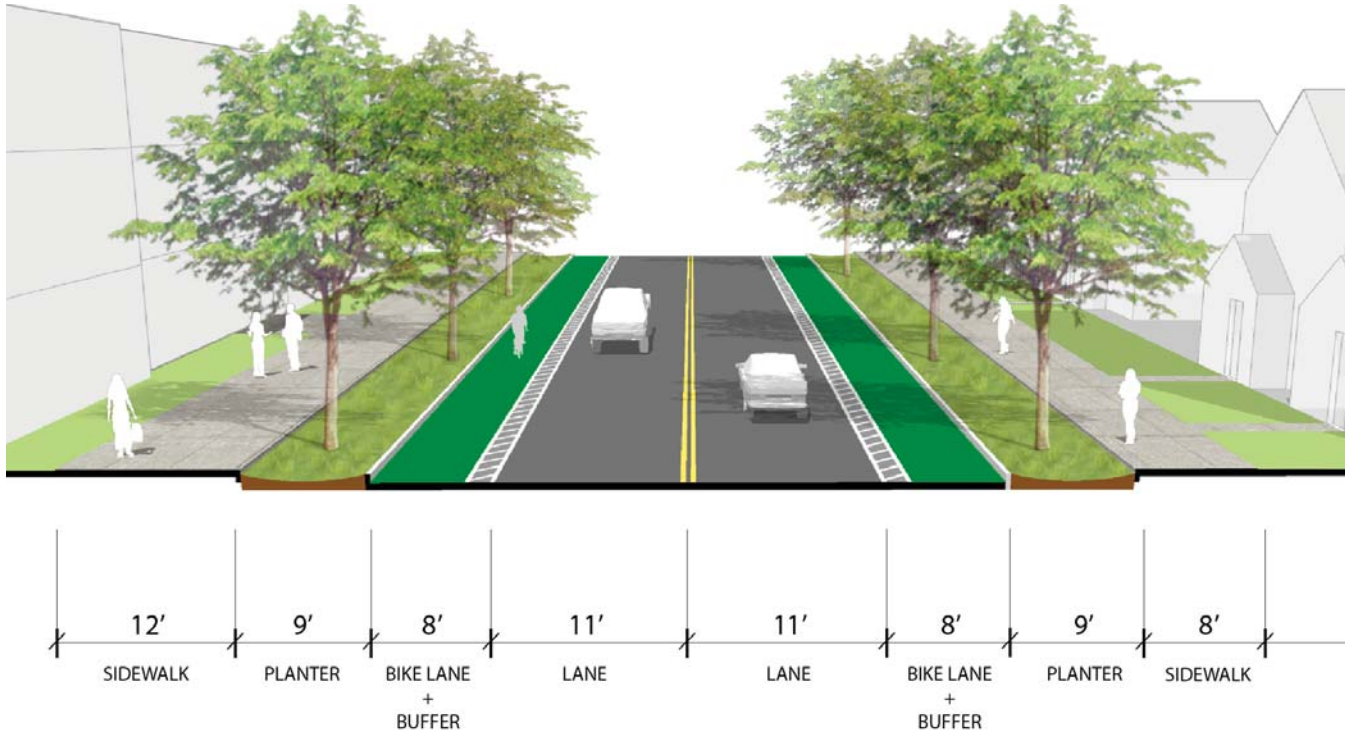


KEY MAP



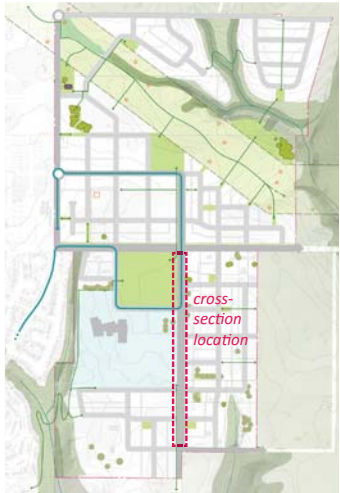
PUBLIC REALM

Figure 24. Cross Section of SW 60th Avenue Collector



SW 60TH AVENUE COLLECTOR

This cross-section shows a concept for SW 60th Ave., a collector street, south of SW Advance Rd. Since various building forms and residential densities are expected to be located along SW 60th Ave., this cross-section illustrates an intent to provide more sidewalk space along the west side of the street, adjacent to the Community Park. The wider sidewalk will ensure a pleasant and spacious walking environment for pedestrians and lessen the visual presence of any larger buildings. The cross-section may also include a center turn lane and planted median if needed, but a narrower street width is more desirable to shorten crossing distances and create a more pedestrian-oriented scale for this key north-south connection between the Middle School, Community Park, and Neighborhood Park.



KEY MAP



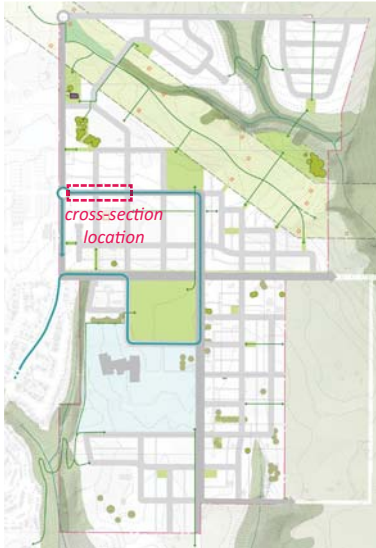
PUBLIC REALM

Figure 25. Cross Section SW Brisband Main Street



SW BRISBAND MAIN STREET

This cross-section shows a concept for SW Brisband Street, which will function as a neighborhood commercial “Main Street” within the Frog Pond East Neighborhood. The cross-section is based on the Wilsonville Town Center Plan and Transportation System Plan cross-section for a Main Street, with two travel lanes shared by cyclists and cars. On-street parking is provided interspersed with stormwater planters in curb extensions, and generous sidewalks allow for a furnishing zone with public and private seating. Buildings, whether commercial or vertical mixed-use, are intended to line the sidewalk and create a pleasant environment to stroll, visit local businesses, and socialize.



KEY MAP



PUBLIC REALM

STREET TREE PLAN

The concept for street trees in the Frog Pond East and South Neighborhoods is intended to beautify and unify the neighborhood while providing a variety of tree species. The following Street Tree Plan provides guidance tied to the street typology for Frog Pond East and South that will integrate with the street tree palette established in Frog Pond West.

PRIMARY STREETS

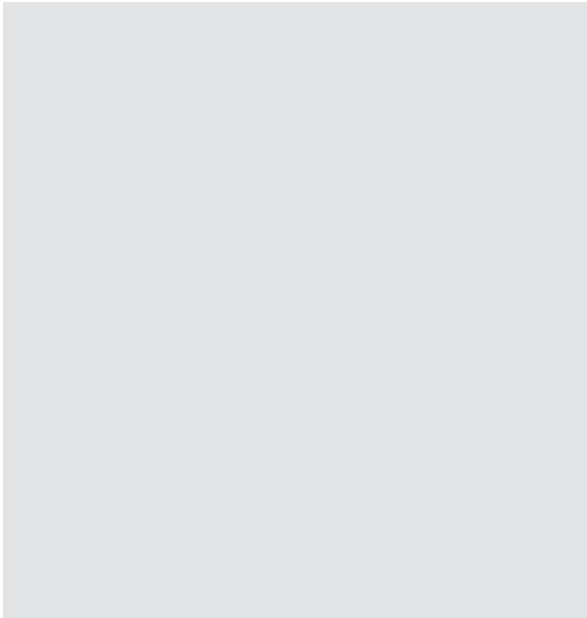
The Primary Streets in the new neighborhood should provide a clear identity to the community, and serve as a wayfinding structure, with street tree continuity serving as a useful tool.

The proposed trees for these Primary streets come partly from the City of Wilsonville’s recommended tree list for "trees over 50 feet mature height” with updates to exclude some species that do not meet current practice or are known to be invasive or prone to disease or breakage.

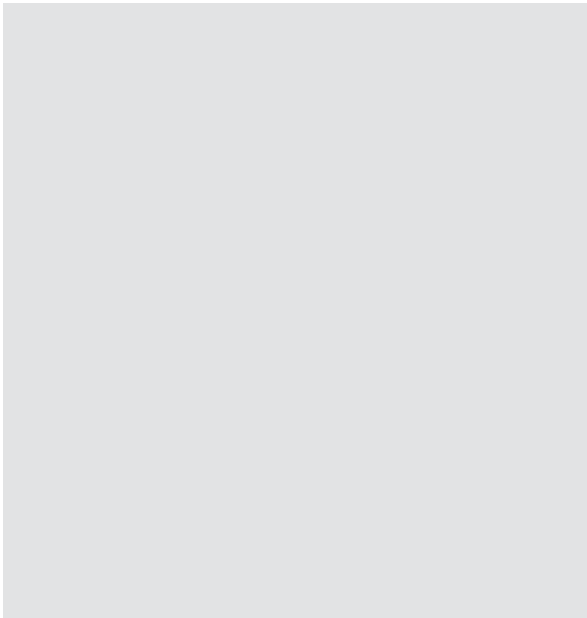
It should be noted that other species with similar characteristics may be considered, as identified and proposed by a professional landscape architect.

The Primary Street Tree List is as follows:

- Green Column Black Maple (Aer nigrum ‘Green Column’)
- Columnar Tulip Tree (Liriodendron tulipifera ‘Fastigiatum’)
- Bloodgood London Plane Tree (Platanus x acerifolia ‘Bloodgood’)
- Scarlet Oak (Quercus coccinea)
- Northern Red Oak (Quercus rubra Borealis)
- Green Vase Zelkova (Zelkova serrata ‘Green Vase’)
- Autumn Gold Gingko (Gingko biloba ‘Autumn Gold’)
- David Odom Afterburner Tupelo (Nyssa sylvatica ‘David Odom’)

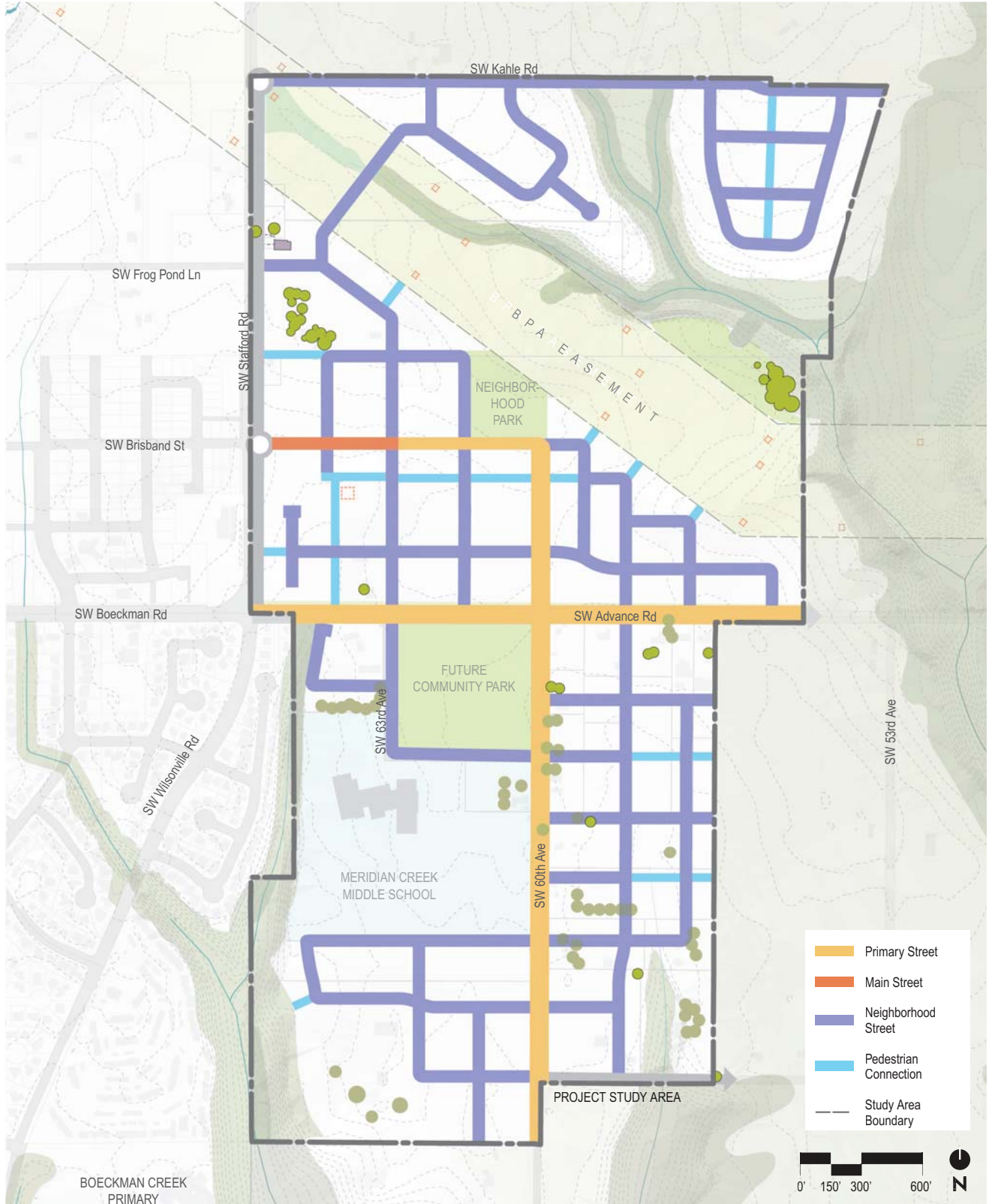


Tree Image



Tree Image

Figure 26. Street Tree Plan





PUBLIC REALM

The proposed 8' planting strips on Primary streets will help ensure these trees grow to form large canopy structures over the streets, providing future value to adjacent homes.

As required by the City's Public Works Standards, root barriers should be used in all situations to protect the sidewalk infrastructure from root damage.

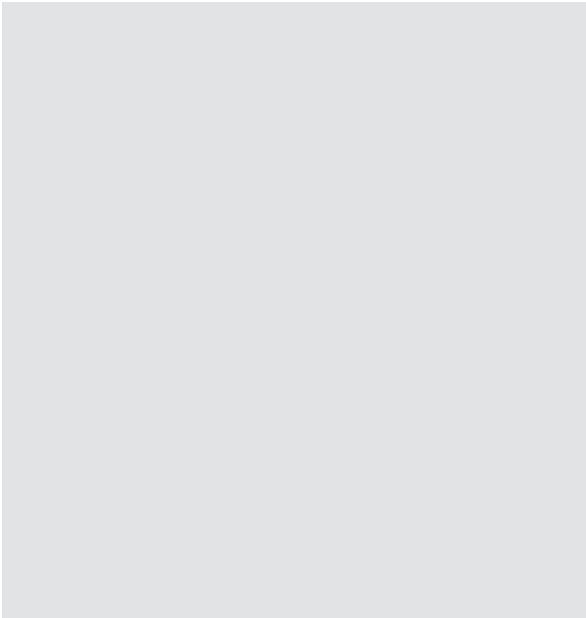
To provide strong continuity, a Primary Street should be planted with the same species for its entire length. No specific tree is proposed for a given Primary Street but each of these streets should be planted on both sides with a species unique to that street, selected from the list of 8 possibilities.

SW BRISBAND MAIN STREET

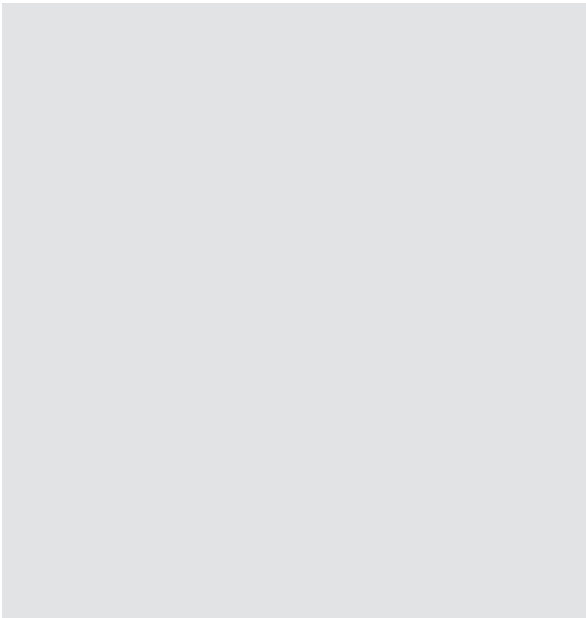
The Main Street should include street trees that provide shade and visual interest while also avoiding conflicts with buildings and leaf litter and other debris. To this end, a list of candidate trees with narrow canopies of a maximum of 25 feet are proposed. The two-block Main Street should have the same street tree on either side of each block. Each of the street trees on this list have spring blossoms or fall color that will provide beauty and identity to this center of the neighborhood.

The Main Street Tree List is as follows:

- Saratoga Ginkgo (Ginkgo biloba 'Saratoga')
- Lavalie Hawthorne (Crataegus x lavaleii)
- Rising Fire American Hornbeam (Carpinus caroliniana 'Uxbridge')
- Street Keeper Honey Locust (Gleditsia triacanthos 'Draves')
- Stellar Pink Dogwood (Cornus kousa x florida)
- Paperbark Maple (Acer griseum)



Tree Image



Tree Image



PUBLIC REALM

NEIGHBORHOOD STREETS

Neighborhood Streets should strive for variety. For example, east-west streets would have one tree from the recommended list and north-south streets should have another. An even finer grain of species distribution is recommended, if possible, at the city's discretion.

The Neighborhood Street Tree List is as follows:

- Katsura Tree (*Cercidiphyllum japonicum*)
- Yellow Wood (*Cladrastis kentukea*)
- Halka Honeylocust (*Gleditsia triacanthos* 'Halka')
- Skycole Honeylocust (*Gleditsia triacanthos* 'Skycole')
- Chinese Pistache (*Pistacia chinensis*)
- Accolade Elm (*Ulmus* 'Morton' Accolade)
- Maygar Ginkgo (*Ginkgo biloba* 'Maygar')
- Village Green Zelkova (*Zelkova serrata* 'Village Green')

Both sides of a street should be planted with the same tree species. A single subdivision's streets should not be planted with a single tree species. Underneath the BPA powerlines, a shorter neighborhood street tree should be used, subject to BPA requirements.

PEDESTRIAN CONNECTIONS

Pedestrian Connections would feature a columnar species, reflecting the narrow space in these connections and ensuring that there are views through the length of them, helping with safety and wayfinding.

Five trees are proposed for Pedestrian Connections:

- Common Hornbeam (*Carpinus betulus* 'Fastigiata')
- Columnar English Oak (*Quercus robur* 'Fastigiata')
- Columnar Musashino Zelkova (*Zelkova serrata* 'Musashino')
- Princeton Sentry Ginkgo (*Ginkgo biloba* 'Princeton Sentry')
- Tricolor Beech (*Fagus sylvatica* 'Roseo-marginata')

To the extent possible, existing groves of Ponderosa Pine, Oregon White Oak, and Douglas Fir should be incorporated into the neighborhood, as street trees or common area tracts or within pedestrian connections. These existing groves have been identified through the Master Plan tree inventory and are shown in the Street Tree Plan diagram.



PUBLIC REALM

PUBLIC LIGHTING PLAN

The Public Lighting Plan is intended to provide effective lighting of public streets and places to enhance neighborhood livability, night-time vitality and safety. The lighting recommendations focus on providing an even, consistent coverage, softening contrast ratios at edges and improving visibility by avoiding excess illumination and brightness. Most of these neighborhoods will be part of the Lighting Overlay Lighting Zone LZ 2: Low-density suburban neighborhoods and suburban commercial districts, industrial parks and districts, as specified in Chapter 4.199 of the City’s Planning and Land Development Regulations. Dark-sky-friendly fixtures are required, as well as LED bulbs. All lights will be 3000k color and have 7-pin adapters. The City will own and maintain all lighting and PGE will provide power. Design details should follow City of Wilsonville Public Works Standards.



Double-sided Lighting Fixture in Frog Pond West

LIGHTING PLAN HIERARCHY

A subtle hierarchy in lighting is proposed, as shown in Figure 27. These categories of street lighting are tied to the Street Types Plan and unique requirements of pedestrian connections, trailheads, and paths.

ARTERIAL STREETS

- This includes the SW Stafford Road corridor as outlined in the Frog Pond West Master Plan and is intended to be the brightest standard to maximize safety for vehicles and bicycles.
- The selected street light for City arterials may be the XSP2™ LED Street/Area Luminaire – Double Module – Version C, or equivalent per City’s Cobrahead light standard at the time of construction.
- Design should follow City of Wilsonville Public Works Standards Chapter 201.9.01 Roadway and Intersection Lighting.



PUBLIC REALM

KEY INTERSECTIONS

The following general recommendations apply to three key intersections: SW Frog Pond Lane and SW Stafford Road, SW Brisband Road and SW Stafford Road, and the intersection of SW Stafford, SW Boeckman, SW Wilsonville, and SW Advance Roads:

- These three areas act as transition zones between urban-scale arterial lighting and more neighborhood-scale lighting types.
- Placement of fixtures should be carefully considered to ensure the two types do not conflict visually .
- The intersections should be more brightly-lit, acting as a wayfinding ‘beacon’ when approaching them.
- Coordinate lighting with future landscaped gateway features at the intersections, including a distinct gateway and identity at the SW Brisband Main Street entry from SW Stafford Road.

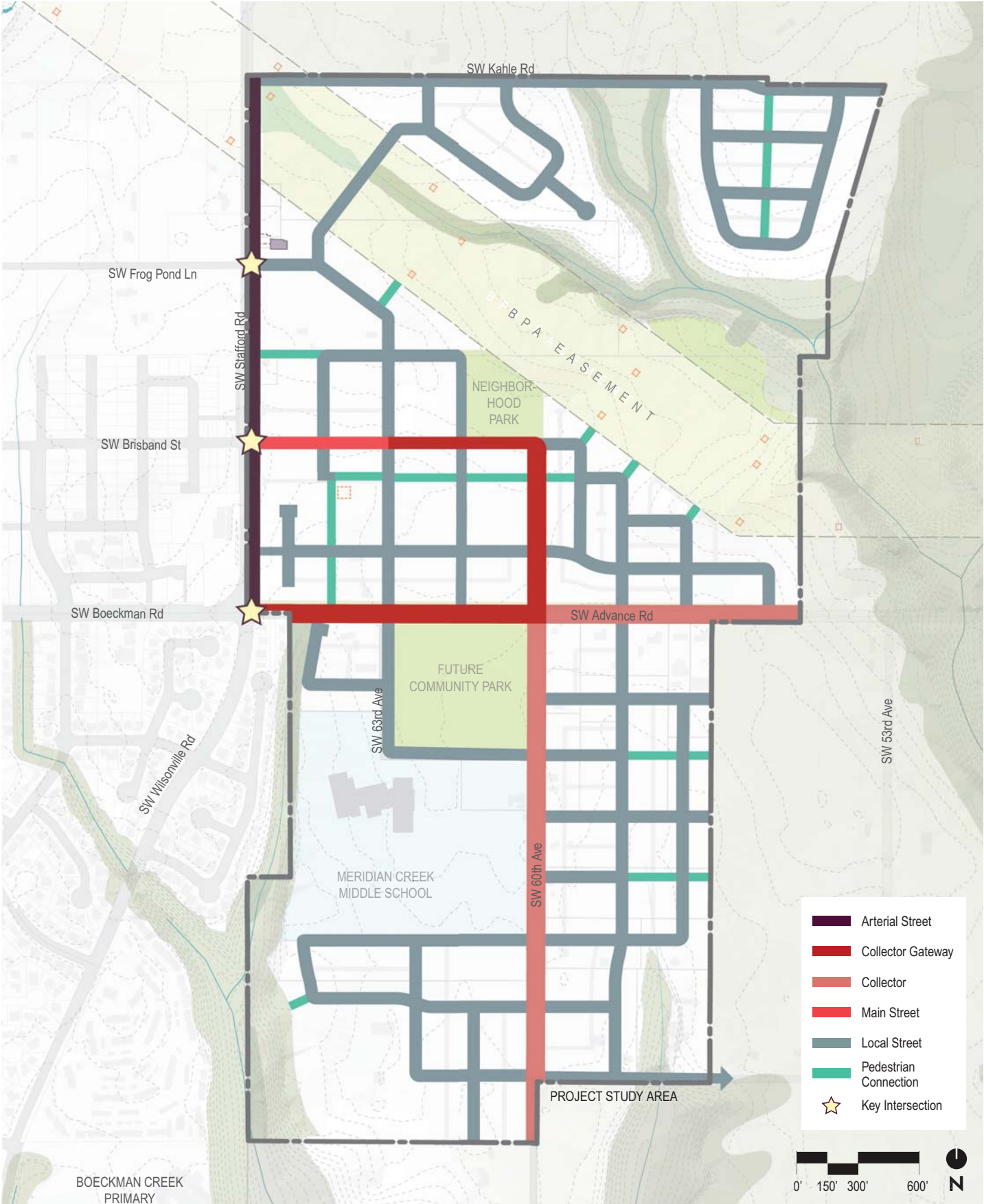
WAY STREETS

- This includes segments of SW Advance Road and SW 60th Avenue as they enter the neighborhood from adjoining major streets.
- To identify these streets as ‘Gateways’ into the neighborhood, a closer spacing than Local Street Lighting (to be determined through a lighting design plan at the time of development) is recommended and brighter illumination for these stretches of street.
- These streets should feature similar light fixtures as Arterial Streets, with shorter poles.

MAIN STREET

- The Main Street should include a closer spacing, similar to a Local Street lighting design, in order to provide an intimate scale and warm, inviting pedestrian environment to support nighttime activity .
- Poles and fixtures should match the preferred ornamental standard used elsewhere in Frog Pond, but with a maximum mounting height of 16 feet to provide lighting at the pedestrian scale
- Light poles should include the ability to attach banners or other decorative elements.
- Consider installing power access for tree lighting along with the infrastructure for street lighting.

Figure 27. Lighting Plan





PUBLIC REALM

LOCAL STREETS

- Local streets should provide minimum light levels for safe circulation, while contributing to the visual appeal of streetscapes.
- Light placement should avoid negative effects on adjacent housing
- Dark sky friendly light fixtures should be used .
- A consistent lighting standard should be used throughout the neighborhood to knit together individual subdivisions. .
- Use the following ornamental light standard: StressCrete King Aurora Pendant (40W LED).

PEDESTRIAN CONNECTIONS, TRAILHEADS AND PATHS

Consistent pedestrian lighting is an important contributor to the neighborhood’s identity and can define a hierarchy of travel routes.

- Trails and paths should be uniformly illuminated
- In-ground up-lighting should be avoided
- Trailhead parking areas should be illuminated
- Coordinate lighting locations and pole heights with tree locations and landscape areas and constructed elements
- Design should follow City of Wilsonville Public Works Standards Chapter 201.9.02 Shared-Use Path Lighting. Key components include:
 - › The City Engineer may reduce the lighting standards or not require lighting of shared-use paths in designated natural resource and wildlife areas.
 - › Lighting provided along shared-use paths shall be pedestrian scale with a mounting height no greater and no less than 10 feet. A clearance of 10 feet shall be provided from the path surface for street lighting overhanging a shared-use path. Pedestrian level lighting, such as bollards, shall not be permitted.
- Use the following ornamental light standard: Phillips Hadco Westbrooke (Ledgine CXF 15)



Single-sided Lighting Fixture in Frog Pond West



PUBLIC REALM

- The SROZ area, buffers and the trailhead areas will be in Lighting Zone LZ 1, as specified in Chapter 4.199 of the City’s Planning and Land Development Regulations, which apply to “Developed areas in City and State parks, recreation areas, SROZ wetland and wildlife habitat areas; developed areas in natural settings; sensitive night environments; and rural areas. This zone is intended to be the default condition for rural areas within the City.”

GATEWAYS, MONUMENTS, AND SIGNAGE

Development of the Frog Pond East and South area presents several opportunities and issues for gateways, monuments, and signage. The key issues and opportunities are:

- The entrance into Wilsonville along SW Stafford Road will “move” from the intersection of SW Stafford-Wilsonville-SW Advance-SW Boeckman Roads to SW Stafford Road at SW Kahle Road. Additionally, the entrance to Wilsonville from the east will move to SW Advance Road at the Urban Growth Boundary.
- The new SW Brisband Main Street will create a new major entry and connection point into Frog Pond East from Frog Pond West and SW Stafford Road. If intersection design includes a roundabout, the center of the roundabout can include art, signage, or other identity elements that mark the entry to the Main Street.
- The extension of SW Frog Pond Lane into Frog Pond East provides a minor entry point into Frog Pond East. Design of this entry point can integrate with the future landscape and design of the Grange site to create a unique identity for this area.
- The crossroads of SW Advance Road and SW 60th Avenue forms a key connection point between the East and South neighborhoods.
- The internal developments in Frog Pond should not reflect a pattern of multiple subdivisions. Rather, they should be increments of a larger community that knit together phase-by-phase.

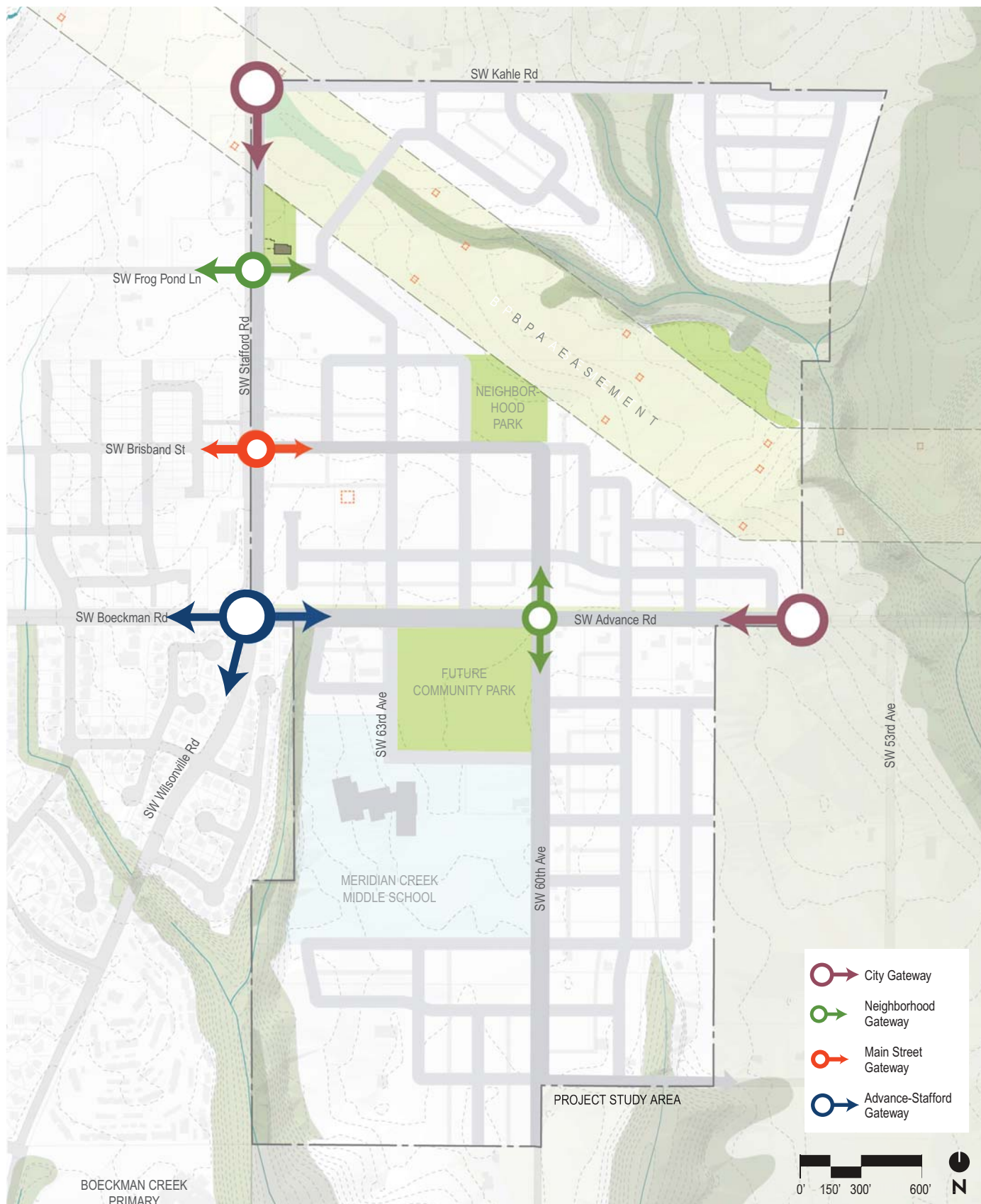
The following recommendations for gateways, monuments, and signs are intended to address the issues listed above and help knit the Frog Pond area together seamlessly into a cohesive neighborhood with a clear identity.

GATEWAYS

There are four types of Gateways planned for the Frog Pond Area:

1. City Gateway
2. SW Advance-SW Stafford Gateway

Figure 28. Gateways Map





PUBLIC REALM

- 3. Main Street Gateway
- 4. Neighborhood Gateways

The locations, roles, and design elements for each gateway type are described in Table 5 and illustrated in Figure 28.

Table 5. Gateway Types, Roles, and Design Elements

GATEWAY TYPE	LOCATION(S) AND ROLE	DESIGN ELEMENTS
City Gateway	SW Stafford Road at SW Kahle Road, southbound SW Advance Road at UGB Role: Welcome visitors to Wilsonville, facilitate transition from rural to urban setting	Landscaping and signage reflect character of planning area Design should be consistent with other key entries into the City
Neighborhood Gateways	SW Frog Pond Lane at SW Stafford Road Crossroads of SW Advance Road and SW 60th Avenue Role: To mark the primary entries into Frog Pond East and South	Use brick monuments to blend with SW Boeckman property frontage wall in Frog Pond West Monuments should be properly scaled, respectful of their context Simple form, integrated with landscape Large lettering not as important as landscape and civic element Neighborhood gateway at SW Frog Pond Lane presents an opportunity to integrate with design and landscape of the Grange site
SW Advance-SW Stafford Gateway	NW corner of the SW Advance-SW Stafford Road intersection Role: Enhancement of key corner to prioritize pedestrian experience, and announce entry into neighborhood	Trees and tall landscaping will mark the corner and de-emphasize powerlines. Landscaping to include seasonal variety, color, texture, and trees (away from the powerlines). Opportunity for public art, in coordination with the design of the northeast side of the intersection. Design should support the corner as an active pedestrian cross-road and safe route to Meridian Creek school.
Main Street Gateway	Intersection of SW Brisband St at SW Stafford Road	Opportunity for public art or other landmark. Generous pedestrian walkways providing access to Main Street. Buildings oriented toward streets. Sidewalk paving patterns for the Main Street can extend out to the curb along SW Stafford Road, marking pedestrian entry into the Main Street environment.



PUBLIC REALM

The City will lead the implementation of the City Gateway projects as part of the infrastructure funding plan and implementation. The Neighborhood Gateways are expected to be collaborative projects with developers when those intersections are improved.

MONUMENTS AND SIGNS

As noted throughout this Master Plan, it is likely that Frog Pond East and South will develop incrementally. The intent is to avoid a pattern of individual subdivisions with different names, monuments, and identities within the neighborhood. Rather, the vision is to knit each incremental project together to form a unified whole. Accordingly, the following principles and standards are required for monuments within Frog Pond East and South:

- Frog Pond will continue as a unifying name for the neighborhoods.
- Monument signs will be limited to Neighborhood Gateway locations and emphasize the Frog Pond neighborhood identity.
- Individual subdivision signs (except temporary real estate sales signage) and monuments will not be permitted.
- "Sign caps" identifying the Frog Pond neighborhood will be utilized on street signs.



Signage at non-residential developments (e.g. parks and schools) will be consistent with Neighborhood Gateway signage and the City of Wilsonville Signage and Wayfinding Plan to further tie the area together and integrate the neighborhood cohesively into the broader City of Wilsonville as a whole.



Placeholder Image



IMPLEMENTATION



IMPLEMENTATION

COMPREHENSIVE PLAN IMPLEMENTATION

The Frog Pond East and South area will be regulated by Wilsonville’s Comprehensive Plan when this Master Plan is adopted. The sections below describe the amendments and actions needed to update the Comprehensive Plan in order to implement the land use regulations contained herein.

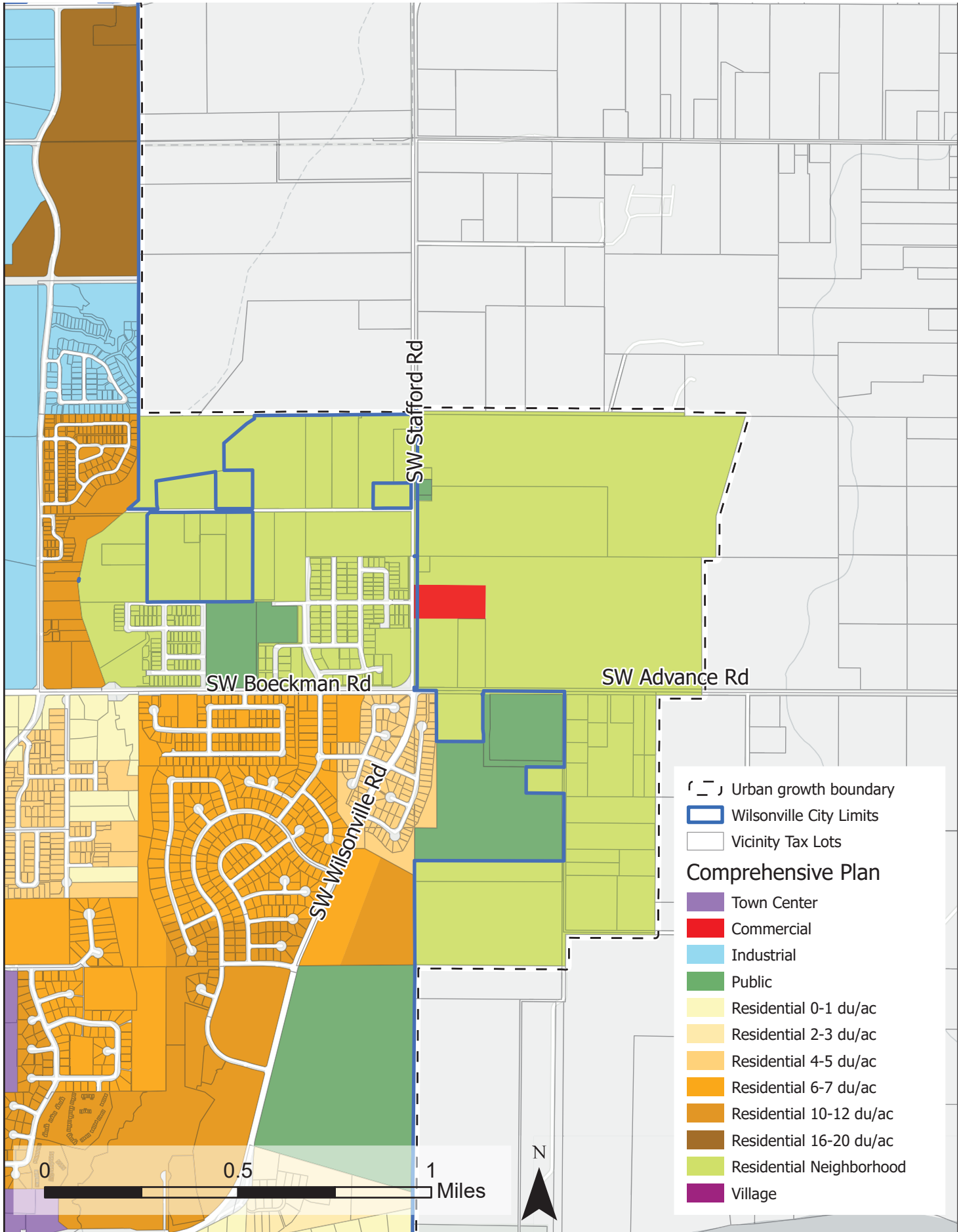
ADOPT THE FROG POND EAST AND SOUTH MASTER PLAN AS A “SUPPORTING DOCUMENT”

The Master Plan will be adopted as a “supporting document” of the Comprehensive Plan. As such, it will have the “...force and effect of the Plan”,¹ meaning the Master Plan’s regulatory authority is applicable in instances where “consistency with the Comprehensive Plan” or other reference to the Frog Pond East and South Master Plan occurs in law or code. The Master Plan also serves a key role in establishing requirements for development that are implemented through Wilsonville’s Development Code.

AMEND THE COMPREHENSIVE PLAN’S LAND USE MAP

Figure 29 illustrates the proposed Comprehensive Plan Map for Frog Pond East and South, in the context of adjacent plan designations. Frog Pond East and South primarily consist of the "Residential Neighborhood" designation, mirroring Frog Pond West. This designation is designed to effectuate the goals, policies, and regulatory elements of this Master Plan.

1 Wilsonville Comprehensive Plan, page Intro-5.





IMPLEMENTATION

APPLY THE EXISTING GOALS, POLICIES AND IMPLEMENTATION MEASURES OF THE COMPREHENSIVE PLAN

The inclusion of the Frog Pond East and South area on the Wilsonville City Comprehensive Plan map means that applicable Goals, Policies and Implementation Measures of the Comprehensive Plan will apply as development occurs. The Plan's provisions that are specific to the Frog Pond East and South Area are in the Residential Neighborhood section of the Comprehensive Plan's Land Use and Development chapter. Policy 4.1.7.a establishes the Residential Neighborhood designation and states its purpose:

"The purpose of the Residential Neighborhood designation is to:

- a.** *Implement legislative Area Plans and Master Plans for new neighborhoods in Wilsonville.*
- b.** *Create attractive and connected residential neighborhoods.*
- c.** *Regulate and coordinate development to result in cohesive neighborhoods that include: walkable and active streets; a variety of housing appropriate to each neighborhood; connected paths and open spaces; parks and other non-residential uses that are focal points for the community; and, connections to and integration with the larger Wilsonville community.*
- d.** *Encourage and require high quality architectural and community design.*
- e.** *Provide transportation choices, including active transportation options.*
- f.** *Preserve and enhance natural resources so that they are an asset to the neighborhoods, and there is appropriate visual and physical access to nature."*²

The Frog Pond East and South Master plan is consistent with the above purpose statement.

ADOPT ADDITIONAL POLICIES AND IMPLEMENTATION MEASURES

This Master Plan includes recommendations and concepts that have not been previously considered in Wilsonville's Comprehensive Plan. The following are amendments to the Comprehensive Plan being considered concurrently with this Master Plan so there is policy-level support for their implementation through the Development Code or other follow-up actions.

2 See Comprehensive Plan starting page D-36.



IMPLEMENTATION

IMPLEMENTATION MEASURE 4.1.7.D

Implementation of the Frog Pond East and South Master Plan will include the following:

1. Designation and mapping of subdistricts. Subdistricts are smaller geographic areas within each neighborhood where specific regulations may be applied to implement the Master Plan.
2. Clear and objective Development Code standards that:
 - a. Set minimum density requirements at the subdistrict or tax lot level.
 - b. Establish height, setback and other development standards for the Type 1, Type 2, and Type 3 Urban Forms described and mapped in the Frog Pond East and South Master Plan.
 - c. Require a variety of housing and include minimum and maximum amounts of specific housing types at the subdistrict or tax lot level.
 - d. Require middle housing.
3. Zoning provisions that provide an alternative path of discretionary review to provide flexibility for development while still achieving the intent of the Master Plan and Development Code.
4. Define categories of housing for use in implementing housing variety standards.
5. Coordination with the owners of the Frog Pond Grange to coordinate and support continued use and development of the Grange as a community destination.
6. Coordination with the Bonneville Power Administration (BPA) on land use and development within their easement in the East Neighborhood.
7. A future study of design options for the creek crossings shown on the Park and Open Space plan in this Master Plan. This work will address potential structured crossings.
8. The City may initiate a Main Street study to evaluate specific designs and implementation for the SW Brisband Main Street.
9. Adoption of an infrastructure funding plan. Development of the funding plan will evaluate potential use of scaled infrastructure fees as a tool to support middle housing and more affordable housing choices.



IMPLEMENTATION

ZONING IMPLEMENTATION

ZONING MAP AMENDMENTS AND IMPLEMENTATION

Table 6 lists the zone districts that will implement each of the Comprehensive Plan designations identified within the Planning Area.

Table 6. Implementing Zoning Designations

COMPREHENSIVE PLAN DESIGNATION	IMPLEMENTING ZONE
Residential Neighborhood	Residential Neighborhood (RN)
Commercial	Planned Development Commercial (PDC)
Public	Public Facilities (PF)
All, where applicable	Significant Resource Overlay Zone (SROZ)

Zoning will be applied concurrent with the annexation and development review process for individual properties.

CODING FOR VARIETY AND PRIORITY HOUSING TYPES

Providing a variety of housing types, and particular housing types, throughout the East and South neighborhoods are important intended outcomes for the Master Plan. There are many examples of how variety and specific housing is designed and delivered in master planned communities such as Northwest Crossing in Bend and like Villebois here in Wilsonville. In those communities, a master developer defines and maps the planned housing types at a very site-specific level such as individual lots or blocks. Master planned communities can also implement specific and strategic phasing of infrastructure and housing types.

The Frog Pond East and South Master Plan aspires to have the detailed variety of a master planned community like Villebois even though it does not have the oversight of a single master developer. There is an opportunity to require and encourage housing that is a priority for the City. Examples include: home ownership opportunities for households of modest income (80-120% of AMI), middle housing units, dwellings that provide for ground floor living (full kitchen, bath and master bedroom on the main floor), and dwellings that provide for ADA³ accessibility.

The standards for Frog Pond’s housing variety will also recognize and accommodate development realities:

3 Americans with Disabilities Act (1990).



IMPLEMENTATION

- The neighborhoods will develop incrementally. There may be several larger projects where a developer prepares a master plan for relatively large areas (e.g. 20+ acres). However, there will also be many smaller developments that will occur by different developers, on varied parcel sizes, and at different points of time. The code’s variety standards must work for the likely range of differently scaled projects.
- Flexibility will be needed for evolving market and housing needs over time.
- All standards that address housing must be clear and objective. A discretionary review path can be provided as an alternative to provide developers additional flexibility.

Below is a list of potential strategies for requiring variety throughout Frog Pond East and South. These show the intent of the implementing standards and are subject to refinement or change as the development code is prepared.

Strategy 1: Permit a wide variety of housing types.

Amend the RN Zone to allow the following types in Frog Pond East and South:

- Single-Family Dwelling Units⁴
- Townhouses
- Duplex, Triplex, and Quadplex
- Cluster Housing
- Multiple-Family Dwelling Units
- Cohousing
- Manufactured Homes⁵
- Accessory dwelling units

Strategy 2: Define “categories” of housing units to be used for implementing variety standards.

Each category would provide a range of housing units to choose from when meeting the variety standards. The categories will be based on the policy objectives of the Council for equitable housing opportunities They will also include specific housing types desired by the City (e.g. accessory dwelling units). The categories will be defined as part of the development code.

Strategy 3: Establish minimum density requirements.

Establish the minimum number of dwelling units required in each subdistrict (or on each pre-existing tax lot). The base density will be an important factor in the variety of attached housing forms.

4 Tiny homes are included in this use type
 5 Manufactured dwellings are subject to the definitions and requirements of ORS 443.



IMPLEMENTATION

Note: The housing capacity estimates prepared for the Master Plan could be used as the basis for the minimums.

Strategy 4: Create development standards for lots and structures that regulate built form according to the mapped Type 1, Type 2, and Type 3 urban form typologies.

This strategy uses form-based standards to create the transect of most compact urban form in Type 1 areas to least compact urban form in Type 3 areas. For each of the Urban form types, define standards for:

- Minimum lot size
- Minimum lot width/street frontage
- Maximum height setbacks for front, side, and rear yards, and garages
- Minimum building spacing
- Maximum lot coverage
- Maximum building width

Strategy 5: Establish minimum housing variety standards by subdistrict and development area.

For each subdistrict (or existing tax lots within subdistricts), define:

- The minimum number of categories required. This standard ensures variety at the subdistrict or tax lot level.
- The maximum percent of net development area for a category. This standard ensures no single category dominates a subdistrict.
- The minimum percent of net development area for categories that represent housing choices not traditionally provided by the market and Council housing objectives such more affordable and accessible housing choices.

Strategy 6: Encourage variety at the block level.

Block level variety provides a very distinctive built form. Code provisions for block level variety will be evaluated by the City.



IMPLEMENTATION

INFRASTRUCTURE PLANS

TRANSPORTATION

TRANSPORTATION ANALYSIS AND IMPROVEMENTS

A comprehensive traffic analysis was performed to determine existing and future transportation conditions for the Frog Pond East and South neighborhoods and to identify needed transportation facility improvements. The analysis focused on the major intersections both within the project vicinity and within Wilsonville at large, including the two I-5 interchange areas (i.e., Wilsonville Road and Elligsen Road). The study area includes 15 total intersections, including 4 key gateway intersections to the neighborhoods.⁶

The analysis found that, in 2040, all but three of the study intersections are expected to continue to meet standards and targets assuming the completion of the High Priority Projects stated in Wilsonville’s Transportation System Plan. Those three intersections are located along Stafford Road and are the gateway intersections to the Frog Pond East neighborhood. They were analyzed as stop controlled intersections. The following transportation improvements are recommended for these intersections.

- SW Stafford Road/SW Kahle Road: Install a single-lane roundabout
- SW Stafford Road/SW Frog Pond Lane: Install a raised median to prohibit minor street through and left turns and install an enhanced pedestrian crossing with a center refuge median.
- SW Stafford Road/SW Brisband Street: Install a single-lane roundabout

Additional transportation projects were identified for the East and South neighborhood to enhance safety. They include:

- Install a roundabout at Advance Road/60th Avenue. The installation of a roundabout at this location will create a gateway between the high-speed rural traffic and the new desired slower urban speeds. The roundabout will provide for slower speeds and improved neighborhood access and visibility.
- Install various pedestrian and bicycle improvements on Stafford Road and Advance Road, as shown in Figure 31.

6 See Appendix I: Transportation Analysis: Existing and Future Conditions, DKS Associates, September 2022

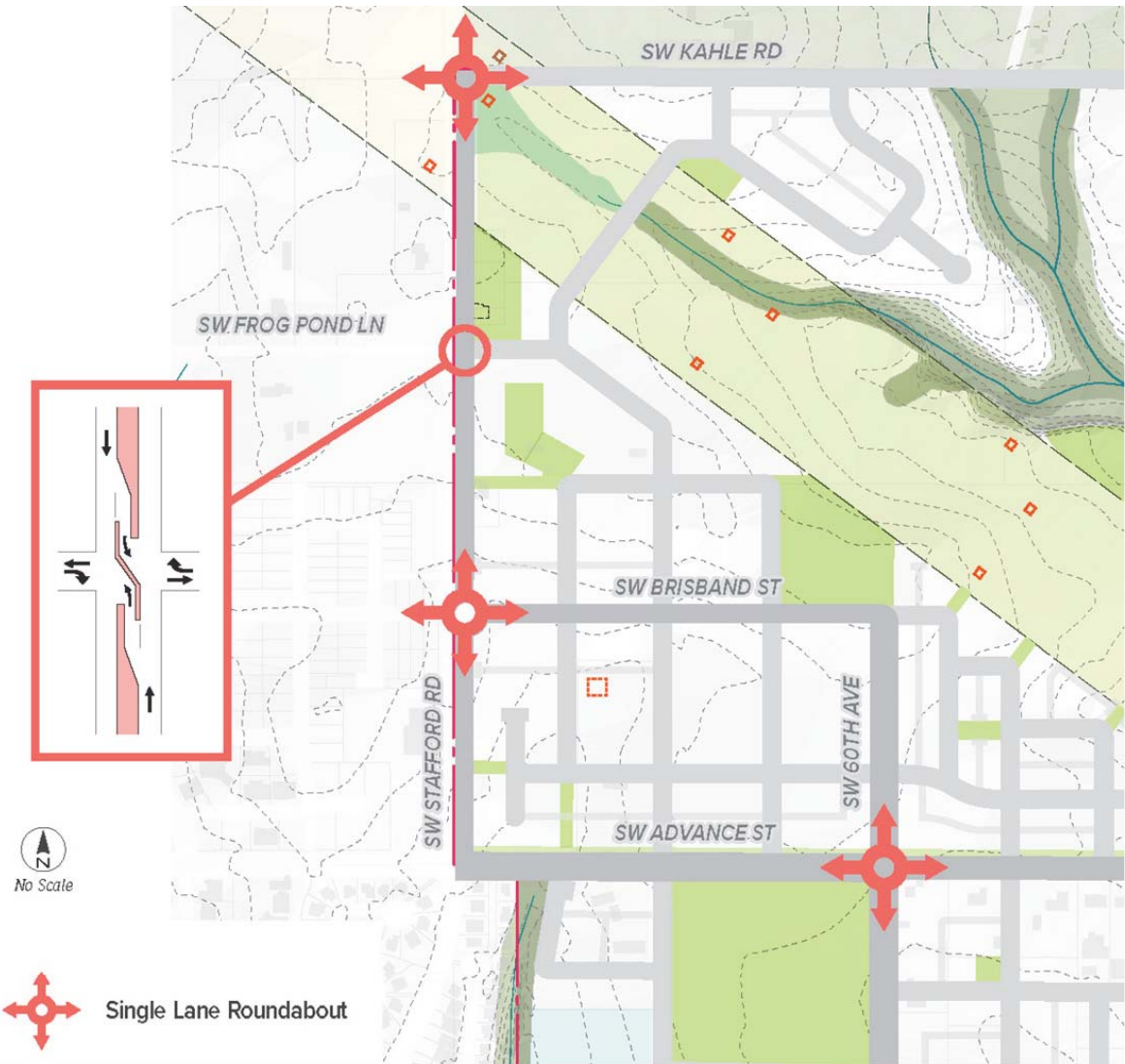


IMPLEMENTATION

STREET CLASSIFICATIONS

Figure 32 illustrates the recommended functional classifications for streets in Frog Pond East and South. The classifications for SW Stafford Road (Major Arterial), SW Advance Road (Collector), and SW 60th Avenue south of SW Advance Road (Collector) are consistent with the Frog Pond Area Plan's transportation network and classifications. The northerly extension of SW 60th avenue from SW Advance Road into the East Neighborhood is recommended to be a Gateway Collector. SW Brisband Street is recommended to be a Neighborhood Collector. Please see the Street Design section of this report for recommended cross-sections.

Figure 30. Traffic Control Recommendations





IMPLEMENTATION

Figure 31. Pedestrian Improvements on SW Stafford Rd and SW Advance Road

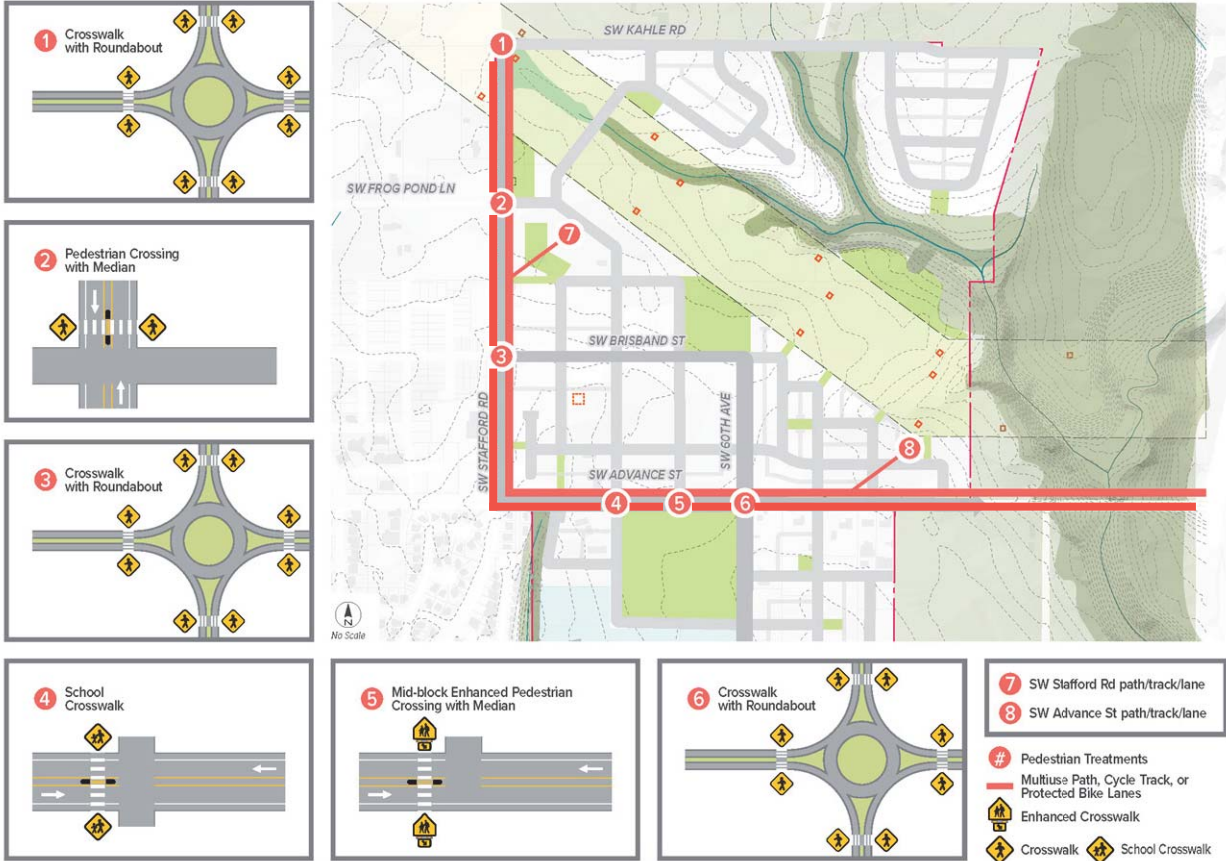
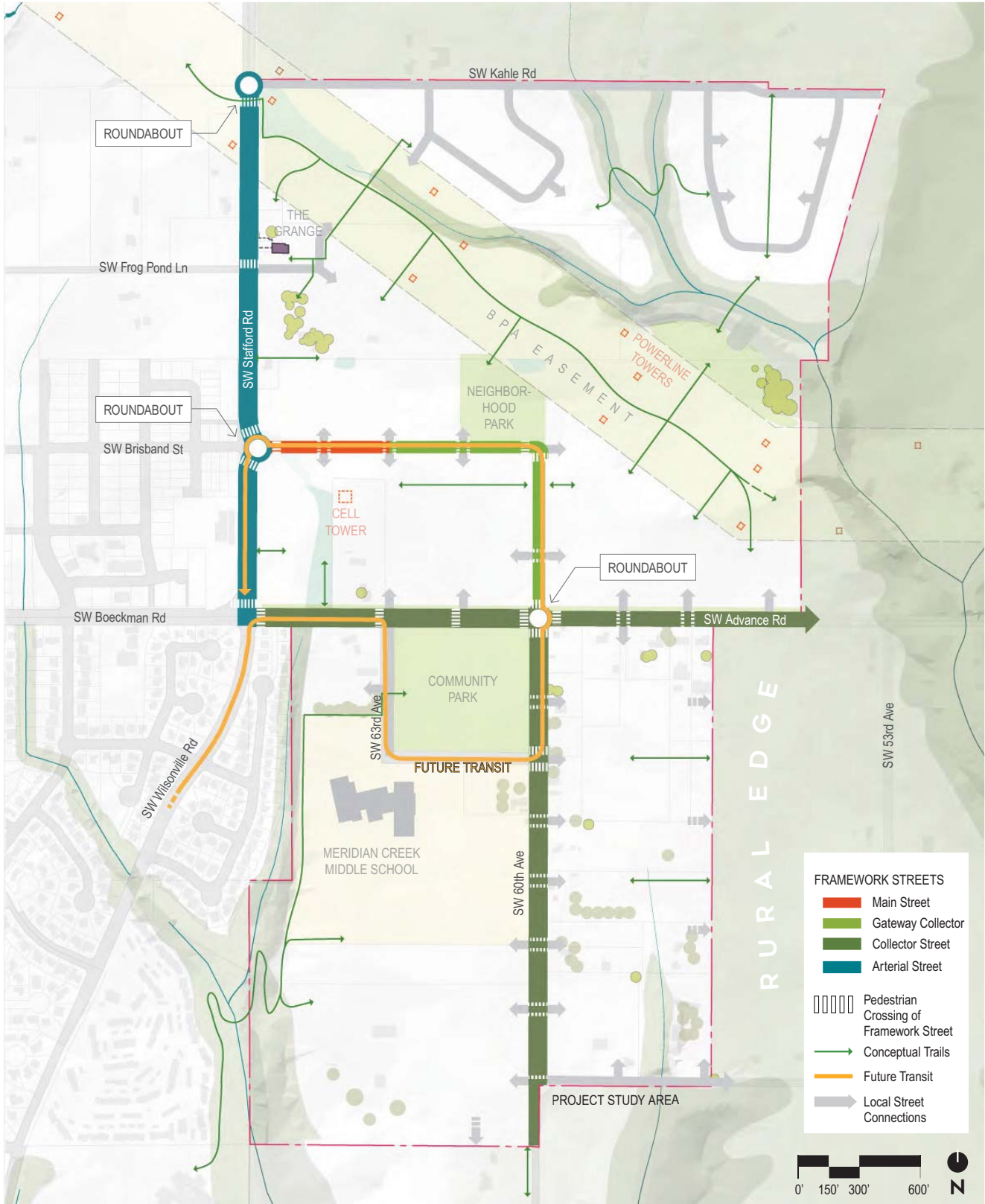


Figure 32. Street Classifications





IMPLEMENTATION

WATER SYSTEM

A water system analysis and plan were prepared to identify water system improvements required for the planned growth of the Frog Pond East and South neighborhoods.⁷ The analysis built upon previous water system planning conducted for the Frog Pond Area Plan, and updated it to coordinate with this Master Plan’s land uses and transportation network. Frog Pond East and South will be served by extensions within Wilsonville’s water pressure Zone B. The analysis focused on the distribution system; water treatment and storage are addressed in the City’s 2016 Water System Master Plan.

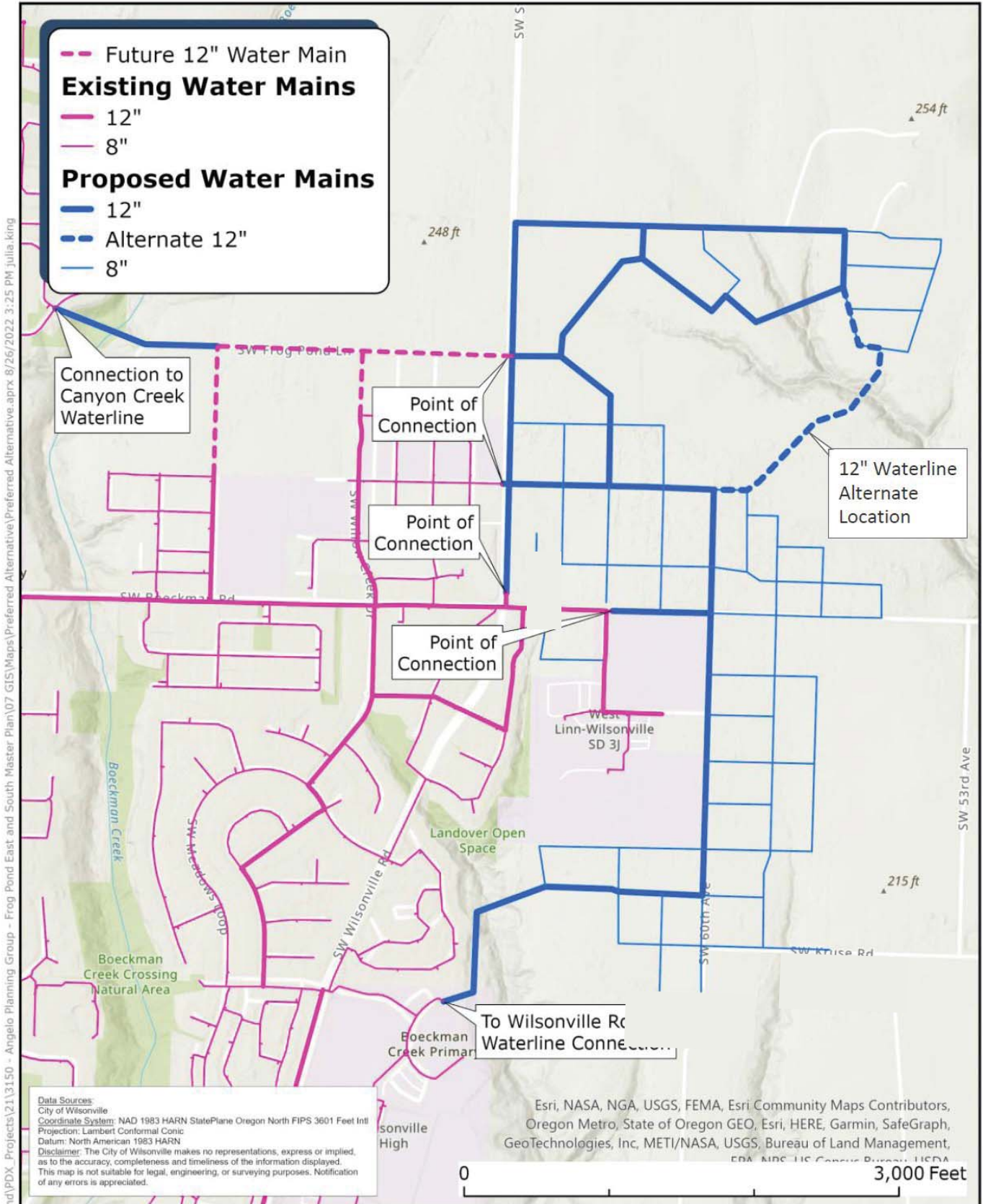
Figure 33 illustrates the Master Plan’s water system layout for the East and South neighborhoods, including off-site improvements needed to serve the area. A looped system consisting of 12-inch and 8-inch distribution mains is proposed for supply of domestic water to Frog Pond East and South.

- The existing 12-inch waterline in Boeckman Road is the primary backbone connection for Frog Pond East and South to the City’s water supply and storage system.
- The 12- inch main network provides a redundant capacity of 1,500 gallons per minute (gpm) for fire flow to all areas.
- In accordance with City Public Works Standards, 12-inch mains are also required for the commercial main street area proposed along SW Brisband Road in Frog Pond East.
- For all residential zones, 8-inch mains are required, with all lines interconnected as a network to prevent dead ends.

The northernmost neighborhoods in Frog Pond East along SW Kahle Road will be connected to the City’s existing water system with a 12-inch loop that connects to the south side of the BPA easement in two locations. The loop can be constructed across the BPA easement either in the proposed road extending northeast from Frog Pond Lane, or across the BPA easement further to the east via the proposed pedestrian bridge over the main fork of the Newland Creek. The decision on where to route the loop will depend on what areas are developed first and whether a pedestrian bridge is built that would support the waterline. In either scenario the 12-inch mainline along SW Stafford Road and SW Kahle Road will be required.

Wilsonville’s Water System Master Plan recommends two additional connections to the existing distribution system to reliably serve buildout of Frog Pond East and South. The first is a 12-inch connection to the Canyon Creek Road waterline via a crossing of Boeckman Creek at the west end of Frog Pond Lane. The second is a crossing of Meridian Creek with a 12-inch main, south of the Meridian Creek

⁷ See Appendix F: “Proposed Infrastructure Plans – Water, Wastewater, Stormwater Systems” Murraysmith, September 6



	<p>Frog Pond East and South Master Plan</p>	<p>Proposed Water System</p>
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September 2022

21-3150



IMPLEMENTATION

Middle School, installed in conjunction with development of Frog Pond South. Both creek crossings are assumed to be below grade directionally drilled pipelines. Alternatively, they could be installed on future pedestrian bridges if the City decides to build those structures.

SANITARY SEWER SYSTEM

A wastewater system analysis and plan were prepared to identify wastewater system improvements required for the planned growth of the Frog Pond East and South neighborhoods.⁸ The analysis drew from previous wastewater system planning conducted for the Frog Pond Area Plan, recent design work for the Boeckman Road trunk sewer and Boeckman Creek interceptor improvements, and the City’s 2017 Public Works Standards. Waster water system improvements were coordinated with this Master Plan’s land uses and transportation improvements.

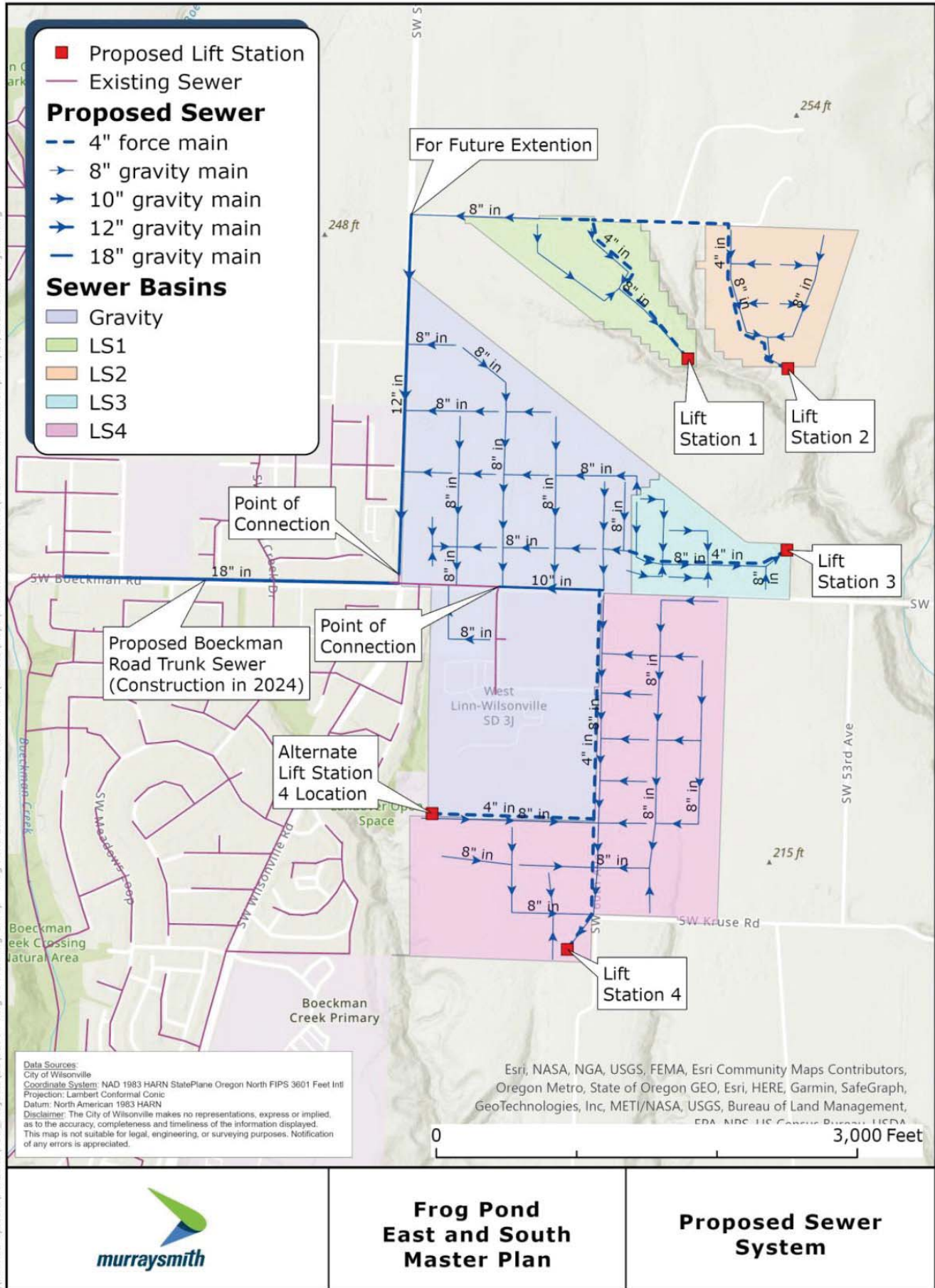
Figure 34 illustrates the Master Plan’s wastewater system layout for the Frog Pond East and South neighborhoods. The layout is based on five sewer basins, one for each of the four lift stations required and one that flows by gravity out of the Frog Pond area. The four lift station basins will each require an 8-inch gravity pipe to convey wastewater to the lift station and a 4-inch force main discharge to the downstream basin.

The main trunk traveling north-south on SW Stafford Road conveys sewage from both lift station 1 and 2 and a portion of the gravity basin. This pipe has the capacity to serve the area as an 8-inch line; however, this pipe is identified in the Wilsonville Wastewater Collection System Master Plan as a 12-inch line in order to serve future development to the north.

Extension of the main trunk in SW Boeckman Road eastward on SW Advance Road is needed to convey sewage from both lift stations 3 and 4 and a portion of the gravity basin. A 10-inch size is required to provide capacity necessary for projected development.

All wastewater from Frog Pond East and South is to be conveyed to the wastewater treatment plant through connection to the existing Boeckman Road Trunk Sewer, which flows west to the existing Boeckman Creek Interceptor Sewer and the Memorial Park Pump Station. As of the writing of this report, the Boeckman Road Trunk Sewer is being upsized to 18-inch diameter as part of improvements to SW Boeckman Road, including Boeckman Dip Bridge, with completion anticipated for 2024. This improvement is sufficient to serve the Frog Pond East and South area as well as future development anticipated to the north.

8 See Appendix F: “Proposed Infrastructure Plans – Water, Wastewater, Stormwater Systems” Murraysmith, September 6



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IMPLEMENTATION

STORM WATER MANAGEMENT

A stormwater system analysis and plan were prepared to identify stormwater system improvements required for the planned growth of the Frog Pond East and South neighborhoods.⁹ The City of Wilsonville will be the regulatory authority for design and construction of stormwater facilities for the area, in accordance with the City’s current National Pollution Discharge Elimination System (NPDES) permit.

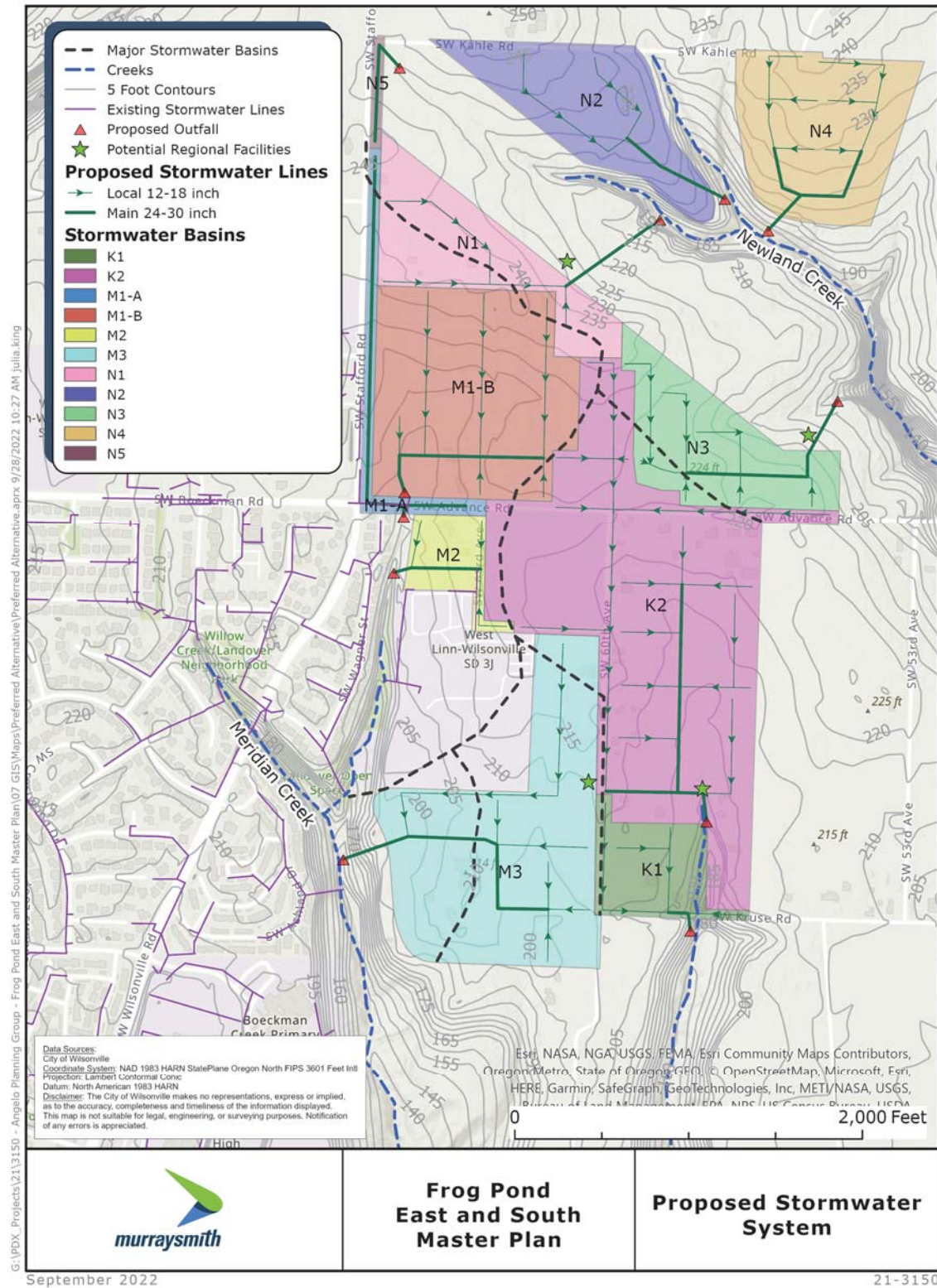
Permitting agencies require that collected stormwater runoff remain within its natural drainage basin. Natural drainage basins for Frog Pond East are Newland Creek in the northeast portion and Meridian Creek in the southwest portion. The western half of Frog Pond South discharges into Meridian Creek, with a small area draining into to an unnamed tributary to the southwest that drains directly into the Willamette River.

The City’s NPDES permit and design standards require the implementation of Low Impact Development Approaches (LIDA) to the maximum extent feasible. This generally involves the construction of decentralized, integrated water quality treatment and flow control facilities near to the location where runoff is generated, for example, in streets, parking lots and on building roofs. Experience with Frog Pond West shows there is significant competition for space along street frontages to provide LIDA along with other necessary improvements such as driveways, on-street parallel parking, street trees, fire hydrants, etc., which may not be compatible with LIDA facilities. This is anticipated to be particularly acute in Frog Pond East and South, where a varying mix of residential types and higher than typical densities are proposed. Accordingly, the City will consider implementing LIDA in the following locations within Frog Pond East and South:

- Collector and arterial streets where no on-street parking is permitted;
- Local street intersections, alleys, greenways, and other midblock opportunities (e.g. curb extensions);
- Parks and open space buffers;
- Tracts of land between buildings and roadways/other buildings within a development;
- Edge of BPA right-of-way where interference with overhead powerlines is not expected.

9 See Appendix F: “Proposed Infrastructure Plans – Water, Wastewater, Stormwater Systems” Murraysmith, September 6

Figure 35. Proposed Stormwater System



September 2022

21-3150



**Frog Pond
East and South
Master Plan**

**Proposed Stormwater
System**



IMPLEMENTATION

Where decentralized LIDA is not feasible, a combination of approaches - LIDA for treatment and downstream facilities for flow control, or regional facilities for treatment and flow control - may be considered. Regional facilities could be located in a publicly owned space such as a park where they may be integrated with passive recreational activities.

Figure 35 shows the proposed preliminary stormwater system coordinated with the Master Plan’s street layout and land uses. For conveyance, the plan designates a stormwater main for each drainage basin, extending from the outfall into the basin. Storm mains will be constructed with the other key infrastructure needed to support development. Developments will be required to provide full stormwater management prior to connecting and discharging into the storm main.

For stormwater management, implementing only LIDA to meet stormwater requirements is unlikely to be feasible for higher density development. Alternative stormwater managements methods will be required. For Frog Pond East and South, the City will use a stormwater management hierarchy to provide additional guidance that will have three levels in the following order of preference.

- 1. All stormwater management is provided in onsite vegetated LIDA facilities.
- 2. Stormwater management is provided in a combination of onsite vegetated LIDA facilities and decentralized regional LIDA facilities.
- 3. All stormwater management is provided in vegetated regional facilities.

Figure 35 schematically shows the location of potential regional facilities. The map is a visual representation of storm water facility coverage and not an indication of where facilities are required to be placed, which is dependent on individual development proposals.



IMPLEMENTATION

INFRASTRUCTURE FUNDING

As of the writing of this Master Plan, an Infrastructure Funding Plan is in-progress. It will be completed and adopted prior to annexation and development reviews for properties in Frog Pond East and South. The Infrastructure Funding Plan is an integral part of the implementation of this Master Plan. It's primary purpose is to ensure that there are sufficient funds and explicit, actionable plans for how growth is paid for and infrastructure is delivered.

That Infrastructure Funding Plan will evaluate costs and revenues transportation, water, sanitary sewer, storm water, and park improvements. The Funding Plan will identify potential funding gaps and strategies for filling the gaps. Multiple funding options will be evaluated, including a scaled system development charge approach and application of the City's infrastructure fee approach that is in use in Frog Pond West. The City's priority is to ensure adequate funding available at the time the improvement is needed.

Frog Pond East and South Land Use and Housing Policy Work Session

Wilsonville Planning Commission
October 19, 2022



WILSONVILLE
OREGON

Tonight's Goals

- Review draft Master Plan
- Focus on:
 - Stormwater
 - Transportation updates
 - Street tree plan
 - Lighting plan
 - Gateways plan
 - Comprehensive Plan implementation



Where we are in the process

- Tonight – review draft Master Plan
- Nov 16 – public hearing on Master Plan
- 2023 – development code and other implementation



Master Plan Overview

- Vision and blueprint for Frog Pond East and South
- Supporting document of the Comprehensive Plan



Chapters

1. Introduction
2. Vision
3. Context & Setting
4. Housing & Market Conditions
5. Community Design Concepts
6. Land Use
7. Public Realm
8. Implementation



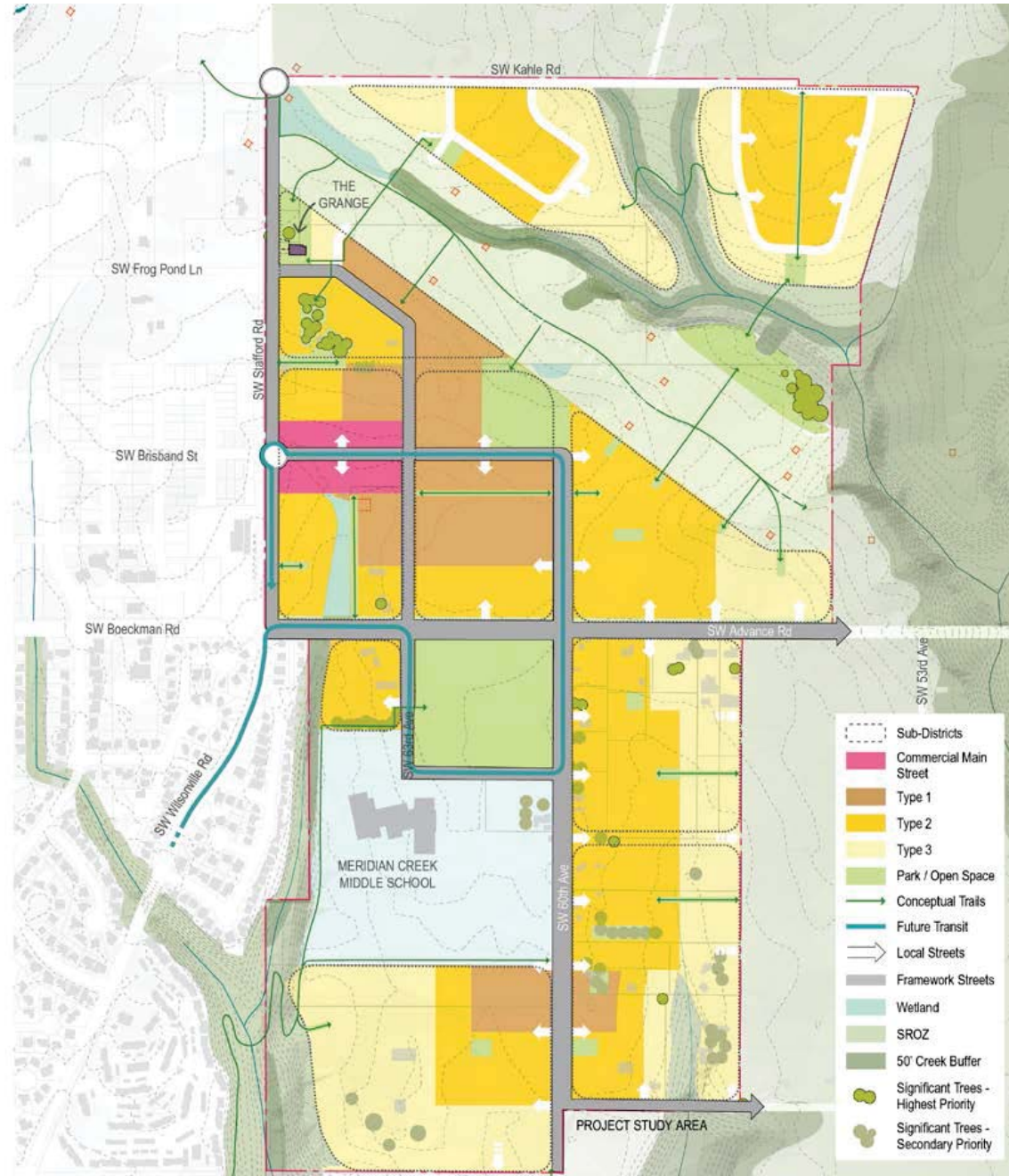
Discussion Question

- *Before proceeding to updated information, does the Planning Commission have any comments or questions on Chapters 1 through 4?*
 1. Introduction
 2. Vision
 3. Context & Setting
 4. Housing & Market Conditions



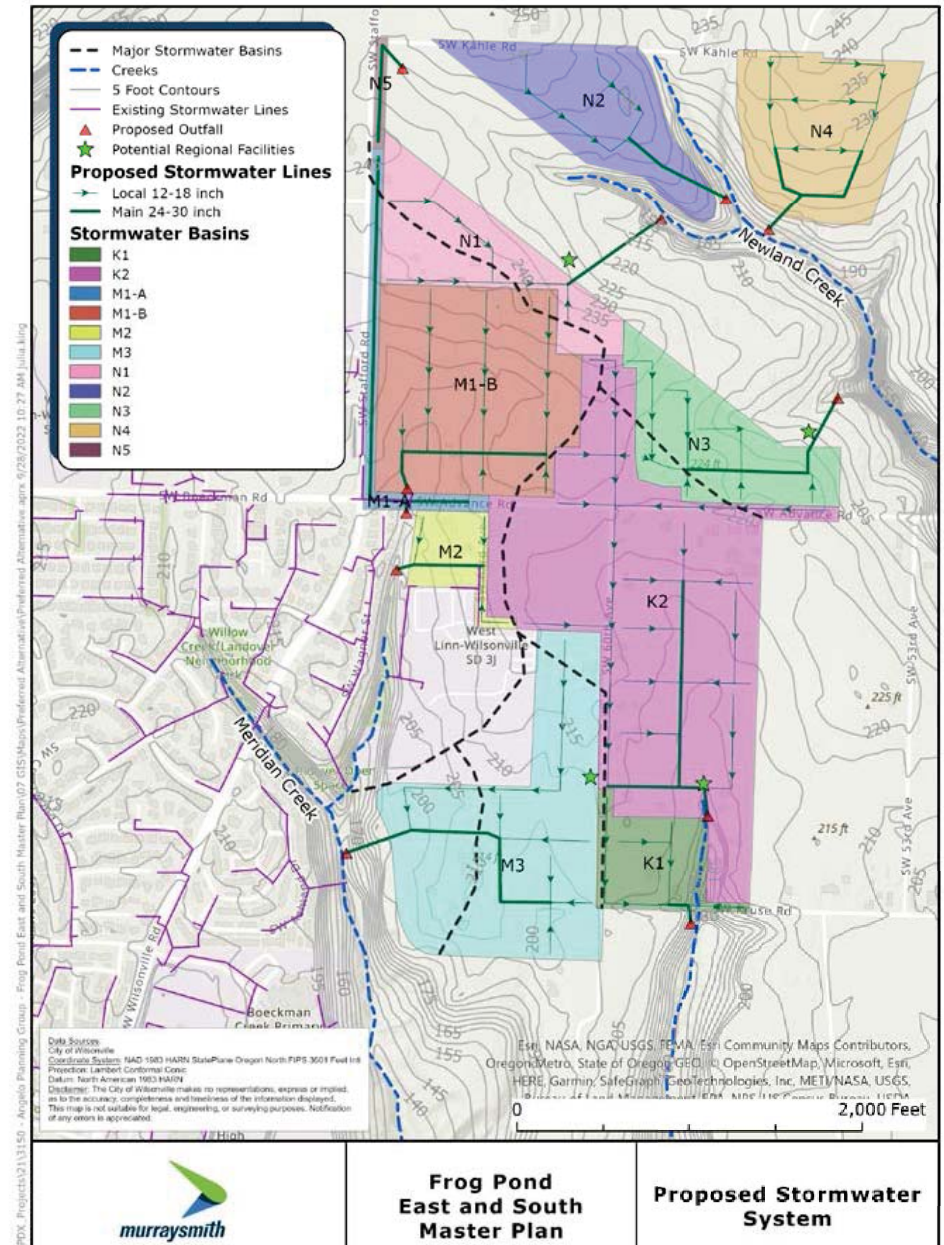
MASTER PLAN HIGHLIGHTS

- Neighborhood Destinations
- Form Based Design & Transect
- Wide Variety of Housing Choices
- SW Brisband Main Street
- Parks and Open Space
- Transportation Choices & Connections
- Sub-Districts



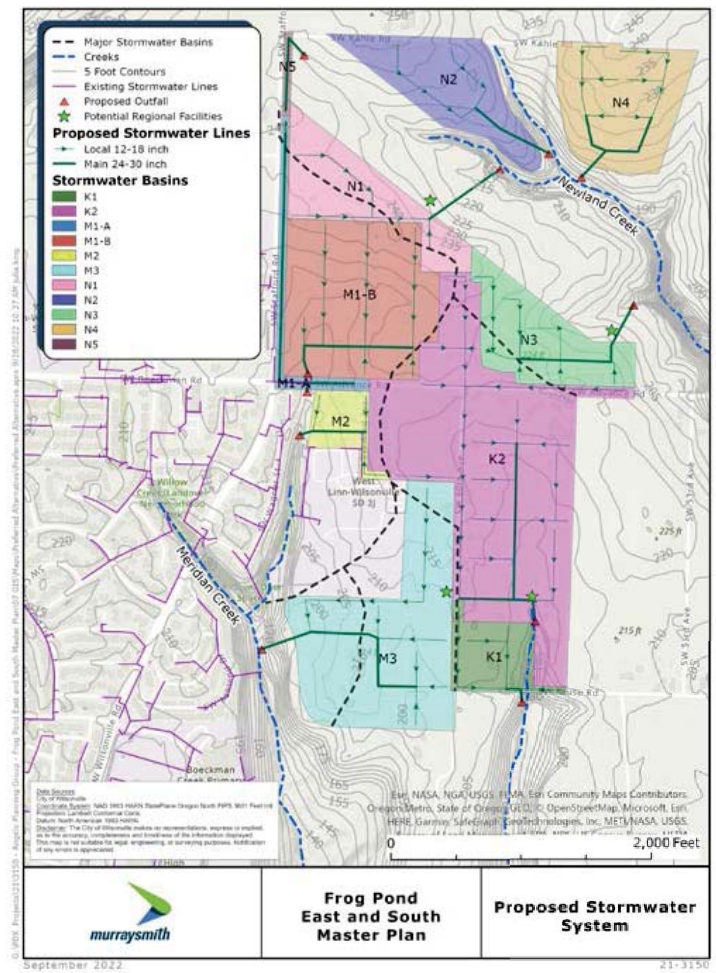
Storm Water Plan

- Renewed NPDES Permit
- Updating Stormwater Management Plan
- Implement Low Impact Development Approaches to maximum extent feasible
- Limit outfalls for stream health
- Basin-by-basin approach



Low Impact Development Approaches

- Implement to max extent feasible
- Integrates treatment, flow control
- Decentralized, near runoff source
- Conflicts with other street improvements will be balanced

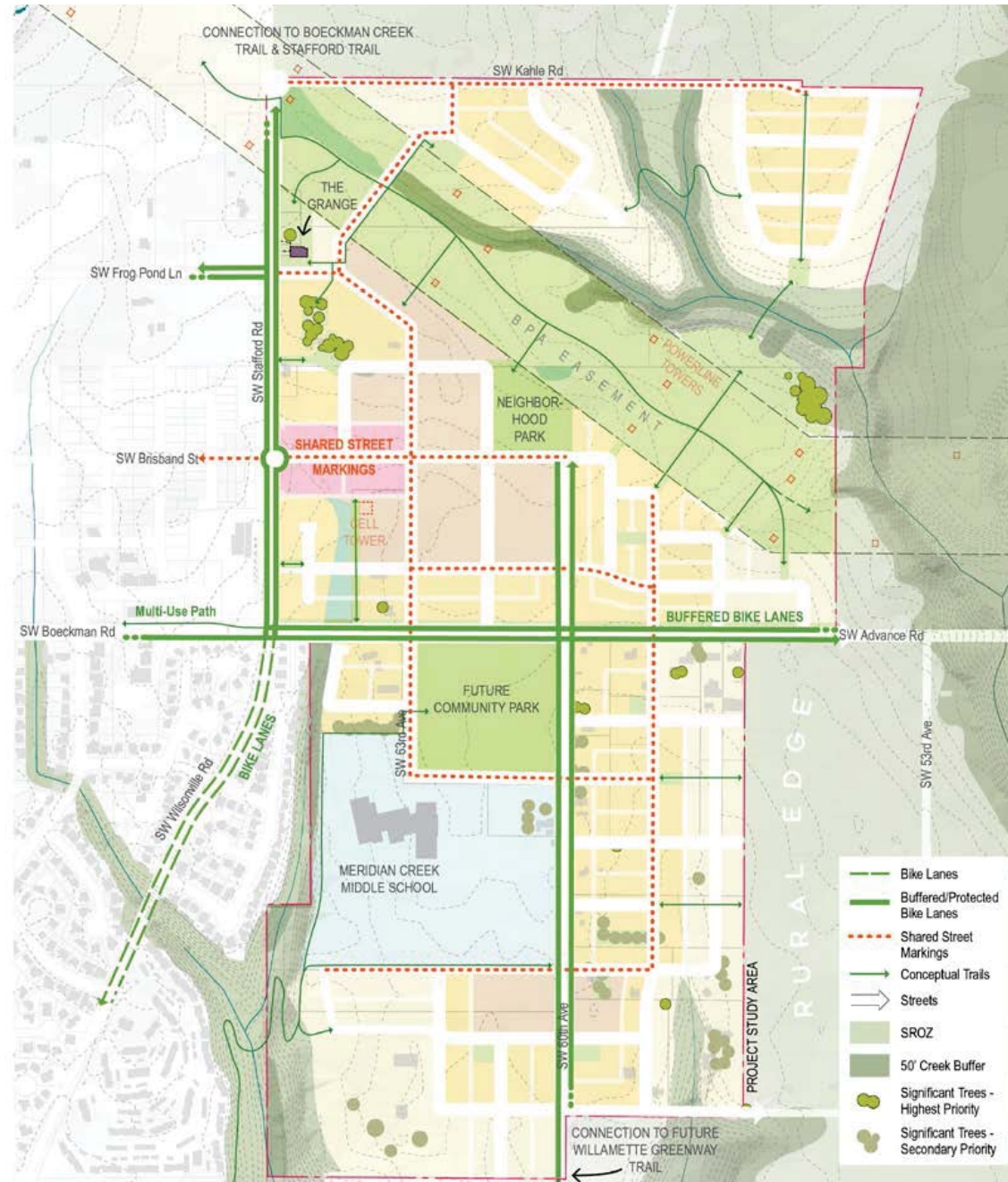


Discussion Question

- *Does the Planning Commission have questions or comments on the Storm Water Plan?*

ACTIVE TRANSPORTATION PLAN

- Walkable network of streets & blocks
- Multiple bike route options
- Bike routes connect to multi-use trails



SAFE ROUTES TO SCHOOL



Discussion Question

- *Does the Planning Commission have questions or comments on the Active Transportation Plan?*

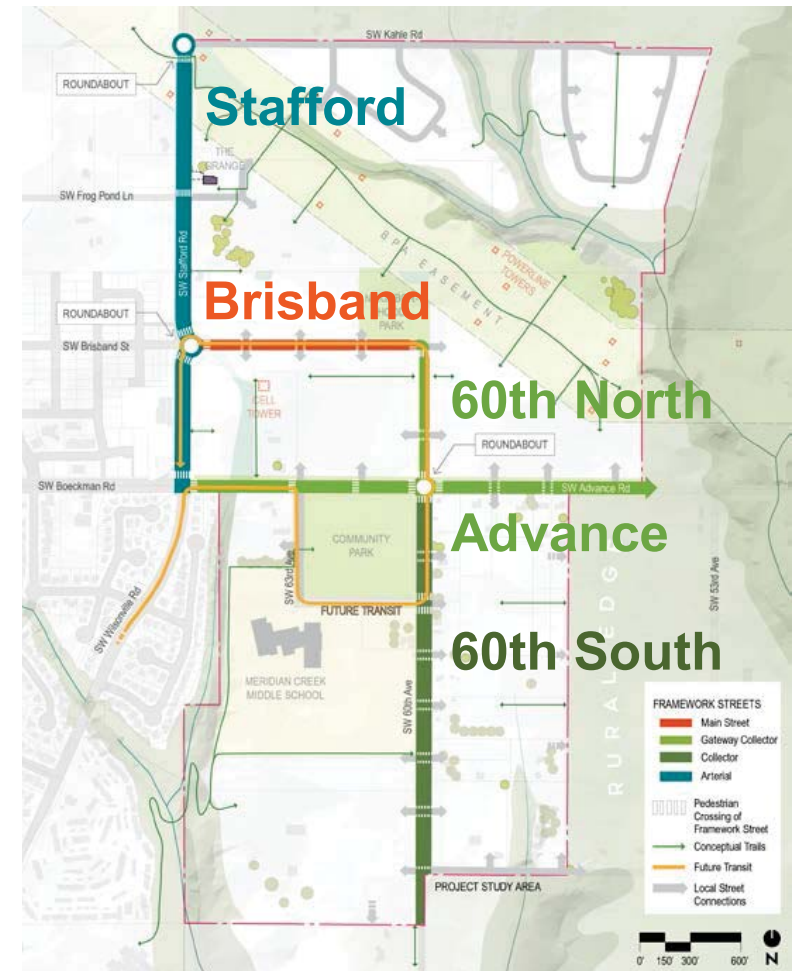
STREET CLASSIFICATIONS

- Arterial (Stafford)
- Collector Gateway (Advance, 60th north)
- Collector (60th south)
- Main Street (Brisband)
- Local Streets
- Mid-Block Pedestrian Connections



STREET DESIGN

- Hierarchy of streets
- Connecting destinations
- Prioritizing safety, comfort, and low-stress transportation for vulnerable road users



SW STAFFORD ROAD



SW ADVANCE ROAD



SW 60TH AVE (NORTH)



SW 60TH AVE (SOUTH)



SW BRISBAND MAIN STREET



SW BRISBAND MAIN STREET – INTENT

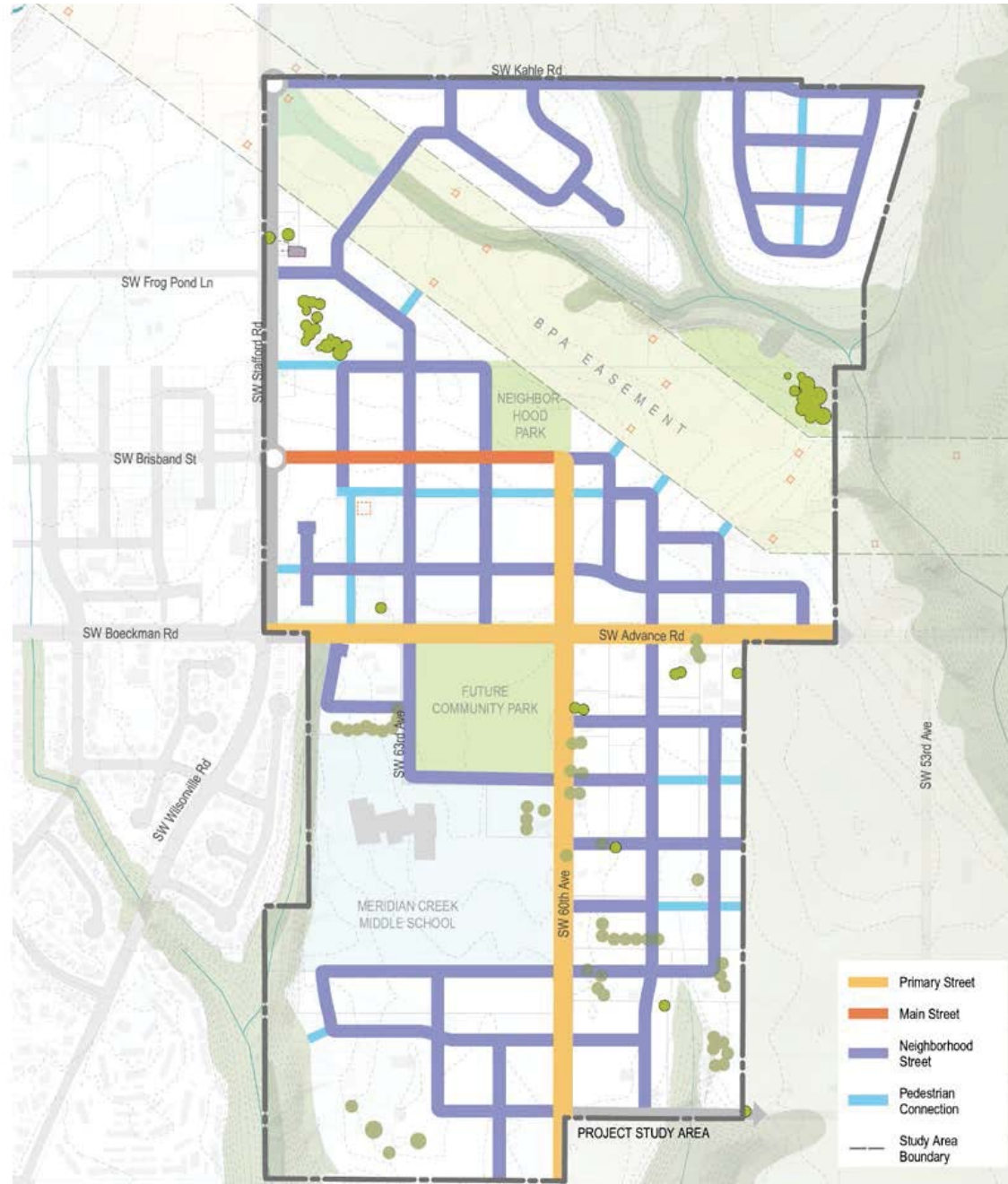


Discussion Question

- *Does the Planning Commission have questions or comments on Street Plan and cross sections and Main Street site study?*

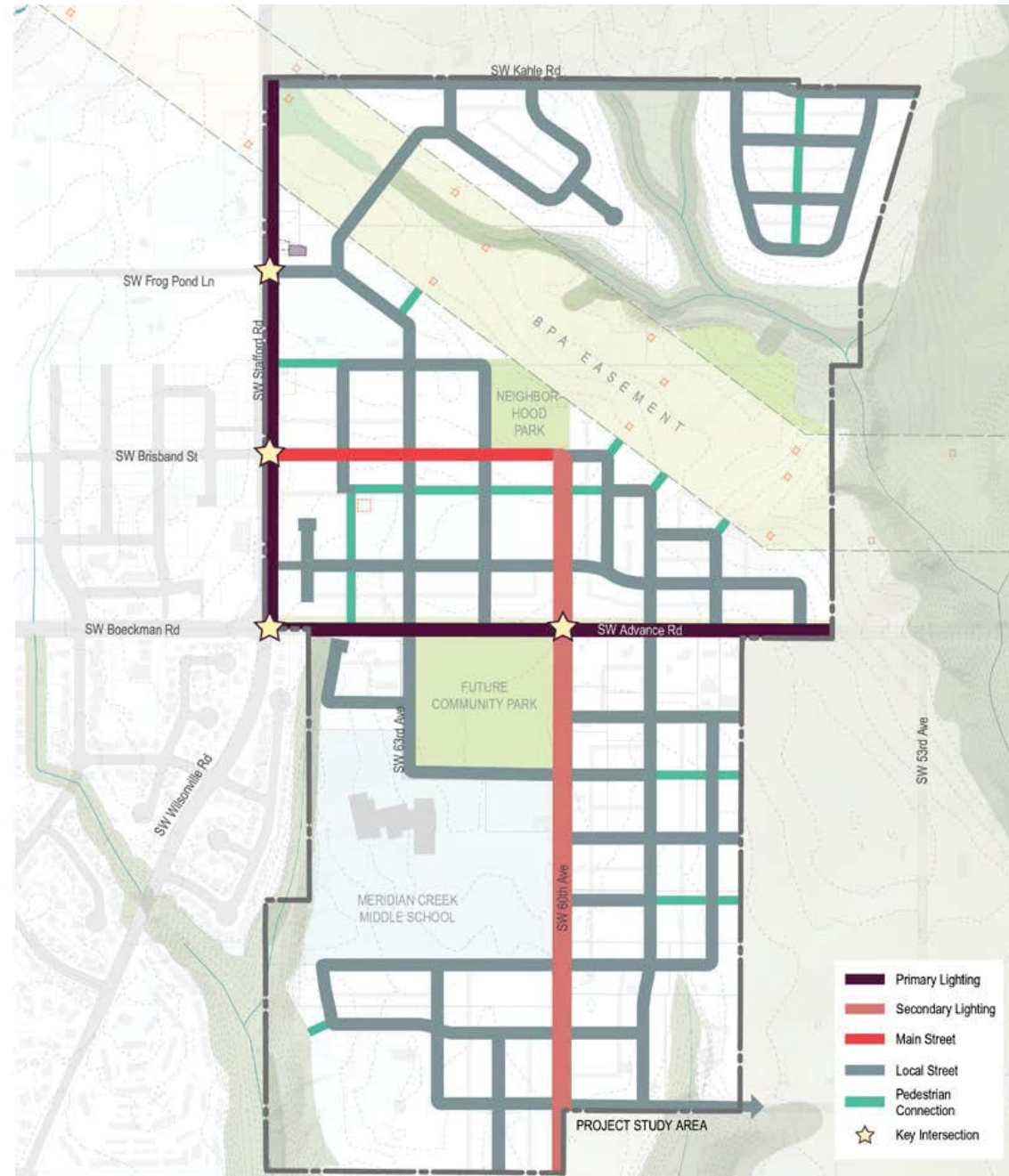
STREET TREE PLAN

- Biodiversity & consistency with Frog Pond West tree palette
- Collectors provide taller shade trees
- Main Street trees offer seasonal color, narrow canopies, less debris
- Consistent trees on both sides of each block, but variety across the study area



LIGHTING PLAN

- Matches Frog Pond West
- Primary Lighting: cobra-head
- Secondary Lighting: ornamental fixtures spaced for brightness
- Local Streets: ornamental fixtures
- Main Street: ornamental fixtures, intimate, pedestrian scale
- Pedestrian Connections: ornamental fixtures, lower height



GATEWAYS PLAN

- Mark significant transitions into the City of Wilsonville
- Mark entries to Frog Pond East & South Neighborhoods
- Main Street art/marker opportunity



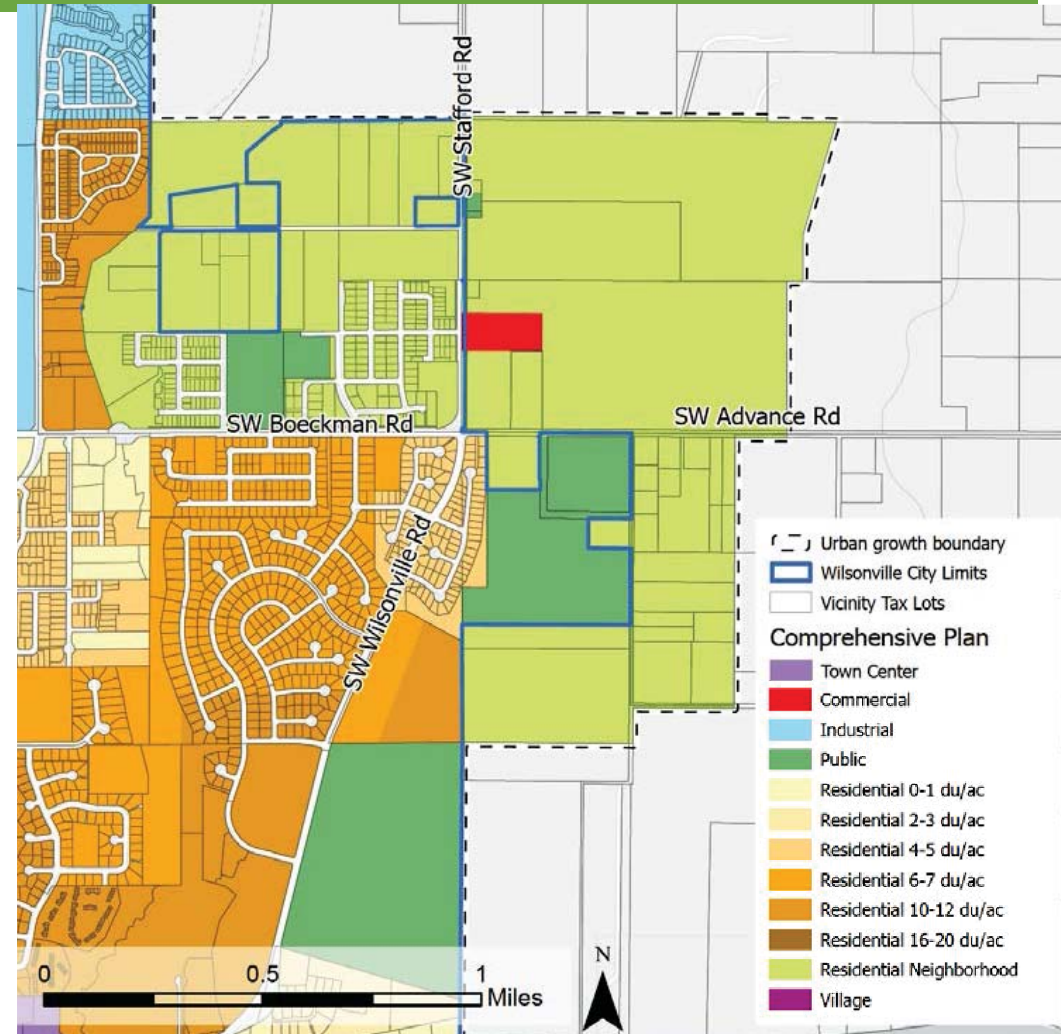
Discussion Question

- *Does the Planning Commission have questions or comments on the Street Tree Plan, Lighting Plan and Gateways Plan?*



Implementation – Comprehensive Plan

- Apply the Residential Neighborhood designation with adoption of the Master Plan
- Update Transportation System Plan
- Zoning is applied at time of annexation/development review



Implementation Measure 4.1.7d

- Map subdistricts
- Define categories of housing for use in variety standards
- Clear and objective standards for variety
- Flexibility through discretionary review
- Coordinate with Grange
- Coordinate with BPA
- Study pedestrian crossings at the creeks
- Potential study of Main Street design
- Adopt infrastructure funding plan



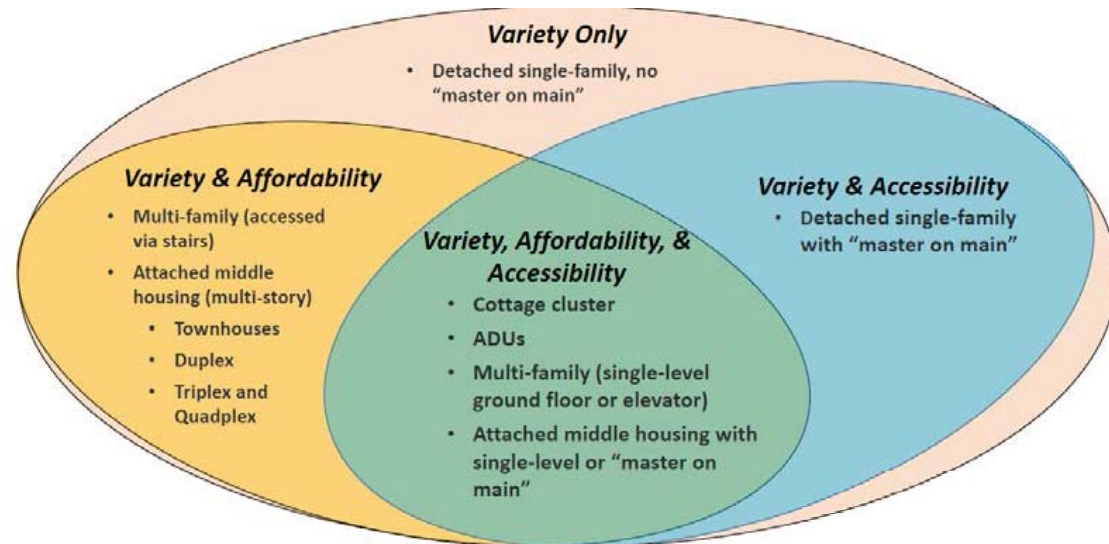
Implementation - Zoning

Table 6. Implementing Zoning Designations

COMPREHENSIVE PLAN DESIGNATION	IMPLEMENTING ZONE
Residential Neighborhood	Residential Neighborhood (RN)
Commercial	Planned Development Commercial (PDC)
Public	Public Facilities (PF)
All, where applicable	Significant Resource Overlay Zone (SROZ)

Housing Variety – 6 Strategies

1. Wide variety of housing
2. Categories of housing
3. Minimum units required per property
4. Urban form map/standards
5. Min/Max percentages of categories
6. Variety at block level



Discussion Question

- *Does the Planning Commission have questions or comments on Comprehensive Plan, Zoning, and Housing Variety strategies*

Discussion Question

- *Does the Planning Commission have other questions or comments on Chapters 5 through 8?*
 - Community Design Concepts
 - Land Use
 - Public Realm
 - Implementation



Next Steps

- November 7 – City Council work session on Master Plan
- November 16 – Planning Commission public hearing
- 2023 – development code and other implementation







Placeholder...

October 19, 2022 Planning Commission
Minutes to be made available by Monday,
November 14, 2022.



CITY COUNCIL
MONDAY, OCTOBER 17, 2022

WORK SESSION

Frog Pond East and South Master Plan (Pauly)



CITY COUNCIL MEETING STAFF REPORT

Meeting Date: October 17, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable	
		Comments: On September 28 Planning Commission held a work session and provided feedback that is integrated into the staff report and attachments.	
Staff Recommendation: Provide input regarding Frog Pond East and South Master Plan policies related to housing variety and the commercial main street.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE COUNCIL:

Provide feedback and input on Frog Pond East and South Master Plan policies related to housing variety and the commercial main street.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a Master Plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the urban reserve land known as Frog Pond East and South. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process will also identify water, sewer, stormwater, and transportation infrastructure needs and funding sources.

This will be the City Council's ninth work session on the Frog Pond East and South Master Plan. The previous work sessions and their content were as follows:

Work Session 1-October 2021: Focus on overall project scope and the outreach plan.

Work Session 2-January 2022: Initial feedback on the needs and opportunities for affordable housing and housing variety.

Work Session 3-March 2022: Continuation of the topic of housing needs for more detailed feedback and direction, introduction of the neighborhood commercial evaluation.

Work Session 4-May 2022: Further discussion of the neighborhood commercial center and discussion of the design concepts for development of land use and urban design alternatives.

Work Session 5-June 2022: Provided direction on draft land use alternatives, including mapping the locations of different housing types and forms (grouped into Type 1, Type 2, and Type 3).

Work Session 6-July 2022: Reviewed the draft preferred land use alternative and gave direction on land use policies around housing variety.

Work Session 7-September 2022: Discussion of housing variety policy and first time home ownership and public realm master plan components.

Work Session 8-October 3, 2022: Reviewed transportation and infrastructure analyses.

This *Work Session 9* will primarily focus on confirming with Council the important policies that will help drive a variety of housing choices in Frog Pond East and South, including less expensive home ownership opportunities and accessible units. The Planning Commission has discussed these policies at length and supports the approach reflected in the attached presentation

(Attachment 1). Categorizing different housing types is a key foundation to setting policy around housing variety and choice to achieve the Council’s established goals and policy objectives around housing. Attachment 2 is a handout showing the current draft framework for categorizing housing unit types for Frog Pond East and South.

In addition to housing variety policies, the project team will briefly share the approach to the main street commercial area of the Plan and seek the Council’s input regarding allowance and requirement of vertical mixed-use housing with the planned commercial.

EXPECTED RESULTS:

Feedback, direction, and confirmation from the City Council on housing variety and main street commercial policies to be put in the Frog Pond East and South Master Plan.

TIMELINE:

This is the ninth in a series of work sessions for the City Council. The Council has one additional work session left on November 7 to review the draft Master Plan document. At that time, the Council can provide any final updates prior to the planned Council public hearing on the Master Plan on December 5. Review of development code language and infrastructure financing, will extend into the first half of 2023.

CURRENT YEAR BUDGET IMPACTS:

The project is funded by a combination of a \$350,000 Metro grant, an \$81,000 Oregon DLCD grant, and matching City funds in the form of staff time. \$311,000 is budgeted in FY 22/23 to complete the project.

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which laid out a robust public engagement program that included meaningful and impactful involvement of people who identify with historically marginalized communities.

POTENTIAL IMPACTS OR BENEFIT TO THE COMMUNITY:

Furthering of the City’s Equitable Housing Strategic Plan and Council’s goal of affordable home ownership, while creating Wilsonville next great neighborhoods.

ALTERNATIVES:

The City Council can continue to direct changes to the draft plan elements and policies.

CITY MANAGER COMMENT:

N/A

ATTACHMENTS:

1. Content from September 28 Planning Commission Work Session
2. Handout: Categorizing Housing Unit Types for Frog Pond East and South

Frog Pond East and South
Land Use and Housing Policy
Work Session Content from
Planning Commission Work
Session



Goals of Work Session

- Master Plan policies to guide development code work
 - Residential
 - Commercial



Looking Forward to Development Code

- Clear and objective standards
- Discretionary alternative



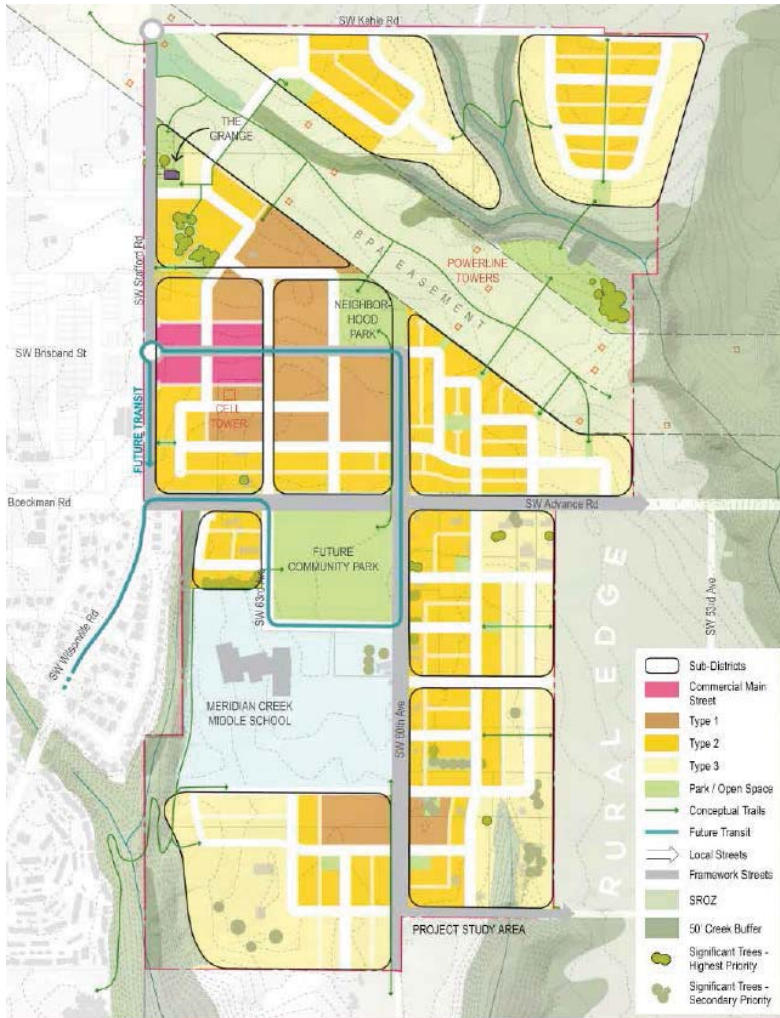
Where we are in the process

- Oct 17 – CC work session: residential and commercial policy
- Oct 19 – PC work session: draft Master Plan
- Nov 7 – CC work session: draft Master Plan
- Nov 16 – PC public hearing on Master Plan
- Dec 5 – CC public hearing on Master Plan
- Dec 19 – CC 2nd reading

- 2023 – development code and other implementation



What do the colors on this map mean?



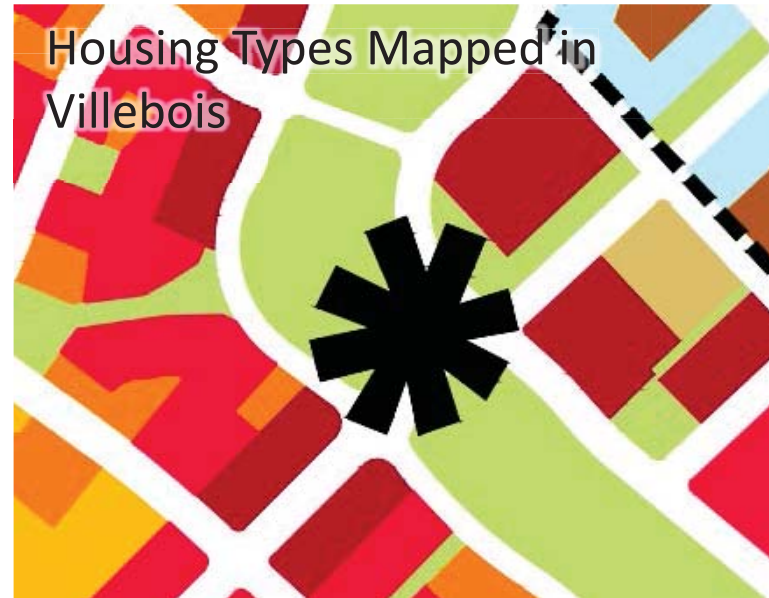
- Colors traditionally and in other areas of Wilsonville?
 - Type of units (i.e. single-family homes vs multi-family)
 - Density (number of units per acre)
- What do the colors mean on this map?
 - The look and feel or **urban form**
 - Building height, building width, distance between buildings, distance of building from street, minimum lot size



Scales of Variety in Frog Pond E+S



Large/Broad Scale
Zoomed Out
(urban forms)
Mapped



Housing Types Mapped in
Villebois

Granular Scale
Zoomed In
(housing type)
Development standards
(not mapped)



Residential Policies



Residential Policies

- Policies to Confirm
 - Permit the full spectrum of housing types
 - Require minimum densities
 - Use Type 1, Type 2, and Type 3 urban forms
- Policy for Deeper Dive
 - Standards for "fine-grained" variety



Allow Full Spectrum of Housing Types

- Single-Family Dwelling Units
- Townhouses
- Duplex
- Triplex and quadplex
- Cluster housing (including cottages and tiny homes)
- Multiple-Family Dwelling Units
- Cohousing
- Manufactured homes
- ADU's (including tiny homes)



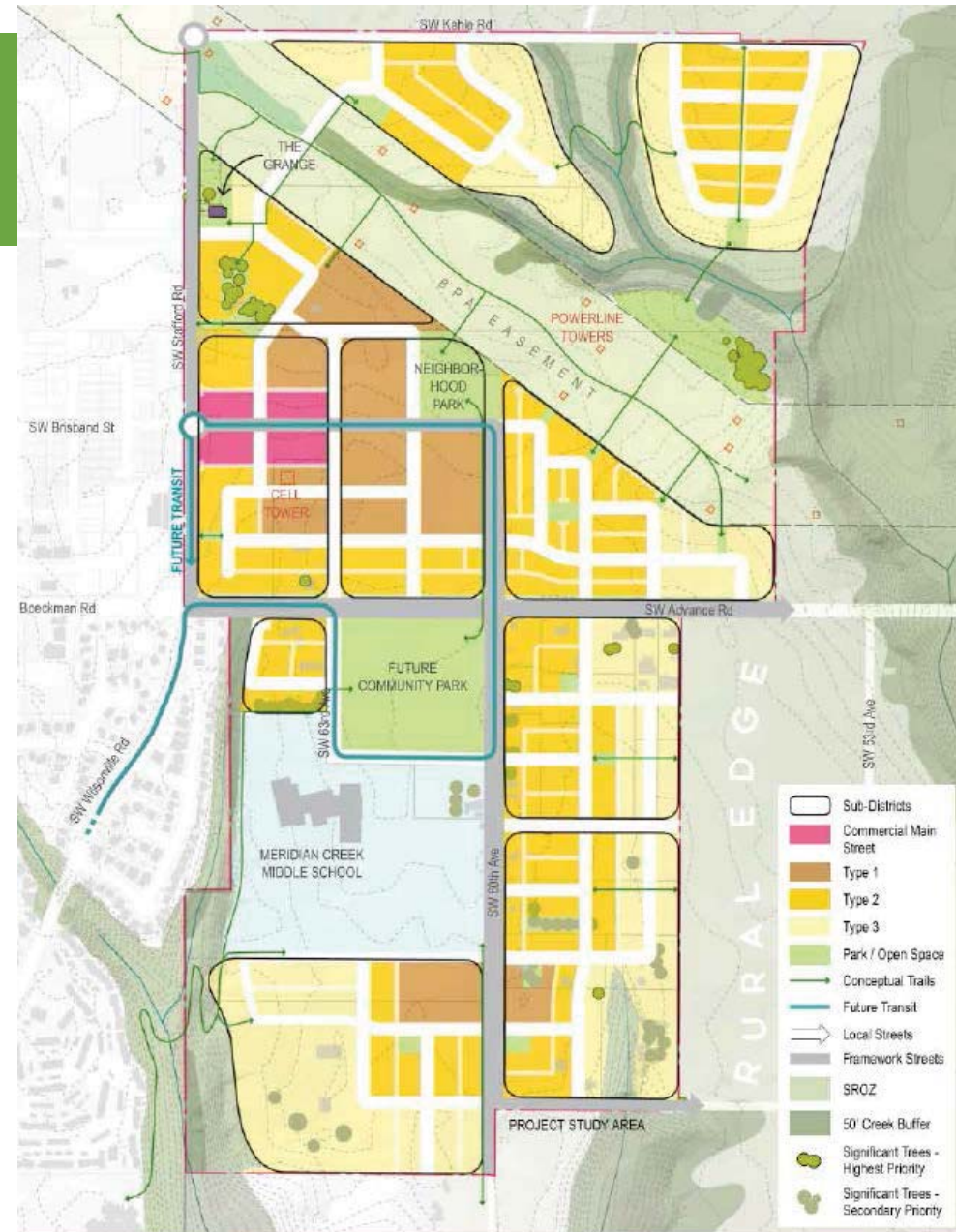
Require Minimum Density

- Meet expectations of plan
- Infrastructure design and funding
- Regulatory requirements



3 Urban Forms

- Establish look and feel standards:
 - Building bulk
 - Height
 - Width
 - Setbacks
 - Between buildings
 - From streets
 - Minimum lot size
 - Lot coverage



Feedback Needed

- Feedback on:
 - Permit the full spectrum of housing types
 - Require minimum densities
 - Use Type 1, Type 2, and Type 3 urban forms



Housing Variety Policy



Purpose of the Variety Policy

- Policy implementation of the Master Plan's three key intended outcomes:
 - Variety throughout, including accessible options
 - Integration of affordable choices
 - Transect of urban design



Three Steps to Variety Policy: A Draft Approach

1. Categorize housing unit types
2. Establish minimum categories per subdistrict (or property)
3. Regulate percentages of categories
 - Maximum net area for a category
 - Minimum net area for target categories
 - Minimum middle housing mix

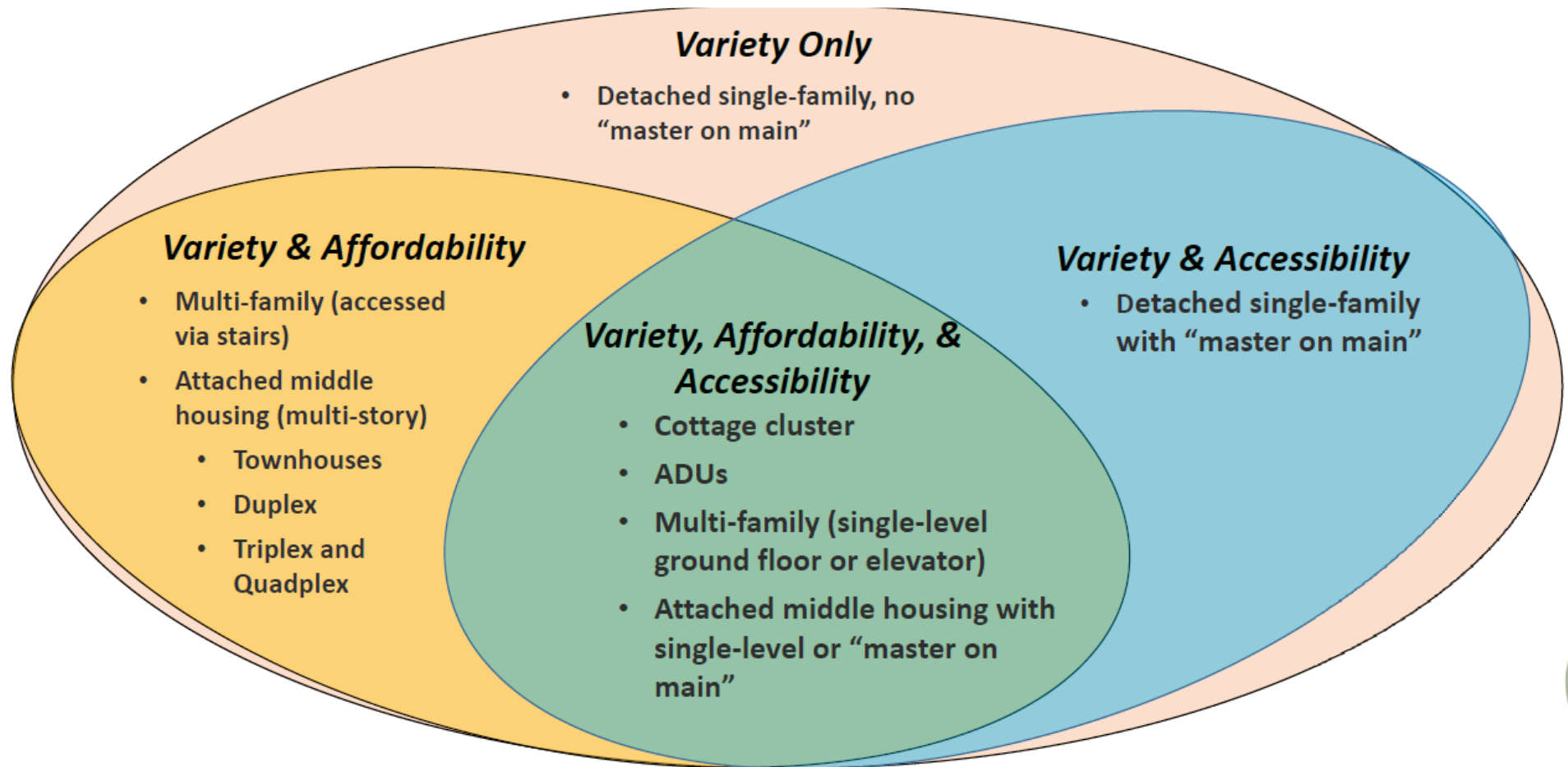


Step 1: Categorize Housing Unit Types

- Why?
 - To provide “buckets” of housing types to choose from in meeting variety standards
- How?
 - Considerations:
 - Market rate affordability in the 80% to 120% MFI range
 - Accessibility (adaptable single-level)
 - Housing choices/variety generally

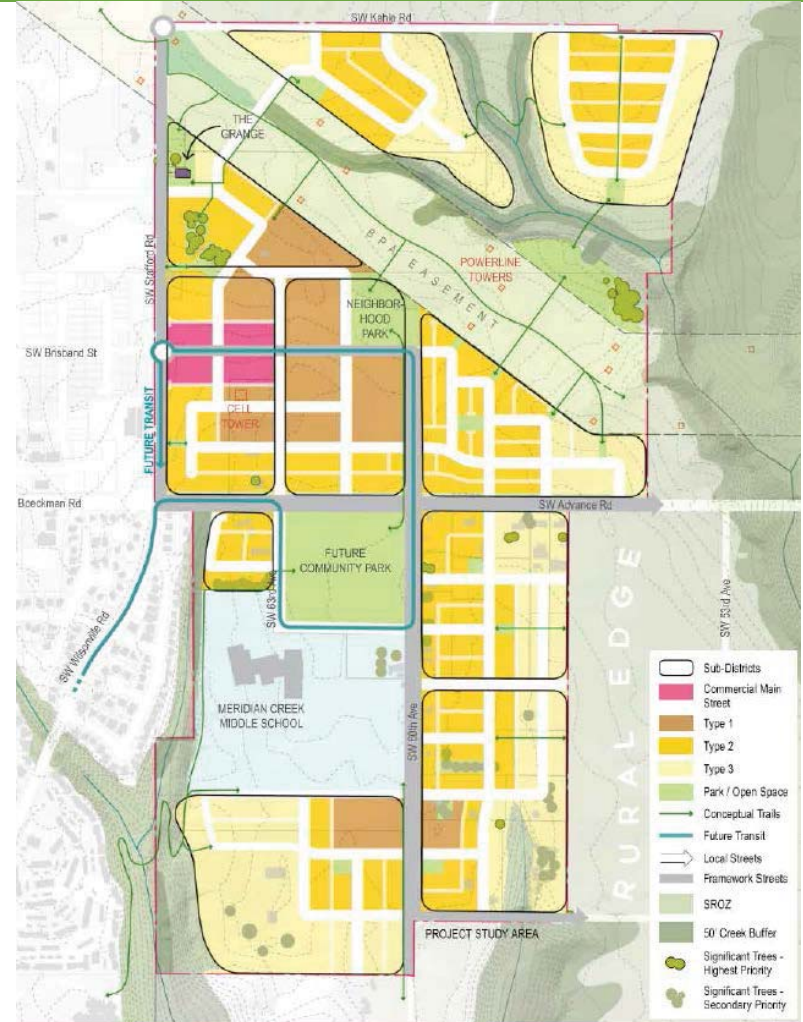


A Framework for Housing Categories



Step 2: Minimum Categories Per Area

- Why:
 - To ensure variety
 - For inclusion of target types (e.g. middle housing)
- How:
 - Smaller properties provide fewer categories
 - Larger properties provide more categories
 - Consider X categories per subdistrict
- Standards to be set with the code



Step 3A: Maximum Net Area for a Category

- Why: So a given category does not dominate
- How: Set a clear and objective maximum*
 - 50% recommended
 - Consistent housing percentages anticipated in Affordable Housing Analysis
 - Easily understandable

* *Allow flexibility in discretionary review*



Step 3B: Minimum Net Area for Target Categories

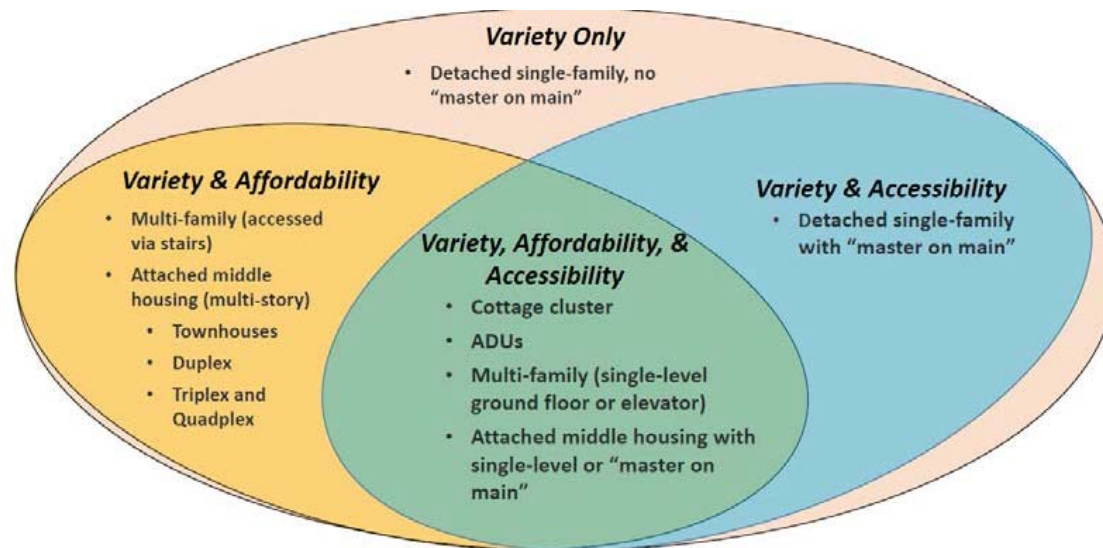
- Why:
 - Achieve affordability and accessibility
 - Ensure meaningful amounts are provided
 - Be responsive to community input
- How:
 - Set a clear and objective minimum*
for certain target housing categories

* Allow flexibility in discretionary review



Step 3B: Regulating Percentage: Minimums

- What percent to require?
 - Suggest a minimum approx. 10 - 20% of net area for any category
 - Market feasibility important



Step 3C: Minimum Middle Housing Mix

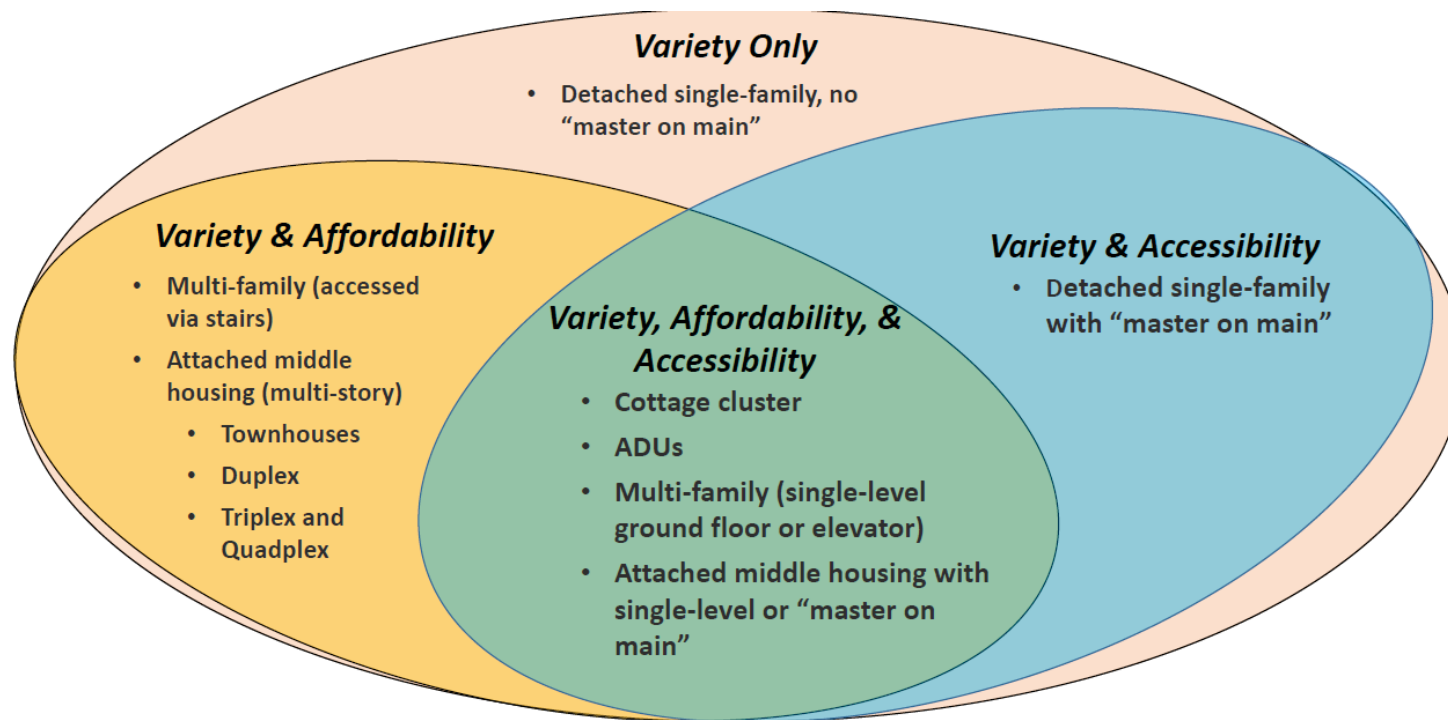
- Why:
 - Council's goal of affordable home ownership
 - Tends to be "for sale" more than multi-family
 - "Missing" from past development
 - Only approx. 10% of current Wilsonville housing
 - Provide opportunity to meet unmet/future demand
- How:
 - Set a clear and objective minimum for middle housing types



Variety Policy Guidance Requested

What is the feedback on:

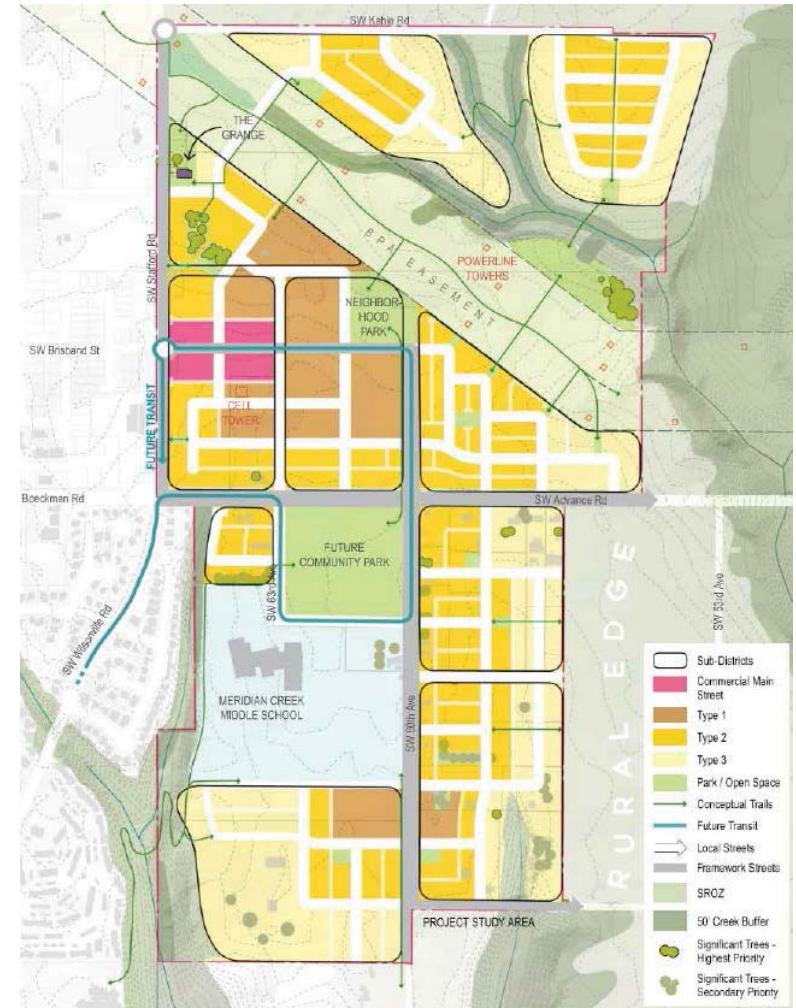
- Housing categories as a tool for variety, and the draft framework for categories?



Variety Policy Guidance Requested

What is the feedback on:

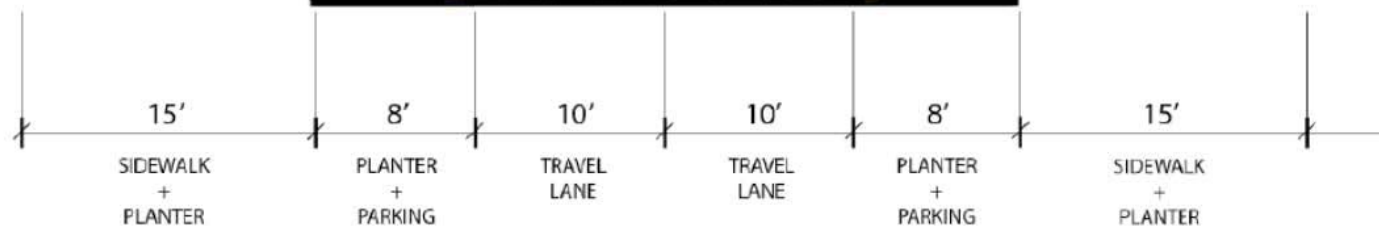
- Establishing a minimum number of categories per subdistrict (or property)?
 - *Example: 3*
- Regulating percentages of categories:
 - a. Maximum net area per category?
 - *Example: 50%*
 - b. Minimum net area for target categories?
 - *Example: 10 - 20%*
 - c. Minimum middle housing mix?
 - *Example: 2 middle housing types*
- *One housing unit could contribute to multiple criteria (i.e. a triplex could contribute to both target categories and minimum middle housing)*



Commercial Main Street



Commercial Main Street Design



Commercial Main Street Zoning

- Should the City be flexible to allow single-story retail or vertical mixed use ?
- Should the City base the design standards on Town Center main street code ?

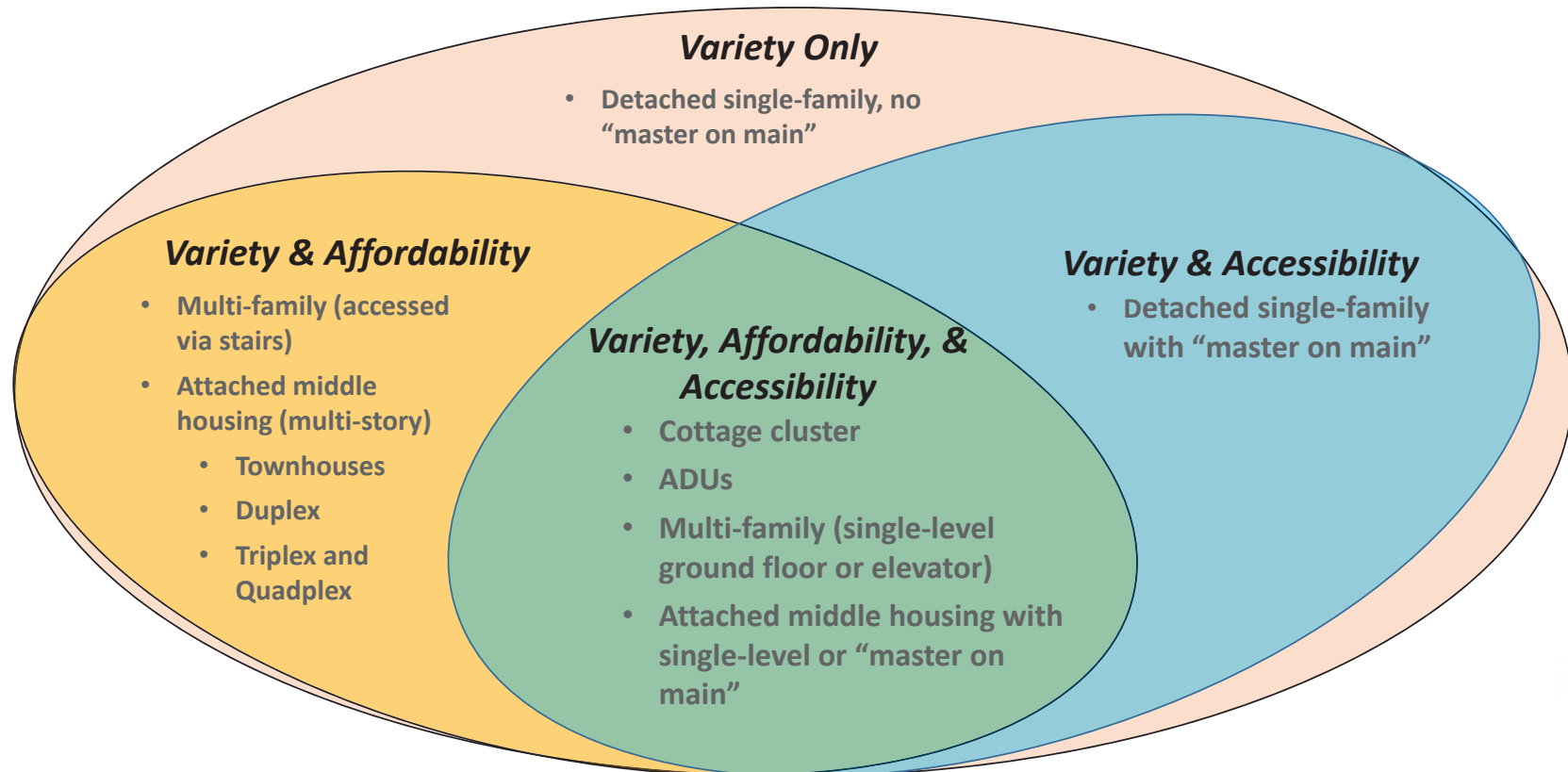


Categorizing Housing Unit Types for Frog Pond East and South

Variety: Different housing types to provide many housing choices

Affordability: This refers to market rate affordability, specifically approximately 80%-120% Median Family Income (MFI). However, the City is not regulating actual sale price, and units represented here as “affordable” may exceed the 120% MFI threshold in the market. This diagram represents types that would tend to be affordable to 80%-120% MFI based on the Affordable Housing Analysis and ADU Memo prepared as part of planning effort for Frog Pond East and South. The City is also interested in seeing housing below 80% MFI. However, this lower cost housing will take additional funding and partnerships outside of zoning standards to realize.

Accessibility: In this context accessible means single-level living adaptable for use by individuals with limited mobility or “accessible ready”. These units tend to have substantially higher development costs than comparable units that are not accessible ready. The accessible ready units are thus often less affordable than equivalent non-accessible ready units. Examples of common additional costs include: additional land needed for single-level living or master on main, additional structure costs related to additional foundation area, trusses, and roof area, and the cost of elevators.



Frog Pond East and South Land Use and Housing Policy Work Session

Wilsonville City Council
October 17, 2022



WILSONVILLE
OREGON

Goals of Work Session

- Master Plan policies to guide development code work
 - Residential
 - Commercial



Where we are in the process

- Oct 17 – CC work session: residential and commercial policy
- Oct 19 – PC work session: draft Master Plan
- Nov 7 – CC work session: draft Master plan
- Nov 16 – PC public hearing on Master Plan
- Dec 5 – CC public hearing on Master Plan
- Dec 19 – CC 2nd reading
- 2023 – development code and other implementation



Looking Forward to Development Code

- Clear and objective standards for housing
- Discretionary alternative



Residential Policies



Allow Full Spectrum of Housing Types

- Single-Family Dwelling Units
- Townhouses
- Duplex
- Triplex and quadplex
- Cluster housing (including cottages and tiny homes)
- Multiple-Family Dwelling Units
- Cohousing
- Manufactured homes
- ADU's (including tiny homes)



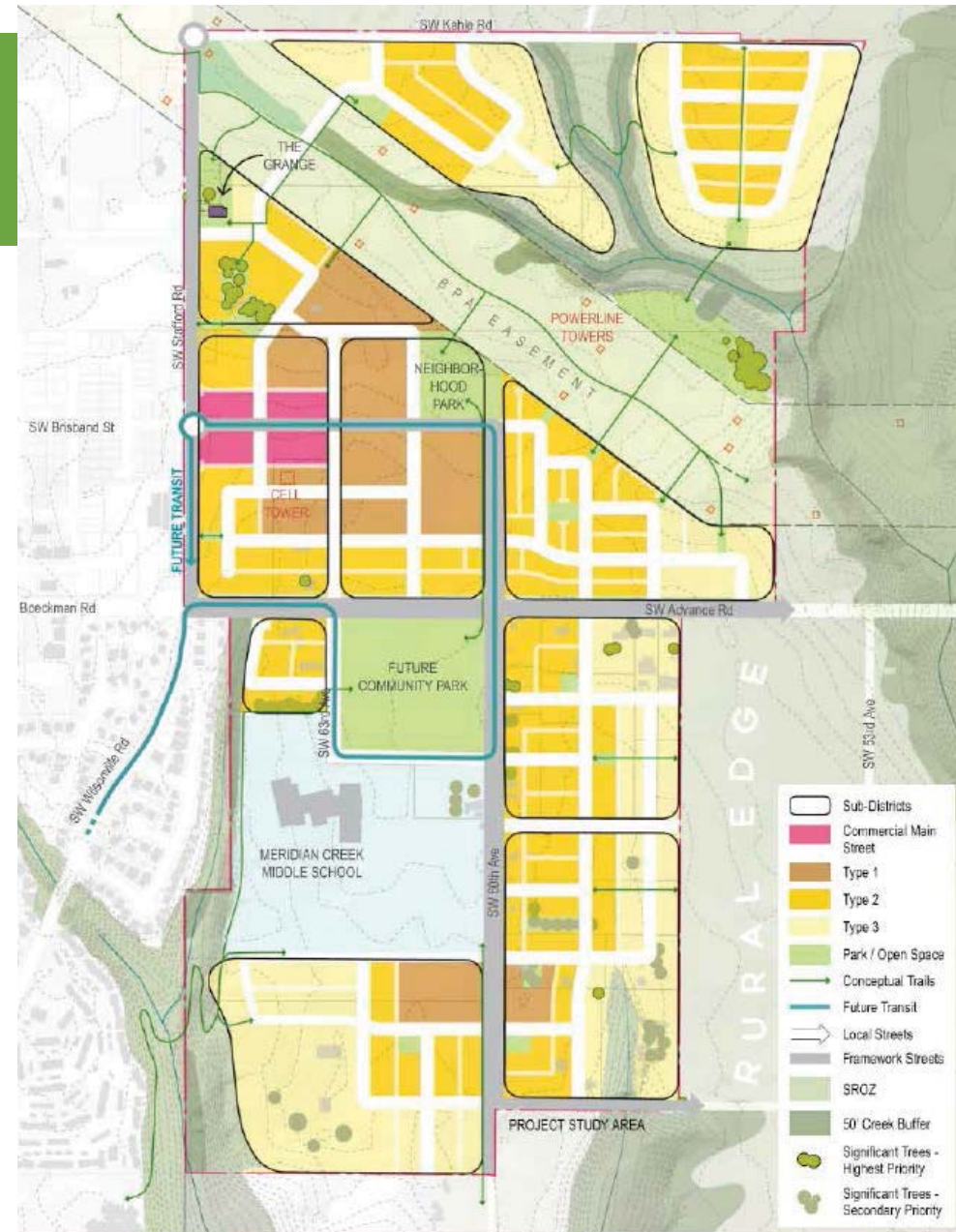
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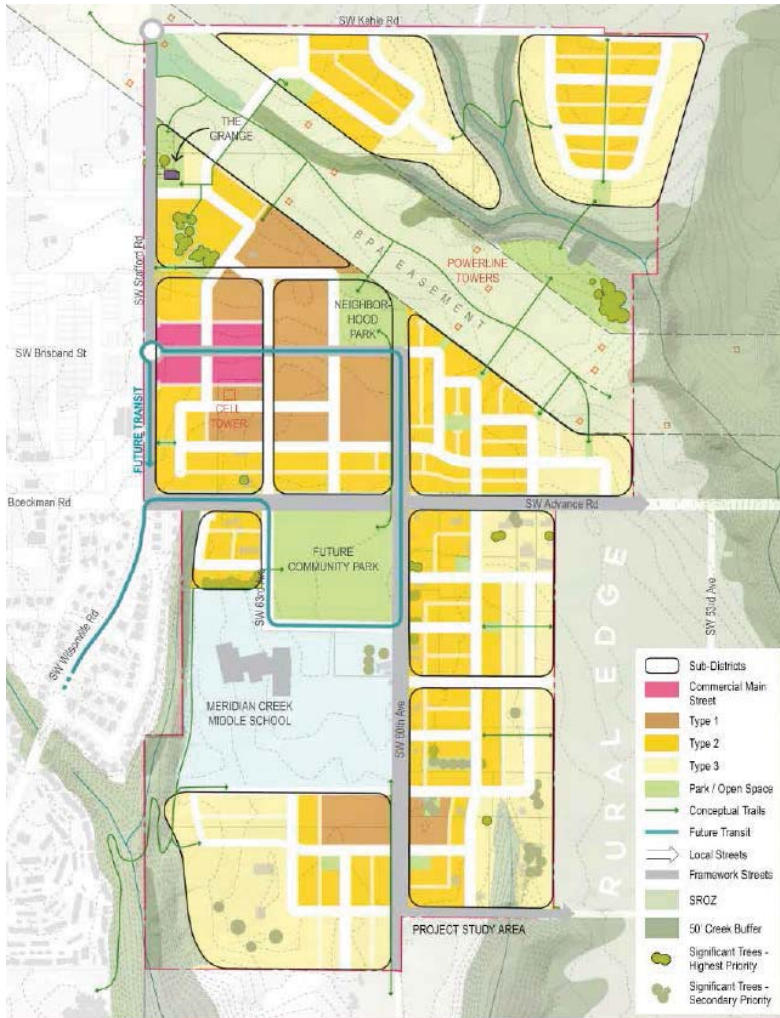


3 Urban Forms

- Establish look and feel standards:
 - Building bulk
 - Height
 - Width
 - Setbacks
 - Between buildings
 - From streets
 - Minimum lot size
 - Lot coverage



What do the colors on this map mean?



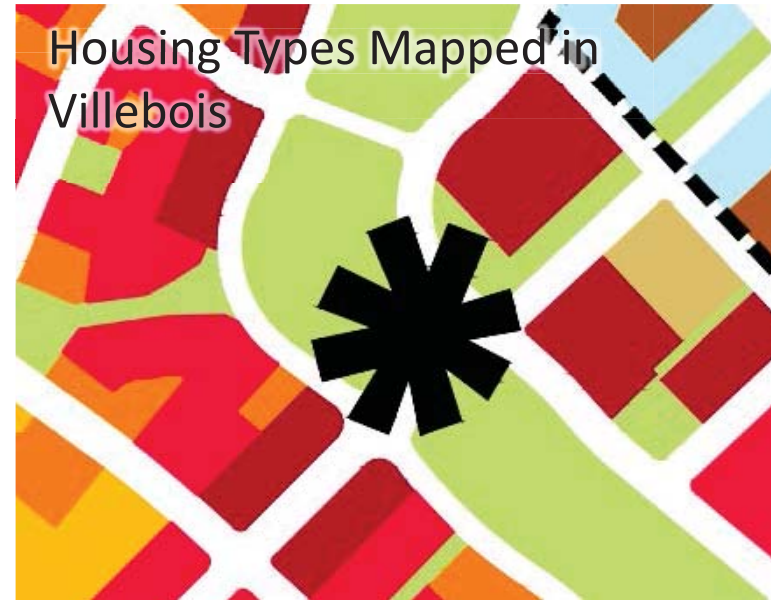
- Colors traditionally and in other areas of Wilsonville?
 - Type of units (i.e. single-family homes vs multi-family)
 - Density (number of units per acre)
- What do the colors mean on this map?
 - The look and feel or **urban form**
 - Building height, building width, distance between buildings, distance of building from street, minimum lot size



Scales of Variety in Frog Pond E+S



Large/Broad Scale
Zoomed Out
(urban forms)
Mapped



Granular Scale
Zoomed In
(housing type)
Development standards
(not mapped)



Housing Variety Policy



Purpose of the Variety Policy

- Policy implementation of the Master Plan's three key intended outcomes:
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 - Integration of affordable choices
 - Transect



Three Steps to Variety Policy

A Draft Approach

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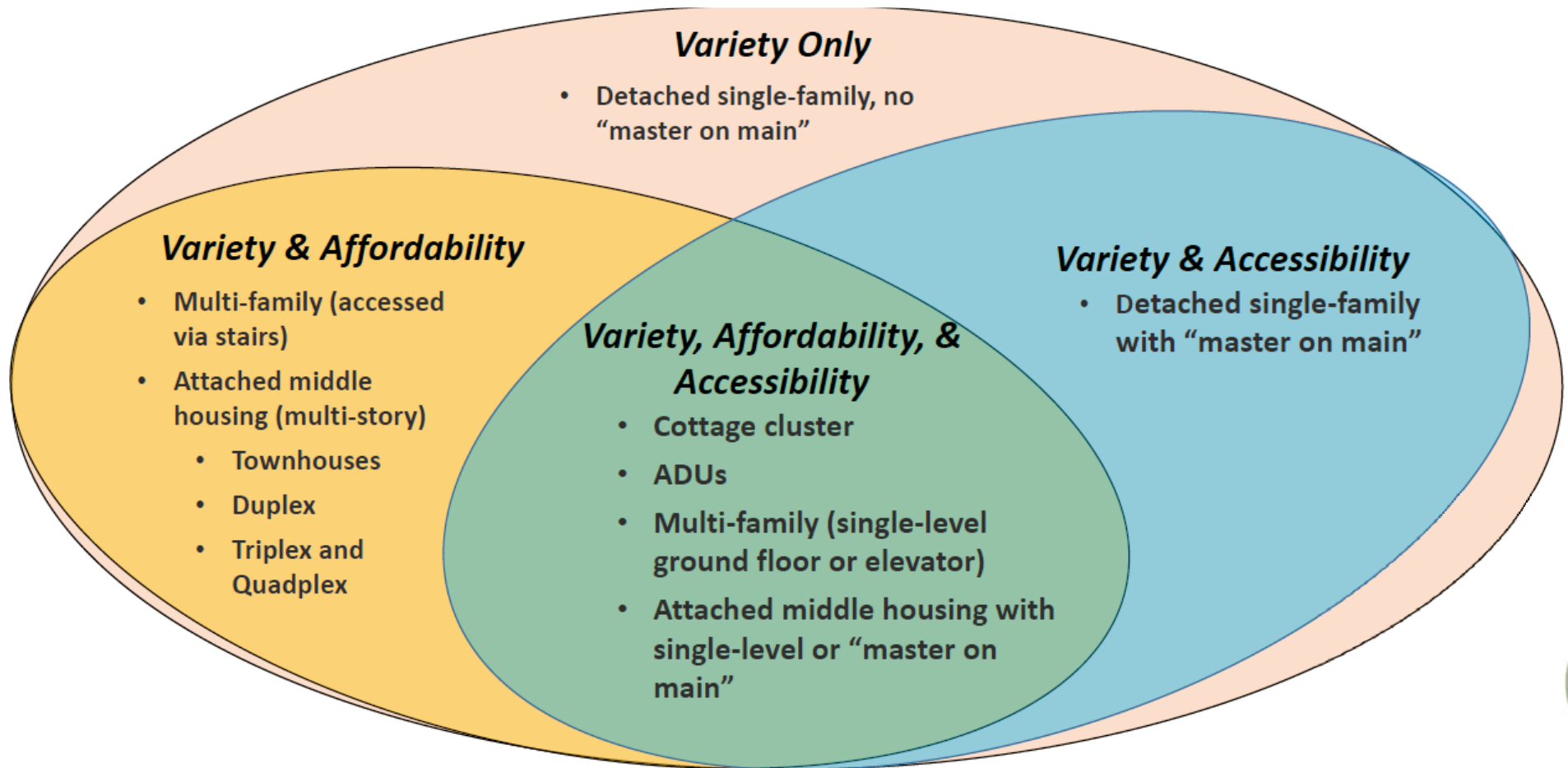


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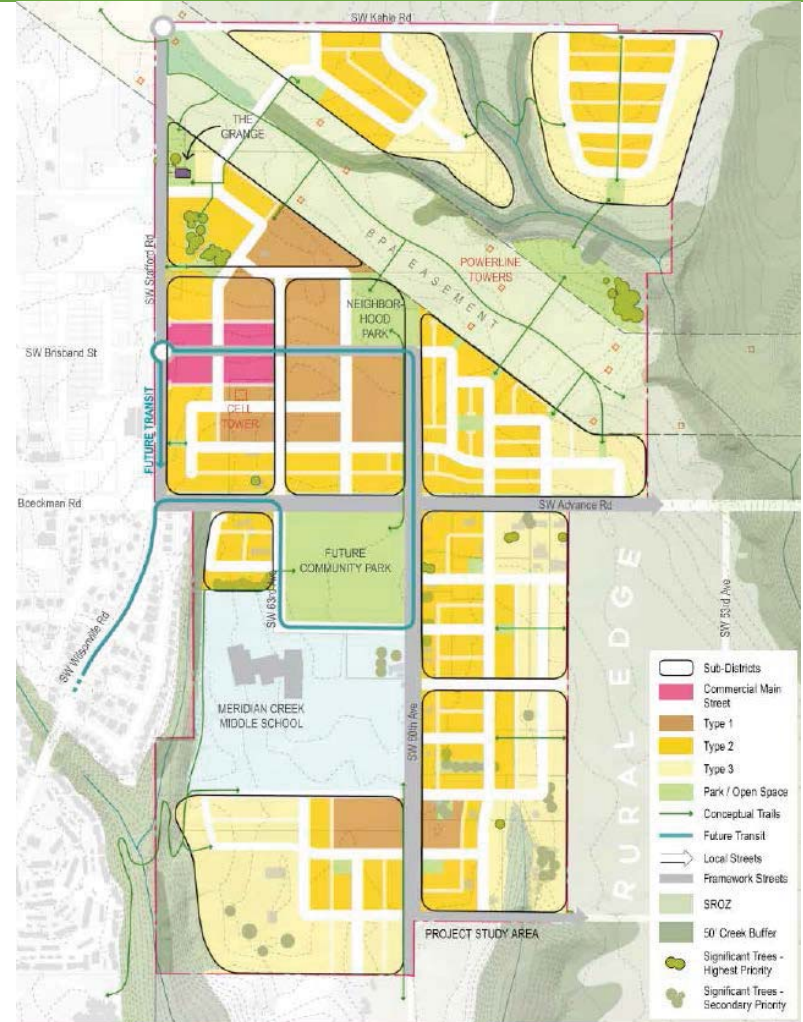


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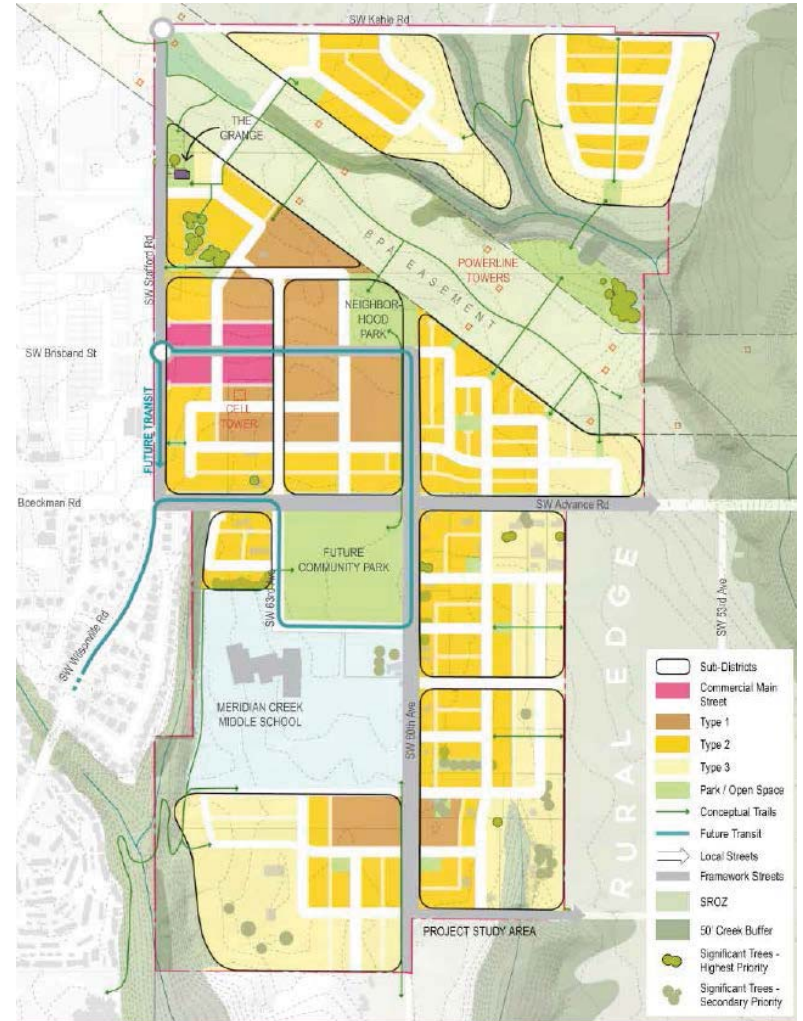
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- Why:
 - To ensure variety
 - For inclusion of target types (e.g. middle housing)
- How:
 - Smaller properties provide fewer categories
 - Larger properties provide more categories
 - Consider X categories per subdistrict (e.g. 3)
- Standards to be set with the code



Step 3: Apply Percentages

- Maximum net area for any single category
 - Example: 50%
- Minimum net area for target categories
 - Example: 10-20%
- Minimum amount of middle housing
 - 2 middle housing types



Residential Policy Summary

- Permit the full spectrum of housing types
- Require minimum densities
- Use Type 1, Type 2, and Type 3 urban forms



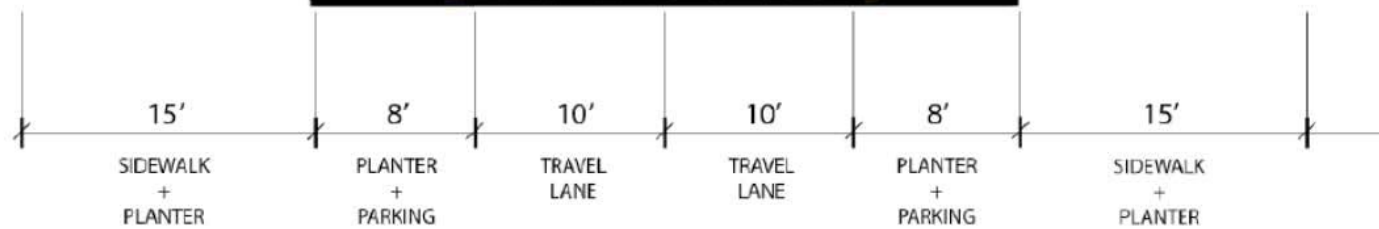
Variety Policy Summary

1. Categorize housing unit types
2. Establish minimum categories per subdistrict (or property)
3. Regulate percentages of categories
 - Maximum net area for a category
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 - Minimum middle housing mix

Commercial Main Street



Commercial Main Street Zoning



Commercial Main Street Zoning

- Should the City be flexible to allow commercial or vertical mixed use ?
- Should the City base the design standards on Town Center main street code ?



City Council Meeting Action Minutes
October 17, 2022

City Council members present included:

Mayor Fitzgerald - Excused
Council President Akervall
Councilor Lehan
Councilor West
Councilor Linville - Excused

Chris Neamtzu, Community Development Director
Miranda Bateschell, Planning Director
Kimberly Rybold, Senior Planner
Matt Lorenzen, Economic Development Manager
Zach Weigel, City Engineer
Dustin Schull, Parks Supervisor
Andrew Barrett, Capital Projects Eng. Manager
Keith Katko, Assistant Finance Director
Katherine Smith, Assistant Finance Director
Zoe Mombert, Assistant to the City Manager
Kris Ammerman, Parks and Recreation Director
Erica Behler, Recreation Coordinator

Staff present included:

Bryan Cosgrove, City Manager
Amanda Guile-Hinman, City Attorney
Kimberly Veliz, City Recorder
Jeanna Troha, Assistant City Manager

AGENDA ITEM	ACTIONS
WORK SESSION	START: 5:02 p.m.
A. 2022 Urban Renewal Strategic Plan	Staff sought Council’s input on a draft Urban Renewal Strategic Plan, which would return for consideration at the November 21, 2022 City Council meeting.
B. Town Center Infrastructure Funding Plan	Staff introduced the draft Town Center Infrastructure Funding Plan, and sought direction on which mechanisms to pursue as recommendations within the final plan.
C. Frog Pond East and South Master Plan	Staff sought feedback on Frog Pond East and South Master Plan policies that pertain to the variety of housing types and the commercial district.
REGULAR MEETING	
<u>Mayor’s Business</u>	
A. Upcoming Meetings	Upcoming meetings were announced by the Council President as well as the regional meetings she attended on behalf of the City.
<u>Communications</u>	
A. STARS Camp Recognition	Local high school students informed Council of the STARS Camp. The students created the camp and ran it along with other teen camp counselors. Wilsonville Parks and Recreation staff oversaw the camp, which was free of charge. The camp was intended to help lower income residents with a day of free childcare along with fun activities for campers.

Consent Agenda

A. **Resolution No. 2998**

A Resolution Of The City Of Wilsonville Authorizing An Intergovernmental Agreement With The City Of Wilsonville Pertaining To Short Term Subordinate Urban Renewal Debt For The Year 2000 Plan District For The Purpose Of Funding The Construction Of Capital Improvement Project By The Agency.

B. **Resolution No. 3002**

A Resolution Of The City Of Wilsonville Authorizing The City Manager To Enter Into The First Amendment To Communications Facility Ground Lease With Clackamas 800 Radio Group For The Use Of City-Owned Property On Level C Reservoir Parcel As A Wireless Communication Facility Tower Site.

C. **Resolution No. 3003**

A Resolution Of The City Of Wilsonville Authorizing The City Manager To Execute A Professional Services Agreement With Consor North America, Inc. To Provide Engineering Consulting Services For The Boeckman Creek Interceptor And Trail Project (Capital Improvement Projects No. 2107 And No. 9150).

D. **Resolution No. 3006**

A Resolution Of The City Of Wilsonville Authorizing The City Manager To Execute A Construction And Funding Agreement With Portland & Western Railroad, Inc. For Re-Construction Of A Grade Crossing At The 5th Street Railroad Crossing Associated With The 5th Street / Kinsman Road Extension Project.

E. Minutes of the October 3, 2022 City Council Meeting.

The Consent Agenda was approved 3-0.

New Business

A. None.

Continuing Business

A. None.

<u>Public Hearing</u> A. <u>Resolution No. 2999</u> A Resolution Of The City Of Wilsonville Authorizing A Supplemental Budget Adjustment For Fiscal Year 2022-23.	After a public hearing was conducted, Resolution No. 2999 was approved 3-0.
<u>City Manager's Business</u>	No report.
<u>Legal Business</u>	The City Attorney informed Council of her schedule for the next week.
URBAN RENEWAL AGENCY	
<u>URA Consent Agenda</u> A. <u>URA Resolution No. 328</u> A Resolution Of The City Of Wilsonville Urban Renewal Agency Authorizing An Intergovernmental Agreement With The City Of Wilsonville Pertaining To Short Term Subordinate Urban Renewal Debt For The Year 2000 Plan District For The Purpose Of Funding The Construction Of Capital Improvement Project By The Agency. B. <u>URA Resolution No. 331</u> A Resolution Of The City Of Wilsonville Urban Renewal Agency Authorizing The City Manager To Execute A Construction And Funding Agreement With Portland & Western Railroad, Inc. For Re-Construction Of A Grade Crossing At The 5 th Street Railroad Crossing Associated With The 5th Street/ Kinsman Road Extension Project. C. Minutes of the September 19, 2022 Urban Renewal Agency Meeting.	The URA Consent Agenda was approved 3-0.
<u>New Business</u> A. None.	
<u>Continuing Business</u> A. None.	
<u>URA Public Hearing</u> A. <u>URA Resolution No. 330</u> A Resolution Of The City Of Wilsonville Urban Renewal Agency Authorizing A Supplemental Budget Adjustment For Fiscal Year 2022-23.	After a public hearing was conducted, URA Resolution No. 330 was approved 3-0.
ADJOURN	7:58 p.m.



CITY COUNCIL
MONDAY, OCTOBER 3, 2022

WORK SESSION

Frog Pond East and South Master Plan (Pauly)



CITY COUNCIL MEETING STAFF REPORT

Meeting Date: October 3, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable	
		Comments: On September 14 Planning Commission held a work session and provided feedback that is integrated into the staff report and attachments.	
Staff Recommendation: Provide input regarding infrastructure for Frog Pond East and South.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE COUNCIL:

Provide feedback and input on infrastructure analyses and plans for Frog Pond East and South.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a Master Plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the urban reserve land known as Frog Pond East and South. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process will also identify water, sewer, stormwater, and transportation infrastructure needs and funding sources.

This will be the City Council's eighth work session on the Frog Pond East and South Master Plan. The previous work sessions and their content were as follows:

Work Session 1-October 2021: Focus on overall project scope and the outreach plan.

Work Session 2-January 2022: Initial feedback on the needs and opportunities for affordable housing and housing variety.

Work Session 3-March 2022: Continuation of the topic of housing needs for more detailed feedback and direction, introduction of the neighborhood commercial evaluation.

Work Session 4-May 2022: Further discussion of the neighborhood commercial center and discussion of the design concepts for development of land use and urban design alternatives.

Work Session 5-June 2022: Provided direction on draft land use alternatives, including mapping the locations of different housing types and forms (grouped into Type 1, Type 2, and Type 3).

Work Session 6-July 2022: Reviewed the draft preferred land use alternative and gave direction on land use policies around housing variety.

Work Session 7-September 2022: Discussion of housing variety policy and first time home ownership and public realm master plan components.

This *Work Session 8* will primarily focus on the Transportation Analysis (Attachment 1) and Infrastructure Technical Memo (Attachment 2). The project team will be available to discuss and answer any questions. In addition, the project team will be available to answer any outstanding questions or have discussion about other project elements from prior work sessions.

Transportation Analysis and Proposed Infrastructure

The 2015 Frog Pond Area Plan set the vision for all three Frog Pond neighborhoods and thus, included a transportation evaluation that encompassed Frog Pond East and South. Traffic modeling has thus anticipated development of these neighborhoods consistent with the Plan. The attached Transportation Analysis (Attachment 1) refines the prior 2015 evaluation. The Transportation Analysis is based on the maximum potential amount of commercial - to test the system, the analysis assumed 50,000 square feet although the current recommendation is a maximum of 44,000 square feet - and the likely number of dwelling units (1,800) under the preferred land use alternative. As a next step, the information from the preferred land use alternative Transportation Analysis will be used to develop a street project list to include in the infrastructure plan.

Key points of the Transportation Analysis are as follows:

- With recommended improvements and construction of high-priority projects in the Wilsonville and Clackamas County Transportation System Plans (TSPs), level of service will be met at impacted intersections, both nearby and further away in Wilsonville. This includes at I-5 interchanges and the Elligsen/Stafford intersection.
- New round-a-bouts are recommended on Stafford Road at Kahle Road and Brisband Street and on Advance Road at 60th Avenue.
- A median/barrier is recommended on Stafford Road at Frog Pond Lane to prevent traffic from crossing Stafford Road while still allowing most movements to and from Stafford Road into Frog Pond West and Frog Pond East.
- A number of pedestrian crossing amenities are recommended subject to further refinement with public input, including from stakeholders such as the school district.

Water, Sanitary Sewer Proposed Infrastructure

Similar to the transportation analysis, initial water, sanitary sewer, and stormwater analysis was completed for the 2015 Frog Pond Area Plan. In a June work session, an existing conditions analysis was presented, which included the discussion of existing conditions of the Frog Pond East and South area infrastructure, previously prepared plans, and a review of applicable standards. The Infrastructure Technical Memo (Attachment 2) builds on this previous work and lays out the proposed infrastructure to serve Frog Pond East and South in a manner that meets City standards. Like the Transportation Analysis, the Infrastructure Technical Memo tests the maximum potential amount of commercial and the likely number of dwelling units under the preferred land use alternative.

The information from the Infrastructure Technical Memo will be used to estimate infrastructure costs for the Frog Pond East and South Master Plan area. The following are some key points from the proposed infrastructure analysis regarding water and sanitary sewer:

- Key off-site infrastructure planned in the City’s existing infrastructure master plans are needed to provide infrastructure capacity to Frog Pond East and South:
 - Water storage capacity: Westside tank northwest of Villebois, anticipated completion 2025.
 - Downstream sanitary sewer capacity: Boeckman Road Sewer Trunk Line, construction planned in 2024. Boeckman Creek sewer interceptor, anticipated completion 2025.
- The exact amount of development that can occur in Frog Pond East and South prior to completion of the key planned off-site infrastructure projects will need further analysis. This may occur either as part of the Master Plan and/or at time of development proposal. Capacity will depend on the amount and timing of development in Frog Pond East and South relative to development in Frog Pond West and elsewhere in the City.
- Not previously identified in an infrastructure master plan, important off-site 12-inch water distribution connections are needed under Boeckman Creek from the end of Frog Pond Lane towards Canyon Creek Road and beneath Meridian Creek just south of Meridian Creek Middle School.
- Due to topography, Frog Pond East and South will require four sanitary sewer lift stations.

Stormwater infrastructure will also be part of the Frog Pond East and South Master Plan. Additional analysis and discussion is needed by the project team prior to presentation of stormwater infrastructure to the City Council. The team plans to bring forward in an upcoming work session.

Council may notice the Technical Memorandum includes a discussion of a hypothetical higher density scenario. State Administrative Rules adopted to implement House Bill 2001, as recently updated in September, provide a number of options for new master planned areas such as Frog Pond East and South to be found in compliance with House Bill 2001, the State’s middle housing law. One of the compliance options involves planning infrastructure for a higher hypothetical density. The project scope includes this sensitivity analysis for this higher hypothetical density to help inform selection of the compliance option. The project team does not plan discussion of this alternative density at this work session, but may bring up in the future as relevant to compliance options.

Discussion Questions:

1. What questions or comments does the Council have about the Transportation Analysis (Attachment 1)?

2. What questions or comments does the Council have about the Infrastructure Analysis (Attachment 2)?
3. What additional feedback or direction, if any, does the Council on items previously discussed during work sessions?

EXPECTED RESULTS:

Feedback and direction from the City Council on infrastructure to support the development of Frog Pond East and South.

TIMELINE:

This is the eighth in a series of work sessions for the City Council. The next work session is planned for November. The Master Plan is scheduled to be completed by December 2022, with some implementation elements extending into the first half of 2023.

CURRENT YEAR BUDGET IMPACTS:

The project is funded by a combination of a \$350,000 Metro grant, an \$81,000 Oregon DLCD grant, and matching City funds in the form of staff time. \$311,000 is budgeted in FY 22/23 to complete the project.

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which lays out a robust public engagement program that will include meaningful and impactful involvement of people who identify with historically marginalized communities.

POTENTIAL IMPACTS OR BENEFIT TO THE COMMUNITY:

Furthering of the City's Equitable Housing Strategic Plan and Council's goal of affordable home ownership, while creating Wilsonville next great neighborhoods.

ALTERNATIVES:

The City Council and City Council can continue to direct changes to the draft plan elements. In addition, the City Council and City Council continues to have a number of options for policy related to housing variety.

ATTACHMENTS:

1. Transportation Analysis (dated September 7, 2022)
2. Infrastructure Technical Memo (dated September 6, 2022)

DRAFT

FROG POND EAST & SOUTH MASTER PLAN

TRANSPORTATION ANALYSIS: EXISTING AND FUTURE CONDITIONS

SEPTEMBER 2022



EAST & SOUTH
MASTER PLAN

DRAFT

PREPARED FOR THE CITY OF WILSONVILLE



PREPARED BY DKS ASSOCIATES



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This report documents the traffic analysis performed in association with the Frog Pond East & South Master Plan in Wilsonville, Oregon. This report provides a more refined evaluation of the East and South land use as compared to the Frog Pond Area Plan,¹ which was adopted in 2015, and builds on the work of the Frog Pond West Master Plan,² which was adopted in 2017.

An executive summary of this transportation analysis is provided below. The following sections of this memorandum document the existing traffic conditions (2022), future baseline and build traffic conditions (2040), and a list of resulting transportation projects. The year 2040 was selected for future analysis to be consistent with the Metro Regional Transportation Plan (RTP) and Wilsonville Travel Demand Model's horizon year.

EXECUTIVE SUMMARY

To determine existing and future transportation conditions for the Frog Pond East and South neighborhoods, a comprehensive traffic analysis was performed. The analysis focused on the major intersections both within the project vicinity and within Wilsonville at large, including the two I-5 interchange areas (i.e., Wilsonville Road and Elligsen Road). The study area includes 15 total intersections, including 4 key gateway intersections to the neighborhoods.

The existing conditions analysis was based on recent 2021 and 2022 traffic counts and existing intersection geometries, while the future analysis was based on traffic forecasts for the 2040 horizon year and improved intersection geometries associated with all High Priority Projects included in Wilsonville's Transportation System Plan (TSP). The future analysis consisted of two scenarios: 2040 Baseline and 2040 Build. The future land use assumptions are consistent with the Metro model, which was used to update the travel demand model for the Build scenario. The 2040 Baseline scenario assumes no additional growth beyond what is currently assumed in the 2040 model and the 2040 Build scenario represents the likely build-out of the study area, which includes up to 1,800 housing units and up to 44,000 square feet of commercial space within the East and South neighborhoods.

The City has also identified a hypothetical higher-density alternative which calls for approximately 2,400 total units in the combined East and South neighborhoods. This higher dwelling unit amount reflects 20 units per net acre, which is a density prescribed in one of the compliance options in State administrative rules for new urban areas to comply with House Bill 2001 middle housing law. The project team is still analyzing and confirming the impact of a hypothetical higher unit count and will incorporate it into a future draft of this Transportation Analysis.

Intersection traffic operations were analyzed for the weekday PM peak hour under the existing and both future scenarios to evaluate if the study intersections meet desired performance levels as required by the City of Wilsonville, Clackamas County, and Oregon Department of Transportation

¹ Frog Pond West Master Plan, City of Wilsonville, July 17, 2017.

² Frog Pond Area Plan, City of Wilsonville, November 16, 2015.



(ODOT). All intersections except the Stafford Road/65th Avenue intersection currently meet operating standards and targets. Additional coordination between Clackamas County and City of Wilsonville is recommended regarding the necessary improvements to that intersection to accommodate future Frog Pond development.

In the future 2040 scenarios, all but three of the study intersections are expected to continue to meet standards and targets in the future assuming the completion of the High Priority Projects identified in the TSP. Those three intersections are located along Stafford Road and are the gateway intersections to the Frog Pond East neighborhood and were analyzed as stop controlled intersections. The following transportation improvements are recommended for these intersections.

- **Stafford Road/Kahle Road:** Install a single-lane roundabout
- **Stafford Road/Frog Pond Lane:** Install a raised median to prohibit minor street through and left turns and install an enhanced pedestrian crossing with a center refuge median.
- **Stafford Road/Brisband Street:** Install a single-lane roundabout

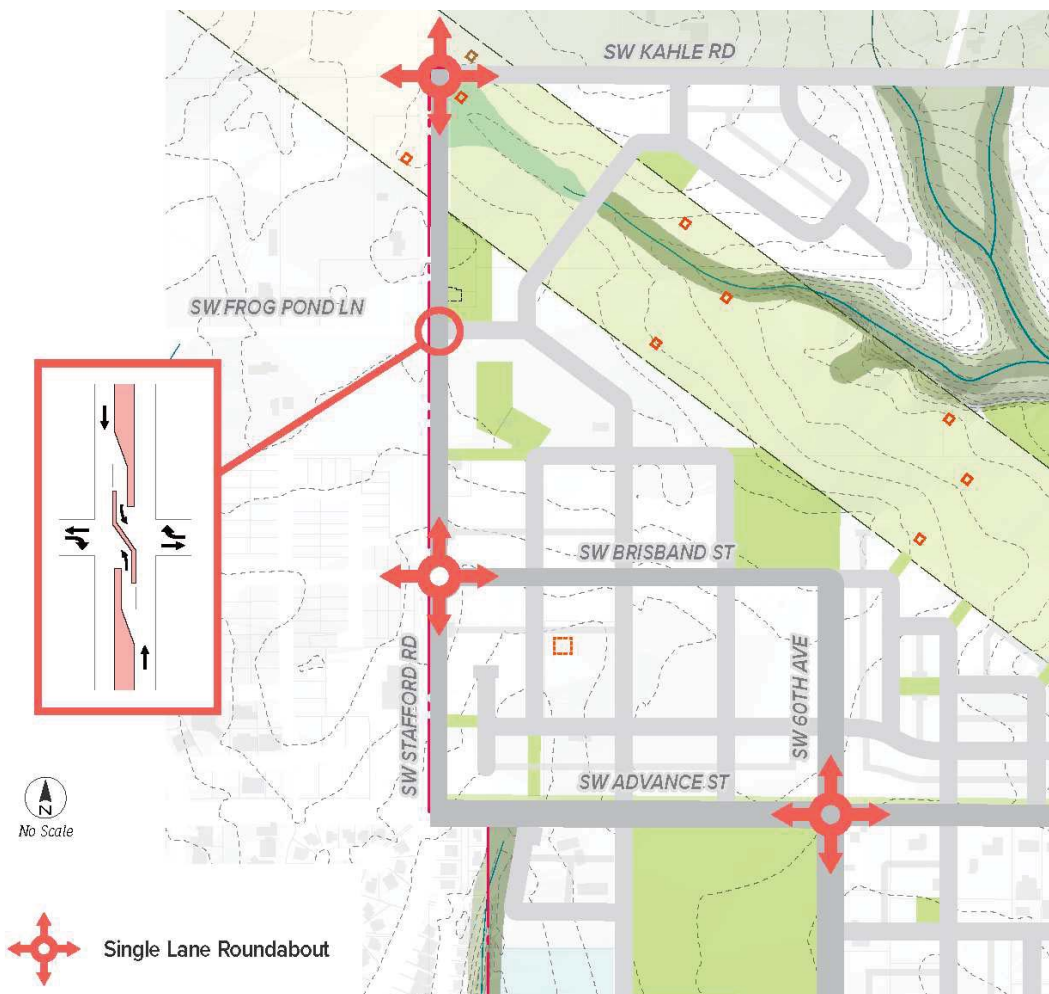


FIGURE 1: RECOMMENDED INTERSECTION IMPROVEMENTS

Additional transportation projects were identified for the East and South neighborhood to enhance safety, which are listed below:

- Install a roundabout at Advance Road/60th Avenue. The installation of a roundabout at this location will create a gateway between the high-speed rural traffic and the new desired slower urban speeds. The roundabout will also provide for slower speeds and improved access to the Frog Pond neighborhoods.
- Install various pedestrian, bicycle, and trail improvements on Stafford Road and Advance Road (shown below).

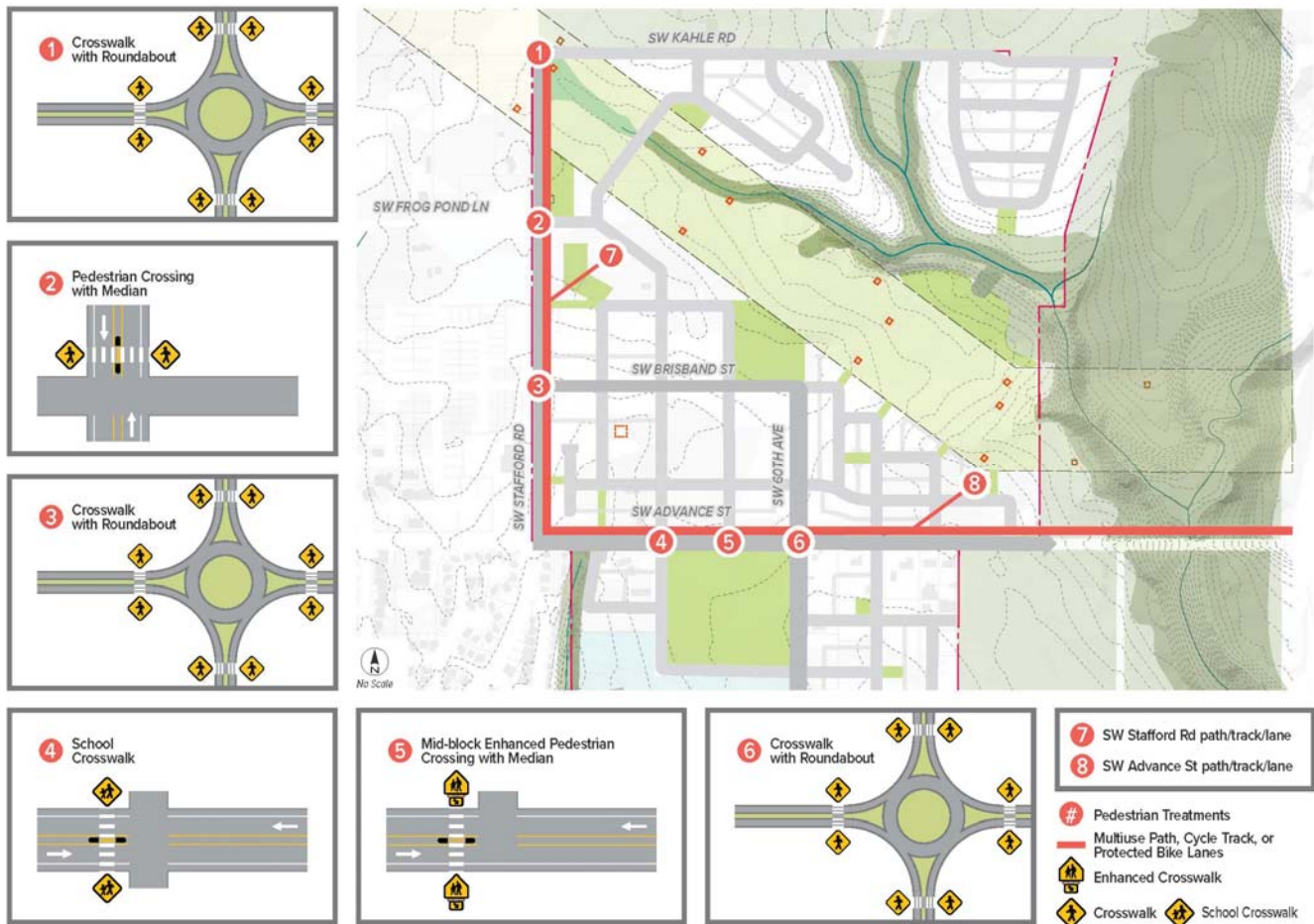


FIGURE 2: RECOMMENDED PEDESTRIAN, BICYCLE, AND TRAIL IMPROVEMENTS



EXISTING TRAFFIC CONDITIONS (2022)

Existing traffic conditions were evaluated for the study area and include traffic volumes; intersection operations; and bike, pedestrian, and trail conditions.

EXISTING TRAFFIC VOLUMES

Traffic counts were collected for the PM peak period (4:00 to 6:00 p.m.) at the following study intersections.³ The PM peak hour traffic volumes (i.e., the highest hourly volumes during the peak period) are shown in Figure 3 and the traffic counts are provided in the appendix.

- Elligsen Road/I-5 Southbound Ramp
- Elligsen Road/I-5 Northbound Ramp
- Elligsen Road/Parkway Avenue
- Elligsen Road/Parkway Center Drive
- Stafford Road/65th Avenue
- Boeckman Road/Parkway Avenue
- Boeckman Road/Canyon Creek Road
- Boeckman Road-Advance Road/Stafford Road-Wilsonville Road
- Advance Road/60th Avenue
- Stafford Road/Brisband Street
- Stafford Road/Frog Pond Lane
- Stafford Road/Kahle Road
- Wilsonville Road/I-5 Southbound Ramp
- Wilsonville Road/I-5 Northbound Ramp
- Wilsonville Road/Town Center Loop West

INTERSECTION PERFORMANCE MEASURES

Agency mobility standards often require intersections to meet level of service (LOS) or volume-to-capacity (v/c) intersection operation thresholds. Additional operational details are provided in the appendix.

- The intersection LOS is similar to a “report card” rating based upon average vehicle delay. Level of service A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. Level of service D and E are progressively worse operating conditions. Level of service F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity. This condition is typically evident in long queues and delays.
- The volume-to-capacity (v/c) ratio represents the level of saturation of the intersection or individual movement. It is determined by dividing the peak hour traffic volume by the maximum hourly capacity of an intersection or turn movement. When the V/C ratio

³ The counts were collected on September 22, 2021; September 30, 2021; March 30, 2022; May 18, 2022; and June 7, 2022.



approaches 0.95, operations become unstable and small disruptions can cause the traffic flow to break down, resulting in the formation of excessive queues.

The City of Wilsonville requires all intersections to meet its minimum acceptable level of service (LOS) standard of LOS D for the PM peak period.⁴

Clackamas County requires that, for intersections outside of city limits, signalized and roundabout intersections must meet the volume-to-capacity ratio (v/c) of 0.90 or less and unsignalized intersections must meet the minimum LOS standard of LOS E during the PM peak period.⁵

ODOT specifies a typical mobility target for interchange ramps of a volume-to-capacity ratio (v/c) of 0.85. However, when the interchange vicinity is fully developed and adequate storage is available on the interchange ramp to prevent queues from backing up on the main line, then the target can be increased to a 0.90 v/c ratio.⁶ This is the case for both of the I-5 interchange areas in Wilsonville.

EXISTING INTERSECTION OPERATIONS

Intersection operations were analyzed for the PM peak hour to evaluate whether the transportation network currently operates within desired performance levels as required by the City of Wilsonville, Clackamas County, and ODOT. Intersections are the focus of the analysis because they are the controlling bottlenecks of traffic flow and the ability of a roadway system to carry traffic efficiently is nearly always diminished in their vicinity.

The existing PM peak hour intersection operations at the study intersection were determined based on the 6th Edition Highway Capacity Manual methodology.⁷ Table 1 lists the estimated average delay (in seconds), level of service (LOS), and volume to capacity (v/c) ratio for each study intersection. As shown, all intersections currently meet operating standards and targets with exception of Stafford Road/65th Avenue, which is within Clackamas County's jurisdiction. Additional coordination between Clackamas County and City of Wilsonville is recommended regarding the necessary improvements at this intersection to accommodate future Frog Pond development.

⁴ Policy 5, Wilsonville Transportation System Plan, Amended November 16, 2020.

⁵ System Performance Policies, Chapter 5: Transportation System Plan, Clackamas County Comprehensive Plan, Amended January 1, 2022.

⁶ Oregon Highway Plan, Action 1F.1, Oregon Department Of Transportation, Amended May 2015.

⁷ Highway Capacity Manual, 6th Edition, Transportation Research Board, 2017.



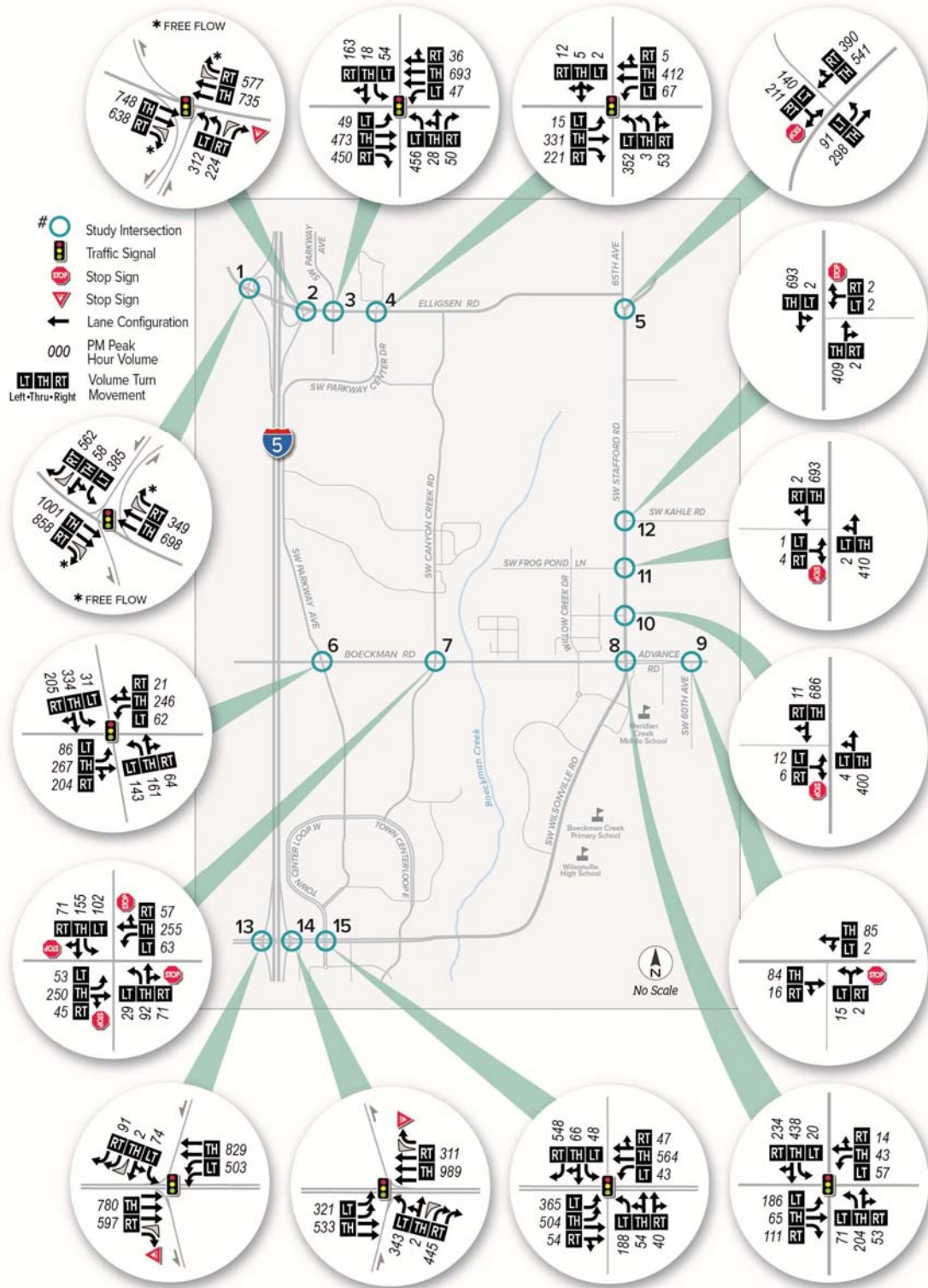


FIGURE 3: EXISTING 2022 TRAFFIC VOLUMES, LANE GEOMETRIES, AND TRAFFIC CONTROL



TABLE 1: EXISTING (2022) INTERSECTION OPERATIONS

INTERSECTION	OPERATING STANDARD	PM PEAK HOUR		
		V/C	DELAY	LOS
SIGNALIZED				
ELLIGSEN RD/I-5 SB RAMPS	v/c ≤ 0.90	0.74	19.5	B
ELLIGSEN RD/I-5 NB RAMPS	v/c ≤ 0.90	0.34	8.4	A
ELLIGSEN RD/PARKWAY AVE	LOS D	0.32	15.9	B
ELLIGSEN RD/PARKWAY CENTER DR	LOS D	0.40	14.9	B
BOECKMAN RD/PARKWAY AVE	LOS D	0.84	25.6	C
STAFFORD RD-WILSONVILLE RD /BOECKMAN RD-ADVANCE RD	LOS D	0.65	17.0	B
WILSONVILLE RD/I-5 SB RAMPS	v/c ≤ 0.90	0.38	19.3	B
WILSONVILLE RD/I-5 NB RAMPS	v/c ≤ 0.90	0.44	16.2	B
WILSONVILLE RD/TOWN CENTER LP WEST	LOS D	0.38	28.1	C
TWO-WAY STOP-CONTROLLED				
STAFFORD RD/65 TH AVE	LOS E	>1.20	>120	B/F
ADVANCE RD/60 TH AVE	LOS D	0.03	9.8	A/A
STAFFORD RD/BRISBAND ST	LOS D	0.08	20.9	A/C
STAFFORD RD/FROG POND LN	LOS D	0.02	15.7	A/C
STAFFORD RD/KAHLE RD	LOS D	0.01	16.9	A/C
ALL-WAY STOP-CONTROLLED				
BOECKMAN RD/CANYON CREEK RD	LOS D	0.71	20.3	C

SIGNALIZED INTERSECTION:

Delay = Average Intersection Delay (secs)
v/c = Total Volume-to-Capacity Ratio
LOS = Total Level of Service

TWO-WAY STOP-CONTROLLED INTERSECTION:

Delay = Critical Movement Delay (secs)
v/c = Critical Movement Volume-to-Capacity Ratio
LOS = Critical Levels of Service (Major/Minor Road)

ALL-WAY STOP CONTROLLED INTERSECTION:

Delay = Average Intersection Delay (secs)
v/c = Critical Movement Volume-to-Capacity Ratio
LOS = Total Level of Service



BICYCLE, PEDESTRIAN, AND TRAIL NEEDS

Bicycle, pedestrian, transit, and trail conditions and needs were considered for the study area, with particular emphasis on connectivity to the rest of Wilsonville's neighborhoods, trails, parks, and schools.

The Wilsonville TSP identifies various multimodal improvement projects that are intended to address the deficiencies. Projects within the vicinity of the Frog Pond Area include urban upgrades to Boeckman Road and Stafford Road, which include bike lanes, sidewalks, and transit stop improvements/additions. The TSP also includes a project for new trails through the Frog Pond East and South neighborhoods.

ADVANCE ROAD NEEDS

Additional school safety improvements should be considered on Advance Road near Meridian Creek Middle School. An increase in pedestrian and bicycle traffic to and from the school can be expected with the buildout of the East and South neighborhoods, necessitating pedestrian crossing enhancements on Advance Road.

The urban upgrade improvements on Boeckman Road are currently in the design phase and a separated multi-use path, cycle track, or protected bike lanes are being considered along Boeckman Road. It is desired by the City to extend the identified multimodal improvements on Boeckman Road to the west of Stafford Road along Advance Road fronting the Frog Pond development.

STAFFORD ROAD NEEDS

Pedestrian crossing enhancements on Stafford Road will be needed as the East neighborhood is built out. A significant increase in pedestrian and bicycle trips are expected across Stafford Road between the existing Frog Pond West neighborhood and the planned primary school (in Frog Pond West) to housing and commercial uses in the East neighborhood. Key locations for crossing enhancements would be at Frog Pond Lane and Brisband Street. A signalized crossing already exists at the Stafford Road-Wilsonville Road/Boeckman Road-Advance Road intersection.

Separated pedestrian and bicycle facilities are also desired along Stafford Road since it is a higher speed, higher volume facility. A separated multi-use path, cycle track, or protected bike lanes should be considered along Stafford Road fronting the Frog Pond development on either the west or east side. Given that the majority of the west side of Stafford Road has already gone through development review, the east side of Stafford Road would be the preferred location for a separated pedestrian and bicycle facility.

Recommendations for bicycle and pedestrian projects are listed on page 18 of this memo.



FUTURE BASELINE CONDITIONS (2040)

Future baseline (2040) traffic conditions were evaluated for the study area and include the forecasted baseline traffic volumes and intersection operations. For analysis purposes, the East and South neighborhoods are assumed to experience full build-out by the year 2040.

FUTURE BASELINE TRAFFIC VOLUMES

Future traffic volumes were forecasted for the study intersections using the recently updated travel forecast models developed specifically for Wilsonville. The models apply trip generation and trip distribution data directly taken from the Metro regional travel demand forecast models but add additional detail to better represent local travel conditions and routing within Wilsonville.

Figure 4 shows the PM peak hour traffic volumes for the study intersections based on the Metro model assumptions. As the forecasts are consistent with the current Metro land use assumptions, this scenario is referred to as the 2040 Baseline scenario. This scenario already accounts for some existing homes in the West neighborhood and contains land use assumptions (housing and some employment) in the East and South neighborhoods in 2040.

It should be noted that the Metro model was used for this study because it represents the latest regionally approved land use for Wilsonville and the Region. This model was completed by Metro, in collaboration with the City, after the City's TSP was approved and includes additional land use and transportation network assumptions adopted by Metro after the TSP was adopted.



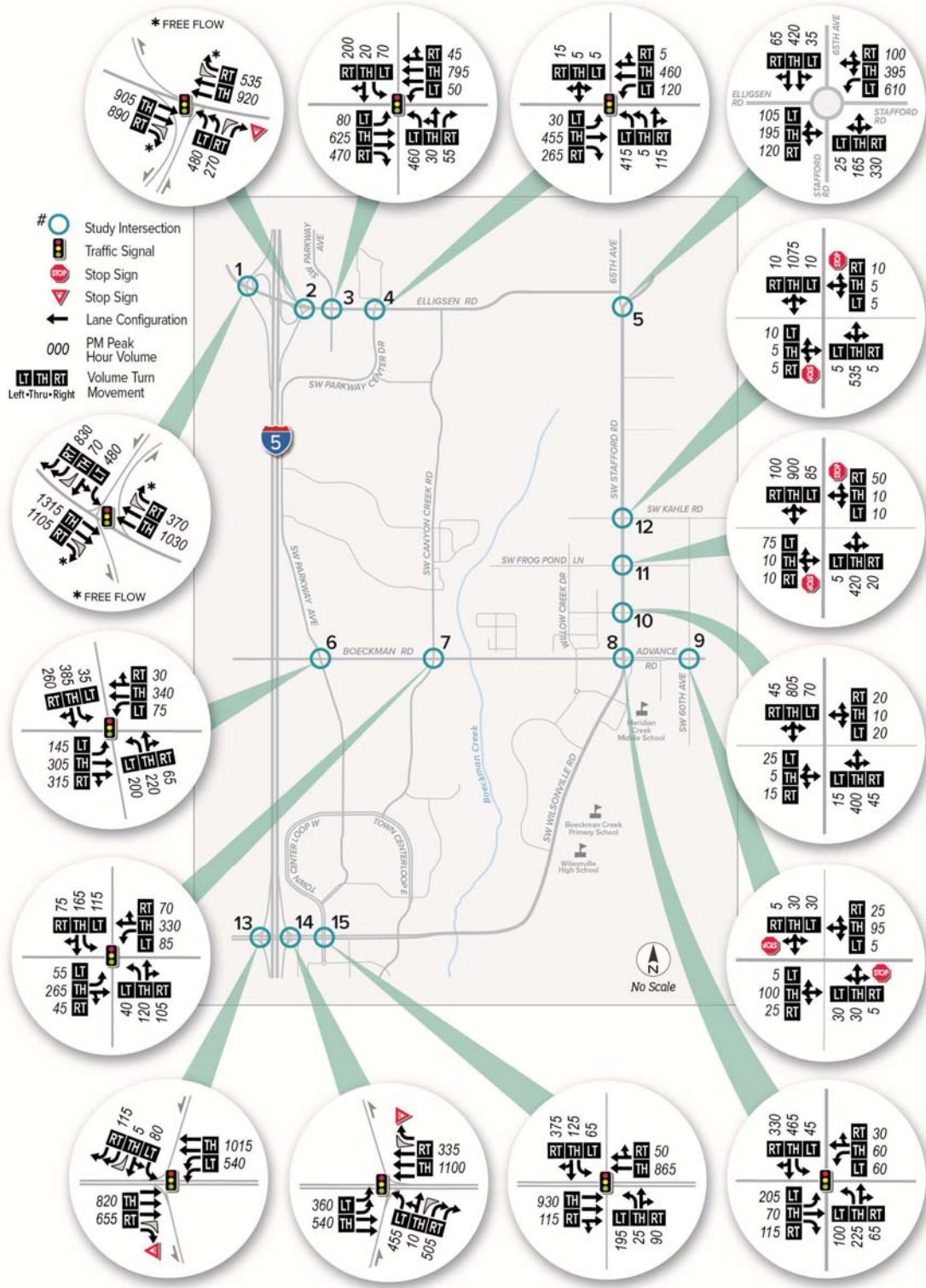


FIGURE 4: BASELINE (2040) TRAFFIC VOLUMES, LANE GEOMETRIES, AND TRAFFIC CONTROL



FUTURE HIGH-PRIORITY TSP PROJECTS

The future baseline scenario assumed improved intersection geometries associated with all High Priority Projects included in Wilsonville's TSP. The High Priority Projects applicable to the Frog Pond study area include the following:

- Addition of a second southbound right turn lane on the I-5 Southbound Off-Ramp at Elligsen Road (SI-07).
- Addition of dual eastbound and westbound through lanes at Boeckman Road/Parkway Avenue intersection (RW-01).
- Installation of traffic signal at Boeckman Road/Canyon Creek Road (UU-01). The City of Wilsonville is currently in the conceptual design phase for this intersection and a roundabout is also under consideration.
- Intersection modifications at Wilsonville Road/Town Center Loop West which including eliminating westbound and eastbound left turns, addition of an eastbound through "trap" lane, and reduction of the northbound and southbound approaches to a left turn lane and shared through-right turn lane (SI-09).
- Installation of a roundabout and combination of the existing intersections of Elligsen Road/65th Avenue and Stafford Road/65th Avenue (SI-03). This intersection is located within Clackamas County and is identified in their TSP but is also referenced in the Wilsonville TSP. For this analysis, the roundabout was evaluated as a partial dual-lane roundabout.

FUTURE BASELINE INTERSECTION OPERATIONS

Intersection traffic operations under the future 2040 Baseline scenario were analyzed for the PM peak hour to evaluate whether the transportation network is expected to remain within desired performance levels as required by the City of Wilsonville, Clackamas County, and ODOT.

Table 2 lists the estimated average delay (in seconds), level of service (LOS), and volume to capacity (v/c) ratio that each study intersection and future access is expected to experience.

As shown, all intersections are expected to meet operating standards and targets under Baseline conditions with exception of the Stafford Road/Kahle Road, Stafford Road/Frog Pond Lane, and Stafford Road/Brisband Street intersections, which were analyzed as key gateways to the Frog Pond East neighborhood.



TABLE 2: FUTURE BASELINE (2040) INTERSECTION OPERATIONS

INTERSECTION	OPERATING STANDARD	PM PEAK HOUR		
		V/C	DELAY	LOS
SIGNALIZED				
ELLIGSEN RD/I-5 SB RAMPS	v/c ≤ 0.90	0.73	18.1	B
ELLIGSEN RD/I-5 NB RAMPS	v/c ≤ 0.90	0.45	9.3	A
ELLIGSEN RD/PARKWAY AVE	LOS D	0.52	24.4	C
ELLIGSEN RD/PARKWAY CENTER DR	LOS D	0.55	16.9	B
BOECKMAN RD/PARKWAY AVE	LOS D	0.82	23.5	C
BOECKMAN RD/CANYON CREEK RD	LOS D	0.57	15.2	B
STAFFORD RD-WILSONVILLE RD /BOECKMAN RD-ADVANCE RD	LOS D	0.79	22.5	C
WILSONVILLE RD/I-5 SB RAMPS	v/c ≤ 0.90	0.40	14.0	B
WILSONVILLE RD/I-5 NB RAMPS	v/c ≤ 0.90	0.52	22.2	C
WILSONVILLE RD/TOWN CENTER LP WEST	LOS D	0.82	44.3	D
TWO-WAY STOP-CONTROLLED				
ADVANCE RD/60 TH AVE	LOS D	0.11	11.4	A/B
STAFFORD RD/BRISBAND ST	LOS D	0.49	72.6	A/F
STAFFORD RD/FROG POND LN	LOS D	>1.20	>120	B/F
STAFFORD RD/KAHLE RD	LOS D	0.29	70.3	B/F
ROUNDBOUT				
STAFFORD RD/65 TH AVE/ELLIGSEN RD	v/c ≤ 0.90	0.84	17.9	B

SIGNALIZED INTERSECTION:
 Delay = Average Intersection Delay (secs)
 v/c = Total Volume-to-Capacity Ratio
 LOS = Total Level of Service

TWO-WAY STOP-CONTROLLED INTERSECTION:
 Delay = Critical Movement Delay (secs)
 v/c = Critical Movement Volume-to-Capacity Ratio
 LOS = Critical Levels of Service (Major/Minor Road)

ROUNDBOUT INTERSECTION:
 Delay = Average Intersection Delay (secs)
 v/c = Critical Movement Volume-to-Capacity Ratio
 LOS = Total Level of Service



ANTICIPATED BUILD CONDITIONS (2040)

Anticipated build (2040) traffic conditions were evaluated for the study area and include the land use assumptions, anticipated build traffic volumes and intersection operations, and identified transportation improvements.

LAND USE ASSUMPTIONS AND ADJUSTMENTS

As mentioned previously, the 2040 Wilsonville Travel Demand model currently contains housing and job land use assumptions for the Frog Pond East and South neighborhoods. Now that the East and South neighborhood layouts have been further refined, the assumed quantity of housing units and commercial space have been estimated. To best analyze the impact of the estimated full buildout of the East and South neighborhoods, DKS adjusted the Wilsonville Travel Demand Model assumptions for the transportation analysis zones (TAZs) that comprise the Frog Pond East and South neighborhoods to account for a higher number of housing units than what is currently assumed.

Table 3 lists the land use adjustments that were applied to the 2040 Travel Demand Model to emulate the anticipated land use generation for Frog Pond (Build scenario). As shown below, the number of household units for both neighborhoods was increased by 136% and 0 jobs were increased.

TABLE 3: TRAVEL DEMAND MODEL ADJUSTMENTS

	HOUSEHOLDS	JOBS
EAST NEIGHBORHOOD	Increase by 103%	No Change 0%
SOUTH NEIGHBORHOOD	Increase by 225%	No Change 0%
TOTAL	Increase by 130%	No Change 0%

ANTICIPATED BUILD TRAFFIC VOLUMES

The future 2040 Build traffic volumes were forecasted for the study area using the Wilsonville travel forecast model with the adjustments as previously discussed. Intersection operations were then evaluated to determine how sufficiently the City’s future transportation system would support the long-term estimated build-out of the Frog Pond East and South neighborhoods, therefore determining what improvements might be needed. The PM peak hour traffic volumes, lane geometries, and intersection operating conditions are shown in Figure 5.



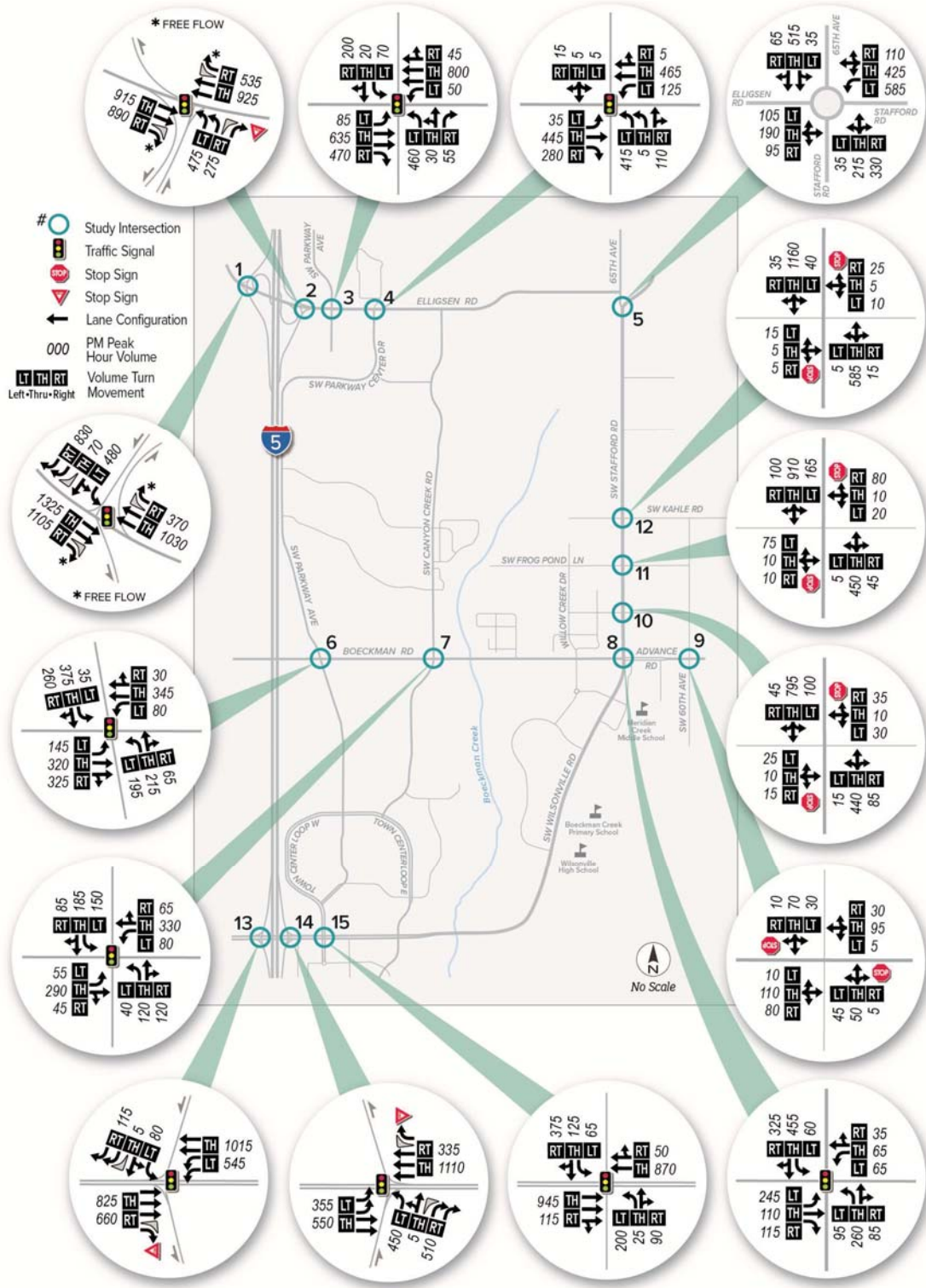


FIGURE 5: BUILD (2040) TRAFFIC VOLUMES, LANE GEOMETRIES, AND TRAFFIC CONTROL



ANTICIPATED BUILD INTERSECTION OPERATIONS

Intersection traffic operations under the future 2040 Build scenario were analyzed for the PM peak hour with the same intersection geometries that were assumed in the Baseline scenario. Table 4 the estimated average delay (in seconds), level of service (LOS), and volume to capacity (v/c) ratio for each study intersection.

TABLE 4: ANTICIPATED BUILD (2040) INTERSECTION OPERATIONS

INTERSECTION	OPERATING STANDARD	PM PEAK HOUR		
		V/C	DELAY	LOS
SIGNALIZED				
ELLIGSEN RD/I-5 SB RAMPS	v/c ≤ 0.90	0.73	18.2	B
ELLIGSEN RD/I-5 NB RAMPS	v/c ≤ 0.90	0.45	9.2	A
ELLIGSEN RD/PARKWAY AVE	LOS D	0.53	24.5	C
ELLIGSEN RD/PARKWAY CENTER DR	LOS D	0.54	16.8	B
BOECKMAN RD/PARKWAY AVE	LOS D	0.81	23.3	C
BOECKMAN RD/CANYON CREEK RD	LOS D	0.60	15.9	B
BOECKMAN RD-ADVANCE RD/ STAFFORD RD-WILSONVILLE RD	LOS D	0.81	22.6	C
WILSONVILLE RD/I-5 SB RAMPS	v/c ≤ 0.90	0.40	14.0	B
WILSONVILLE RD/I-5 NB RAMPS	v/c ≤ 0.90	0.52	22.1	C
WILSONVILLE RD/TOWN CENTER LP WEST	LOS D	0.82	44.1	D
TWO-WAY STOP-CONTROLLED				
ADVANCE RD/60 TH AVE	LOS D	0.20	13.2	A/B
STAFFORD RD/BRISBAND ST	LOS D	0.85	>120	A/F
STAFFORD RD/FROG POND LN	LOS D	>1.20	>120	B/F
STAFFORD RD/KAHLE RD	LOS D	0.65	>120	B/F
ROUNDBOUT				
STAFFORD RD/65 TH AVE/ ELLIGSEN RD	v/c ≤ 0.90	0.85	21.0	C

SIGNALIZED INTERSECTION:
 Delay = Average Intersection Delay (secs)
 v/c = Total Volume-to-Capacity Ratio
 LOS = Total Level of Service

TWO-WAY STOP-CONTROLLED INTERSECTION:
 Delay = Critical Movement Delay (secs)
 v/c = Critical Movement Volume-to-Capacity Ratio
 LOS = Critical Levels of Service (Major/Minor Road)

ROUNDBOUT INTERSECTION:
 Delay = Average Intersection Delay (secs)
 v/c = Critical Movement Volume-to-Capacity Ratio
 LOS = Total Level of Service



As shown, the unsignalized intersections/accesses along Stafford Road (Kahle Road, Frog Pond Lane, and Brisband Street) are expected to exceed the City's LOS D performance standard. The primary reason is the high through volumes that influence delay experienced by side street vehicles attempting to turn left.

RECOMMENDED TRANSPORTATION IMPROVEMENTS

The three intersections along Stafford Road are located approximately within 800–900 feet from one another. Therefore, the interaction of all improvements at these intersections must be carefully considered due to their proximity. The following projects have therefore been identified to improve the three gateway intersections along Stafford Road to meet the City's level of service D performance standard.

Due to the planned location of the commercial uses off Brisband Street, it is desirable to allow all vehicle turning movements at the Brisband Street intersection to provide full access and connectivity to those land uses. It is also desirable to have a full-access gateway intersection at the far north end of the housing development to function as a gateway between the rural higher speed traffic and urban slower speed traffic and provide safe access to the Frog Pond development. There is a strong desire to preserve the historic Grange building on the northeast corner of Stafford Road/Frog Pond Lane intersection. Turn restrictions could be implemented at the Stafford Road/Frog Pond Lane intersection (restrict minor street through and left turns) to allow access to safe movements (left in, right in and right out). A full access roundabout at Frog Pond Lane would likely require the removal or relocation of the historic Grange building due to the required footprint of the improvement.

If two intersections are improved with roundabouts with a limited access between the two full-access locations, it is likely that many of the residents and drivers familiar with the area would choose to turn left or go through at those improved intersections during the peak periods, particularly with good Collector/Local Street connectivity. Local street connections in both the East and West neighborhoods are planned that would allow sufficient connectivity for vehicles to access the proposed roundabouts Kahle Road or Brisband Street to cross Stafford Road or turn left onto Stafford Road. A discussion on the advantages and disadvantages of roundabouts are provided in a subsequent section.

The recommended improvements are highlighted below.

KAHLE ROAD/STAFFORD ROAD

At this intersection, install a single-lane roundabout with pedestrian island. In addition to meeting capacity needs, the proposed roundabout would improve safety and provide a distinct transition between the rural and urban land use and traffic speeds in the area. The roundabout should include pedestrian medians for enhanced pedestrian crossings.

FROG POND LANE/STAFFORD ROAD

At this intersection, install a raised center median and traffic separator that allows northbound and southbound right and left turns from Stafford Road and minor street



right turns but restricts minor street eastbound and westbound through and left turn movements to and from Frog Pond West and East. The restriction is needed to facilitate safe vehicle and pedestrian/bicycle movements at the intersection and to meet the City’s LOS standard. This intersection should include enhanced pedestrian crossings with median breaks for safe and improved pedestrian connectivity.

BRISBAND STREET/STAFFORD ROAD

At this intersection, install a single-lane roundabout. This will require a slight shift of Stafford Road to the east to accommodate the necessary right-of-way. The roundabout should include pedestrian medians for enhanced pedestrian crossings.

60TH AVENUE/ADVANCE ROAD

At this intersection, install a single-lane roundabout. While not a necessary improvement for traffic operating conditions, the proposed roundabout would improve safety and provide a distinct transition between the rural land use with high-speed traffic and urban land use with slower vehicle speeds and the need for multimodal safety in the area.

IMPROVED OPERATING CONDITIONS

The table below shows the intersection operations for the four intersections with the identified transportation improvements in place. As shown, all four intersections will meet the City LOS standard while providing safe multimodal improvements for pedestrian and bicycles.

TABLE 5: ANTICIPATED BUILD (2040) INTERSECTION OPERATIONS - IMPROVEMENTS

INTERSECTION	IMPROVEMENT	OPERATING STANDARD	PM PEAK HOUR		
			V/C	DELAY	LOS
ADVANCE RD/ 60 TH AVE	Roundabout	LOS D	0.19	4.3	A
STAFFORD RD/ BRISBAND ST	Roundabout	LOS D	0.78	12.7	B
STAFFORD RD/ FROG POND LN	Two-Way Stop-Controlled with Minor Street Turn Restrictions	LOS D	0.04	18.5	B/C
STAFFORD RD/ KAHLE RD	Roundabout	LOS D	0.99	29.6	D

TWO-WAY STOP-CONTROLLED INTERSECTION:
 Delay = Critical Movement Delay (secs)
 v/c = Critical Movement Volume-to-Capacity Ratio
 LOS = Critical Levels of Service (Major/Minor Road)

ROUNDAABOUT INTERSECTION:
 Delay = Average Intersection Delay (secs)
 v/c = Critical Movement Volume-to-Capacity Ratio
 LOS = Total Level of Service



Advantages of Installing a Roundabout

- Roundabouts can reduce delay for side street traffic because no approach is given more priority than another. Therefore, the Kahle Road and Brisband Street intersections would no longer be anticipated to operate at LOS F in the future scenarios.
- Roundabouts can help to slow traffic speeds on the roadway. Typical circulating speeds for a roundabout are 15 – 20 miles per hour (mph), which would help to calm traffic in the vicinity of the Frog Pond development area.
- Converting a stop-controlled intersection to a single-lane roundabout can reduce fatal and injury crashes by 82%.
- Roundabouts reduce the number of conflict points between vehicles and between vehicles and pedestrians/bicycles.
- Roundabouts at Stafford Road/Kahle Road and Advance Road/60th Avenue would provide clear gateways between the rural and urban environments. The Stafford Road/Kahle Road location is under the BPA power line easement and would have underutilized land available to accommodate the larger footprint that roundabouts require.

Disadvantages of Installing a Roundabout

- Because all approaches are treated the same and must yield to traffic within the roundabout, this would introduce delay for traffic on the major approaches (Stafford Road).
- Roundabouts are more difficult for large trucks and agricultural vehicles to navigate and may result in complaints from the freight community and farmers.
- Roundabouts can be difficult for school aged pedestrians and bicyclists to cross because there is no exclusive stop phase (as is provided with a traffic signal). The lack of straight paths and clear turns can also be difficult for the vision impaired.
- Roundabouts require a larger footprint, which would require additional right-of-way dedication or acquisition.



IDENTIFIED PROJECTS

The following lists of transportation projects have been identified through the evaluation of the proposed Frog Pond East and South neighborhoods.

STREET PROJECTS

- Widen Stafford Road to a three-lane cross section (two travel lanes with a center turn lane). Include curb, gutter, sidewalks, landscape strips, and bicycle facilities on both sides. Additionally, acquire the necessary right-of-way to accommodate a five-lane cross section. See sensitivity analysis in next section for explanation.
- Widen Advance Road to a three-lane cross section (two travel lanes with a center turn lane). Include curb, gutter, sidewalks, landscape strips, and bicycle facilities on both sides.
- Construct Local And Neighborhood Collector streets through the East and South neighborhoods consistent with the draft master plan to provide connections to the internal land uses.

INTERSECTION PROJECTS

- Install a single-lane roundabout at Stafford Road/Kahle Road.
- Install a median that restricts minor street left turn and through movements at Stafford Road/Frog Pond Lane.
- Install a single-lane roundabout at Stafford Road/Brisband Street.
- Install a single-lane roundabout at Advance Road/60th Avenue.

PEDESTRIAN, BICYCLE, AND TRAIL PROJECTS

- Install a mid-block crossing on Advance Road between 60th Avenue and 63rd Avenue to facilitate safe crossings between the future park and East neighborhood. A Rectangular Rapid Flashing Beacon (RRFB) should be added to one of the crossings at either 63rd Avenue, 60th Avenue, or the midblock crossing between them.
- Install a crosswalk with median at the Frog Pond Lane/Stafford Road. It is assumed that additional safe and accessible bicycle and pedestrian crossings will be provided via the identified roundabouts at Kahle Road/Stafford Road and Brisband Street/Stafford Road.
- Extend the planned pedestrian and bicycle facility improvements on Boeckman Road to Advance Road east of Stafford Road. The desired cross section for Boeckman Road is still in the design stage but will likely include a multi-use path, cycle track, or protected bike lanes.
- Construct a separated multi-use path, two-way cycle track, or protected bike lanes along the east side of Stafford Road.
- Construct pedestrian and bicycle trails through the East and South neighborhoods consistent with the draft master plan to provide connections to existing local and regional trails in Wilsonville



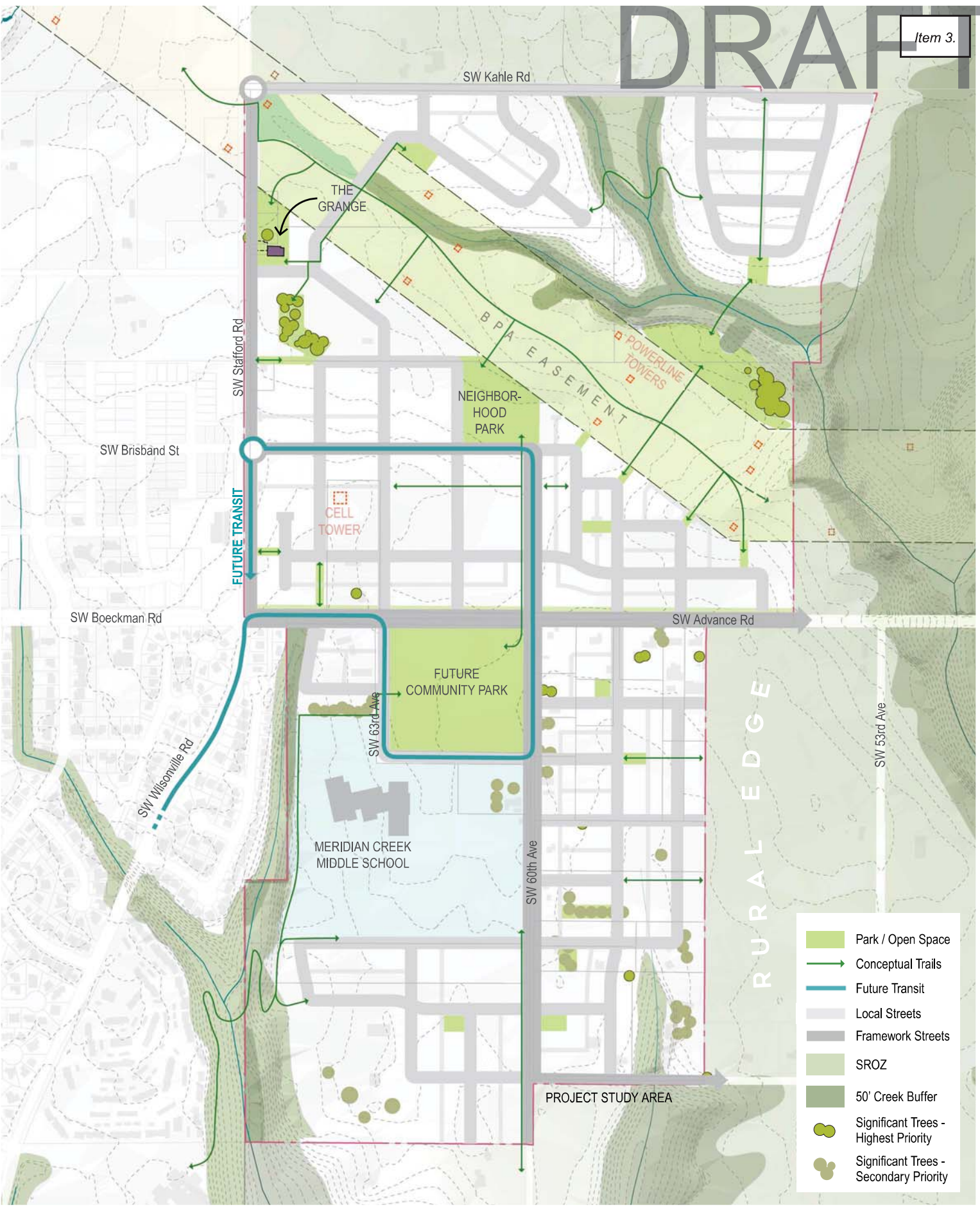
DRAFT

APPENDIX



EAST & SOUTH
MASTER PLAN

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- Park / Open Space
- Conceptual Trails
- Future Transit
- Local Streets
- Framework Streets
- SROZ
- 50' Creek Buffer
- Significant Trees - Highest Priority
- Significant Trees - Secondary Priority

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TRAFFIC COUNT DATA

LOS DESCRIPTION

EXISTING 2022 HCM REPORTS

FUTURE BASELINE 2040 HCM REPORTS

ANTICIPATED BUILD 2040 HCM REPORTS

RECOMMENDED IMPROVEMENTS HCM REPORTS



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TRAFFIC COUNT DATA



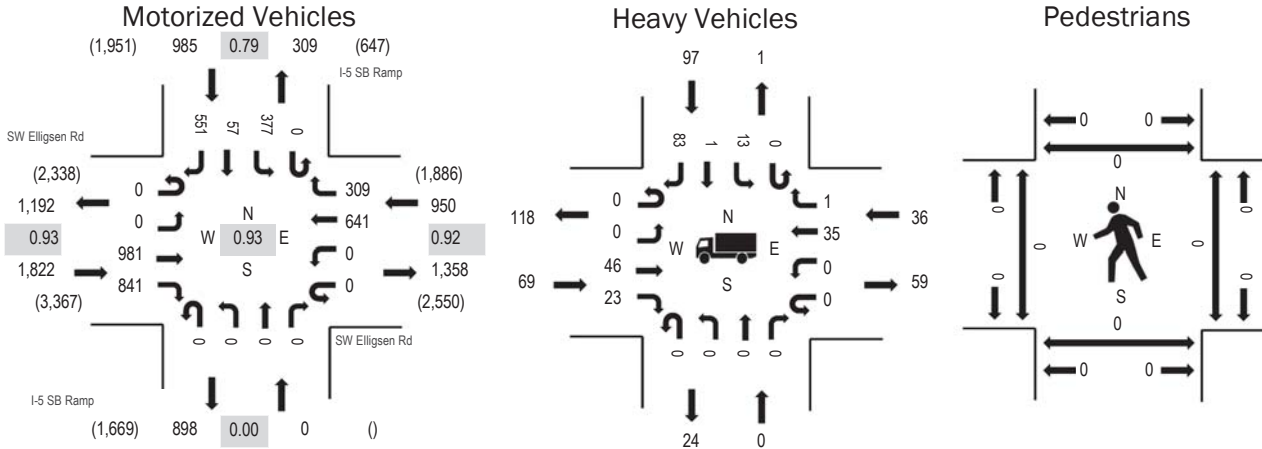


(303) 216-2439
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Location: 4 I-5 SB Ramp & SW Elligsen Rd PM
Date: Wednesday, September 22, 2021
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.8%	0.93
WB	3.8%	0.92
NB	0.0%	0.00
SB	9.8%	0.79
All	5.4%	0.93

Traffic Counts - Motorized Vehicles

Interval Start Time	SW Elligsen Rd Eastbound				SW Elligsen Rd Westbound				I-5 SB Ramp Northbound				I-5 SB Ramp Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	74	72	0	0	41	26	0	0	0	0	0	47	8	53	321	3,757
4:05 PM	0	0	92	65	0	0	48	29	0	0	0	0	0	46	10	56	346	3,746
4:10 PM	0	0	97	77	0	0	55	23	0	0	0	0	0	37	13	43	345	3,709
4:15 PM	0	0	65	74	0	0	54	20	0	0	0	0	0	40	5	45	303	3,652
4:20 PM	0	0	76	71	0	0	60	31	0	0	0	0	0	24	8	50	320	3,655
4:25 PM	0	0	67	68	0	0	67	32	0	0	0	0	0	25	6	42	307	3,601
4:30 PM	0	0	108	61	0	0	50	28	0	0	0	0	0	34	0	37	318	3,622
4:35 PM	0	0	86	72	0	0	56	31	0	0	0	0	0	13	0	47	305	3,585
4:40 PM	0	0	86	78	0	0	40	31	0	0	0	0	0	25	1	54	315	3,573
4:45 PM	0	0	75	73	0	0	59	17	0	0	0	0	0	31	1	32	288	3,553
4:50 PM	0	0	71	63	0	0	53	23	0	0	0	0	0	32	3	54	299	3,538
4:55 PM	0	0	84	67	0	0	58	18	0	0	0	0	0	23	2	38	290	3,483
5:00 PM	0	0	78	75	0	0	48	31	0	0	0	0	0	26	6	46	310	3,447
5:05 PM	0	0	85	67	0	0	51	33	0	0	0	0	0	31	2	40	309	
5:10 PM	0	0	87	58	0	0	48	35	0	0	0	0	0	21	3	36	288	
5:15 PM	0	0	75	65	0	0	55	53	0	0	0	0	0	22	0	36	306	
5:20 PM	0	0	65	59	0	0	49	24	0	0	0	0	0	31	0	38	266	
5:25 PM	0	0	76	74	0	0	54	29	0	0	0	0	0	35	5	55	328	
5:30 PM	0	0	65	54	0	0	42	30	0	0	0	0	0	30	6	54	281	
5:35 PM	0	0	69	66	0	0	68	26	0	0	0	0	0	20	7	37	293	
5:40 PM	0	0	72	57	0	0	45	29	0	0	0	0	0	33	10	49	295	
5:45 PM	0	0	54	50	0	0	56	19	0	0	0	0	0	32	6	56	273	
5:50 PM	0	0	53	47	0	0	38	15	0	0	0	0	0	33	9	49	244	
5:55 PM	0	0	54	40	0	0	44	14	0	0	0	0	0	45	5	52	254	
Count Total	0	0	1,814	1,553	0	0	1,239	647	0	0	0	0	0	736	116	1,099	7,204	
Peak Hour	0	0	981	841	0	0	641	309	0	0	0	0	0	377	57	551	3,757	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	9	0	2	6	17	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	10	0	2	6	18	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	2	0	3	8	13	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	2	0	6	10	18	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	5	0	1	6	12	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	6	0	3	7	16	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	6	0	4	7	17	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	1	0	1	9	11	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	10	0	4	11	25	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	7	0	1	7	15	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	5	0	2	12	19	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	6	0	7	8	21	4:55 PM	0	0	1	0	1	4:55 PM	0	0	0	1	1
5:00 PM	4	0	1	7	12	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	2	0	3	3	8	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	4	0	2	7	13	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	2	6	8	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	3	0	4	10	17	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	7	0	2	4	13	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	4	0	2	5	11	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	4	0	5	5	14	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	7	0	2	2	11	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	7	0	1	6	14	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	9	0	3	7	19	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	5	0	3	7	15	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	125	0	66	166	357	Count Total	0	0	1	0	1	Count Total	0	0	0	1	1
Peak Hour	69	0	36	97	202	Peak Hour	0	0	1	0	1	Peak Hour	0	0	0	1	1

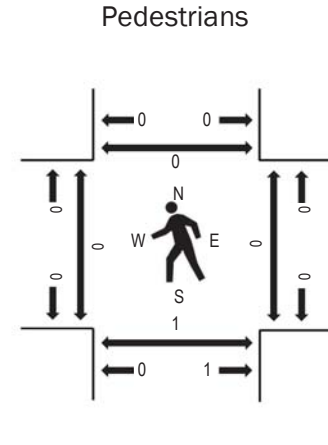
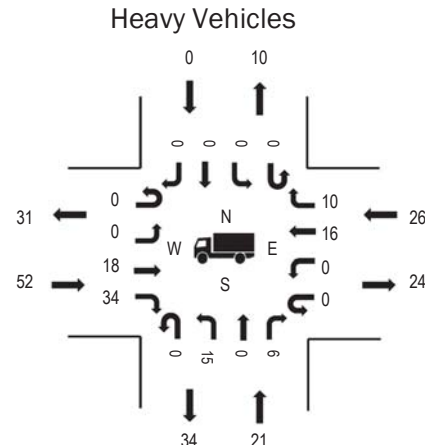
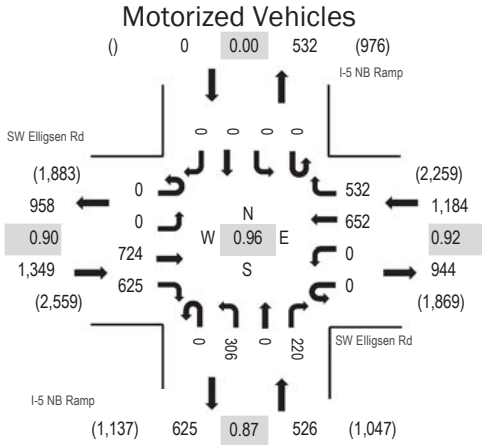


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Location: 5 I-5 NB Ramp & SW Elligsen Rd PM
Date: Wednesday, September 22, 2021
Peak Hour: 04:05 PM - 05:05 PM
Peak 15-Minutes: 04:05 PM - 04:20 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.9%	0.90
WB	2.2%	0.92
NB	4.0%	0.87
SB	0.0%	0.00
All	3.2%	0.96

Traffic Counts - Motorized Vehicles

Interval Start Time	SW Elligsen Rd Eastbound				SW Elligsen Rd Westbound				I-5 NB Ramp Northbound				I-5 NB Ramp Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	76	41	0	0	48	36	0	18	0	18	0	0	0	0	237	3,045
4:05 PM	0	0	76	54	0	0	51	49	0	25	0	21	0	0	0	0	276	3,059
4:10 PM	0	0	58	73	0	0	58	46	0	19	0	16	0	0	0	0	270	3,051
4:15 PM	0	0	70	43	0	0	49	47	0	23	0	16	0	0	0	0	248	3,023
4:20 PM	0	0	60	51	0	0	64	44	0	29	0	16	0	0	0	0	264	3,027
4:25 PM	0	0	53	40	0	0	62	39	0	37	0	22	0	0	0	0	253	3,006
4:30 PM	0	0	64	62	0	0	51	43	0	27	0	30	0	0	0	0	277	3,015
4:35 PM	0	0	42	65	0	0	65	46	0	23	0	17	0	0	0	0	258	2,977
4:40 PM	0	0	53	57	0	0	46	37	0	25	0	13	0	0	0	0	231	2,959
4:45 PM	0	0	59	43	0	0	48	39	0	27	0	17	0	0	0	0	233	2,971
4:50 PM	0	0	74	39	0	0	50	52	0	25	0	21	0	0	0	0	261	2,936
4:55 PM	0	0	58	52	0	0	48	38	0	28	0	13	0	0	0	0	237	2,862
5:00 PM	0	0	57	46	0	0	60	52	0	18	0	18	0	0	0	0	251	2,820
5:05 PM	0	0	58	61	0	0	66	48	0	19	0	16	0	0	0	0	268	
5:10 PM	0	0	52	49	0	0	61	42	0	21	0	17	0	0	0	0	242	
5:15 PM	0	0	51	39	0	0	72	33	0	38	0	19	0	0	0	0	252	
5:20 PM	0	0	59	41	0	0	48	42	0	25	0	28	0	0	0	0	243	
5:25 PM	0	0	66	54	0	0	64	37	0	18	0	23	0	0	0	0	262	
5:30 PM	0	0	63	40	0	0	50	49	0	23	0	14	0	0	0	0	239	
5:35 PM	0	0	48	41	0	0	53	42	0	41	0	15	0	0	0	0	240	
5:40 PM	0	0	67	42	0	0	51	37	0	23	0	23	0	0	0	0	243	
5:45 PM	0	0	47	28	0	0	51	27	0	24	0	21	0	0	0	0	198	
5:50 PM	0	0	55	40	0	0	37	22	0	16	0	17	0	0	0	0	187	
5:55 PM	0	0	56	36	0	0	30	29	0	28	0	16	0	0	0	0	195	
Count Total	0	0	1,422	1,137	0	0	1,283	976	0	600	0	447	0	0	0	0	5,865	
Peak Hour	0	0	724	625	0	0	652	532	0	306	0	220	0	0	0	0	3,059	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	7	1	2	0	10	4:00 PM	1	0	0	0	1	4:00 PM	0	0	0	0	0
4:05 PM	4	2	1	0	7	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	2	2	2	0	6	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	3	3	1	0	7	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	7	2	5	0	14	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	4	2	2	0	8	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	7	2	3	0	12	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	2	1	2	0	5	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	6	0	4	0	10	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	6	0	0	0	6	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	6	2	2	0	10	4:50 PM	0	0	0	0	0	4:50 PM	0	1	0	0	1
4:55 PM	4	5	2	0	11	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	0	2	0	3	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	4	3	1	0	8	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	3	0	1	0	4	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	1	4	1	0	6	5:15 PM	0	0	0	0	0	5:15 PM	0	1	0	0	1
5:20 PM	2	4	1	0	7	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	4	2	0	0	6	5:25 PM	0	0	1	0	1	5:25 PM	0	0	0	0	0
5:30 PM	7	1	2	0	10	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	5	3	3	0	11	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	4	2	1	0	7	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	3	1	1	0	5	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	4	2	2	0	8	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	3	2	5	0	10	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	99	46	46	0	191	Count Total	1	0	1	0	2	Count Total	0	2	0	0	2
Peak Hour	52	21	26	0	99	Peak Hour	0	0	0	0	0	Peak Hour	0	1	0	0	1



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Location: 2 SW Canyon Creek Rd & Boeckman Rd PM

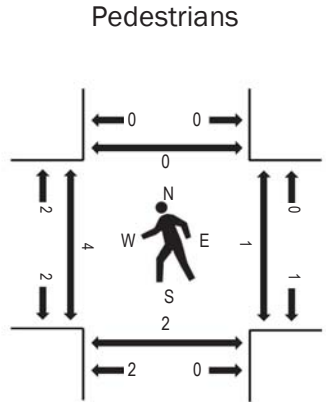
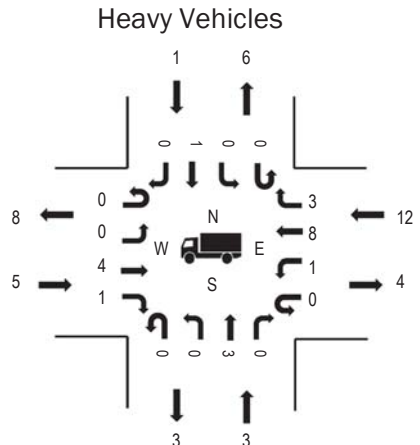
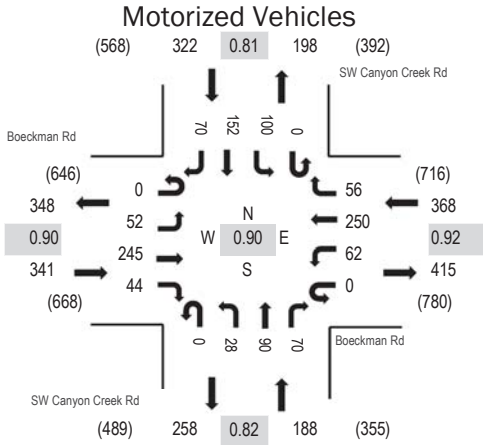
Date: Thursday, September 30, 2021

Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 04:50 PM - 05:05 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.5%	0.90
WB	3.3%	0.92
NB	1.6%	0.82
SB	0.3%	0.81
All	1.7%	0.90

Traffic Counts - Motorized Vehicles

Interval Start Time	Boeckman Rd Eastbound				Boeckman Rd Westbound				SW Canyon Creek Rd Northbound				SW Canyon Creek Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	6	17	8	0	11	31	4	0	4	5	2	0	5	9	4	106	1,142
4:05 PM	0	4	22	2	0	4	18	7	0	0	8	6	0	2	9	1	83	1,148
4:10 PM	0	5	21	3	0	3	20	4	0	1	5	5	0	3	15	7	92	1,172
4:15 PM	0	5	14	3	0	2	15	5	0	2	15	6	0	8	7	3	85	1,184
4:20 PM	0	2	28	2	0	4	14	6	0	2	11	4	0	5	15	3	96	1,201
4:25 PM	0	3	19	7	0	7	22	4	0	3	7	4	0	7	9	2	94	1,201
4:30 PM	0	3	23	3	0	8	21	4	0	2	4	5	0	7	5	9	94	1,202
4:35 PM	0	4	22	5	0	2	19	5	0	3	10	1	0	3	13	3	90	1,214
4:40 PM	0	3	19	2	0	6	12	3	0	3	8	4	0	11	14	7	92	1,215
4:45 PM	0	3	18	4	0	1	20	3	0	3	5	3	0	9	9	7	85	1,219
4:50 PM	0	8	12	4	0	5	31	6	0	2	9	5	0	12	16	3	113	1,214
4:55 PM	0	7	25	2	0	6	19	3	0	3	7	8	0	9	13	10	112	1,190
5:00 PM	0	5	22	0	0	2	12	6	0	5	9	11	0	16	15	9	112	1,165
5:05 PM	0	2	27	7	0	8	24	6	0	1	7	3	0	9	10	3	107	
5:10 PM	0	3	21	6	0	8	20	5	0	1	11	4	0	6	12	7	104	
5:15 PM	0	7	19	3	0	4	20	6	0	3	10	7	0	6	14	3	102	
5:20 PM	0	5	14	5	0	7	23	7	0	3	4	5	0	6	11	6	96	
5:25 PM	0	4	19	6	0	7	18	5	0	2	3	3	0	7	16	5	95	
5:30 PM	0	2	25	5	0	3	20	3	0	1	10	7	0	10	11	9	106	
5:35 PM	0	3	21	1	0	6	17	5	0	3	8	5	0	4	17	1	91	
5:40 PM	0	3	22	1	0	5	26	1	0	1	7	9	0	6	8	7	96	
5:45 PM	0	1	21	3	0	7	20	2	0	2	8	6	0	6	2	2	80	
5:50 PM	0	2	16	4	0	5	20	6	0	0	11	2	0	10	10	3	89	
5:55 PM	0	4	19	2	0	6	16	5	0	0	5	3	0	9	14	4	87	
Count Total	0	94	486	88	0	127	478	111	0	50	187	118	0	176	274	118	2,307	
Peak Hour	0	52	245	44	0	62	250	56	0	28	90	70	0	100	152	70	1,219	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	3	0	3	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	2	2	0	4	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	1	0	1	0	2	4:10 PM	0	0	0	0	0	4:10 PM	0	2	0	0	2
4:15 PM	1	1	0	1	3	4:15 PM	0	0	0	0	0	4:15 PM	1	2	2	0	5
4:20 PM	0	1	1	0	2	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	0	2	0	3	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	2	0	3	4:30 PM	0	0	0	0	0	4:30 PM	0	2	0	0	2
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	2	0	2
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	1	1	4:40 PM	0	0	0	0	0
4:45 PM	0	0	1	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	1	0	1	4:50 PM	0	0	0	1	1	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	0	0	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	1	0	0	1
5:05 PM	1	0	0	0	1	5:05 PM	0	0	0	0	0	5:05 PM	1	0	0	0	1
5:10 PM	1	0	1	0	2	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	1	1	2	5:15 PM	0	0	0	0	0	5:15 PM	1	0	0	0	1
5:20 PM	2	0	2	0	4	5:20 PM	0	0	0	0	0	5:20 PM	0	1	0	0	1
5:25 PM	0	0	1	0	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	1	2	0	3	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	2	3	0	5	5:35 PM	0	0	0	0	0	5:35 PM	0	0	1	0	1
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	2	0	0	0	2
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	2	0	0	0	2
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	1	0	0	1
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	9	7	23	2	41	Count Total	0	0	0	2	2	Count Total	7	9	5	0	21
Peak Hour	5	3	12	1	21	Peak Hour	0	0	0	1	1	Peak Hour	4	2	1	0	7



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Location: 4 SW Wilsonville Rd & SW Advance Rd PM

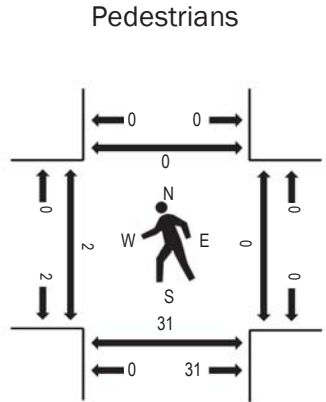
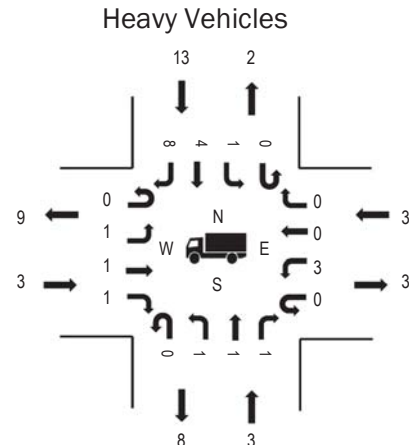
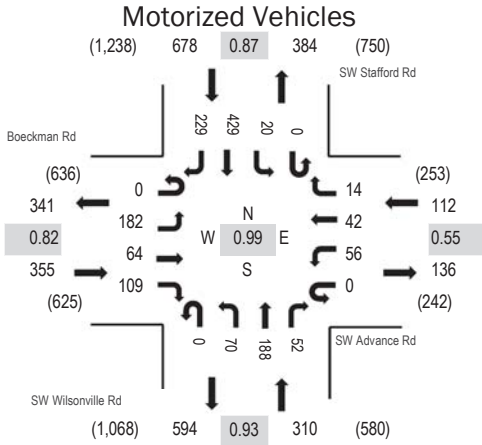
Date: Thursday, September 30, 2021

Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.8%	0.82
WB	2.7%	0.55
NB	1.0%	0.93
SB	1.9%	0.87
All	1.5%	0.99

Traffic Counts - Motorized Vehicles

Interval Start Time	Boeckman Rd Eastbound				SW Advance Rd Westbound				SW Wilsonville Rd Northbound				SW Stafford Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	11	4	8	0	16	19	12	0	4	14	1	0	5	26	16	136	1,289
4:05 PM	0	16	1	0	0	3	2	3	0	4	20	1	0	2	22	19	93	1,263
4:10 PM	0	17	6	3	0	4	2	6	0	4	16	3	0	0	31	14	106	1,294
4:15 PM	0	10	2	0	0	4	1	3	0	7	14	4	0	0	23	15	83	1,323
4:20 PM	0	20	7	6	0	9	2	5	0	5	13	1	0	0	30	12	110	1,350
4:25 PM	0	12	3	7	0	5	5	3	0	1	18	7	0	3	25	27	116	1,363
4:30 PM	0	11	5	8	0	3	2	0	0	2	10	3	0	1	24	23	92	1,376
4:35 PM	0	18	2	6	0	2	3	2	0	2	14	3	0	3	29	14	98	1,399
4:40 PM	0	11	3	8	0	3	1	4	0	3	14	5	0	1	31	13	97	1,424
4:45 PM	0	15	4	12	0	8	2	0	0	5	17	7	0	0	25	23	118	1,455
4:50 PM	0	15	6	1	0	2	6	2	0	8	15	7	0	2	35	21	120	1,435
4:55 PM	0	16	13	9	0	0	1	2	0	3	9	4	0	1	41	21	120	1,424
5:00 PM	0	19	10	6	0	6	1	0	0	6	16	6	0	2	21	17	110	1,407
5:05 PM	0	12	6	15	0	8	8	5	0	6	15	5	0	1	28	15	124	
5:10 PM	0	23	3	14	0	11	12	2	0	8	15	4	0	2	28	13	135	
5:15 PM	0	14	2	9	0	4	3	1	0	6	14	2	0	3	30	22	110	
5:20 PM	0	7	2	15	0	2	1	0	0	6	22	3	0	1	42	22	123	
5:25 PM	0	13	3	8	0	4	2	0	0	5	19	4	0	2	54	15	129	
5:30 PM	0	15	5	5	0	6	0	0	0	8	16	1	0	2	41	16	115	
5:35 PM	0	16	4	7	0	2	3	2	0	3	16	3	0	2	45	20	123	
5:40 PM	0	17	6	8	0	3	3	0	0	6	14	6	0	2	39	24	128	
5:45 PM	0	7	4	4	0	5	2	2	0	2	13	6	0	0	35	18	98	
5:50 PM	0	13	2	11	0	3	3	0	0	14	11	2	0	3	31	16	109	
5:55 PM	0	8	4	12	0	1	1	0	0	6	15	8	0	1	36	11	103	
Count Total	0	336	107	182	0	114	85	54	0	124	360	96	0	39	772	427	2,696	
Peak Hour	0	182	64	109	0	56	42	14	0	70	188	52	0	20	429	229	1,455	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	4	1	5	4:00 PM	0	0	0	0	0	4:00 PM	0	8	0	0	8
4:05 PM	0	0	1	0	1	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	1	2	1	0	4	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	1	1	0	0	2	4:15 PM	0	0	0	0	0	4:15 PM	0	1	0	0	1
4:20 PM	0	4	0	1	5	4:20 PM	0	0	0	0	0	4:20 PM	0	1	0	0	1
4:25 PM	0	1	0	1	2	4:25 PM	0	0	0	0	0	4:25 PM	0	44	0	0	44
4:30 PM	0	0	1	3	4	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	1	1	4:40 PM	0	0	0	0	0	4:40 PM	0	11	0	0	11
4:45 PM	0	0	0	1	1	4:45 PM	0	0	0	0	0	4:45 PM	0	9	0	0	9
4:50 PM	0	0	0	2	2	4:50 PM	0	0	0	0	0	4:50 PM	0	22	0	0	22
4:55 PM	0	1	0	1	2	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	1	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	1	0	0	1
5:05 PM	0	0	0	1	1	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	2	0	0	1	3	5:10 PM	0	0	0	0	0	5:10 PM	1	0	0	0	1
5:15 PM	0	0	1	2	3	5:15 PM	0	0	0	0	0	5:15 PM	0	3	0	0	3
5:20 PM	0	0	0	1	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	1	0	0	0	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	2	1	0	3	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	3	3	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	1	1	5:40 PM	0	0	0	0	0	5:40 PM	2	0	0	0	2
5:45 PM	0	0	1	0	1	5:45 PM	0	0	0	0	0	5:45 PM	2	0	0	0	2
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	5	11	11	20	47	Count Total	0	0	0	0	0	Count Total	5	100	0	0	105
Peak Hour	3	3	3	13	22	Peak Hour	0	0	0	0	0	Peak Hour	3	35	0	0	38



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Location: 6 SW Stafford Rd & SW Frog Pond Ln PM

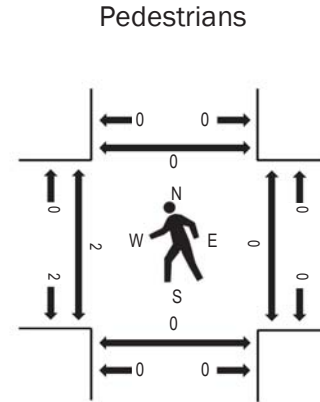
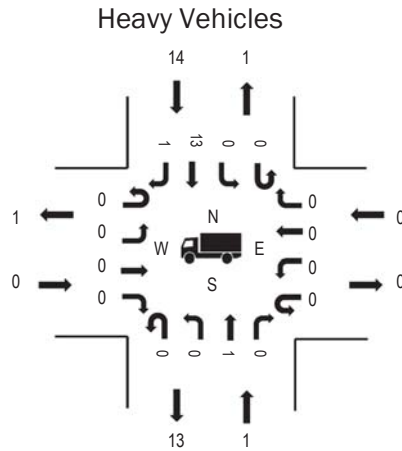
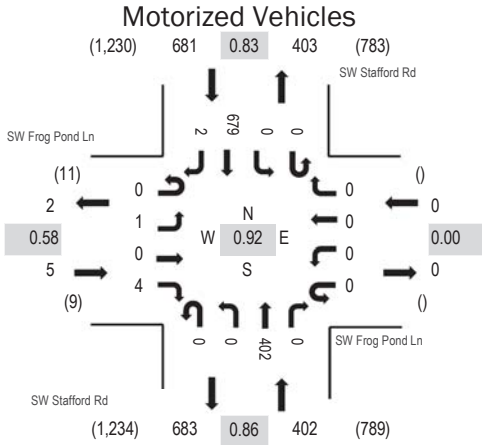
Date: Thursday, September 30, 2021

Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:20 PM - 05:35 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.58
WB	0.0%	0.00
NB	0.2%	0.86
SB	2.1%	0.83
All	1.4%	0.92

Traffic Counts - Motorized Vehicles

Interval Start Time	SW Frog Pond Ln Eastbound				SW Frog Pond Ln Westbound				SW Stafford Rd Northbound				SW Stafford Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	1	0	0	0	0	0	1	38	0	0	0	47	0	87	971
4:05 PM	0	0	0	0	0	0	0	0	0	0	39	0	0	0	31	0	70	965
4:10 PM	0	0	0	0	0	0	0	0	0	1	33	0	0	0	48	0	82	983
4:15 PM	0	0	0	0	0	0	0	0	0	1	28	0	0	0	41	0	70	988
4:20 PM	0	0	0	0	0	0	0	0	0	1	39	0	0	0	52	0	92	1,004
4:25 PM	0	0	0	1	0	0	0	0	0	0	36	0	0	0	43	0	80	1,011
4:30 PM	0	0	0	1	0	0	0	0	0	2	19	0	0	0	44	1	67	1,036
4:35 PM	0	0	0	0	0	0	0	0	0	0	36	0	0	0	47	1	84	1,060
4:40 PM	0	0	0	0	0	0	0	0	0	0	33	0	0	0	44	0	77	1,064
4:45 PM	0	0	0	0	0	0	0	0	0	0	29	0	0	0	59	0	88	1,088
4:50 PM	0	0	0	2	0	0	0	0	0	0	34	0	0	0	57	0	93	1,084
4:55 PM	0	0	0	1	0	0	0	0	0	0	31	0	0	0	49	0	81	1,066
5:00 PM	0	0	0	0	0	0	0	0	0	0	38	0	0	0	43	0	81	1,057
5:05 PM	0	0	0	1	0	0	0	0	0	0	36	0	0	0	50	1	88	
5:10 PM	0	0	0	0	0	0	0	0	0	0	46	0	0	0	41	0	87	
5:15 PM	0	0	0	0	0	0	0	0	0	0	32	0	0	0	53	1	86	
5:20 PM	0	1	0	0	0	0	0	0	0	0	28	0	0	0	70	0	99	
5:25 PM	0	0	0	0	0	0	0	0	0	0	29	0	0	0	76	0	105	
5:30 PM	0	0	0	0	0	0	0	0	0	0	31	0	0	0	60	0	91	
5:35 PM	0	0	0	0	0	0	0	0	0	0	32	0	0	0	56	0	88	
5:40 PM	0	0	0	0	0	0	0	0	0	0	36	0	0	0	65	0	101	
5:45 PM	0	0	0	0	0	0	0	0	0	1	33	0	0	0	50	0	84	
5:50 PM	0	0	0	1	0	0	0	0	0	0	24	0	0	0	50	0	75	
5:55 PM	0	0	0	0	0	0	0	0	0	0	22	0	0	0	50	0	72	
Count Total	0	1	0	8	0	0	0	0	0	7	782	0	0	0	1,226	4	2,028	
Peak Hour	0	1	0	4	0	0	0	0	0	0	402	0	0	0	679	2	1,088	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	2	0	1	3	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	1	1	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	2	0	1	3	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	2	0	1	3	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	2	0	2	4	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	0	0	0	1	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	0	1	2	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	1	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	2	2	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	1	1	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	1	1	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	2	2	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	1	0	2	3	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	1	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	1	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	2	2	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	1	1	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	1	1	5:40 PM	0	0	0	0	0	5:40 PM	2	0	0	0	2
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	2	0	0	0	2
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	2	9	0	22	33	Count Total	0	0	0	0	0	Count Total	4	0	0	0	4
Peak Hour	0	1	0	14	15	Peak Hour	0	0	0	0	0	Peak Hour	2	0	0	0	2



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Location: 1 SW Parkway Ave & Boeckman Rd PM

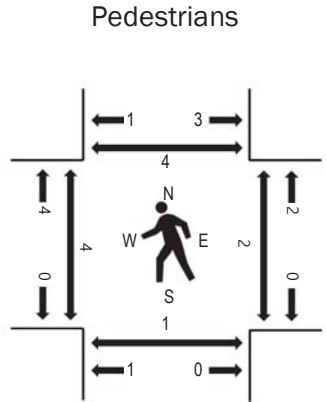
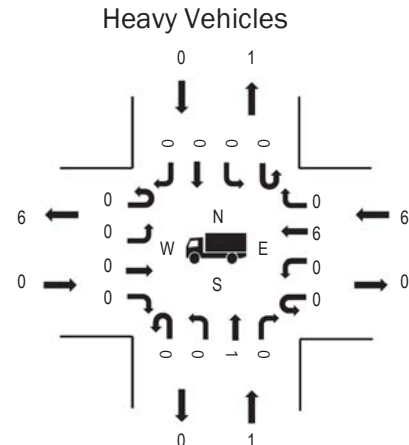
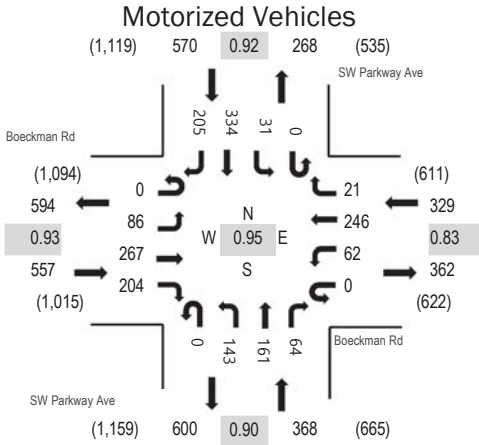
Date: Wednesday, March 30, 2022

Peak Hour: 04:20 PM - 05:20 PM

Peak 15-Minutes: 05:05 PM - 05:20 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.93
WB	1.8%	0.83
NB	0.3%	0.90
SB	0.0%	0.92
All	0.4%	0.95

Traffic Counts - Motorized Vehicles

Interval Start Time	Boeckman Rd Eastbound				Boeckman Rd Westbound				SW Parkway Ave Northbound				SW Parkway Ave Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	8	17	21	0	4	14	3	0	8	12	7	0	4	29	22	149	1,773
4:05 PM	0	9	20	20	0	1	10	5	0	10	12	5	0	0	29	13	134	1,780
4:10 PM	0	3	19	13	0	5	22	2	0	11	10	5	0	1	30	28	149	1,811
4:15 PM	0	5	16	18	0	4	25	1	0	12	12	2	0	1	35	22	153	1,809
4:20 PM	0	10	27	18	0	4	18	2	0	9	9	4	0	3	28	15	147	1,824
4:25 PM	0	6	20	19	0	3	15	2	0	9	16	5	0	2	26	12	135	1,814
4:30 PM	0	7	13	12	0	5	13	0	0	13	15	4	0	1	37	26	146	1,822
4:35 PM	0	9	33	22	0	6	22	3	0	12	13	6	0	1	27	17	171	1,821
4:40 PM	0	4	23	20	0	1	16	0	0	14	18	9	0	2	29	17	153	1,789
4:45 PM	0	7	23	8	0	3	30	2	0	12	6	7	0	2	25	14	139	1,754
4:50 PM	0	10	22	16	0	9	17	2	0	17	18	3	0	4	24	15	157	1,726
4:55 PM	0	4	18	14	0	7	15	0	0	9	14	4	0	5	25	25	140	1,668
5:00 PM	0	11	15	16	0	5	22	1	0	14	11	5	0	1	34	21	156	1,637
5:05 PM	0	6	22	25	0	4	35	4	0	8	11	7	0	3	20	20	165	
5:10 PM	0	6	16	18	0	7	14	3	0	11	18	5	0	3	34	12	147	
5:15 PM	0	6	35	16	0	8	29	2	0	15	12	5	0	4	25	11	168	
5:20 PM	0	8	16	18	0	6	23	0	0	6	16	6	0	2	25	11	137	
5:25 PM	0	11	13	17	0	6	24	2	0	12	13	2	0	1	22	20	143	
5:30 PM	0	8	20	10	0	3	18	2	0	14	19	2	0	2	29	18	145	
5:35 PM	0	11	15	16	0	8	16	3	0	7	6	6	0	3	30	18	139	
5:40 PM	0	8	17	14	0	10	13	1	0	5	9	3	0	4	21	13	118	
5:45 PM	0	3	13	10	0	6	10	4	0	6	17	2	0	1	26	13	111	
5:50 PM	0	9	8	9	0	5	5	3	0	6	12	0	0	4	25	13	99	
5:55 PM	0	10	13	12	0	1	15	2	0	6	8	8	0	2	21	11	109	
Count Total	0	179	454	382	0	121	441	49	0	246	307	112	0	56	656	407	3,410	
Peak Hour	0	86	267	204	0	62	246	21	0	143	161	64	0	31	334	205	1,824	

Location: 1 SW Parkway Ave & Boeckman Rd PM

DRAFT

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	1	1	2	4:00 PM	0	0	0	0	0
4:05 PM	2	0	0	0	2	4:05 PM	0	0	1	0	1	4:05 PM	0	1	0	0	1
4:10 PM	0	1	0	0	1	4:10 PM	1	0	0	1	2	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	1	1
4:20 PM	0	0	2	0	2	4:20 PM	0	0	1	0	1	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	1	0	0	1	4:25 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1	4:30 PM	0	0	1	0	1	4:30 PM	0	0	0	0	0
4:35 PM	0	0	1	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	1	1	0	2	4:40 PM	0	0	0	0	0	4:40 PM	1	0	0	0	1
4:45 PM	0	0	1	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	1	0	1	2
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	1	0	0	0	1	4:55 PM	1	0	0	1	2
5:00 PM	0	0	0	0	0	5:00 PM	1	0	0	0	1	5:00 PM	2	0	0	2	4
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	2	0	2
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	1	0	1
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	2	2	0	4
5:25 PM	0	0	0	0	0	5:25 PM	1	0	1	0	2	5:25 PM	0	0	1	0	1
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	2	0	1	2	5
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	1	1	5:45 PM	0	0	1	1	2
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	1	1	1	3
5:55 PM	0	0	2	0	2	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	2	2	8	0	12	Count Total	4	1	5	3	13	Count Total	6	5	9	9	29
Peak Hour	0	1	6	0	7	Peak Hour	2	1	2	0	5	Peak Hour	4	1	3	4	12

Location: 4 Parkway Center Dr & SW Elligsen Rd PM

DRAFT



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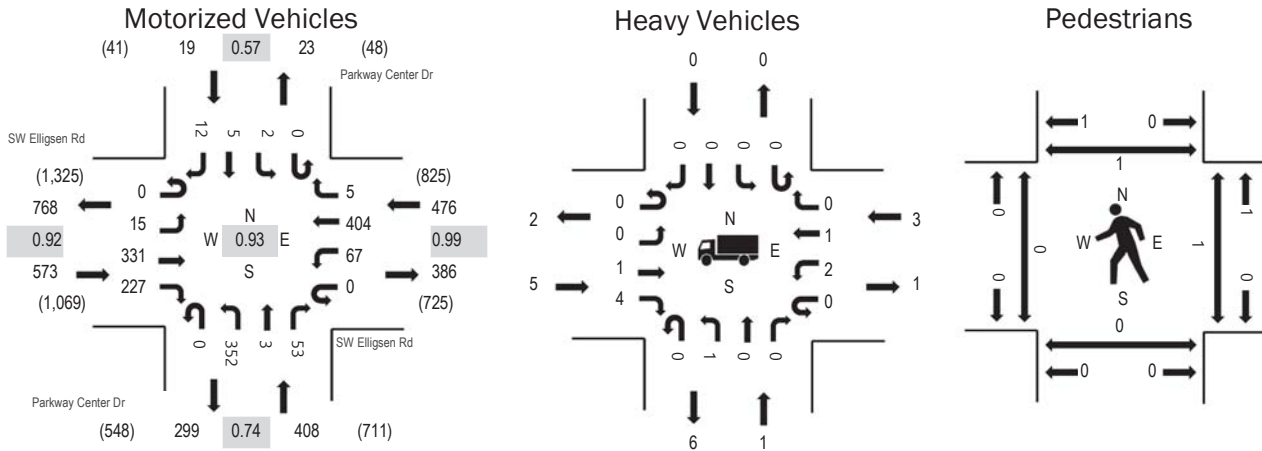
Location: 4 Parkway Center Dr & SW Elligsen Rd PM

Date: Wednesday, March 30, 2022

Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.9%	0.92
WB	0.6%	0.99
NB	0.2%	0.74
SB	0.0%	0.57
All	0.6%	0.93

Traffic Counts - Motorized Vehicles

Interval Start Time	SW Elligsen Rd Eastbound				SW Elligsen Rd Westbound				Parkway Center Dr Northbound				Parkway Center Dr Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	19	18	0	3	19	0	0	24	0	4	0	0	0	0	87	1,408
4:05 PM	0	1	33	13	0	5	26	0	0	23	0	10	0	0	1	2	114	1,455
4:10 PM	0	0	19	18	0	4	26	0	0	26	0	6	0	0	2	3	104	1,463
4:15 PM	0	0	34	23	0	9	37	0	0	18	0	5	0	0	0	3	129	1,476
4:20 PM	0	1	16	11	0	9	33	0	0	25	1	5	0	0	0	2	103	1,467
4:25 PM	0	2	34	31	0	4	28	0	0	28	0	6	0	0	1	1	135	1,472
4:30 PM	0	0	24	19	0	7	36	1	0	31	1	5	0	1	1	1	127	1,432
4:35 PM	0	0	19	14	0	4	39	1	0	45	0	5	0	0	0	1	128	1,388
4:40 PM	0	0	26	25	0	7	25	0	0	56	0	2	0	0	1	0	142	1,359
4:45 PM	0	1	32	15	0	2	31	0	0	21	1	5	0	0	0	1	109	1,316
4:50 PM	0	3	28	21	0	7	34	1	0	19	0	5	0	1	0	0	119	1,308
4:55 PM	0	0	26	16	0	6	35	0	0	24	0	3	0	0	0	1	111	1,253
5:00 PM	0	3	27	16	0	4	29	1	0	42	0	10	0	0	1	1	134	1,238
5:05 PM	0	3	34	17	0	3	40	1	0	23	0	1	0	0	0	0	122	
5:10 PM	0	2	31	19	0	5	37	0	0	20	0	1	0	0	1	1	117	
5:15 PM	0	3	30	18	0	7	27	0	0	22	1	9	0	0	1	2	120	
5:20 PM	0	1	28	10	0	3	34	1	0	25	0	4	0	0	0	2	108	
5:25 PM	0	6	24	19	0	5	26	0	0	12	1	2	0	0	0	0	95	
5:30 PM	0	0	11	18	0	5	26	0	0	19	1	3	0	0	0	0	83	
5:35 PM	0	4	31	11	0	1	23	0	0	18	0	6	0	0	0	5	99	
5:40 PM	0	1	21	22	0	5	28	0	0	17	0	3	0	0	0	2	99	
5:45 PM	0	1	23	19	0	4	23	0	0	27	0	3	0	0	1	0	101	
5:50 PM	0	1	15	14	0	4	13	0	0	13	0	3	0	0	0	1	64	
5:55 PM	0	3	26	15	0	3	28	0	0	15	0	6	0	0	0	0	96	
Count Total	0	36	611	422	0	116	703	6	0	593	6	112	0	2	10	29	2,646	
Peak Hour	0	15	331	227	0	67	404	5	0	352	3	53	0	2	5	12	1,476	

Location: 4 Parkway Center Dr & SW Elligsen Rd PM

DRAFT

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	1	1	0	2	4:05 PM	1	0	0	0	1	4:05 PM	0	0	0	0	0
4:10 PM	0	0	1	0	1	4:10 PM	0	0	0	0	0	4:10 PM	0	1	1	0	2
4:15 PM	0	0	1	0	1	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	1	0	1	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	0	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	1	0	0	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	1	0	0	0	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	1	1	2
4:50 PM	0	1	0	0	1	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	0	0	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	1	0	1	0	2	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	1	0	0	0	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	3	0	2	0	5	5:20 PM	0	0	0	0	0	5:20 PM	0	0	1	0	1
5:25 PM	4	0	0	0	4	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	1	0	0	0	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	1	0	0	0	1	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	1	0	0	0	1	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	1	0	0	0	1	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	2	0	0	0	2	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	19	2	7	0	28	Count Total	1	0	0	0	1	Count Total	0	1	3	1	5
Peak Hour	5	1	3	0	9	Peak Hour	0	0	0	0	0	Peak Hour	0	0	1	1	2



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Location: 1 SW Parkway Ave & SW Elligsen Rd PM

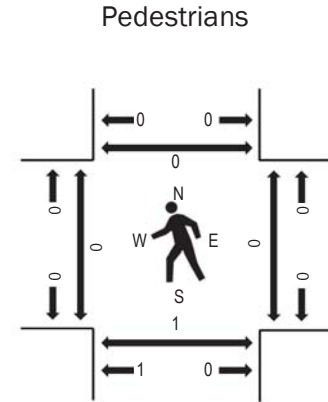
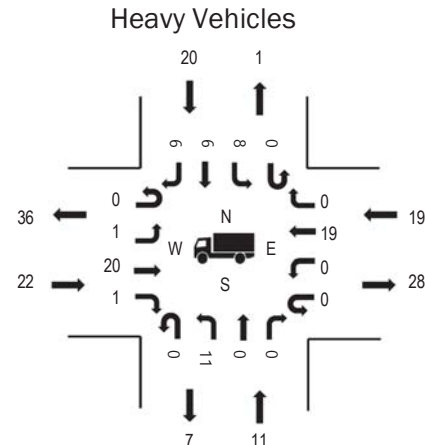
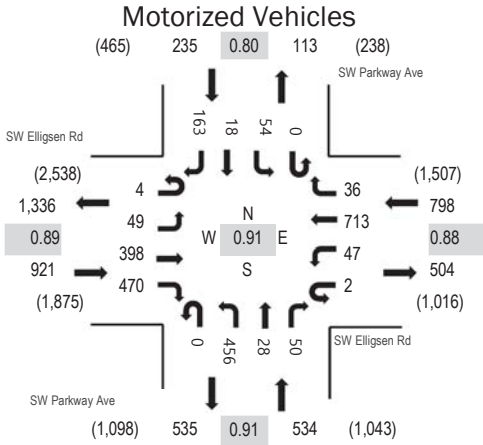
Date: Tuesday, June 7, 2022

Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:00 PM - 04:15 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.4%	0.89
WB	2.4%	0.88
NB	2.1%	0.91
SB	8.5%	0.80
All	2.9%	0.91

Traffic Counts - Motorized Vehicles

Interval Start Time	SW Elligsen Rd Eastbound				SW Elligsen Rd Westbound				SW Parkway Ave Northbound				SW Parkway Ave Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	10	44	50	0	6	52	4	0	44	4	5	0	6	0	12	237	2,488
4:05 PM	0	7	36	56	0	5	56	4	0	42	2	3	0	6	2	17	236	2,463
4:10 PM	1	5	33	42	1	4	61	3	0	40	1	5	0	3	0	15	214	2,464
4:15 PM	0	3	31	30	0	6	63	5	0	38	3	7	0	5	3	18	212	2,479
4:20 PM	1	2	18	34	0	5	63	4	0	41	4	5	0	7	0	18	202	2,487
4:25 PM	0	3	23	30	0	4	64	3	0	42	1	3	0	7	3	17	200	2,463
4:30 PM	0	4	29	32	0	4	68	2	0	38	2	4	0	3	1	12	199	2,472
4:35 PM	1	5	32	32	0	5	69	3	0	34	4	7	0	3	1	9	205	2,471
4:40 PM	0	4	28	41	0	2	54	2	0	30	2	4	0	4	1	10	182	2,454
4:45 PM	1	3	32	44	1	1	51	1	0	37	2	2	0	3	2	12	192	2,467
4:50 PM	0	2	43	42	0	2	54	2	0	36	1	3	0	4	2	10	201	2,475
4:55 PM	0	1	49	37	0	3	58	3	0	34	2	2	0	3	3	13	208	2,439
5:00 PM	0	1	24	28	0	6	71	6	0	41	4	5	0	2	2	22	212	2,402
5:05 PM	0	7	34	46	0	7	68	5	0	39	2	2	0	3	4	20	237	
5:10 PM	0	8	39	46	0	6	65	6	0	33	1	2	0	3	2	18	229	
5:15 PM	0	7	38	52	0	8	51	4	0	29	3	5	0	4	4	15	220	
5:20 PM	0	5	23	33	0	5	51	3	0	31	3	3	0	3	7	11	178	
5:25 PM	0	5	45	44	0	4	53	4	0	29	2	5	0	2	4	12	209	
5:30 PM	0	3	43	32	0	6	51	3	0	40	1	2	0	4	3	10	198	
5:35 PM	0	3	28	37	0	6	43	2	0	46	3	3	0	4	4	9	188	
5:40 PM	0	6	43	34	0	3	45	1	0	42	2	7	0	2	3	7	195	
5:45 PM	0	6	44	46	0	4	40	2	0	36	2	6	0	2	2	10	200	
5:50 PM	0	3	33	31	0	2	39	1	0	31	2	7	0	2	1	13	165	
5:55 PM	0	7	33	37	0	2	35	1	0	35	1	4	0	3	2	11	171	
Count Total	4	110	825	936	2	106	1,325	74	0	888	54	101	0	88	56	321	4,890	
Peak Hour	4	49	398	470	2	47	713	36	0	456	28	50	0	54	18	163	2,488	

Location: 1 SW Parkway Ave & SW Elligsen Rd PM

DRAFT

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	4	2	1	0	7	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	1	1	1	3	6	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	2	1	2	0	5	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	2	1	2	3	8	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	4	1	1	2	8	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	1	1	3	6	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	3	2	6	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	2	1	1	1	5	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	3	2	5	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	2	1	1	1	5	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	2	1	2	1	6	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	1	1	2	5	4:55 PM	0	0	0	0	0	4:55 PM	0	1	0	0	1
5:00 PM	0	2	3	0	5	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	1	1
5:05 PM	0	1	2	1	4	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	1	3	1	5	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	1	1	1	3	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	1	2	1	4	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	2	1	0	3	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	3	1	4	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	2	1	1	4	5:35 PM	0	0	0	0	0	5:35 PM	0	0	1	0	1
5:40 PM	0	2	4	1	7	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	2	1	1	4	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	1	2	1	4	5:50 PM	0	1	0	0	1	5:50 PM	0	0	0	0	0
5:55 PM	0	1	1	1	3	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	22	27	43	30	122	Count Total	0	1	0	0	1	Count Total	0	1	1	1	3
Peak Hour	22	11	19	20	72	Peak Hour	0	0	0	0	0	Peak Hour	0	1	0	0	1



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Location: 2 SW STAFFORD RD & SW 65TH AVE PM

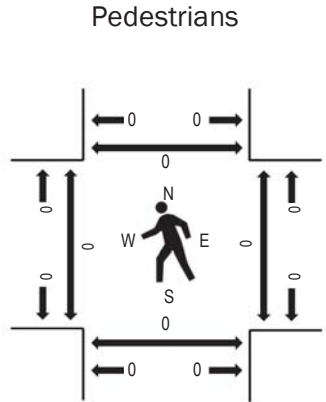
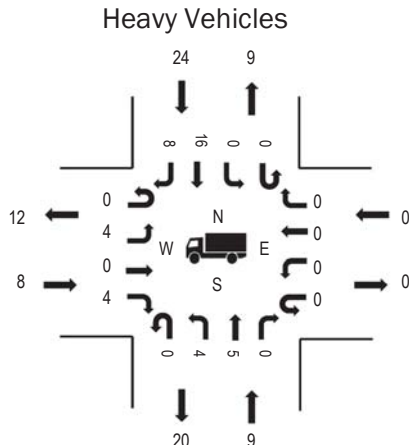
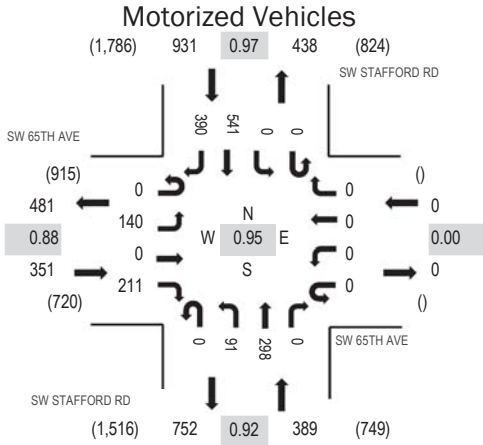
Date: Wednesday, May 18, 2022

Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:10 PM - 04:25 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.3%	0.88
WB	0.0%	0.00
NB	2.3%	0.92
SB	2.6%	0.97
All	2.5%	0.95

Traffic Counts - Motorized Vehicles

Interval Start Time	SW 65TH AVE Eastbound				SW 65TH AVE Westbound				SW STAFFORD RD Northbound				SW STAFFORD RD Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	9	0	9	0	0	0	0	0	13	19	0	0	0	52	37	139	1,671
4:05 PM	0	11	0	21	0	0	0	0	0	9	24	0	0	0	34	36	135	1,659
4:10 PM	0	12	0	16	0	0	0	0	0	8	30	0	0	0	48	38	152	1,666
4:15 PM	0	18	0	13	0	0	0	0	0	1	31	0	0	0	43	42	148	1,657
4:20 PM	0	17	0	13	0	0	0	0	0	12	24	0	0	0	45	31	142	1,652
4:25 PM	0	12	0	27	0	0	0	0	0	5	22	0	0	0	36	28	130	1,651
4:30 PM	0	7	0	17	0	0	0	0	0	8	22	0	0	0	49	35	138	1,652
4:35 PM	0	10	0	30	0	0	0	0	0	7	24	0	0	0	43	21	135	1,644
4:40 PM	0	11	0	13	0	0	0	0	0	4	26	0	0	0	47	34	135	1,670
4:45 PM	0	9	0	16	0	0	0	0	0	8	28	0	0	0	50	31	142	1,656
4:50 PM	0	9	0	23	0	0	0	0	0	9	26	0	0	0	48	25	140	1,622
4:55 PM	0	15	0	13	0	0	0	0	0	7	22	0	0	0	46	32	135	1,604
5:00 PM	0	11	0	18	0	0	0	0	0	8	16	0	0	0	47	27	127	1,584
5:05 PM	0	7	0	21	0	0	0	0	0	7	26	0	0	0	52	29	142	
5:10 PM	0	13	0	16	0	0	0	0	0	12	21	0	0	0	49	32	143	
5:15 PM	0	12	0	22	0	0	0	0	0	5	25	0	0	0	41	38	143	
5:20 PM	0	17	0	13	0	0	0	0	0	15	23	0	0	0	48	25	141	
5:25 PM	0	9	0	14	0	0	0	0	0	8	20	0	0	0	55	25	131	
5:30 PM	0	12	0	26	0	0	0	0	0	7	28	0	0	0	30	27	130	
5:35 PM	0	11	0	25	0	0	0	0	0	10	17	0	0	0	48	50	161	
5:40 PM	0	9	0	25	0	0	0	0	0	8	18	0	0	0	37	24	121	
5:45 PM	0	12	0	26	0	0	0	0	0	14	10	0	0	0	33	13	108	
5:50 PM	0	11	0	15	0	0	0	0	0	7	24	0	0	0	43	22	122	
5:55 PM	0	7	0	17	0	0	0	0	0	4	27	0	0	0	43	17	115	
Count Total	0	271	0	449	0	0	0	0	0	196	553	0	0	0	1,067	719	3,255	
Peak Hour	0	140	0	211	0	0	0	0	0	91	298	0	0	0	541	390	1,671	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	2	0	2	5	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	2	0	2	4	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	1	0	2	3	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	4	4	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	0	0	1	2	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	3	3	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	2	0	0	2	4	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	1	0	2	3	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	1	0	1	2	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	4	0	0	0	4	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	2	0	5	7	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	2	2	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	2	2	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	1	0	2	3	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	1	0	0	3	4	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	2	2	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	1	0	0	1	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	9	11	0	35	55	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	8	9	0	24	41	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	1	0	0	0	1	4:15 PM	1	0	0	0	1	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	1	0	0	1	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	0	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	1	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	0	0	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	1	0	0	0	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	1	0	0	0	1	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	1	0	1	5:35 PM	0	1	0	0	1	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	1	0	0	0	1	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	5	1	2	0	8	Count Total	2	1	0	0	3	Count Total	0	0	0	0	0
Peak Hour	3	1	1	0	5	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



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Location: 4 TOWN CENTER LOOP W & SW WILSONVILLE RD PM

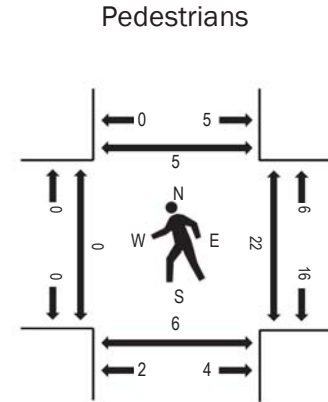
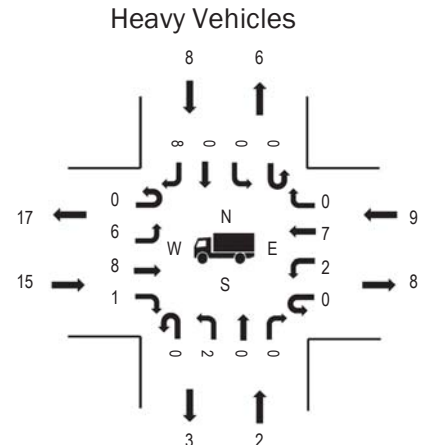
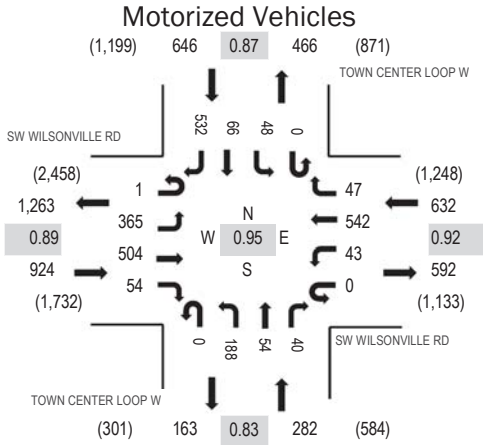
Date: Wednesday, May 18, 2022

Peak Hour: 04:05 PM - 05:05 PM

Peak 15-Minutes: 04:35 PM - 04:50 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.6%	0.89
WB	1.4%	0.92
NB	0.7%	0.83
SB	1.2%	0.87
All	1.4%	0.95

Traffic Counts - Motorized Vehicles

Interval Start Time	SW WILSONVILLE RD Eastbound				SW WILSONVILLE RD Westbound				TOWN CENTER LOOP W Northbound				TOWN CENTER LOOP W Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	27	36	3	0	0	50	0	0	15	6	1	0	1	0	27	166	2,446
4:05 PM	0	31	47	5	0	6	44	3	0	10	6	4	0	5	4	60	225	2,484
4:10 PM	0	40	40	2	0	2	24	6	0	13	7	2	0	2	7	36	181	2,468
4:15 PM	0	30	33	2	0	6	44	2	0	20	6	3	0	6	4	50	206	2,463
4:20 PM	0	32	31	2	0	4	52	3	0	16	4	5	0	2	4	39	194	2,450
4:25 PM	0	26	42	3	0	2	42	6	0	12	4	1	0	5	8	54	205	2,458
4:30 PM	0	28	40	6	0	0	38	4	0	22	4	3	0	3	6	58	212	2,454
4:35 PM	0	29	36	7	0	1	58	5	0	16	4	4	0	4	3	45	212	2,445
4:40 PM	0	45	49	2	0	4	40	3	0	17	5	2	0	2	6	35	210	2,417
4:45 PM	0	33	47	5	0	5	59	4	0	15	2	4	0	7	6	42	229	2,396
4:50 PM	0	26	46	7	0	4	38	3	0	19	4	6	0	5	8	36	202	2,386
4:55 PM	0	26	51	9	0	6	42	4	0	13	3	2	0	5	6	37	204	2,352
5:00 PM	1	19	42	4	0	3	61	4	0	15	5	4	0	2	4	40	204	2,317
5:05 PM	0	19	47	3	0	3	37	2	0	24	8	1	0	4	4	57	209	
5:10 PM	0	13	24	3	0	2	50	9	0	23	5	3	0	5	6	33	176	
5:15 PM	0	23	37	3	0	1	54	1	0	20	9	3	0	1	3	38	193	
5:20 PM	0	23	47	8	1	2	51	3	0	20	3	1	0	4	7	32	202	
5:25 PM	0	31	44	3	0	1	36	1	0	19	8	2	0	3	12	41	201	
5:30 PM	0	21	41	3	0	1	52	6	0	17	7	6	0	3	3	43	203	
5:35 PM	0	26	43	2	0	2	48	6	0	7	4	5	1	1	9	30	184	
5:40 PM	0	26	32	10	0	2	38	7	0	20	4	2	0	3	4	41	189	
5:45 PM	0	34	51	2	0	1	44	5	0	19	7	1	0	5	11	39	219	
5:50 PM	0	18	27	1	0	4	50	4	0	15	4	3	0	3	6	33	168	
5:55 PM	0	28	44	5	0	3	35	4	0	7	2	1	0	5	5	30	169	
Count Total	1	654	977	100	1	65	1,087	95	0	394	121	69	1	86	136	976	4,763	
Peak Hour	1	365	504	54	0	43	542	47	0	188	54	40	0	48	66	532	2,484	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	2	0	0	0	2	4:00 PM	0	0	0	0	0	4:00 PM	0	0	1	0	1
4:05 PM	3	0	0	0	3	4:05 PM	0	0	0	0	0	4:05 PM	0	2	1	1	4
4:10 PM	2	0	0	2	4	4:10 PM	0	0	0	0	0	4:10 PM	0	1	5	0	6
4:15 PM	2	0	0	0	2	4:15 PM	0	0	0	0	0	4:15 PM	0	1	4	0	5
4:20 PM	0	0	2	1	3	4:20 PM	0	0	0	0	0	4:20 PM	0	0	2	2	4
4:25 PM	0	1	0	1	2	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	1	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	1	0	0	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	2	0	2
4:40 PM	5	0	2	1	8	4:40 PM	0	0	0	0	0	4:40 PM	0	1	2	1	4
4:45 PM	0	0	2	1	3	4:45 PM	0	0	0	0	0	4:45 PM	0	0	2	0	2
4:50 PM	1	0	0	0	1	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	1	2	0	4	4:55 PM	0	0	0	0	0	4:55 PM	0	0	3	2	5
5:00 PM	0	0	1	1	2	5:00 PM	0	0	0	0	0	5:00 PM	0	1	2	0	3
5:05 PM	2	1	2	1	6	5:05 PM	0	0	0	0	0	5:05 PM	0	1	0	0	1
5:10 PM	3	1	2	0	6	5:10 PM	0	0	0	0	0	5:10 PM	0	0	1	0	1
5:15 PM	1	0	1	2	4	5:15 PM	1	0	0	0	1	5:15 PM	0	0	2	0	2
5:20 PM	1	0	2	0	3	5:20 PM	0	0	0	0	0	5:20 PM	0	0	3	0	3
5:25 PM	1	0	1	1	3	5:25 PM	0	0	0	1	1	5:25 PM	0	2	4	0	6
5:30 PM	0	1	0	0	1	5:30 PM	0	0	0	0	0	5:30 PM	0	1	4	1	6
5:35 PM	1	0	0	0	1	5:35 PM	1	0	0	0	1	5:35 PM	0	3	0	1	4
5:40 PM	1	0	0	1	2	5:40 PM	0	0	0	0	0	5:40 PM	0	2	3	1	6
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	2	1	3
5:55 PM	0	0	1	1	2	5:55 PM	0	0	0	0	0	5:55 PM	0	0	9	3	12
Count Total	27	5	18	14	64	Count Total	2	0	0	1	3	Count Total	0	15	52	13	80
Peak Hour	15	2	9	8	34	Peak Hour	0	0	0	0	0	Peak Hour	0	6	23	6	35



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Location: 5 I-5 NB RAMPS & SW WILSONVILLE RD PM

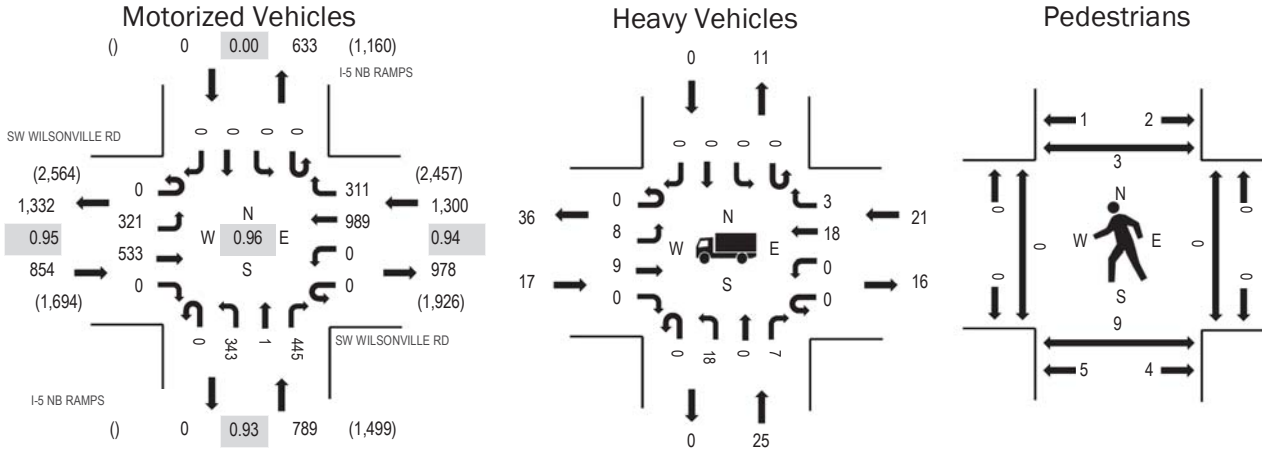
Date: Wednesday, May 18, 2022

Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 04:35 PM - 04:50 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.0%	0.95
WB	1.6%	0.94
NB	3.2%	0.93
SB	0.0%	0.00
All	2.1%	0.96

Traffic Counts - Motorized Vehicles

Interval Start Time	SW WILSONVILLE RD Eastbound				SW WILSONVILLE RD Westbound				I-5 NB RAMPS Northbound				I-5 NB RAMPS Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	21	40	0	0	0	72	20	0	29	0	23	0	0	0	0	205	2,877
4:05 PM	0	29	57	0	0	0	82	32	0	13	0	38	0	0	0	0	251	2,913
4:10 PM	0	19	49	0	0	0	60	12	0	36	0	31	0	0	0	0	207	2,910
4:15 PM	0	32	44	0	0	0	64	51	0	34	0	43	0	0	0	0	268	2,943
4:20 PM	0	36	28	0	0	0	79	27	0	27	0	38	0	0	0	0	235	2,906
4:25 PM	0	28	42	0	0	0	90	19	0	19	0	35	0	0	0	0	233	2,915
4:30 PM	0	18	48	0	0	0	92	26	0	25	0	35	0	0	0	0	244	2,907
4:35 PM	0	29	40	0	0	0	70	49	0	29	0	47	0	0	0	0	264	2,904
4:40 PM	0	31	53	0	0	0	83	7	0	21	0	41	0	0	0	0	236	2,855
4:45 PM	0	22	51	0	0	0	99	19	0	40	0	34	0	0	0	0	265	2,839
4:50 PM	0	21	51	0	0	0	75	18	0	31	0	39	0	0	0	0	235	2,821
4:55 PM	0	23	53	0	0	0	69	23	0	28	0	38	0	0	0	0	234	2,781
5:00 PM	0	24	45	0	0	0	86	30	0	22	0	34	0	0	0	0	241	2,773
5:05 PM	0	24	48	0	0	0	111	7	0	26	1	31	0	0	0	0	248	
5:10 PM	0	33	30	0	0	0	71	35	0	41	0	30	0	0	0	0	240	
5:15 PM	0	20	31	0	0	0	78	34	0	33	0	35	0	0	0	0	231	
5:20 PM	0	17	58	0	0	0	82	21	0	32	0	34	0	0	0	0	244	
5:25 PM	0	16	50	0	0	0	83	13	0	24	1	38	0	0	0	0	225	
5:30 PM	0	27	44	0	0	0	67	45	0	26	0	32	0	0	0	0	241	
5:35 PM	0	29	51	0	0	0	62	23	0	25	1	24	0	0	0	0	215	
5:40 PM	0	16	41	0	0	0	88	10	0	35	0	30	0	0	0	0	220	
5:45 PM	0	25	53	0	0	0	89	14	0	27	0	39	0	0	0	0	247	
5:50 PM	0	24	35	0	0	0	57	21	0	33	0	25	0	0	0	0	195	
5:55 PM	0	25	63	0	0	0	81	11	0	18	1	27	0	0	0	0	226	
Count Total	0	589	1,105	0	0	0	1,890	567	0	674	4	821	0	0	0	0	5,650	
Peak Hour	0	321	533	0	0	0	989	311	0	343	1	445	0	0	0	0	2,943	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	3	2	0	0	5	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	1	1
4:05 PM	3	1	0	0	4	4:05 PM	0	0	0	0	0	4:05 PM	0	1	0	1	2
4:10 PM	3	2	1	0	6	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	2	2
4:15 PM	2	4	1	0	7	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	3	1	2	0	6	4:20 PM	0	0	0	0	0	4:20 PM	0	1	0	0	1
4:25 PM	1	1	3	0	5	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	1	0	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	5	3	0	0	8	4:40 PM	0	0	0	0	0	4:40 PM	0	3	0	1	4
4:45 PM	1	4	5	0	10	4:45 PM	0	0	0	0	0	4:45 PM	0	4	0	0	4
4:50 PM	1	3	0	0	4	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	4	4
4:55 PM	2	1	2	0	5	4:55 PM	0	0	0	0	0	4:55 PM	0	1	0	0	1
5:00 PM	0	2	2	0	4	5:00 PM	0	0	0	0	0	5:00 PM	0	2	0	0	2
5:05 PM	1	1	3	0	5	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	1	4	2	0	7	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	2	1	3	0	6	5:15 PM	0	0	0	0	0	5:15 PM	0	2	0	1	3
5:20 PM	0	3	2	0	5	5:20 PM	0	0	0	0	0	5:20 PM	0	1	0	0	1
5:25 PM	0	3	2	0	5	5:25 PM	0	0	0	0	0	5:25 PM	0	2	0	0	2
5:30 PM	1	0	1	0	2	5:30 PM	0	0	0	0	0	5:30 PM	0	1	0	2	3
5:35 PM	2	1	0	0	3	5:35 PM	1	0	0	0	1	5:35 PM	0	3	0	0	3
5:40 PM	2	3	0	0	5	5:40 PM	0	0	0	0	0	5:40 PM	0	3	0	0	3
5:45 PM	2	0	1	0	3	5:45 PM	0	0	0	0	0	5:45 PM	0	1	0	2	3
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	2	0	2	5:55 PM	0	0	0	0	0	5:55 PM	0	1	0	2	3
Count Total	35	41	33	0	109	Count Total	1	0	0	0	1	Count Total	0	26	0	16	42
Peak Hour	17	25	21	0	63	Peak Hour	0	0	0	0	0	Peak Hour	0	11	0	5	16



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Location: 6 I-5 SB RAMPS & SW WILSONVILLE RD PM

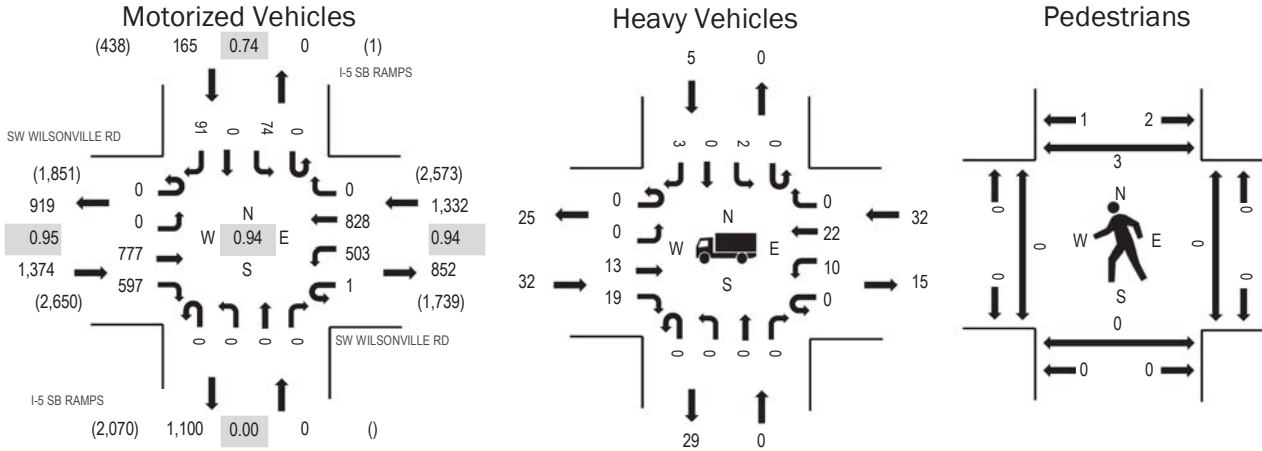
Date: Wednesday, May 18, 2022

Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 04:35 PM - 04:50 PM

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Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.3%	0.95
WB	2.4%	0.94
NB	0.0%	0.00
SB	3.0%	0.74
All	2.4%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	SW WILSONVILLE RD Eastbound				SW WILSONVILLE RD Westbound				I-5 SB RAMPS Northbound				I-5 SB RAMPS Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	72	61	0	40	69	0	0	0	0	0	0	10	0	10	262	2,863
4:05 PM	0	0	73	49	0	38	63	0	0	0	0	0	0	7	0	5	235	2,849
4:10 PM	0	0	67	47	0	32	57	0	0	0	0	0	0	9	0	7	219	2,870
4:15 PM	0	0	65	60	0	27	77	0	0	0	0	0	0	6	0	8	243	2,871
4:20 PM	0	0	56	58	1	48	65	0	0	0	0	0	0	7	0	13	248	2,860
4:25 PM	0	0	77	36	0	51	51	0	0	0	0	0	0	3	0	8	226	2,841
4:30 PM	0	0	56	53	0	37	63	0	0	0	0	0	0	5	0	9	223	2,813
4:35 PM	0	0	71	61	0	45	86	0	0	0	0	0	0	6	0	7	276	2,870
4:40 PM	0	0	76	52	0	48	64	0	0	0	0	0	0	4	0	4	248	2,832
4:45 PM	0	0	65	40	0	47	71	0	0	0	0	0	0	8	0	7	238	2,808
4:50 PM	0	0	55	36	0	33	68	0	0	0	0	0	0	6	0	4	202	2,762
4:55 PM	0	0	77	44	0	42	69	0	0	0	0	0	0	6	0	5	243	2,811
5:00 PM	0	0	68	49	0	44	72	0	0	0	0	0	0	5	0	10	248	2,798
5:05 PM	0	0	70	50	0	44	74	0	0	0	0	0	0	9	0	9	256	
5:10 PM	0	0	41	58	0	37	68	0	0	0	0	0	0	9	0	7	220	
5:15 PM	0	0	54	38	0	52	75	0	0	0	0	0	0	3	0	10	232	
5:20 PM	0	0	66	37	0	44	55	1	0	0	0	0	0	10	0	16	229	
5:25 PM	0	0	51	36	0	38	56	0	0	0	0	0	0	8	0	9	198	
5:30 PM	0	0	88	57	0	38	71	0	0	0	0	0	0	10	0	16	280	
5:35 PM	0	0	63	42	0	33	78	0	0	0	0	0	0	6	0	16	238	
5:40 PM	0	0	60	32	0	44	60	0	0	0	0	0	0	13	0	15	224	
5:45 PM	0	0	48	31	0	27	62	0	0	0	0	0	0	9	0	15	192	
5:50 PM	0	0	70	37	0	45	72	0	0	0	0	0	0	8	0	19	251	
5:55 PM	0	0	60	37	0	35	56	0	0	0	0	0	0	22	0	20	230	
Count Total	0	0	1,549	1,101	1	969	1,602	1	0	0	0	0	0	189	0	249	5,661	
Peak Hour	0	0	777	597	1	503	828	0	0	0	0	0	0	74	0	91	2,871	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	6	0	2	3	11	4:00 PM	0	0	0	0	0	4:00 PM	1	0	0	2	3
4:05 PM	2	0	0	2	4	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	2	2
4:10 PM	8	0	4	2	14	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	3	0	2	1	6	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	5	0	5	0	10	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	0	1	0	2	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	2	0	1	0	3	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	7	0	0	0	7	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	1	1
4:40 PM	7	0	7	1	15	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	3	1	4	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	2	2
4:50 PM	2	0	5	1	8	4:50 PM	0	0	0	0	0	4:50 PM	1	0	0	1	2
4:55 PM	1	0	1	0	2	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	0	2	0	3	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	2	0	1	1	4	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	1	0	4	0	5	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	1	1
5:15 PM	3	0	4	1	8	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	4	0	4	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	1	0	0	0	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	2	0	1	3	6	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	2	2
5:35 PM	2	0	1	0	3	5:35 PM	1	0	0	0	1	5:35 PM	0	0	0	0	0
5:40 PM	6	0	3	1	10	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	2	2
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	1	1
5:55 PM	2	0	2	1	5	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	1	1
Count Total	64	0	53	18	135	Count Total	1	0	0	0	1	Count Total	2	0	0	15	17
Peak Hour	32	0	32	5	69	Peak Hour	0	0	0	0	0	Peak Hour	1	0	0	5	6

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LOS DESCRIPTION



TRAFFIC LEVELS OF SERVICE

Analysis of traffic volumes is useful in understanding the general nature of traffic in an area, but by itself indicates neither the ability of the street network to carry additional traffic nor the quality of service afforded by the street facilities. For this, the concept of level of service has been developed to subjectively describe traffic performance. Level of service can be measured at intersections and along key roadway segments.

Levels of service categories are similar to report card ratings for traffic performance. Intersections are typically the controlling bottlenecks of traffic flow and the ability of a roadway system to carry traffic efficiently is generally diminished in their vicinities. Levels of Service A, B and C indicate conditions where traffic moves without significant delays over periods of peak travel demand. Level of service D and E are progressively worse peak hour operating conditions and F conditions represent where demand exceeds the capacity of an intersection. Most urban communities set level of service D as the minimum acceptable level of service for peak hour operation and plan for level of service C or better for all other times of the day. The Highway Capacity Manual provides level of service calculation methodology for both intersections and arterials¹. The following two sections provide interpretations of the analysis approaches.

¹ 2000 *Highway Capacity Manual*, Transportation Research Board, Washington D.C., 2000, Chapter 16 and 17.

UNSIGNALIZED INTERSECTIONS (Two-Way Stop Controlled)

Unsignalized intersection level of service is reported for the major street and minor street (generally, left turn movements). The method assesses available and critical gaps in the traffic stream which make it possible for side street traffic to enter the main street flow. The 2010 Highway Capacity Manual describes the detailed methodology. It is not unusual for an intersection to experience level of service E or F conditions for the minor street left turn movement. It should be understood that, often, a poor level of service is experienced by only a few vehicles and the intersection as a whole operates acceptably.

Unsignalized intersection levels of service are described in the following table.

Level-of-Service Criteria: Automobile Mode

Control Delay (s/vehicle)	LOS by Volume-to-Capacity Ratio	
	$v/c \leq 1.0$	$v/c > 1.0$
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

Note: The LOS criteria apply to each lane on a given approach and to each approach on the minor street.
LOS is not calculated for major-street approaches or for the intersection as a whole

SIGNALIZED INTERSECTIONS

For signalized intersections, level of service is evaluated based upon average vehicle delay experienced by vehicles entering an intersection. Control delay (or signal delay) includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. In previous versions of this chapter of the HCM (1994 and earlier), delay included only stopped delay. As delay increases, the level of service decreases. Calculations for signalized and unsignalized intersections are different due to the variation in traffic control. The 2000 Highway Capacity Manual provides the basis for these calculations.

Level of Service	Delay (secs.)	Description
A	<10.00	Free Flow/Insignificant Delays: No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Most vehicles do not stop at all. Progression is extremely favorable and most vehicles arrive during the green phase.
B	10.1-20.0	Stable Operation/Minimal Delays: An occasional approach phase is fully utilized. Many drivers begin to feel somewhat restricted within platoons of vehicles. This level generally occurs with good progression, short cycle lengths, or both.
C	20.1-35.0	Stable Operation/Acceptable Delays: Major approach phases fully utilized. Most drivers feel somewhat restricted. Higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, and the number of vehicles stopping is significant.
D	35.1-55.0	Approaching Unstable/Tolerable Delays: The influence of congestion becomes more noticeable. Drivers may have to wait through more than one red signal indication. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. The proportion of vehicles not stopping declines, and individual cycle failures are noticeable.
E	55.1-80.0	Unstable Operation/Significant Delays: Volumes at or near capacity. Vehicles may wait through several signal cycles. Long queues form upstream from intersection. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are a frequent occurrence.
F	>80.0	Forced Flow/Excessive Delays: Represents jammed conditions. Queues may block upstream intersections. This level occurs when arrival flow rates exceed intersection capacity, and is considered to be unacceptable to most drivers. Poor progression, long cycle lengths, and v/c ratios approaching 1.0 may contribute to these high delay levels.

Source: 2000 Highway Capacity Manual, Transportation Research Board, Washington D.C.

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EXISTING 2022 HCM REPORTS



HCM 6th Signalized Intersection Summary
1: I-5 SB Ramp & Elligsen Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖	↖	↖
Traffic Volume (veh/h)	0	1001	858	0	698	349	0	0	0	385	58	562
Future Volume (veh/h)	0	1001	858	0	698	349	0	0	0	385	58	562
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1856	0	1826	1900				1856	1870	1678
Adj Flow Rate, veh/h	0	1076	0	0	751	0				458	0	547
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	5	3	0	5	0				3	2	15
Cap, veh/h	0	1740		0	1740					1492	0	600
Arrive On Green	0.00	0.50	0.00	0.00	1.00	0.00				0.42	0.00	0.42
Sat Flow, veh/h	0	3561	1572	0	3561	1610				3534	0	1422
Grp Volume(v), veh/h	0	1076	0	0	751	0				458	0	547
Grp Sat Flow(s),veh/h/ln	0	1735	1572	0	1735	1610				1767	0	1422
Q Serve(g_s), s	0.0	23.5	0.0	0.0	0.0	0.0				9.0	0.0	37.9
Cycle Q Clear(g_c), s	0.0	23.5	0.0	0.0	0.0	0.0				9.0	0.0	37.9
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1740		0	1740					1492	0	600
V/C Ratio(X)	0.00	0.62		0.00	0.43					0.31	0.00	0.91
Avail Cap(c_a), veh/h	0	1740		0	1740					1818	0	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.93	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.9	0.0	0.0	0.0	0.0				20.1	0.0	28.5
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.0	0.7	0.0				0.1	0.0	13.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.3	0.0	0.0	0.2	0.0				3.6	0.0	14.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.6	0.0	0.0	0.7	0.0				20.2	0.0	42.3
LnGrp LOS	A	C		A	A					C	A	D
Approach Vol, veh/h		1076			751						1005	
Approach Delay, s/veh		20.6			0.7						32.3	
Approach LOS		C			A						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		56.7		48.3		56.7						
Change Period (Y+Rc), s		5.0		4.0		5.0						
Max Green Setting (Gmax), s		42.0		54.0		42.0						
Max Q Clear Time (g_c+I1), s		25.5		39.9		2.0						
Green Ext Time (p_c), s		5.1		4.4		3.9						

Intersection Summary

HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Notes

- User approved volume balancing among the lanes for turning movement.
- User approved changes to right turn type.
- Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 2: I-5 NB Ramp & Elligsen Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑	↑	↑↑		↑			
Traffic Volume (veh/h)	0	748	638	0	735	577	312	0	224	0	0	0
Future Volume (veh/h)	0	748	638	0	735	577	312	0	224	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1826	0	1870	1870	1826	0	1856			
Adj Flow Rate, veh/h	0	779	0	0	766	0	325	0	0			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	0	2	5	0	2	2	5	0	3			
Cap, veh/h	0	2800		0	2800		426	0				
Arrive On Green	0.00	1.00	0.00	0.00	1.00	0.00	0.13	0.00	0.00			
Sat Flow, veh/h	0	3647	1547	0	3647	1585	3374	0	1572			
Grp Volume(v), veh/h	0	779	0	0	766	0	325	0	0			
Grp Sat Flow(s),veh/h/ln	0	1777	1547	0	1777	1585	1687	0	1572			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2800		0	2800		426	0				
V/C Ratio(X)	0.00	0.28		0.00	0.27		0.76	0.00				
Avail Cap(c_a), veh/h	0	2800		0	2800		1253	0				
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.78	0.00	0.00	0.89	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	44.3	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.2	0.0	2.9	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	0.0	0.1	0.0	4.2	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.2	0.0	0.0	0.2	0.0	47.2	0.0	0.0			
LnGrp LOS	A	A		A	A		D	A				
Approach Vol, veh/h		779			766			325				
Approach Delay, s/veh		0.2			0.2			47.2				
Approach LOS		A			A			D				
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		87.7			87.7			17.3				
Change Period (Y+Rc), s		5.0			5.0			4.0				
Max Green Setting (Gmax), s		57.0			57.0			39.0				
Max Q Clear Time (g_c+I1), s		2.0			2.0			11.8				
Green Ext Time (p_c), s		4.1			4.0			1.5				

Intersection Summary

HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
3: Parkway Ave & Elligsen Rd

DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	473	450	47	693	36	456	28	50	54	18	163
Future Volume (veh/h)	49	473	450	47	693	36	456	28	50	54	18	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1826	1900	1900	1856	1900	1870	1900	1900	1678	1411	1841
Adj Flow Rate, veh/h	54	520	306	52	762	35	523	0	8	59	20	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	5	0	0	3	0	2	0	0	15	33	4
Cap, veh/h	70	1894	1168	68	2702	124	640	0	289	82	68	3
Arrive On Green	0.07	0.91	0.91	0.07	1.00	1.00	0.18	0.00	0.18	0.05	0.05	0.05
Sat Flow, veh/h	1781	3469	1609	1810	4964	227	3563	0	1610	1598	1332	67
Grp Volume(v), veh/h	54	520	306	52	518	279	523	0	8	59	0	21
Grp Sat Flow(s),veh/h/ln	1781	1735	1609	1810	1689	1814	1781	0	1610	1598	0	1399
Q Serve(g_s), s	3.1	1.9	1.6	3.0	0.0	0.0	14.8	0.0	0.4	3.8	0.0	1.5
Cycle Q Clear(g_c), s	3.1	1.9	1.6	3.0	0.0	0.0	14.8	0.0	0.4	3.8	0.0	1.5
Prop In Lane	1.00		1.00	1.00		0.13	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	70	1894	1168	68	1838	988	640	0	289	82	0	72
V/C Ratio(X)	0.78	0.27	0.26	0.77	0.28	0.28	0.82	0.00	0.03	0.72	0.00	0.29
Avail Cap(c_a), veh/h	161	1894	1168	267	1838	988	950	0	429	228	0	200
HCM Platoon Ratio	1.67	1.67	1.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	0.90	0.90	0.90	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	2.2	0.8	48.1	0.0	0.0	41.4	0.0	35.5	49.1	0.0	48.0
Incr Delay (d2), s/veh	15.8	0.3	0.5	15.0	0.3	0.6	3.5	0.0	0.0	11.3	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.6	0.8	1.6	0.1	0.2	6.8	0.0	0.2	1.8	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.4	2.5	1.3	63.1	0.3	0.6	44.9	0.0	35.5	60.4	0.0	50.2
LnGrp LOS	E	A	A	E	A	A	D	A	D	E	A	D
Approach Vol, veh/h		880			849			531				80
Approach Delay, s/veh		5.9			4.3			44.8				57.7
Approach LOS		A			A			D				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	62.3		10.4	8.6	62.2		23.9				
Change Period (Y+Rc), s	4.5	5.0		5.0	4.5	5.0		5.0				
Max Green Setting (Gmax), s	15.5	27.0		15.0	9.5	33.0		28.0				
Max Q Clear Time (g_c+1), s	15.0	3.9		5.8	5.1	2.0		16.8				
Green Ext Time (p_c), s	0.1	3.9		0.1	0.0	3.7		2.1				

Intersection Summary

HCM 6th Ctrl Delay	15.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
4: Parkway Center Dr & Elligsen Rd

DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	331	221	67	412	5	352	3	53	2	5	12
Future Volume (veh/h)	15	331	221	67	412	5	352	3	53	2	5	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1856	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	356	171	72	443	5	378	3	4	2	5	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	2	3	0	0	0	0	0	0	0	0
Cap, veh/h	706	1158	1182	733	2396	27	480	101	134	13	33	0
Arrive On Green	0.06	1.00	1.00	0.08	0.66	0.66	0.14	0.14	0.14	0.01	0.02	0.00
Sat Flow, veh/h	1810	1900	1584	1767	3656	41	3510	737	982	535	1338	0
Grp Volume(v), veh/h	16	356	171	72	219	229	378	0	7	7	0	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1584	1767	1805	1893	1755	0	1719	1873	0	0
Q Serve(g_s), s	0.3	0.0	0.0	1.3	5.0	5.0	10.9	0.0	0.4	0.4	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	0.0	1.3	5.0	5.0	10.9	0.0	0.4	0.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.57	0.29		0.00
Lane Grp Cap(c), veh/h	706	1158	1182	733	1183	1240	480	0	235	47	0	0
V/C Ratio(X)	0.02	0.31	0.14	0.10	0.18	0.19	0.79	0.00	0.03	0.15	0.00	0.00
Avail Cap(c_a), veh/h	805	1158	1182	783	1183	1240	970	0	475	143	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.6	0.0	0.0	4.8	7.1	7.1	43.8	0.0	39.3	50.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.2	0.0	0.3	0.3	1.1	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.1	0.4	1.8	1.9	4.7	0.0	0.2	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.6	0.7	0.2	4.8	7.4	7.4	45.0	0.0	39.3	50.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		543			520			385				7
Approach Delay, s/veh		0.7			7.1			44.8				50.9
Approach LOS		A			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	68.0		6.6	7.2	72.8		18.4				
Change Period (Y+Rc), s	5.0	5.0		5.5	5.0	5.0		5.0				
Max Green Setting (Gmax), s	40.0	40.0		6.5	8.0	42.0		28.0				
Max Q Clear Time (g_c+1), s	13.3	2.0		2.4	2.3	7.0		12.9				
Green Ext Time (p_c), s	0.0	0.5		0.0	0.0	0.3		0.3				

Intersection Summary

HCM 6th Ctrl Delay		14.9										
HCM 6th LOS			B									

Intersection						
Int Delay, s/veh	59.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	WT		W	T	T	W
Traffic Vol, veh/h	140	211	91	298	541	390
Future Vol, veh/h	140	211	91	298	541	390
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	175	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	2	4	2	3	2
Mvmt Flow	147	222	96	314	569	411

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1281	775	980	0	-	0
Stage 1	775	-	-	-	-	-
Stage 2	506	-	-	-	-	-
Critical Hdwy	6.43	6.22	4.14	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.318	2.236	-	-	-
Pot Cap-1 Maneuver	182	398	696	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	157	398	696	-	-	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	390	-	-	-	-	-
Stage 2	603	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	280.3	2.6	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	696	-	247	-	-
HCM Lane V/C Ratio	0.138	-	1.496	-	-
HCM Control Delay (s)	11	-	280.3	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.5	-	21.7	-	-

HCM 6th Signalized Intersection Summary
6: Parkway Ave & Boeckman Rd

DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	267	204	62	246	21	143	161	64	31	334	205
Future Volume (veh/h)	86	267	204	62	246	21	143	161	64	31	334	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1870	1900	1900	1885	1900	1900	1900	1900
Adj Flow Rate, veh/h	91	281	183	65	259	18	151	169	51	33	352	191
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	2	0	0	1	0	0	0	0
Cap, veh/h	372	321	209	215	499	35	299	562	170	522	415	225
Arrive On Green	0.05	0.30	0.30	0.04	0.29	0.28	0.08	0.41	0.40	0.03	0.36	0.35
Sat Flow, veh/h	1810	1061	691	1810	1724	120	1810	1381	417	1810	1156	627
Grp Volume(v), veh/h	91	0	464	65	0	277	151	0	220	33	0	543
Grp Sat Flow(s),veh/h/ln	1810	0	1751	1810	0	1844	1810	0	1797	1810	0	1783
Q Serve(g_s), s	2.5	0.0	18.0	1.8	0.0	9.0	3.6	0.0	5.9	0.8	0.0	20.2
Cycle Q Clear(g_c), s	2.5	0.0	18.0	1.8	0.0	9.0	3.6	0.0	5.9	0.8	0.0	20.2
Prop In Lane	1.00		0.39	1.00		0.06	1.00		0.23	1.00		0.35
Lane Grp Cap(c), veh/h	372	0	529	215	0	534	299	0	732	522	0	640
V/C Ratio(X)	0.24	0.00	0.88	0.30	0.00	0.52	0.51	0.00	0.30	0.06	0.00	0.85
Avail Cap(c_a), veh/h	477	0	635	343	0	669	364	0	802	675	0	796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.3	0.0	23.8	19.2	0.0	21.3	15.9	0.0	14.4	14.1	0.0	21.3
Incr Delay (d2), s/veh	0.3	0.0	11.0	0.6	0.0	0.6	1.0	0.0	0.3	0.0	0.0	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	8.3	0.7	0.0	3.6	1.3	0.0	2.2	0.3	0.0	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.5	0.0	34.9	19.8	0.0	21.9	16.9	0.0	14.7	14.2	0.0	29.2
LnGrp LOS	B	A	C	B	A	C	B	A	B	B	A	C
Approach Vol, veh/h		555			342			371			576	
Approach Delay, s/veh		32.0			21.5			15.6			28.3	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	29.7	6.9	25.7	5.9	33.2	7.8	24.8				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	8.0	31.5	8.0	25.5	8.0	31.5	8.0	25.5				
Max Q Clear Time (g_c+I1), s	5.6	22.2	3.8	20.0	2.8	7.9	4.5	11.0				
Green Ext Time (p_c), s	0.1	3.1	0.0	1.1	0.0	1.7	0.0	1.0				

Intersection Summary												
HCM 6th Ctrl Delay				25.6								
HCM 6th LOS				C								

Intersection

Intersection Delay, s/veh20.3
Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Vol, veh/h	53	250	45	63	255	57	29	92	71	102	155	71
Future Vol, veh/h	53	250	45	63	255	57	29	92	71	102	155	71
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	2	2	2	3	5	0	3	0	0	1	0
Mvmt Flow	59	278	50	70	283	63	32	102	79	113	172	79
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	22.5	23.8	15.2	17
HCM LOS	C	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	56%	0%	85%	0%	82%	0%	69%
Vol Right, %	0%	44%	0%	15%	0%	18%	0%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	163	53	295	63	312	102	226
LT Vol	29	0	53	0	63	0	102	0
Through Vol	0	92	0	250	0	255	0	155
RT Vol	0	71	0	45	0	57	0	71
Lane Flow Rate	32	181	59	328	70	347	113	251
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.077	0.395	0.131	0.675	0.155	0.708	0.26	0.525
Departure Headway (Hd)	8.627	7.847	8.004	7.415	7.982	7.355	8.257	7.533
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	414	456	446	485	448	489	434	477
Service Time	6.414	5.634	5.782	5.192	5.759	5.131	6.037	5.313
HCM Lane V/C Ratio	0.077	0.397	0.132	0.676	0.156	0.71	0.26	0.526
HCM Control Delay	12.1	15.7	12	24.4	12.2	26.2	13.9	18.4
HCM Lane LOS	B	C	B	C	B	D	B	C
HCM 95th-tile Q	0.2	1.9	0.4	5	0.5	5.5	1	3

HCM 6th Signalized Intersection Summary
 8: Wilsonville Rd/Stafford Rd & Boeckman Rd/Advance Rd

DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	65	111	57	43	14	71	204	53	20	438	234
Future Volume (veh/h)	186	65	111	57	43	14	71	204	53	20	438	234
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.93		0.90	0.90		0.88	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1885	1826	1900	1900	1885	1885	1870	1826	1885	1856
Adj Flow Rate, veh/h	188	66	18	58	43	1	72	206	45	20	442	216
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	2	1	5	0	0	1	1	2	5	1	3
Cap, veh/h	483	384	297	362	246	6	271	681	149	551	512	250
Arrive On Green	0.12	0.21	0.21	0.05	0.13	0.13	0.05	0.46	0.45	0.02	0.43	0.42
Sat Flow, veh/h	1795	1870	1445	1739	1842	43	1795	1491	326	1739	1195	584
Grp Volume(v), veh/h	188	66	18	58	0	44	72	0	251	20	0	658
Grp Sat Flow(s),veh/h/ln	1795	1870	1445	1739	0	1885	1795	0	1817	1739	0	1778
Q Serve(g_s), s	4.9	1.7	0.6	1.7	0.0	1.2	1.3	0.0	5.2	0.4	0.0	20.0
Cycle Q Clear(g_c), s	4.9	1.7	0.6	1.7	0.0	1.2	1.3	0.0	5.2	0.4	0.0	20.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.18	1.00		0.33
Lane Grp Cap(c), veh/h	483	384	297	362	0	252	271	0	829	551	0	762
V/C Ratio(X)	0.39	0.17	0.06	0.16	0.00	0.17	0.27	0.00	0.30	0.04	0.00	0.86
Avail Cap(c_a), veh/h	555	743	574	409	0	590	308	0	1277	635	0	1251
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.9	19.4	19.0	20.5	0.0	22.8	12.5	0.0	10.2	9.6	0.0	15.5
Incr Delay (d2), s/veh	0.4	0.2	0.1	0.2	0.0	0.2	0.4	0.0	0.2	0.0	0.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.7	0.2	0.6	0.0	0.5	0.5	0.0	1.8	0.1	0.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.3	19.6	19.1	20.6	0.0	23.1	12.9	0.0	10.4	9.6	0.0	19.1
LnGrp LOS	B	B	B	C	A	C	B	A	B	A	A	B
Approach Vol, veh/h		272			102			323			678	
Approach Delay, s/veh		17.9			21.7			11.0			18.8	
Approach LOS		B			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	29.5	11.2	11.9	5.1	31.1	7.0	16.2				
Change Period (Y+Rc), s	4.0	4.5	4.5	4.5	4.0	4.5	4.5	4.5				
Max Green Setting (Gmax), s	4.0	41.3	9.1	18.1	4.0	41.3	4.1	23.1				
Max Q Clear Time (g_c+1/3), s	4.0	22.0	6.9	3.2	2.4	7.2	3.7	3.7				
Green Ext Time (p_c), s	0.0	3.0	0.1	0.1	0.0	1.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay											17.0	
HCM 6th LOS											B	

Intersection

Int Delay, s/veh 0.9

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations						
Traffic Vol, veh/h	84	16	2	85	15	2
Future Vol, veh/h	84	16	2	85	15	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	1	12	0	1	7	0
Mvmt Flow	104	20	2	105	19	2

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	124	0	223	114
Stage 1	-	-	-	-	114	-
Stage 2	-	-	-	-	109	-
Critical Hdwy	-	-	4.1	-	6.47	6.2
Critical Hdwy Stg 1	-	-	-	-	5.47	-
Critical Hdwy Stg 2	-	-	-	-	5.47	-
Follow-up Hdwy	-	-	2.2	-	3.563	3.3
Pot Cap-1 Maneuver	-	-	1475	-	754	944
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1475	-	753	944
Mov Cap-2 Maneuver	-	-	-	-	753	-
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	902	-

Approach EB WB NB

HCM Control Delay, s	0	0.2	9.8
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	771	-	-	1475	-
HCM Lane V/C Ratio	0.027	-	-	0.002	-
HCM Control Delay (s)	9.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	6	4	400	686	11
Future Vol, veh/h	12	6	4	400	686	11
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	25	0	2	0
Mvmt Flow	13	7	4	435	746	12

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1197	754	760	0	-	0
Stage 1	754	-	-	-	-	-
Stage 2	443	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.35	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.425	-	-	-
Pot Cap-1 Maneuver	207	412	757	-	-	-
Stage 1	468	-	-	-	-	-
Stage 2	651	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	205	411	756	-	-	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	464	-	-	-	-	-
Stage 2	650	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.9	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	756	-	246	-	-
HCM Lane V/C Ratio	0.006	-	0.08	-	-
HCM Control Delay (s)	9.8	0	20.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

HCM 6th TWSC
11: Stafford Rd & Frog Pond Ln

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Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	1	4	2	410	693	2
Future Vol, veh/h	1	4	2	410	693	2
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	50
Mvmt Flow	1	4	2	446	753	2

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1206	756	757	0	-	0
Stage 1	756	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	205	411	863	-	-	-
Stage 1	467	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	204	410	862	-	-	-
Mov Cap-2 Maneuver	204	-	-	-	-	-
Stage 1	465	-	-	-	-	-
Stage 2	646	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	862	-	341	-	-
HCM Lane V/C Ratio	0.003	-	0.016	-	-
HCM Control Delay (s)	9.2	0	15.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	2	409	2	2	693
Future Vol, veh/h	2	2	409	2	2	693
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	2	2	445	2	2	753

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1203	446	0	0	447
Stage 1	446	-	-	-	-
Stage 2	757	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	206	617	-	-	1124
Stage 1	649	-	-	-	-
Stage 2	467	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	205	617	-	-	1124
Mov Cap-2 Maneuver	205	-	-	-	-
Stage 1	649	-	-	-	-
Stage 2	466	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	308	1124
HCM Lane V/C Ratio	-	-	0.014	0.002
HCM Control Delay (s)	-	-	16.9	8.2
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th Signalized Intersection Summary
 13: I-5 SB Ramp & Wilsonville Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	↘↗
Traffic Volume (veh/h)	0	780	597	503	829	0	0	0	0	74	2	91
Future Volume (veh/h)	0	780	597	503	829	0	0	0	0	74	2	91
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1856	1870	1856	0				1856	1900	1856
Adj Flow Rate, veh/h	0	830	0	535	882	0				80	0	9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	2	3	2	3	0				3	0	3
Cap, veh/h	0	3357		631	3089	0				180	0	155
Arrive On Green	0.00	0.66	0.00	0.12	0.59	0.00				0.05	0.00	0.05
Sat Flow, veh/h	0	5274	1572	3456	3618	0				3534	0	3039
Grp Volume(v), veh/h	0	830	0	535	882	0				80	0	9
Grp Sat Flow(s),veh/h/ln	0	1702	1572	1728	1763	0				1767	0	1520
Q Serve(g_s), s	0.0	7.3	0.0	16.7	13.6	0.0				2.4	0.0	0.3
Cycle Q Clear(g_c), s	0.0	7.3	0.0	16.7	13.6	0.0				2.4	0.0	0.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3357		631	3089	0				180	0	155
V/C Ratio(X)	0.00	0.25		0.85	0.29	0.00				0.44	0.00	0.06
Avail Cap(c_a), veh/h	0	3357		785	3089	0				610	0	525
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.93	0.93	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	7.7	0.0	46.8	5.6	0.0				50.7	0.0	49.7
Incr Delay (d2), s/veh	0.0	0.2	0.0	6.8	0.2	0.0				1.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	0.0	8.0	5.7	0.0				1.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	7.9	0.0	53.5	5.8	0.0				52.4	0.0	49.8
LnGrp LOS	A	A		D	A	A				D	A	D
Approach Vol, veh/h		830			1417							89
Approach Delay, s/veh		7.9			23.9							52.1
Approach LOS		A			C							D
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	24.1	76.3		9.6		100.4						
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0						
Max Green Setting (Gmax), s	25.0	54.0		19.0		75.0						
Max Q Clear Time (g_c+I1), s	18.7	9.3		4.4		15.6						
Green Ext Time (p_c), s	1.4	4.4		0.2		4.8						

Intersection Summary

HCM 6th Ctrl Delay	19.3
HCM 6th LOS	B

Notes

- User approved volume balancing among the lanes for turning movement.
- Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 14: I-5 NB Ramp & Wilsonville Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑			↑↑↑	↔	↔	↔	↔↔			
Traffic Volume (veh/h)	321	533	0	0	989	311	343	2	445	0	0	0
Future Volume (veh/h)	321	533	0	0	989	311	343	2	445	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1885	1826	1900	1870			
Adj Flow Rate, veh/h	334	555	0	0	1030	0	358	0	180			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	1	5	0	2			
Cap, veh/h	407	2822	0	0	3268		463	0	412			
Arrive On Green	0.24	1.00	0.00	0.00	1.00	0.00	0.13	0.00	0.13			
Sat Flow, veh/h	3456	3647	0	0	5274	1598	3478	0	3089			
Grp Volume(v), veh/h	334	555	0	0	1030	0	358	0	180			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1702	1598	1739	0	1545			
Q Serve(g_s), s	10.1	0.0	0.0	0.0	0.0	0.0	10.9	0.0	5.9			
Cycle Q Clear(g_c), s	10.1	0.0	0.0	0.0	0.0	0.0	10.9	0.0	5.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	407	2822	0	0	3268		463	0	412			
V/C Ratio(X)	0.82	0.20	0.00	0.00	0.32		0.77	0.00	0.44			
Avail Cap(c_a), veh/h	785	2822	0	0	3268		949	0	842			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.97	0.97	0.00	0.00	0.73	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	41.0	0.0	0.0	0.0	0.0	0.0	46.1	0.0	43.9			
Incr Delay (d2), s/veh	2.5	0.2	0.0	0.0	0.2	0.0	1.7	0.0	0.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.9	0.1	0.0	0.0	0.1	0.0	4.8	0.0	2.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	0.2	0.0	0.0	0.2	0.0	47.8	0.0	44.3			
LnGrp LOS	D	A	A	A	A		D	A	D			
Approach Vol, veh/h		889			1030			538				
Approach Delay, s/veh		16.4			0.2			46.6				
Approach LOS		B			A			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		91.3			16.9	74.4		18.7				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		53.0			25.0	43.0		30.0				
Max Q Clear Time (g_c+I1), s		2.0			12.1	2.0		12.9				
Green Ext Time (p_c), s		6.1			0.9	12.8		1.7				

Intersection Summary

HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
15: Town Center Lp West & Wilsonville Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↔		↔	↑↔		↔	↔↔		↔	↔	↔
Traffic Volume (veh/h)	365	504	54	43	564	47	188	54	40	48	66	548
Future Volume (veh/h)	365	504	54	43	564	47	188	54	40	48	66	548
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.95	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1826	1885	1900	1885	1900	1900	1900	1900	1870
Adj Flow Rate, veh/h	384	531	51	45	594	44	198	57	16	51	139	116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	5	1	0	1	0	0	0	0	2
Cap, veh/h	445	1912	183	57	1648	122	462	181	51	189	199	153
Arrive On Green	0.26	1.00	1.00	0.03	0.49	0.48	0.13	0.13	0.13	0.10	0.10	0.10
Sat Flow, veh/h	3456	3275	314	1739	3377	250	3591	1408	395	1810	1900	1465
Grp Volume(v), veh/h	384	287	295	45	315	323	198	0	73	51	139	116
Grp Sat Flow(s),veh/h/ln	1728	1777	1812	1739	1791	1835	1795	0	1804	1810	1900	1465
Q Serve(g_s), s	11.7	0.0	0.0	2.8	12.0	12.1	5.6	0.0	4.0	2.9	7.8	8.5
Cycle Q Clear(g_c), s	11.7	0.0	0.0	2.8	12.0	12.1	5.6	0.0	4.0	2.9	7.8	8.5
Prop In Lane	1.00		0.17	1.00		0.14	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	445	1037	1058	57	874	896	462	0	232	189	199	153
V/C Ratio(X)	0.86	0.28	0.28	0.79	0.36	0.36	0.43	0.00	0.31	0.27	0.70	0.76
Avail Cap(c_a), veh/h	534	1037	1058	111	874	896	914	0	459	296	311	240
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	0.0	0.0	52.8	17.5	17.5	44.2	0.0	43.5	45.4	47.6	47.9
Incr Delay (d2), s/veh	11.0	0.6	0.6	16.0	1.2	1.1	0.5	0.0	0.6	0.6	3.3	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.2	0.2	1.5	5.1	5.2	2.5	0.0	1.9	1.3	3.8	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.0	0.6	0.6	68.9	18.6	18.7	44.7	0.0	44.1	45.9	50.9	53.4
LnGrp LOS	D	A	A	E	B	B	D	A	D	D	D	D
Approach Vol, veh/h		966			683			271			306	
Approach Delay, s/veh		20.6			22.0			44.5			51.0	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	68.2		15.5	18.1	57.7		18.7				
Change Period (Y+Rc), s	4.0	4.5		4.5	4.0	4.5		4.5				
Max Green Setting (Gmax), s	40.0			17.5	17.0	30.0		28.0				
Max Q Clear Time (g_c+1), s		2.0		10.5	13.7	14.1		7.6				
Green Ext Time (p_c), s	0.0	3.9		0.5	0.5	3.5		0.9				

Intersection Summary

HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

ID	Software/Method	Intersection	Control Type	LOS	Delay	V/C Ratio
1	Synchro HCM 6th Signal	I-5 SB Ramp & Elligsen Rd	Signal	B	19.5	0.74
2	Synchro HCM 6th Signal	I-5 NB Ramp & Elligsen Rd	Signal	A	8.4	0.34
3	Synchro HCM 6th Signal	Parkway Ave & Elligsen Rd	Signal	B	15.9	0.32
4	Synchro HCM 6th Signal	Parkway Center Dr & Elligsen Rd	Signal	B	14.9	0.40
6	Synchro HCM 6th Signal	Parkway Ave & Boeckman Rd	Signal	C	25.6	0.84
8	Synchro HCM 6th Signal	Wilsonville Rd/Stafford Rd & Boeckman Rd/	Signal	B	17.0	0.65
13	Synchro HCM 6th Signal	I-5 SB Ramp & Wilsonville Rd	Signal	B	19.3	0.38
14	Synchro HCM 6th Signal	I-5 NB Ramp & Wilsonville Rd	Signal	B	16.2	0.44
15	Synchro HCM 6th Signal	Town Center Lp West & Wilsonville Rd	Signal	C	28.1	0.38

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FUTURE BASELINE 2040 HCM REPORTS



HCM 6th Signalized Intersection Summary
1: I-5 SB Ramp & Elligsen Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↘	↖	↗↗
Traffic Volume (veh/h)	0	1315	1105	0	1030	370	0	0	0	480	70	830
Future Volume (veh/h)	0	1315	1105	0	1030	370	0	0	0	480	70	830
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1856	0	1826	1900				1856	1870	1678
Adj Flow Rate, veh/h	0	1384	0	0	1084	0				558	0	798
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	5	3	0	5	0				3	2	15
Cap, veh/h	0	2019		0	2019					1208	0	951
Arrive On Green	0.00	0.58	0.00	0.00	1.00	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	3561	1572	0	3561	1610				3534	0	2784
Grp Volume(v), veh/h	0	1384	0	0	1084	0				558	0	798
Grp Sat Flow(s),veh/h/ln	0	1735	1572	0	1735	1610				1767	0	1392
Q Serve(g_s), s	0.0	29.1	0.0	0.0	0.0	0.0				13.0	0.0	27.8
Cycle Q Clear(g_c), s	0.0	29.1	0.0	0.0	0.0	0.0				13.0	0.0	27.8
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2019		0	2019					1208	0	951
V/C Ratio(X)	0.00	0.69		0.00	0.54					0.46	0.00	0.84
Avail Cap(c_a), veh/h	0	2019		0	2019					1447	0	1140
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.86	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.3	0.0	0.0	0.0	0.0				27.0	0.0	31.9
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.0	0.9	0.0				0.3	0.0	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.0	0.0	0.0	0.2	0.0				5.4	0.0	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.2	0.0	0.0	0.9	0.0				27.3	0.0	36.8
LnGrp LOS	A	B		A	A					C	A	D
Approach Vol, veh/h		1384			1084						1356	
Approach Delay, s/veh		17.2			0.9						32.9	
Approach LOS		B			A						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		65.1		39.9		65.1						
Change Period (Y+Rc), s		5.0		4.0		5.0						
Max Green Setting (Gmax), s		53.0		43.0		53.0						
Max Q Clear Time (g_c+I1), s		31.1		29.8		2.0						
Green Ext Time (p_c), s		7.8		6.1		6.4						

Intersection Summary

HCM 6th Ctrl Delay	18.1
HCM 6th LOS	B

Notes

- User approved volume balancing among the lanes for turning movement.
- User approved changes to right turn type.
- Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
2: I-5 NB Ramp & Elligsen Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑	↑	↑↑		↑			
Traffic Volume (veh/h)	0	905	890	0	920	535	480	0	270	0	0	0
Future Volume (veh/h)	0	905	890	0	920	535	480	0	270	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1826	0	1870	1870	1826	0	1856			
Adj Flow Rate, veh/h	0	943	0	0	958	0	500	0	0			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	0	2	5	0	2	2	5	0	3			
Cap, veh/h	0	2598		0	2598		618	0				
Arrive On Green	0.00	1.00	0.00	0.00	1.00	0.00	0.18	0.00	0.00			
Sat Flow, veh/h	0	3647	1547	0	3647	1585	3374	0	1572			
Grp Volume(v), veh/h	0	943	0	0	958	0	500	0	0			
Grp Sat Flow(s),veh/h/ln	0	1777	1547	0	1777	1585	1687	0	1572			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	14.9	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	14.9	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2598		0	2598		618	0				
V/C Ratio(X)	0.00	0.36		0.00	0.37		0.81	0.00				
Avail Cap(c_a), veh/h	0	2598		0	2598		1253	0				
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.67	0.00	0.00	0.86	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	41.1	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.3	0.0	2.6	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	0.0	0.1	0.0	6.3	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.3	0.0	0.0	0.3	0.0	43.7	0.0	0.0			
LnGrp LOS	A	A		A	A		D	A				
Approach Vol, veh/h		943			958			500				
Approach Delay, s/veh		0.3			0.3			43.7				
Approach LOS		A			A			D				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		81.8				81.8		23.2				
Change Period (Y+Rc), s		5.0				5.0		4.0				
Max Green Setting (Gmax), s		57.0				57.0		39.0				
Max Q Clear Time (g_c+I1), s		2.0				2.0		16.9				
Green Ext Time (p_c), s		5.2				5.3		2.3				

Intersection Summary

HCM 6th Ctrl Delay	9.3
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
3: Parkway Ave & Elligsen Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	625	470	50	795	45	460	30	55	70	20	200
Future Volume (veh/h)	80	625	470	50	795	45	460	30	55	70	20	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1826	1900	1900	1856	1900	1870	1900	1900	1678	1411	1841
Adj Flow Rate, veh/h	88	687	314	55	874	44	529	0	8	77	22	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	5	0	0	3	0	2	0	0	15	33	4
Cap, veh/h	111	1839	1142	72	2507	126	640	0	289	103	82	7
Arrive On Green	0.13	1.00	1.00	0.01	0.17	0.17	0.18	0.00	0.18	0.06	0.06	0.06
Sat Flow, veh/h	1781	3469	1609	1810	4940	248	3563	0	1610	1598	1274	116
Grp Volume(v), veh/h	88	687	314	55	597	321	529	0	8	77	0	24
Grp Sat Flow(s),veh/h/ln	1781	1735	1609	1810	1689	1811	1781	0	1610	1598	0	1390
Q Serve(g_s), s	5.0	0.0	0.0	3.2	16.4	16.5	15.0	0.0	0.4	5.0	0.0	1.7
Cycle Q Clear(g_c), s	5.0	0.0	0.0	3.2	16.4	16.5	15.0	0.0	0.4	5.0	0.0	1.7
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	111	1839	1142	72	1714	919	640	0	289	103	0	90
V/C Ratio(X)	0.79	0.37	0.27	0.76	0.35	0.35	0.83	0.00	0.03	0.75	0.00	0.27
Avail Cap(c_a), veh/h	198	1839	1142	267	1714	919	882	0	399	228	0	199
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	0.87	0.87	0.87	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.3	0.0	0.0	51.3	28.4	28.4	41.5	0.0	35.5	48.3	0.0	46.8
Incr Delay (d2), s/veh	10.6	0.5	0.5	13.2	0.5	0.9	4.7	0.0	0.0	10.3	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.1	0.2	1.7	7.5	8.2	7.0	0.0	0.2	2.3	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.8	0.5	0.5	64.5	28.8	29.3	46.2	0.0	35.5	58.6	0.0	48.3
LnGrp LOS	E	A	A	E	C	C	D	A	D	E	A	D
Approach Vol, veh/h		1089			973			537			101	
Approach Delay, s/veh		5.0			31.0			46.0			56.2	
Approach LOS		A			C			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	60.7		11.8	11.1	58.3		23.9				
Change Period (Y+Rc), s	4.5	5.0		5.0	4.5	5.0		5.0				
Max Green Setting (Gmax), s	15.5	29.0		15.0	11.7	32.8		26.0				
Max Q Clear Time (g_c+1), s	15.2	2.0		7.0	7.0	18.5		17.0				
Green Ext Time (p_c), s	0.1	5.1		0.2	0.1	3.6		1.8				

Intersection Summary

HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
4: Parkway Center Dr & Elligsen Rd

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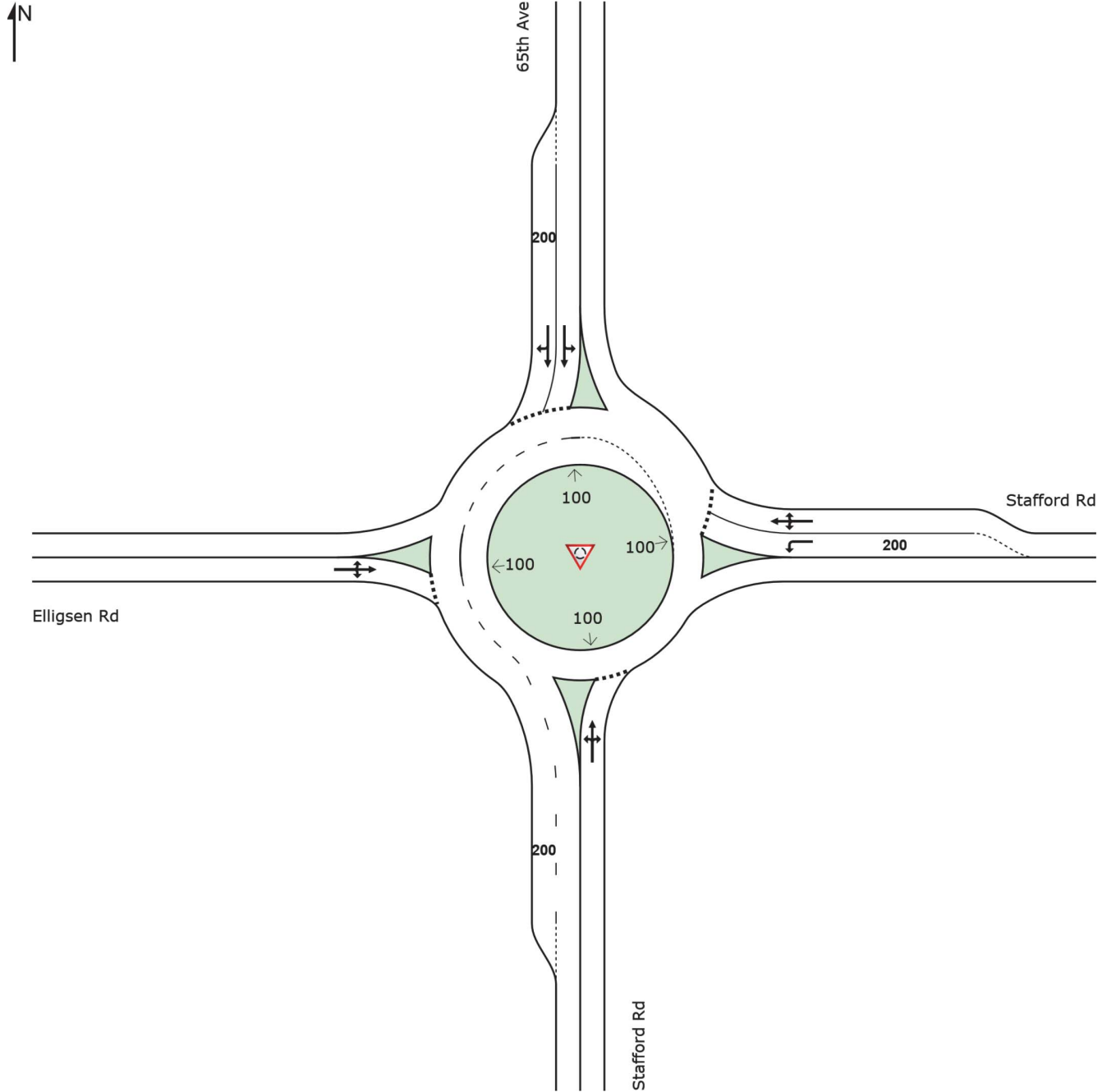
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	455	265	120	460	5	415	5	115	5	5	15
Future Volume (veh/h)	30	455	265	120	460	5	415	5	115	5	5	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1856	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	32	489	190	129	495	5	446	5	13	5	5	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	2	3	0	0	0	0	0	0	0	0
Cap, veh/h	659	1101	1164	586	2267	23	546	72	188	27	27	0
Arrive On Green	0.06	0.77	0.77	0.08	0.62	0.62	0.16	0.16	0.16	0.01	0.03	0.00
Sat Flow, veh/h	1810	1900	1584	1767	3661	37	3510	466	1211	927	927	0
Grp Volume(v), veh/h	32	489	190	129	244	256	446	0	18	10	0	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1584	1767	1805	1893	1755	0	1677	1854	0	0
Q Serve(g_s), s	0.7	9.4	2.2	2.6	6.2	6.3	12.9	0.0	1.0	0.6	0.0	0.0
Cycle Q Clear(g_c), s	0.7	9.4	2.2	2.6	6.2	6.3	12.9	0.0	1.0	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.72	0.50		0.00
Lane Grp Cap(c), veh/h	659	1101	1164	586	1118	1172	546	0	261	53	0	0
V/C Ratio(X)	0.05	0.44	0.16	0.22	0.22	0.22	0.82	0.00	0.07	0.19	0.00	0.00
Avail Cap(c_a), veh/h	734	1101	1164	590	1118	1172	903	0	431	141	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.5	6.1	2.2	6.5	8.8	8.8	42.9	0.0	37.8	50.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.3	0.1	0.4	0.4	1.2	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.2	1.1	0.9	2.4	2.5	5.6	0.0	0.4	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.5	7.3	2.4	6.5	9.3	9.2	44.0	0.0	37.9	50.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		711			629			464				10
Approach Delay, s/veh		6.0			8.7			43.8				50.8
Approach LOS		A			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.8	64.8		7.0	8.6	69.0		20.3				
Change Period (Y+Rc), s	5.0	5.0		5.5	5.0	5.0		5.0				
Max Green Setting (Gmax), s	44.0	44.0		6.5	8.0	44.0		26.0				
Max Q Clear Time (g_c+1), s	11.4	11.4		2.6	2.7	8.3		14.9				
Green Ext Time (p_c), s	0.0	0.6		0.0	0.0	0.4		0.3				
Intersection Summary												
HCM 6th Ctrl Delay												16.9
HCM 6th LOS												B

SITE LAYOUT

Site: [Stafford Rd/65th Ave - Baseline (Site Folder: Stafford Rd/65th Ave)]

Site Category: -
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [Stafford Rd/65th Ave - Baseline (Site Folder: Stafford Rd/65th Ave)]

Site Category: -
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] ft				
South: Stafford Rd														
3	L2	25	2.0	26	2.0	0.584	12.0	LOS B	5.7	144.1	0.71	0.78	1.02	31.6
8	T1	165	2.0	174	2.0	0.584	12.0	LOS B	5.7	144.1	0.71	0.78	1.02	31.6
18	R2	330	2.0	347	2.0	0.584	12.0	LOS B	5.7	144.1	0.71	0.78	1.02	30.7
Approach		520	2.0	547	2.0	0.584	12.0	LOS B	5.7	144.1	0.71	0.78	1.02	31.0
East: Stafford Rd														
1	L2	610	2.0	642	2.0	0.618	12.0	LOS B	6.7	169.4	0.68	0.73	0.99	29.6
6	T1	395	2.0	416	2.0	0.502	9.4	LOS A	3.3	82.6	0.59	0.52	0.65	33.0
16	R2	100	2.0	105	2.0	0.502	9.4	LOS A	3.3	82.6	0.59	0.52	0.65	32.0
Approach		1105	2.0	1163	2.0	0.618	10.8	LOS B	6.7	169.4	0.64	0.64	0.84	30.9
North: 65th Ave														
7	L2	35	2.0	37	2.0	0.707	24.6	LOS C	5.1	128.3	0.84	1.10	1.76	27.0
4	T1	420	2.0	442	2.0	0.707	23.3	LOS C	5.1	128.3	0.81	1.03	1.57	27.7
14	R2	65	2.0	68	2.0	0.340	13.1	LOS B	1.4	34.8	0.73	0.78	0.91	30.4
Approach		520	2.0	547	2.0	0.707	22.1	LOS C	5.1	128.3	0.80	1.00	1.50	28.0
West: Elligsen Rd														
5	L2	105	2.0	111	2.0	0.839	37.2	LOS D	8.1	206.5	0.90	1.36	2.49	23.2
2	T1	195	2.0	205	2.0	0.839	37.2	LOS D	8.1	206.5	0.90	1.36	2.49	23.2
12	R2	120	2.0	126	2.0	0.839	42.9	LOS D	8.1	206.5	0.90	1.36	2.49	22.7
Approach		420	2.0	442	2.0	0.839	38.8	LOS D	8.1	206.5	0.90	1.36	2.49	23.0
All Vehicles		2565	2.0	2700	2.0	0.839	17.9	LOS B	8.1	206.5	0.73	0.86	1.28	28.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

HCM 6th Signalized Intersection Summary
6: Parkway Ave & Boeckman Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	305	315	75	340	30	200	220	65	35	385	260
Future Volume (veh/h)	145	305	315	75	340	30	200	220	65	35	385	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.96	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1870	1900	1900	1885	1900	1900	1900	1900
Adj Flow Rate, veh/h	153	321	105	79	358	24	211	232	57	37	405	247
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	2	0	0	1	0	0	0	0
Cap, veh/h	330	554	177	282	563	38	330	706	173	575	468	286
Arrive On Green	0.09	0.21	0.20	0.05	0.17	0.16	0.09	0.48	0.48	0.03	0.42	0.42
Sat Flow, veh/h	1810	2664	853	1810	3371	225	1810	1457	358	1810	1104	673
Grp Volume(v), veh/h	153	215	211	79	188	194	211	0	289	37	0	652
Grp Sat Flow(s),veh/h/ln	1810	1805	1712	1810	1777	1819	1810	0	1814	1810	0	1777
Q Serve(g_s), s	4.8	7.5	7.8	2.5	6.9	7.0	4.3	0.0	6.9	0.8	0.0	23.5
Cycle Q Clear(g_c), s	4.8	7.5	7.8	2.5	6.9	7.0	4.3	0.0	6.9	0.8	0.0	23.5
Prop In Lane	1.00		0.50	1.00		0.12	1.00		0.20	1.00		0.38
Lane Grp Cap(c), veh/h	330	375	356	282	297	304	330	0	879	575	0	754
V/C Ratio(X)	0.46	0.57	0.59	0.28	0.63	0.64	0.64	0.00	0.33	0.06	0.00	0.87
Avail Cap(c_a), veh/h	369	580	550	395	571	584	374	0	913	727	0	894
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.3	25.1	25.3	23.1	27.3	27.4	14.7	0.0	11.2	11.1	0.0	18.5
Incr Delay (d2), s/veh	0.8	1.0	1.2	0.4	1.7	1.7	2.6	0.0	0.3	0.0	0.0	8.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.1	3.0	1.0	2.9	3.0	1.6	0.0	2.4	0.3	0.0	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.1	26.1	26.5	23.5	29.0	29.0	17.2	0.0	11.5	11.1	0.0	26.9
LnGrp LOS	C	C	C	C	C	C	B	A	B	B	A	C
Approach Vol, veh/h		579		461		500		689				
Approach Delay, s/veh		25.2		28.1		13.9		26.1				
Approach LOS		C		C		B		C				
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	33.9	7.6	18.6	6.1	38.1	10.5	15.8				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	34.9	34.9	8.0	22.1	8.0	34.9	8.0	22.1				
Max Q Clear Time (g_c+1), s	25.5	25.5	4.5	9.8	2.8	8.9	6.8	9.0				
Green Ext Time (p_c), s	0.1	3.8	0.0	1.5	0.0	2.4	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay				23.5								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
7: Canyon Creek Rd & Boeckman Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	265	45	85	330	70	40	120	105	115	165	75
Future Volume (veh/h)	55	265	45	85	330	70	40	120	105	115	165	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1900	1870	1870	1870	1856	1826	1900	1856	1900	1900	1885	1900
Adj Flow Rate, veh/h	61	294	42	94	367	69	44	133	76	128	183	63
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	2	2	2	3	5	0	3	0	0	1	0
Cap, veh/h	335	481	69	414	478	90	345	205	117	390	307	106
Arrive On Green	0.05	0.30	0.29	0.06	0.32	0.30	0.04	0.19	0.17	0.08	0.23	0.22
Sat Flow, veh/h	1810	1600	229	1781	1518	285	1810	1103	630	1810	1328	457
Grp Volume(v), veh/h	61	0	336	94	0	436	44	0	209	128	0	246
Grp Sat Flow(s),veh/h/ln	1810	0	1828	1781	0	1803	1810	0	1733	1810	0	1786
Q Serve(g_s), s	1.0	0.0	6.9	1.6	0.0	9.5	0.9	0.0	4.9	2.5	0.0	5.4
Cycle Q Clear(g_c), s	1.0	0.0	6.9	1.6	0.0	9.5	0.9	0.0	4.9	2.5	0.0	5.4
Prop In Lane	1.00		0.13	1.00		0.16	1.00		0.36	1.00		0.26
Lane Grp Cap(c), veh/h	335	0	550	414	0	568	345	0	323	390	0	412
V/C Ratio(X)	0.18	0.00	0.61	0.23	0.00	0.77	0.13	0.00	0.65	0.33	0.00	0.60
Avail Cap(c_a), veh/h	581	0	1388	631	0	1369	609	0	997	573	0	1027
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.9	0.0	13.1	10.2	0.0	13.5	14.0	0.0	16.5	13.2	0.0	15.0
Incr Delay (d2), s/veh	0.3	0.0	1.1	0.3	0.0	2.2	0.2	0.0	2.2	0.5	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.3	0.5	0.0	3.2	0.3	0.0	1.9	0.9	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.1	0.0	14.2	10.5	0.0	15.7	14.1	0.0	18.6	13.7	0.0	16.4
LnGrp LOS	B	A	B	B	A	B	B	A	B	B	A	B
Approach Vol, veh/h		397		530		253		374				
Approach Delay, s/veh		13.7		14.8		17.9		15.4				
Approach LOS		B		B		B		B				
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	12.1	6.7	17.1	5.6	14.0	6.1	17.7				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	30	24.5	8.0	32.5	8.0	24.5	8.0	32.5				
Max Q Clear Time (g_c+1), s	11.5	6.9	3.6	8.9	2.9	7.4	3.0	11.5				
Green Ext Time (p_c), s	0.1	0.7	0.1	1.3	0.0	0.8	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay				15.2								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary
 8: Wilsonville Rd/Stafford Rd & Boeckman Rd/Advance Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	70	115	60	60	30	100	225	65	45	465	330
Future Volume (veh/h)	205	70	115	60	60	30	100	225	65	45	465	330
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.90	0.87		0.85	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1885	1826	1900	1900	1885	1885	1870	1826	1885	1856
Adj Flow Rate, veh/h	207	71	20	61	61	8	101	227	56	45	470	308
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	2	1	5	0	0	1	1	2	5	1	3
Cap, veh/h	427	358	275	307	175	23	238	728	180	589	516	338
Arrive On Green	0.13	0.19	0.19	0.05	0.11	0.10	0.05	0.50	0.49	0.03	0.49	0.48
Sat Flow, veh/h	1795	1870	1436	1739	1607	211	1795	1452	358	1739	1062	696
Grp Volume(v), veh/h	207	71	20	61	0	69	101	0	283	45	0	778
Grp Sat Flow(s),veh/h/ln	1795	1870	1436	1739	0	1817	1795	0	1810	1739	0	1758
Q Serve(g_s), s	6.8	2.3	0.8	2.2	0.0	2.5	2.0	0.0	6.6	0.9	0.0	28.9
Cycle Q Clear(g_c), s	6.8	2.3	0.8	2.2	0.0	2.5	2.0	0.0	6.6	0.9	0.0	28.9
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.20	1.00		0.40
Lane Grp Cap(c), veh/h	427	358	275	307	0	198	238	0	907	589	0	854
V/C Ratio(X)	0.48	0.20	0.07	0.20	0.00	0.35	0.42	0.00	0.31	0.08	0.00	0.91
Avail Cap(c_a), veh/h	490	624	479	336	0	424	252	0	1069	629	0	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.6	24.1	23.5	26.1	0.0	29.2	15.3	0.0	10.5	8.9	0.0	16.9
Incr Delay (d2), s/veh	0.6	0.2	0.1	0.2	0.0	0.8	0.9	0.0	0.2	0.0	0.0	10.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	1.0	0.3	0.9	0.0	1.1	0.7	0.0	2.3	0.3	0.0	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	24.3	23.6	26.3	0.0	30.0	16.2	0.0	10.7	8.9	0.0	27.3
LnGrp LOS	C	C	C	C	A	C	B	A	B	A	A	C
Approach Vol, veh/h		298			130			384			823	
Approach Delay, s/veh		22.8			28.3			12.1			26.3	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	38.4	13.2	11.7	6.3	39.5	7.4	17.5				
Change Period (Y+Rc), s	4.0	4.5	4.5	4.5	4.0	4.5	4.5	4.5				
Max Green Setting (Gmax), s	4.0	41.3	11.2	16.0	4.0	41.3	4.1	23.1				
Max Q Clear Time (g_c+1), s	4.0	30.9	8.8	4.5	2.9	8.6	4.2	4.3				
Green Ext Time (p_c), s	0.0	3.0	0.1	0.1	0.0	1.1	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay											22.5	
HCM 6th LOS											C	

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	100	25	5	95	25	30	30	5	30	30	5
Future Vol, veh/h	5	100	25	5	95	25	30	30	5	30	30	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	1	12	0	1	0	7	0	0	0	0	0
Mvmt Flow	6	111	28	6	106	28	33	33	6	33	33	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	134	0	0	139	0	0	289	283	125	289	283	120
Stage 1	-	-	-	-	-	-	137	137	-	132	132	-
Stage 2	-	-	-	-	-	-	152	146	-	157	151	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.17	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.563	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1463	-	-	1457	-	-	653	629	931	667	629	937
Stage 1	-	-	-	-	-	-	854	787	-	876	791	-
Stage 2	-	-	-	-	-	-	839	780	-	850	776	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1463	-	-	1457	-	-	619	624	931	632	624	937
Mov Cap-2 Maneuver	-	-	-	-	-	-	619	624	-	632	624	-
Stage 1	-	-	-	-	-	-	851	784	-	872	788	-
Stage 2	-	-	-	-	-	-	796	777	-	806	773	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.3			11.4			11.3		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	638	1463	-	-	1457	-	-	644
HCM Lane V/C Ratio	0.113	0.004	-	-	0.004	-	-	0.112
HCM Control Delay (s)	11.4	7.5	0	-	7.5	0	-	11.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.4

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	5	15	20	10	20	15	400	45	70	805	45
Future Vol, veh/h	25	5	15	20	10	20	15	400	45	70	805	45
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	10	0	0	0	2	0
Mvmt Flow	27	5	16	22	11	22	16	435	49	76	875	49

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1562	1570	902	1554	1570	460	926	0	0	484	0	0
Stage 1	1054	1054	-	492	492	-	-	-	-	-	-	-
Stage 2	508	516	-	1062	1078	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.29	-	-	2.2	-	-
Pot Cap-1 Maneuver	92	112	339	93	112	605	706	-	-	1089	-	-
Stage 1	276	305	-	562	551	-	-	-	-	-	-	-
Stage 2	551	538	-	273	297	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	70	93	338	74	93	605	705	-	-	1089	-	-
Mov Cap-2 Maneuver	70	93	-	74	93	-	-	-	-	-	-	-
Stage 1	267	260	-	545	534	-	-	-	-	-	-	-
Stage 2	504	521	-	218	253	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	72.6		56.3		0.3		0.7	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	705	-	-	99	122	1089	-
HCM Lane V/C Ratio	0.023	-	-	0.494	0.445	0.07	-
HCM Control Delay (s)	10.2	0	-	72.6	56.3	8.6	0
HCM Lane LOS	B	A	-	F	F	A	A
HCM 95th %tile Q(veh)	0.1	-	-	2.2	2	0.2	-

Intersection												
Int Delay, s/veh	36.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	75	10	10	10	10	50	5	420	20	85	900	100
Future Vol, veh/h	75	10	10	10	10	50	5	420	20	85	900	100
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	2	10
Mvmt Flow	82	11	11	11	11	54	5	457	22	92	978	109

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1730	1708	1035	1706	1751	468	1089	0	0	479	0	0
Stage 1	1219	1219	-	478	478	-	-	-	-	-	-	-
Stage 2	511	489	-	1228	1273	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 70	92	284	73	87	599	648	-	-	1094	-	-
Stage 1	223	255	-	572	559	-	-	-	-	-	-	-
Stage 2	549	553	-	220	241	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 46	71	284	51	67	599	647	-	-	1094	-	-
Mov Cap-2 Maneuver	~ 46	71	-	51	67	-	-	-	-	-	-	-
Stage 1	220	199	-	566	553	-	-	-	-	-	-	-
Stage 2	484	547	-	156	188	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s\$	610.5	45.1	0.1	0.7
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	647	-	-	53	163	1094	-	-
HCM Lane V/C Ratio	0.008	-	-	1.948	0.467	0.084	-	-
HCM Control Delay (s)	10.6	0	-	\$ 610.5	45.1	8.6	0	-
HCM Lane LOS	B	A	-	F	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	10.1	2.2	0.3	-	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	5	5	5	5	10	5	535	5	10	1075	10
Future Vol, veh/h	10	5	5	5	5	10	5	535	5	10	1075	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	2	0
Mvmt Flow	11	5	5	5	5	11	5	582	5	11	1168	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1799	1793	1174	1796	1796	585	1179	0	0	587	0	0
Stage 1	1196	1196	-	595	595	-	-	-	-	-	-	-
Stage 2	603	597	-	1201	1201	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	63	82	236	63	81	515	600	-	-	998	-	-
Stage 1	229	262	-	494	496	-	-	-	-	-	-	-
Stage 2	489	495	-	228	260	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	56	78	236	56	77	515	600	-	-	998	-	-
Mov Cap-2 Maneuver	56	78	-	56	77	-	-	-	-	-	-	-
Stage 1	226	254	-	488	490	-	-	-	-	-	-	-
Stage 2	468	489	-	211	252	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB		
HCM Control Delay, s	70.3		43.5		0.1		0.1		
HCM LOS	F		E						

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	600	-	-	76	115	998	-
HCM Lane V/C Ratio	0.009	-	-	0.286	0.189	0.011	-
HCM Control Delay (s)	11.1	0	-	70.3	43.5	8.6	0
HCM Lane LOS	B	A	-	F	E	A	A
HCM 95th %tile Q(veh)	0	-	-	1	0.7	0	-

HCM 6th Signalized Intersection Summary
 13: I-5 SB Ramp & Wilsonville Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	↘↗
Traffic Volume (veh/h)	0	820	655	540	1015	0	0	0	0	80	5	115
Future Volume (veh/h)	0	820	655	540	1015	0	0	0	0	80	5	115
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1856	1870	1856	0				1856	1900	1856
Adj Flow Rate, veh/h	0	863	0	568	1068	0				88	0	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	3	2	3	0				3	0	3
Cap, veh/h	0	3331		644	3086	0				184	0	158
Arrive On Green	0.00	0.65	0.00	0.37	1.00	0.00				0.05	0.00	0.05
Sat Flow, veh/h	0	5274	1572	3456	3618	0				3534	0	3039
Grp Volume(v), veh/h	0	863	0	568	1068	0				88	0	13
Grp Sat Flow(s),veh/h/ln	0	1702	1572	1728	1763	0				1767	0	1520
Q Serve(g_s), s	0.0	7.8	0.0	16.9	0.0	0.0				2.7	0.0	0.4
Cycle Q Clear(g_c), s	0.0	7.8	0.0	16.9	0.0	0.0				2.7	0.0	0.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3331		644	3086	0				184	0	158
V/C Ratio(X)	0.00	0.26		0.88	0.35	0.00				0.48	0.00	0.08
Avail Cap(c_a), veh/h	0	3331		817	3086	0				610	0	525
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.88	0.88	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.0	0.0	33.4	0.0	0.0				50.7	0.0	49.6
Incr Delay (d2), s/veh	0.0	0.2	0.0	8.3	0.3	0.0				1.9	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	0.0	6.2	0.1	0.0				1.2	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	8.2	0.0	41.6	0.3	0.0				52.6	0.0	49.9
LnGrp LOS	A	A		D	A	A				D	A	D
Approach Vol, veh/h		863			1636						101	
Approach Delay, s/veh		8.2			14.6						52.3	
Approach LOS		A			B						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	24.5	75.8		9.7		100.3						
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0						
Max Green Setting (Gmax), s	26.0	53.0		19.0		75.0						
Max Q Clear Time (g_c+I1), s	18.9	9.8		4.7		2.0						
Green Ext Time (p_c), s	1.6	4.6		0.3		6.3						

Intersection Summary

HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Notes

- User approved volume balancing among the lanes for turning movement.
- Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 14: I-5 NB Ramp & Wilsonville Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑			↑↑↑	↔	↔	↔	↔↔			
Traffic Volume (veh/h)	360	540	0	0	1100	335	455	10	505	0	0	0
Future Volume (veh/h)	360	540	0	0	1100	335	455	10	505	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1885	1826	1900	1870			
Adj Flow Rate, veh/h	375	562	0	0	1146	0	481	0	264			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	1	5	0	2			
Cap, veh/h	446	2680	0	0	3006		602	0	541			
Arrive On Green	0.26	1.00	0.00	0.00	0.59	0.00	0.17	0.00	0.17			
Sat Flow, veh/h	3456	3647	0	0	5274	1598	3478	0	3124			
Grp Volume(v), veh/h	375	562	0	0	1146	0	481	0	264			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1702	1598	1739	0	1562			
Q Serve(g_s), s	11.3	0.0	0.0	0.0	13.1	0.0	14.6	0.0	8.4			
Cycle Q Clear(g_c), s	11.3	0.0	0.0	0.0	13.1	0.0	14.6	0.0	8.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	446	2680	0	0	3006		602	0	541			
V/C Ratio(X)	0.84	0.21	0.00	0.00	0.38		0.80	0.00	0.49			
Avail Cap(c_a), veh/h	723	2680	0	0	3006		1043	0	937			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.97	0.97	0.00	0.00	0.23	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	39.7	0.0	0.0	0.0	12.0	0.0	43.6	0.0	41.1			
Incr Delay (d2), s/veh	3.3	0.2	0.0	0.0	0.1	0.0	1.5	0.0	0.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.3	0.1	0.0	0.0	4.7	0.0	6.3	0.0	3.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	0.2	0.0	0.0	12.1	0.0	45.2	0.0	41.5			
LnGrp LOS	D	A	A	A	B		D	A	D			
Approach Vol, veh/h		937			1146			745				
Approach Delay, s/veh		17.3			12.1			43.9				
Approach LOS		B			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		87.0			18.2	68.8		23.0				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		52.0			23.0	42.0		33.0				
Max Q Clear Time (g_c+I1), s		2.0			13.3	15.1		16.6				
Green Ext Time (p_c), s		6.1			0.9	12.3		2.4				

Intersection Summary

HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Notes

- User approved volume balancing among the lanes for turning movement.
- Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 15: Town Center Lp West & Wilsonville Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑				↑↑		↑	↑		↑	↑	
Traffic Volume (veh/h)	0	930	115	0	865	50	195	25	90	65	125	375
Future Volume (veh/h)	0	930	115	0	865	50	195	25	90	65	125	375
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1885	1900	1885	1900	1900	1900	1900	1870
Adj Flow Rate, veh/h	0	979	106	0	911	49	205	26	39	68	132	353
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	1	0	1	0	0	0	0	2
Cap, veh/h	0	1396	151	0	1031	55	237	370	555	96	208	557
Arrive On Green	0.00	0.10	0.10	0.00	0.30	0.29	0.13	0.54	0.54	0.05	0.46	0.46
Sat Flow, veh/h	0	4841	505	0	3545	186	1795	681	1021	1810	448	1198
Grp Volume(v), veh/h	0	713	372	0	473	487	205	0	65	68	0	485
Grp Sat Flow(s),veh/h/ln	0	1702	1773	0	1791	1845	1795	0	1701	1810	0	1646
Q Serve(g_s), s	0.0	22.3	22.4	0.0	27.7	27.7	12.3	0.0	2.0	4.1	0.0	24.6
Cycle Q Clear(g_c), s	0.0	22.3	22.4	0.0	27.7	27.7	12.3	0.0	2.0	4.1	0.0	24.6
Prop In Lane	0.00		0.28	0.00		0.10	1.00		0.60	1.00		0.73
Lane Grp Cap(c), veh/h	0	1017	530	0	535	551	237	0	925	96	0	765
V/C Ratio(X)	0.00	0.70	0.70	0.00	0.88	0.88	0.87	0.00	0.07	0.71	0.00	0.63
Avail Cap(c_a), veh/h	0	1331	693	0	700	721	237	0	925	156	0	765
HCM Platoon Ratio	1.00	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.95	0.95	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	44.8	44.9	0.0	36.7	36.8	46.8	0.0	12.0	51.2	0.0	22.3
Incr Delay (d2), s/veh	0.0	0.9	1.7	0.0	9.8	9.5	26.9	0.0	0.1	9.2	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.3	10.9	0.0	13.2	13.6	7.3	0.0	0.8	2.1	0.0	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	45.7	46.5	0.0	46.5	46.3	73.7	0.0	12.1	60.4	0.0	26.3
LnGrp LOS	A	D	D	A	D	D	E	A	B	E	A	C
Approach Vol, veh/h	1085				960		270				553	
Approach Delay, s/veh	46.0				46.4		58.9				30.5	
Approach LOS	D				D		E				C	
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	9.3	63.8	36.9		18.0	55.1	36.9					
Change Period (Y+Rc), s	4.0	4.5	4.5		4.0	4.5	4.5					
Max Green Setting (Gmax), s	45.5		42.5		14.0	40.5	42.5					
Max Q Clear Time (g_c+10), s	4.0		24.4		14.3	26.6	29.7					
Green Ext Time (p_c), s	0.0	0.2	3.8		0.0	1.5	2.7					
Intersection Summary												
HCM 6th Ctrl Delay			44.3									
HCM 6th LOS			D									

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ID	Software/Method	Intersection	Control Type	LOS	Delay	V/C Ratio
1	Synchro HCM 6th Signal	I-5 SB Ramp & Elligsen Rd	Signal	B	18.1	0.73
2	Synchro HCM 6th Signal	I-5 NB Ramp & Elligsen Rd	Signal	A	9.3	0.45
3	Synchro HCM 6th Signal	Parkway Ave & Elligsen Rd	Signal	C	24.4	0.52
4	Synchro HCM 6th Signal	Parkway Center Dr & Elligsen Rd	Signal	B	16.9	0.55
6	Synchro HCM 6th Signal	Parkway Ave & Boeckman Rd	Signal	C	23.5	0.82
7	Synchro HCM 6th Signal	Canyon Creek Rd & Boeckman Rd	Signal	B	15.2	0.57
8	Synchro HCM 6th Signal	Wilsonville Rd/Stafford Rd & Boeckman Rd/	Signal	C	22.5	0.79
13	Synchro HCM 6th Signal	I-5 SB Ramp & Wilsonville Rd	Signal	B	14.0	0.40
14	Synchro HCM 6th Signal	I-5 NB Ramp & Wilsonville Rd	Signal	C	22.2	0.52
15	Synchro HCM 6th Signal	Town Center Lp West & Wilsonville Rd	Signal	D	44.3	0.82

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ANTICIPATED BUILD 2040 HCM REPORTS



HCM 6th Signalized Intersection Summary
1: I-5 SB Ramp & Elligsen Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↘	↖	↗↗
Traffic Volume (veh/h)	0	1325	1105	0	1030	370	0	0	0	480	70	830
Future Volume (veh/h)	0	1325	1105	0	1030	370	0	0	0	480	70	830
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1856	0	1826	1900				1856	1870	1678
Adj Flow Rate, veh/h	0	1395	0	0	1084	0				558	0	798
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	5	3	0	5	0				3	2	15
Cap, veh/h	0	2019		0	2019					1208	0	951
Arrive On Green	0.00	0.58	0.00	0.00	1.00	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	3561	1572	0	3561	1610				3534	0	2784
Grp Volume(v), veh/h	0	1395	0	0	1084	0				558	0	798
Grp Sat Flow(s),veh/h/ln	0	1735	1572	0	1735	1610				1767	0	1392
Q Serve(g_s), s	0.0	29.5	0.0	0.0	0.0	0.0				13.0	0.0	27.8
Cycle Q Clear(g_c), s	0.0	29.5	0.0	0.0	0.0	0.0				13.0	0.0	27.8
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2019		0	2019					1208	0	951
V/C Ratio(X)	0.00	0.69		0.00	0.54					0.46	0.00	0.84
Avail Cap(c_a), veh/h	0	2019		0	2019					1447	0	1140
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.86	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.3	0.0	0.0	0.0	0.0				27.0	0.0	31.9
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.0	0.9	0.0				0.3	0.0	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.1	0.0	0.0	0.2	0.0				5.4	0.0	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.3	0.0	0.0	0.9	0.0				27.3	0.0	36.8
LnGrp LOS	A	B		A	A					C	A	D
Approach Vol, veh/h		1395			1084						1356	
Approach Delay, s/veh		17.3			0.9						32.9	
Approach LOS		B			A						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		65.1		39.9		65.1						
Change Period (Y+Rc), s		5.0		4.0		5.0						
Max Green Setting (Gmax), s		53.0		43.0		53.0						
Max Q Clear Time (g_c+I1), s		31.5		29.8		2.0						
Green Ext Time (p_c), s		7.8		6.1		6.4						

Intersection Summary

HCM 6th Ctrl Delay	18.2
HCM 6th LOS	B

Notes

- User approved volume balancing among the lanes for turning movement.
- User approved changes to right turn type.
- Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
2: I-5 NB Ramp & Elligsen Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗	↘↘		↗			
Traffic Volume (veh/h)	0	915	890	0	925	535	475	0	275	0	0	0
Future Volume (veh/h)	0	915	890	0	925	535	475	0	275	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1826	0	1870	1870	1826	0	1856			
Adj Flow Rate, veh/h	0	953	0	0	964	0	495	0	0			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	0	2	5	0	2	2	5	0	3			
Cap, veh/h	0	2603		0	2603		613	0				
Arrive On Green	0.00	1.00	0.00	0.00	1.00	0.00	0.18	0.00	0.00			
Sat Flow, veh/h	0	3647	1547	0	3647	1585	3374	0	1572			
Grp Volume(v), veh/h	0	953	0	0	964	0	495	0	0			
Grp Sat Flow(s),veh/h/ln	0	1777	1547	0	1777	1585	1687	0	1572			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	14.8	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	14.8	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2603		0	2603		613	0				
V/C Ratio(X)	0.00	0.37		0.00	0.37		0.81	0.00				
Avail Cap(c_a), veh/h	0	2603		0	2603		1253	0				
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.67	0.00	0.00	0.85	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	41.2	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.3	0.0	2.6	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	0.0	0.1	0.0	6.2	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.3	0.0	0.0	0.3	0.0	43.8	0.0	0.0			
LnGrp LOS	A	A		A	A		D	A				
Approach Vol, veh/h		953			964			495				
Approach Delay, s/veh		0.3			0.3			43.8				
Approach LOS		A			A			D				
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		81.9			81.9			23.1				
Change Period (Y+Rc), s		5.0			5.0			4.0				
Max Green Setting (Gmax), s		57.0			57.0			39.0				
Max Q Clear Time (g_c+I1), s		2.0			2.0			16.8				
Green Ext Time (p_c), s		5.3			5.4			2.3				

Intersection Summary

HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
3: Parkway Ave & Elligsen Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘↑↑	↑↑↑		↘	↑	↗	↘	↗	↘
Traffic Volume (veh/h)	85	635	470	50	800	45	460	30	55	70	20	200
Future Volume (veh/h)	85	635	470	50	800	45	460	30	55	70	20	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1826	1900	1900	1856	1900	1870	1900	1900	1678	1411	1841
Adj Flow Rate, veh/h	93	698	314	55	879	44	529	0	8	77	22	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	5	0	0	3	0	2	0	0	15	33	4
Cap, veh/h	117	1839	1142	72	2492	124	640	0	289	103	82	7
Arrive On Green	0.13	1.00	1.00	0.01	0.17	0.17	0.18	0.00	0.18	0.06	0.06	0.06
Sat Flow, veh/h	1781	3469	1609	1810	4941	247	3563	0	1610	1598	1274	116
Grp Volume(v), veh/h	93	698	314	55	600	323	529	0	8	77	0	24
Grp Sat Flow(s),veh/h/ln	1781	1735	1609	1810	1689	1811	1781	0	1610	1598	0	1390
Q Serve(g_s), s	5.3	0.0	0.0	3.2	16.5	16.6	15.0	0.0	0.4	5.0	0.0	1.7
Cycle Q Clear(g_c), s	5.3	0.0	0.0	3.2	16.5	16.6	15.0	0.0	0.4	5.0	0.0	1.7
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	117	1839	1142	72	1703	913	640	0	289	103	0	90
V/C Ratio(X)	0.79	0.38	0.27	0.76	0.35	0.35	0.83	0.00	0.03	0.75	0.00	0.27
Avail Cap(c_a), veh/h	204	1839	1142	267	1703	913	882	0	399	228	0	199
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	0.87	0.87	0.87	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	0.0	0.0	51.3	28.6	28.6	41.5	0.0	35.5	48.3	0.0	46.8
Incr Delay (d2), s/veh	10.2	0.5	0.5	13.2	0.5	0.9	4.7	0.0	0.0	10.3	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.1	0.2	1.7	7.5	8.2	7.0	0.0	0.2	2.3	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	0.5	0.5	64.5	29.1	29.5	46.2	0.0	35.5	58.6	0.0	48.3
LnGrp LOS	E	A	A	E	C	C	D	A	D	E	A	D
Approach Vol, veh/h		1105			978			537			101	
Approach Delay, s/veh		5.1			31.2			46.0			56.2	
Approach LOS		A			C			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	60.7		11.8	11.4	58.0		23.9				
Change Period (Y+Rc), s	4.5	5.0		5.0	4.5	5.0		5.0				
Max Green Setting (Gmax), s	15.5	29.0		15.0	12.0	32.5		26.0				
Max Q Clear Time (g_c+1/2), s	15.2	2.0		7.0	7.3	18.6		17.0				
Green Ext Time (p_c), s	0.1	5.1		0.2	0.1	3.6		1.8				

Intersection Summary

HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
4: Parkway Center Dr & Elligsen Rd

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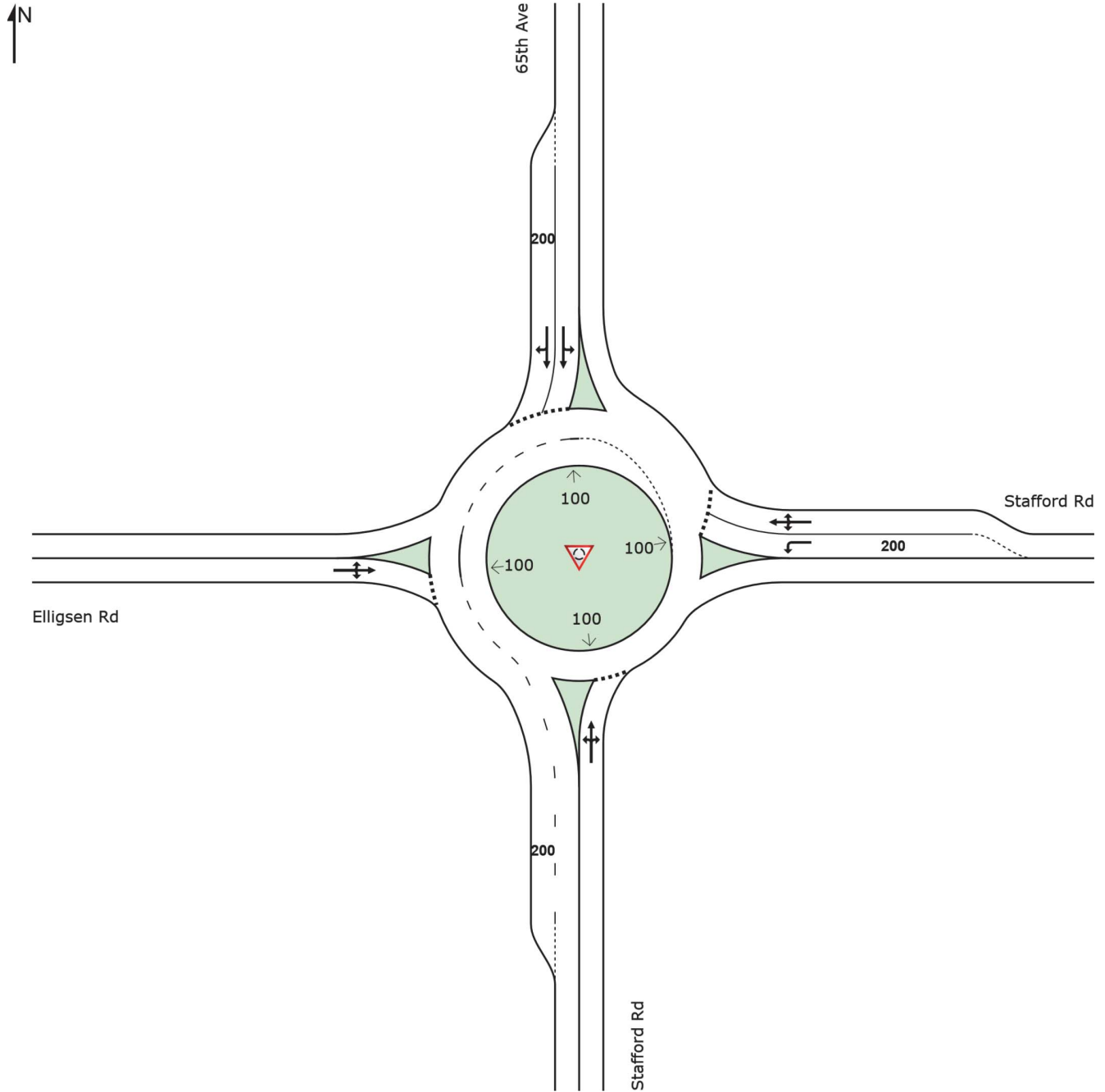
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	445	280	125	465	5	415	5	110	5	5	15
Future Volume (veh/h)	35	445	280	125	465	5	415	5	110	5	5	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1856	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	38	478	206	134	500	5	446	5	13	5	5	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	2	3	0	0	0	0	0	0	0	0
Cap, veh/h	659	1100	1164	587	2254	23	546	72	188	27	27	0
Arrive On Green	0.06	0.77	0.77	0.08	0.62	0.62	0.16	0.16	0.16	0.01	0.03	0.00
Sat Flow, veh/h	1810	1900	1584	1767	3662	37	3510	466	1211	927	927	0
Grp Volume(v), veh/h	38	478	206	134	246	259	446	0	18	10	0	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1584	1767	1805	1893	1755	0	1677	1854	0	0
Q Serve(g_s), s	0.8	9.1	2.4	2.8	6.4	6.4	12.9	0.0	1.0	0.6	0.0	0.0
Cycle Q Clear(g_c), s	0.8	9.1	2.4	2.8	6.4	6.4	12.9	0.0	1.0	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.72	0.50		0.00
Lane Grp Cap(c), veh/h	659	1100	1164	587	1111	1165	546	0	261	53	0	0
V/C Ratio(X)	0.06	0.43	0.18	0.23	0.22	0.22	0.82	0.00	0.07	0.19	0.00	0.00
Avail Cap(c_a), veh/h	727	1100	1164	590	1111	1165	903	0	431	141	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.4	6.1	2.2	6.5	9.0	9.0	42.9	0.0	37.8	50.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.3	0.1	0.5	0.4	1.2	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.1	1.2	0.9	2.5	2.6	5.6	0.0	0.4	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.4	7.2	2.5	6.6	9.4	9.4	44.0	0.0	37.9	50.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		722			639			464				10
Approach Delay, s/veh		5.9			8.8			43.8				50.8
Approach LOS		A			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.8	64.8		7.0	9.0	68.6		20.3				
Change Period (Y+Rc), s	5.0	5.0		5.5	5.0	5.0		5.0				
Max Green Setting (Gmax), s	44.0	44.0		6.5	8.0	44.0		26.0				
Max Q Clear Time (g_c+1), s	11.1	11.1		2.6	2.8	8.4		14.9				
Green Ext Time (p_c), s	0.0	0.6		0.0	0.0	0.4		0.3				
Intersection Summary												
HCM 6th Ctrl Delay												16.8
HCM 6th LOS												B

SITE LAYOUT

Site: [Stafford Rd/65th Ave - Build (Site Folder: Stafford Rd/65th Ave)]

Site Category: -
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: [Stafford Rd/65th Ave - Build (Site Folder: Stafford Rd/65th Ave)]

Site Category: -
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] ft				
South: Stafford Rd														
3	L2	35	2.0	37	2.0	0.648	13.8	LOS B	7.8	199.0	0.77	0.89	1.22	30.8
8	T1	215	2.0	226	2.0	0.648	13.8	LOS B	7.8	199.0	0.77	0.89	1.22	30.8
18	R2	330	2.0	347	2.0	0.648	13.8	LOS B	7.8	199.0	0.77	0.89	1.22	30.0
Approach		580	2.0	611	2.0	0.648	13.8	LOS B	7.8	199.0	0.77	0.89	1.22	30.3
East: Stafford Rd														
1	L2	585	2.0	616	2.0	0.628	12.8	LOS B	6.8	173.3	0.72	0.84	1.15	29.3
6	T1	425	2.0	447	2.0	0.575	11.4	LOS B	5.2	132.0	0.67	0.74	0.98	32.0
16	R2	110	2.0	116	2.0	0.575	11.4	LOS B	5.2	132.0	0.67	0.74	0.98	31.1
Approach		1120	2.0	1179	2.0	0.628	12.1	LOS B	6.8	173.3	0.70	0.79	1.06	30.5
North: 65th Ave														
7	L2	35	2.0	37	2.0	0.848	37.8	LOS D	8.6	218.1	0.90	1.38	2.56	23.3
4	T1	515	2.0	542	2.0	0.848	33.9	LOS C	8.6	218.1	0.87	1.26	2.21	24.6
14	R2	65	2.0	68	2.0	0.408	14.8	LOS B	1.8	45.4	0.75	0.83	1.04	29.7
Approach		615	2.0	647	2.0	0.848	32.1	LOS C	8.6	218.1	0.86	1.22	2.11	25.0
West: Elligsen Rd														
5	L2	105	2.0	111	2.0	0.831	38.0	LOS D	7.4	188.3	0.91	1.34	2.44	23.0
2	T1	190	2.0	200	2.0	0.831	38.0	LOS D	7.4	188.3	0.91	1.34	2.44	23.0
12	R2	95	2.0	100	2.0	0.831	43.8	LOS D	7.4	188.3	0.91	1.34	2.44	22.5
Approach		390	2.0	411	2.0	0.831	39.4	LOS D	7.4	188.3	0.91	1.34	2.44	22.9
All Vehicles		2705	2.0	2847	2.0	0.848	21.0	LOS C	8.6	218.1	0.78	0.99	1.53	27.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

HCM 6th Signalized Intersection Summary
6: Parkway Ave & Boeckman Rd

DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	320	325	80	345	30	195	215	65	35	375	260
Future Volume (veh/h)	145	320	325	80	345	30	195	215	65	35	375	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1870	1900	1900	1885	1900	1900	1900	1900
Adj Flow Rate, veh/h	153	337	119	84	363	24	205	226	56	37	395	246
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	2	0	0	1	0	0	0	0
Cap, veh/h	332	540	187	276	571	38	332	697	173	575	460	287
Arrive On Green	0.09	0.21	0.20	0.05	0.17	0.16	0.09	0.48	0.47	0.03	0.42	0.41
Sat Flow, veh/h	1810	2605	901	1810	3375	222	1810	1454	360	1810	1094	681
Grp Volume(v), veh/h	153	231	225	84	190	197	205	0	282	37	0	641
Grp Sat Flow(s),veh/h/ln	1810	1805	1701	1810	1777	1820	1810	0	1814	1810	0	1775
Q Serve(g_s), s	4.7	8.1	8.4	2.7	6.9	7.0	4.2	0.0	6.7	0.8	0.0	22.8
Cycle Q Clear(g_c), s	4.7	8.1	8.4	2.7	6.9	7.0	4.2	0.0	6.7	0.8	0.0	22.8
Prop In Lane	1.00		0.53	1.00		0.12	1.00		0.20	1.00		0.38
Lane Grp Cap(c), veh/h	332	374	352	276	300	308	332	0	870	575	0	747
V/C Ratio(X)	0.46	0.62	0.64	0.30	0.63	0.64	0.62	0.00	0.32	0.06	0.00	0.86
Avail Cap(c_a), veh/h	373	586	552	386	577	591	380	0	923	730	0	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.1	25.1	25.3	22.7	26.9	27.0	14.5	0.0	11.2	11.1	0.0	18.4
Incr Delay (d2), s/veh	0.7	1.2	1.4	0.5	1.6	1.6	2.0	0.0	0.3	0.0	0.0	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.3	3.3	1.1	2.9	3.0	1.5	0.0	2.3	0.3	0.0	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.9	26.3	26.8	23.1	28.5	28.6	16.4	0.0	11.5	11.1	0.0	26.2
LnGrp LOS	C	C	C	C	C	C	B	A	B	B	A	C
Approach Vol, veh/h		609			471			487				678
Approach Delay, s/veh		25.4			27.6			13.6				25.3
Approach LOS		C			C			B				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.1	33.3	7.8	18.4	6.0	37.4	10.4	15.8				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	34.9	8.0	22.1	8.0	34.9	8.0	22.1					
Max Q Clear Time (g_c+1), s	24.8	4.7	10.4	2.8	8.7	6.7	9.0					
Green Ext Time (p_c), s	0.1	4.0	0.0	1.6	0.0	2.3	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay												23.3
HCM 6th LOS												C

HCM 6th Signalized Intersection Summary
7: Canyon Creek Rd & Boeckman Rd

DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	290	45	80	330	65	40	120	120	150	185	85
Future Volume (veh/h)	55	290	45	80	330	65	40	120	120	150	185	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1900	1870	1870	1870	1856	1826	1900	1856	1900	1900	1885	1900
Adj Flow Rate, veh/h	61	322	42	89	367	63	44	133	87	167	206	74
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	2	2	2	3	5	0	3	0	0	1	0
Cap, veh/h	321	478	62	375	474	81	345	198	130	418	337	121
Arrive On Green	0.05	0.30	0.28	0.06	0.31	0.30	0.04	0.19	0.18	0.10	0.26	0.25
Sat Flow, veh/h	1810	1620	211	1781	1542	265	1810	1042	682	1810	1312	471
Grp Volume(v), veh/h	61	0	364	89	0	430	44	0	220	167	0	280
Grp Sat Flow(s),veh/h/ln	1810	0	1831	1781	0	1807	1810	0	1724	1810	0	1783
Q Serve(g_s), s	1.1	0.0	8.0	1.6	0.0	9.9	0.9	0.0	5.4	3.2	0.0	6.3
Cycle Q Clear(g_c), s	1.1	0.0	8.0	1.6	0.0	9.9	0.9	0.0	5.4	3.2	0.0	6.3
Prop In Lane	1.00		0.12	1.00		0.15	1.00		0.40	1.00		0.26
Lane Grp Cap(c), veh/h	321	0	541	375	0	555	345	0	328	418	0	458
V/C Ratio(X)	0.19	0.00	0.67	0.24	0.00	0.77	0.13	0.00	0.67	0.40	0.00	0.61
Avail Cap(c_a), veh/h	553	0	1286	582	0	1269	595	0	946	587	0	1018
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.6	0.0	14.2	11.1	0.0	14.4	14.4	0.0	17.2	12.6	0.0	15.0
Incr Delay (d2), s/veh	0.3	0.0	1.5	0.3	0.0	2.4	0.2	0.0	2.4	0.6	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.8	0.5	0.0	3.4	0.3	0.0	2.1	1.1	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.8	0.0	15.6	11.4	0.0	16.7	14.6	0.0	19.6	13.2	0.0	16.3
LnGrp LOS	B	A	B	B	A	B	B	A	B	B	A	B
Approach Vol, veh/h		425			519			264			447	
Approach Delay, s/veh		15.1			15.8			18.8			15.2	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	12.7	6.7	17.4	5.7	15.7	6.2	18.0				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	24.5	8.0	31.5	8.0	25.5	8.0	31.5					
Max Q Clear Time (g_c+1/2), s	7.4	3.6	10.0	2.9	8.3	3.1	11.9					
Green Ext Time (p_c), s	0.2	0.8	0.1	1.4	0.0	1.0	0.0	1.6				

Intersection Summary												
HCM 6th Ctrl Delay											15.9	
HCM 6th LOS											B	

HCM 6th Signalized Intersection Summary
 8: Wilsonville Rd/Stafford Rd & Boeckman Rd/Advance Rd

DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	245	110	115	65	65	35	95	260	85	60	455	325
Future Volume (veh/h)	245	110	115	65	65	35	95	260	85	60	455	325
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.90	0.87		0.84	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1885	1826	1900	1900	1885	1885	1870	1826	1885	1856
Adj Flow Rate, veh/h	247	111	24	66	66	12	96	263	74	61	460	301
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	2	1	5	0	0	1	1	2	5	1	3
Cap, veh/h	446	376	290	299	154	28	235	681	192	534	506	331
Arrive On Green	0.15	0.20	0.20	0.05	0.10	0.09	0.05	0.48	0.48	0.04	0.48	0.47
Sat Flow, veh/h	1795	1870	1442	1739	1512	275	1795	1406	396	1739	1063	695
Grp Volume(v), veh/h	247	111	24	66	0	78	96	0	337	61	0	761
Grp Sat Flow(s),veh/h/ln	1795	1870	1442	1739	0	1787	1795	0	1802	1739	0	1758
Q Serve(g_s), s	8.2	3.6	1.0	2.4	0.0	2.9	2.0	0.0	8.5	1.3	0.0	28.6
Cycle Q Clear(g_c), s	8.2	3.6	1.0	2.4	0.0	2.9	2.0	0.0	8.5	1.3	0.0	28.6
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.22	1.00		0.40
Lane Grp Cap(c), veh/h	446	376	290	299	0	181	235	0	873	534	0	837
V/C Ratio(X)	0.55	0.30	0.08	0.22	0.00	0.43	0.41	0.00	0.39	0.11	0.00	0.91
Avail Cap(c_a), veh/h	511	617	476	321	0	370	250	0	1053	563	0	1027
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	24.3	23.2	26.7	0.0	30.2	15.5	0.0	11.7	9.4	0.0	17.4
Incr Delay (d2), s/veh	0.8	0.3	0.1	0.3	0.0	1.2	0.8	0.0	0.3	0.1	0.0	10.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	1.5	0.3	1.0	0.0	1.3	0.7	0.0	3.0	0.4	0.0	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	24.6	23.3	26.9	0.0	31.4	16.3	0.0	12.0	9.5	0.0	27.7
LnGrp LOS	C	C	C	C	A	C	B	A	B	A	A	C
Approach Vol, veh/h		382			144			433			822	
Approach Delay, s/veh		23.1			29.4			13.0			26.3	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.4	38.1	14.8	11.3	6.8	38.7	7.7	18.4				
Change Period (Y+Rc), s	4.0	4.5	4.5	4.5	4.0	4.5	4.5	4.5				
Max Green Setting (Gmax), s	4.0	41.3	12.9	14.3	4.0	41.3	4.1	23.1				
Max Q Clear Time (g_c+1), s	4.0	30.6	10.2	4.9	3.3	10.5	4.4	5.6				
Green Ext Time (p_c), s	0.0	2.9	0.2	0.1	0.0	1.4	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay											22.6	
HCM 6th LOS											C	

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	110	80	5	95	30	45	50	5	30	70	10
Future Vol, veh/h	10	110	80	5	95	30	45	50	5	30	70	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	1	12	0	1	0	7	0	0	0	0	0
Mvmt Flow	11	122	89	6	106	33	50	56	6	33	78	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	139	0	0	211	0	0	368	340	167	355	368	123
Stage 1	-	-	-	-	-	-	189	189	-	135	135	-
Stage 2	-	-	-	-	-	-	179	151	-	220	233	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.17	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.563	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1457	-	-	1372	-	-	579	585	882	604	564	933
Stage 1	-	-	-	-	-	-	801	748	-	873	789	-
Stage 2	-	-	-	-	-	-	811	776	-	787	716	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1457	-	-	1372	-	-	505	577	882	550	556	933
Mov Cap-2 Maneuver	-	-	-	-	-	-	505	577	-	550	556	-
Stage 1	-	-	-	-	-	-	794	741	-	865	785	-
Stage 2	-	-	-	-	-	-	718	772	-	717	710	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.3			13.2			12.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	551	1457	-	-	1372	-	-	575
HCM Lane V/C Ratio	0.202	0.008	-	-	0.004	-	-	0.213
HCM Control Delay (s)	13.2	7.5	0	-	7.6	0	-	12.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0	-	-	0	-	-	0.8

Intersection												
Int Delay, s/veh	11.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	10	15	30	10	35	15	440	85	100	795	45
Future Vol, veh/h	25	10	15	30	10	35	15	440	85	100	795	45
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	10	0	0	0	2	0
Mvmt Flow	27	11	16	33	11	38	16	478	92	109	864	49

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1690	1711	891	1676	1689	524	915	0	0	570	0	0
Stage 1	1109	1109	-	556	556	-	-	-	-	-	-	-
Stage 2	581	602	-	1120	1133	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.29	-	-	2.2	-	-
Pot Cap-1 Maneuver	75	92	344	76	94	557	713	-	-	1013	-	-
Stage 1	257	288	-	519	516	-	-	-	-	-	-	-
Stage 2	503	492	-	253	280	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	50	69	343	52	71	557	712	-	-	1013	-	-
Mov Cap-2 Maneuver	50	69	-	52	71	-	-	-	-	-	-	-
Stage 1	248	224	-	502	499	-	-	-	-	-	-	-
Stage 2	443	476	-	179	218	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	137.6		133		0.3		1			
HCM LOS	F		F							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	712	-	-	73	96	1013	-	-
HCM Lane V/C Ratio	0.023	-	-	0.744	0.849	0.107	-	-
HCM Control Delay (s)	10.2	0	-	137.6	133	9	0	-
HCM Lane LOS	B	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	3.5	4.7	0.4	-	-

Intersection												
Int Delay, s/veh	121.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	75	10	10	20	10	80	5	450	45	165	910	100
Future Vol, veh/h	75	10	10	20	10	80	5	450	45	165	910	100
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	2	10
Mvmt Flow	82	11	11	22	11	87	5	489	49	179	989	109

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1977	1952	1046	1937	1982	514	1100	0	0	538	0	0
Stage 1	1404	1404	-	524	524	-	-	-	-	-	-	-
Stage 2	573	548	-	1413	1458	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 47	65	280	50	62	564	642	-	-	1040	-	-
Stage 1	175	208	-	540	533	-	-	-	-	-	-	-
Stage 2	508	520	-	173	196	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 19	35	280	24	33	564	641	-	-	1040	-	-
Mov Cap-2 Maneuver	~ 19	35	-	24	33	-	-	-	-	-	-	-
Stage 1	173	113	-	534	527	-	-	-	-	-	-	-
Stage 2	416	514	-	82	107	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, \$ 2017.7		\$ 318.8	0.1	1.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	641	-	-	22	86	1040	-
HCM Lane V/C Ratio	0.008	-	-	4.694	1.39	0.172	-
HCM Control Delay (s)	10.7	0		\$ 2017.7	\$ 318.8	9.2	0
HCM Lane LOS	B	A	-	F	F	A	A
HCM 95th %tile Q(veh)	0	-	-	13.1	9.1	0.6	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	5	5	10	5	25	5	585	15	40	1160	35
Future Vol, veh/h	15	5	5	10	5	25	5	585	15	40	1160	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	2	0
Mvmt Flow	16	5	5	11	5	27	5	636	16	43	1261	38

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2036	2028	1280	2025	2039	644	1299	0	0	652	0	0
Stage 1	1366	1366	-	654	654	-	-	-	-	-	-	-
Stage 2	670	662	-	1371	1385	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	43	58	204	43	57	476	540	-	-	944	-	-
Stage 1	184	217	-	459	466	-	-	-	-	-	-	-
Stage 2	450	462	-	182	213	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	32	48	204	33	47	476	540	-	-	944	-	-
Mov Cap-2 Maneuver	32	48	-	33	47	-	-	-	-	-	-	-
Stage 1	181	181	-	452	459	-	-	-	-	-	-	-
Stage 2	413	455	-	143	178	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	188.1		82.1		0.1		0.3	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	540	-	-	42	87	944	-
HCM Lane V/C Ratio	0.01	-	-	0.647	0.5	0.046	-
HCM Control Delay (s)	11.7	0	-	188.1	82.1	9	0
HCM Lane LOS	B	A	-	F	F	A	A
HCM 95th %tile Q(veh)	0	-	-	2.4	2.1	0.1	-

HCM 6th Signalized Intersection Summary
 13: I-5 SB Ramp & Wilsonville Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	↘↗
Traffic Volume (veh/h)	0	825	660	545	1015	0	0	0	0	80	5	115
Future Volume (veh/h)	0	825	660	545	1015	0	0	0	0	80	5	115
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1856	1870	1856	0				1856	1900	1856
Adj Flow Rate, veh/h	0	868	0	574	1068	0				88	0	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	3	2	3	0				3	0	3
Cap, veh/h	0	3323		650	3086	0				184	0	158
Arrive On Green	0.00	0.65	0.00	0.38	1.00	0.00				0.05	0.00	0.05
Sat Flow, veh/h	0	5274	1572	3456	3618	0				3534	0	3039
Grp Volume(v), veh/h	0	868	0	574	1068	0				88	0	13
Grp Sat Flow(s),veh/h/ln	0	1702	1572	1728	1763	0				1767	0	1520
Q Serve(g_s), s	0.0	7.9	0.0	17.1	0.0	0.0				2.7	0.0	0.4
Cycle Q Clear(g_c), s	0.0	7.9	0.0	17.1	0.0	0.0				2.7	0.0	0.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3323		650	3086	0				184	0	158
V/C Ratio(X)	0.00	0.26		0.88	0.35	0.00				0.48	0.00	0.08
Avail Cap(c_a), veh/h	0	3323		817	3086	0				610	0	525
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.88	0.88	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.1	0.0	33.2	0.0	0.0				50.7	0.0	49.6
Incr Delay (d2), s/veh	0.0	0.2	0.0	8.5	0.3	0.0				1.9	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	0.0	6.3	0.1	0.0				1.2	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	8.3	0.0	41.7	0.3	0.0				52.6	0.0	49.9
LnGrp LOS	A	A		D	A	A				D	A	D
Approach Vol, veh/h		868			1642						101	
Approach Delay, s/veh		8.3			14.7						52.3	
Approach LOS		A			B						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	24.7	75.6		9.7		100.3						
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0						
Max Green Setting (Gmax), s	26.0	53.0		19.0		75.0						
Max Q Clear Time (g_c+I1), s	19.1	9.9		4.7		2.0						
Green Ext Time (p_c), s	1.6	4.7		0.3		6.3						

Intersection Summary

HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Notes

- User approved volume balancing among the lanes for turning movement.
- Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 14: I-5 NB Ramp & Wilsonville Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑			↑↑↑	↔	↔	↔	↔↔			
Traffic Volume (veh/h)	355	550	0	0	1110	335	450	5	510	0	0	0
Future Volume (veh/h)	355	550	0	0	1110	335	450	5	510	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1885	1826	1900	1870			
Adj Flow Rate, veh/h	370	573	0	0	1156	0	473	0	287			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	1	5	0	2			
Cap, veh/h	441	2686	0	0	3022		596	0	536			
Arrive On Green	0.26	1.00	0.00	0.00	0.59	0.00	0.17	0.00	0.17			
Sat Flow, veh/h	3456	3647	0	0	5274	1598	3478	0	3124			
Grp Volume(v), veh/h	370	573	0	0	1156	0	473	0	287			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1702	1598	1739	0	1562			
Q Serve(g_s), s	11.2	0.0	0.0	0.0	13.1	0.0	14.3	0.0	9.2			
Cycle Q Clear(g_c), s	11.2	0.0	0.0	0.0	13.1	0.0	14.3	0.0	9.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	441	2686	0	0	3022		596	0	536			
V/C Ratio(X)	0.84	0.21	0.00	0.00	0.38		0.79	0.00	0.54			
Avail Cap(c_a), veh/h	723	2686	0	0	3022		1043	0	937			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.97	0.97	0.00	0.00	0.26	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	39.9	0.0	0.0	0.0	11.8	0.0	43.7	0.0	41.6			
Incr Delay (d2), s/veh	3.0	0.2	0.0	0.0	0.1	0.0	1.5	0.0	0.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.3	0.1	0.0	0.0	4.7	0.0	6.2	0.0	3.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	0.2	0.0	0.0	11.9	0.0	45.2	0.0	42.1			
LnGrp LOS	D	A	A	A	B		D	A	D			
Approach Vol, veh/h		943			1156				760			
Approach Delay, s/veh		17.0			11.9				44.0			
Approach LOS		B			B				D			
Timer - Assigned Phs		2			5	6			8			
Phs Duration (G+Y+Rc), s		87.1			18.0	69.1			22.9			
Change Period (Y+Rc), s		4.0			4.0	4.0			4.0			
Max Green Setting (Gmax), s		51.0			23.0	42.0			33.0			
Max Q Clear Time (g_c+1), s		2.0			13.2	15.1			16.3			
Green Ext Time (p_c), s		6.3			0.9	12.5			2.5			

Intersection Summary

HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Notes

- User approved volume balancing among the lanes for turning movement.
- Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
15: Town Center Lp West & Wilsonville Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↑↑			↑	↑		↑	↑	
Traffic Volume (veh/h)	0	945	115	0	870	50	200	25	90	65	125	375
Future Volume (veh/h)	0	945	115	0	870	50	200	25	90	65	125	375
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1885	1900	1885	1900	1900	1900	1900	1870
Adj Flow Rate, veh/h	0	995	106	0	916	49	211	26	39	68	132	349
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	1	0	1	0	0	0	0	2
Cap, veh/h	0	1408	150	0	1038	56	247	369	553	96	207	546
Arrive On Green	0.00	0.10	0.10	0.00	0.30	0.30	0.14	0.54	0.54	0.05	0.46	0.46
Sat Flow, veh/h	0	4850	498	0	3546	185	1795	681	1021	1810	452	1195
Grp Volume(v), veh/h	0	723	378	0	475	490	211	0	65	68	0	481
Grp Sat Flow(s),veh/h/ln	0	1702	1775	0	1791	1845	1795	0	1701	1810	0	1646
Q Serve(g_s), s	0.0	22.6	22.7	0.0	27.8	27.8	12.6	0.0	2.0	4.1	0.0	24.6
Cycle Q Clear(g_c), s	0.0	22.6	22.7	0.0	27.8	27.8	12.6	0.0	2.0	4.1	0.0	24.6
Prop In Lane	0.00		0.28	0.00		0.10	1.00		0.60	1.00		0.73
Lane Grp Cap(c), veh/h	0	1024	534	0	538	555	247	0	922	96	0	753
V/C Ratio(X)	0.00	0.71	0.71	0.00	0.88	0.88	0.85	0.00	0.07	0.71	0.00	0.64
Avail Cap(c_a), veh/h	0	1362	710	0	716	738	253	0	922	156	0	753
HCM Platoon Ratio	1.00	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.94	0.94	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	44.8	44.9	0.0	36.6	36.6	46.3	0.0	12.1	51.2	0.0	22.9
Incr Delay (d2), s/veh	0.0	0.8	1.6	0.0	9.3	9.1	23.3	0.0	0.1	9.2	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.4	11.0	0.0	13.2	13.6	7.3	0.0	0.8	2.1	0.0	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	45.7	46.5	0.0	45.9	45.7	69.6	0.0	12.2	60.4	0.0	27.0
LnGrp LOS	A	D	D	A	D	D	E	A	B	E	A	C
Approach Vol, veh/h	1101			965			276			549		
Approach Delay, s/veh	46.0			45.8			56.1			31.2		
Approach LOS	D			D			E			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	63.6		37.1	18.6	54.3		37.1				
Change Period (Y+Rc), s	4.0	4.5		4.5	4.0	4.5		4.5				
Max Green Setting (Gmax), s	44.5			43.5	15.0	38.5		43.5				
Max Q Clear Time (g_c+10), s	4.0			24.7	14.6	26.6		29.8				
Green Ext Time (p_c), s	0.0	0.2		3.9	0.0	1.4		2.8				
Intersection Summary												
HCM 6th Ctrl Delay				44.1								
HCM 6th LOS				D								

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ID	Software/Method	Intersection	Control Type	LOS	Delay	V/C Ratio
1	Synchro HCM 6th Signal	I-5 SB Ramp & Elligsen Rd	Signal	B	18.2	0.73
2	Synchro HCM 6th Signal	I-5 NB Ramp & Elligsen Rd	Signal	A	9.2	0.45
3	Synchro HCM 6th Signal	Parkway Ave & Elligsen Rd	Signal	C	24.5	0.53
4	Synchro HCM 6th Signal	Parkway Center Dr & Elligsen Rd	Signal	B	16.8	0.54
6	Synchro HCM 6th Signal	Parkway Ave & Boeckman Rd	Signal	C	23.3	0.81
7	Synchro HCM 6th Signal	Canyon Creek Rd & Boeckman Rd	Signal	B	15.9	0.60
8	Synchro HCM 6th Signal	Wilsonville Rd/Stafford Rd & Boeckman Rd/	Signal	C	22.6	0.81
13	Synchro HCM 6th Signal	I-5 SB Ramp & Wilsonville Rd	Signal	B	14.0	0.40
14	Synchro HCM 6th Signal	I-5 NB Ramp & Wilsonville Rd	Signal	C	22.1	0.52
15	Synchro HCM 6th Signal	Town Center Lp West & Wilsonville Rd	Signal	D	44.1	0.82

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RECOMMENDED IMPROVEMENTS HCM REPORTS

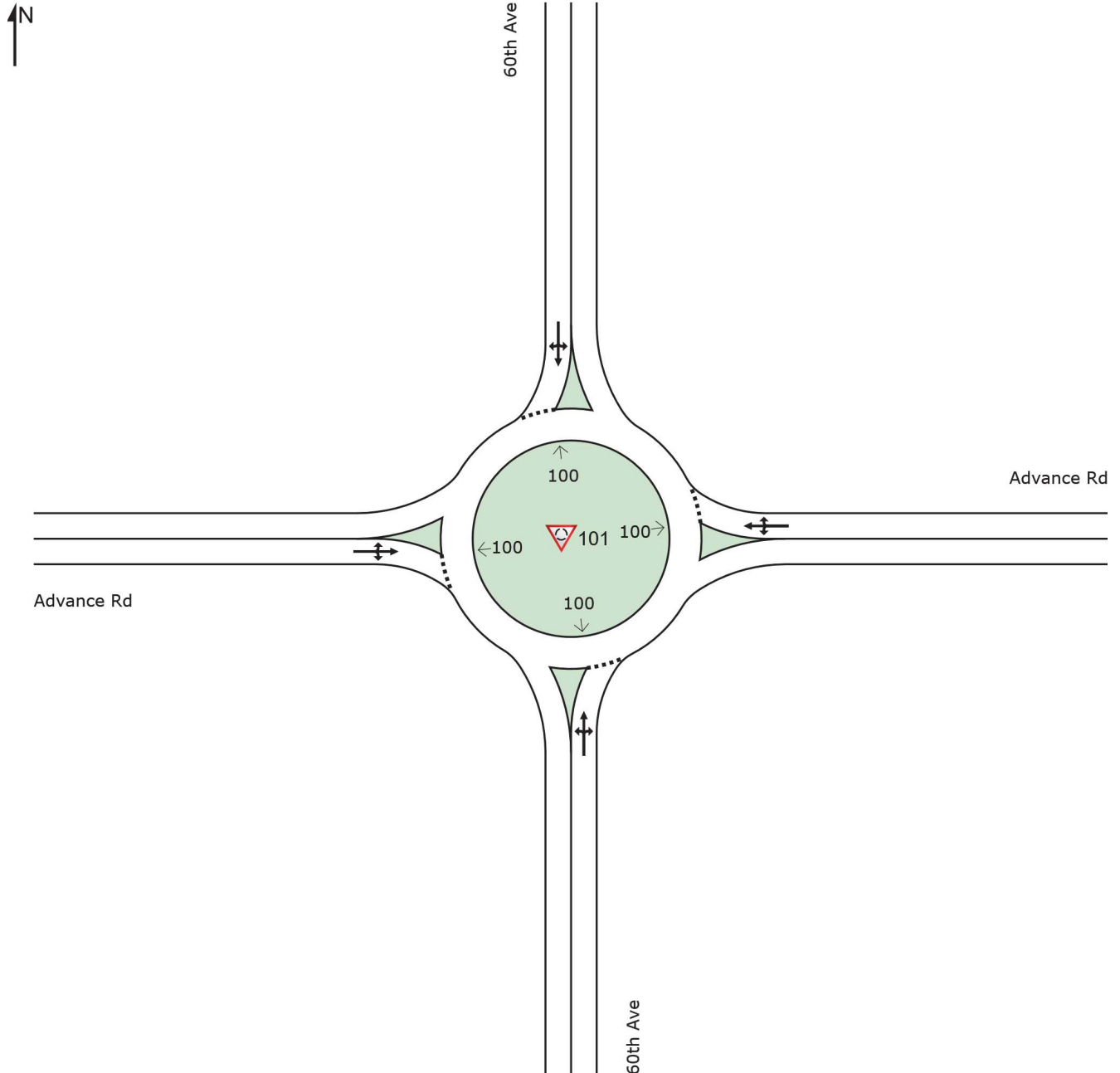


SITE LAYOUT

Site: 101 [Advance Rd/60th Ave (Site Folder: East & South Master Plan - Future 2040 Mitigation)]

Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Advance Rd/60th Ave (Site Folder: East & South Master Plan - Future 2040 Mitigation)]

Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] ft				
South: 60th Ave														
3	L2	45	7.0	50	7.0	0.099	4.2	LOS A	0.4	10.9	0.32	0.18	0.32	34.4
8	T1	50	0.0	56	0.0	0.099	3.9	LOS A	0.4	10.9	0.32	0.18	0.32	37.1
18	R2	5	0.0	6	0.0	0.099	3.9	LOS A	0.4	10.9	0.32	0.18	0.32	37.8
Approach		100	3.2	111	3.2	0.099	4.0	LOS A	0.4	10.9	0.32	0.18	0.32	35.9
East: Advance Rd														
1	L2	5	0.0	6	0.0	0.119	4.0	LOS A	0.5	13.7	0.27	0.14	0.27	40.8
6	T1	95	1.0	106	1.0	0.119	4.0	LOS A	0.5	13.7	0.27	0.14	0.27	37.2
16	R2	30	0.0	33	0.0	0.119	4.0	LOS A	0.5	13.7	0.27	0.14	0.27	39.4
Approach		130	0.7	144	0.7	0.119	4.0	LOS A	0.5	13.7	0.27	0.14	0.27	37.8
North: 60th Ave														
7	L2	30	0.0	33	0.0	0.105	4.0	LOS A	0.5	11.8	0.32	0.18	0.32	39.4
4	T1	70	0.0	78	0.0	0.105	4.0	LOS A	0.5	11.8	0.32	0.18	0.32	37.7
14	R2	10	0.0	11	0.0	0.105	4.0	LOS A	0.5	11.8	0.32	0.18	0.32	33.6
Approach		110	0.0	122	0.0	0.105	4.0	LOS A	0.5	11.8	0.32	0.18	0.32	37.7
West: Advance Rd														
5	L2	10	0.0	11	0.0	0.191	4.6	LOS A	0.9	23.3	0.28	0.15	0.28	34.8
2	T1	110	1.0	122	1.0	0.191	4.7	LOS A	0.9	23.3	0.28	0.15	0.28	36.2
12	R2	80	12.0	89	12.0	0.191	5.0	LOS A	0.9	23.3	0.28	0.15	0.28	32.3
Approach		200	5.4	222	5.4	0.191	4.8	LOS A	0.9	23.3	0.28	0.15	0.28	34.5
All Vehicles		540	2.7	600	2.7	0.191	4.3	LOS A	0.9	23.3	0.29	0.16	0.29	36.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

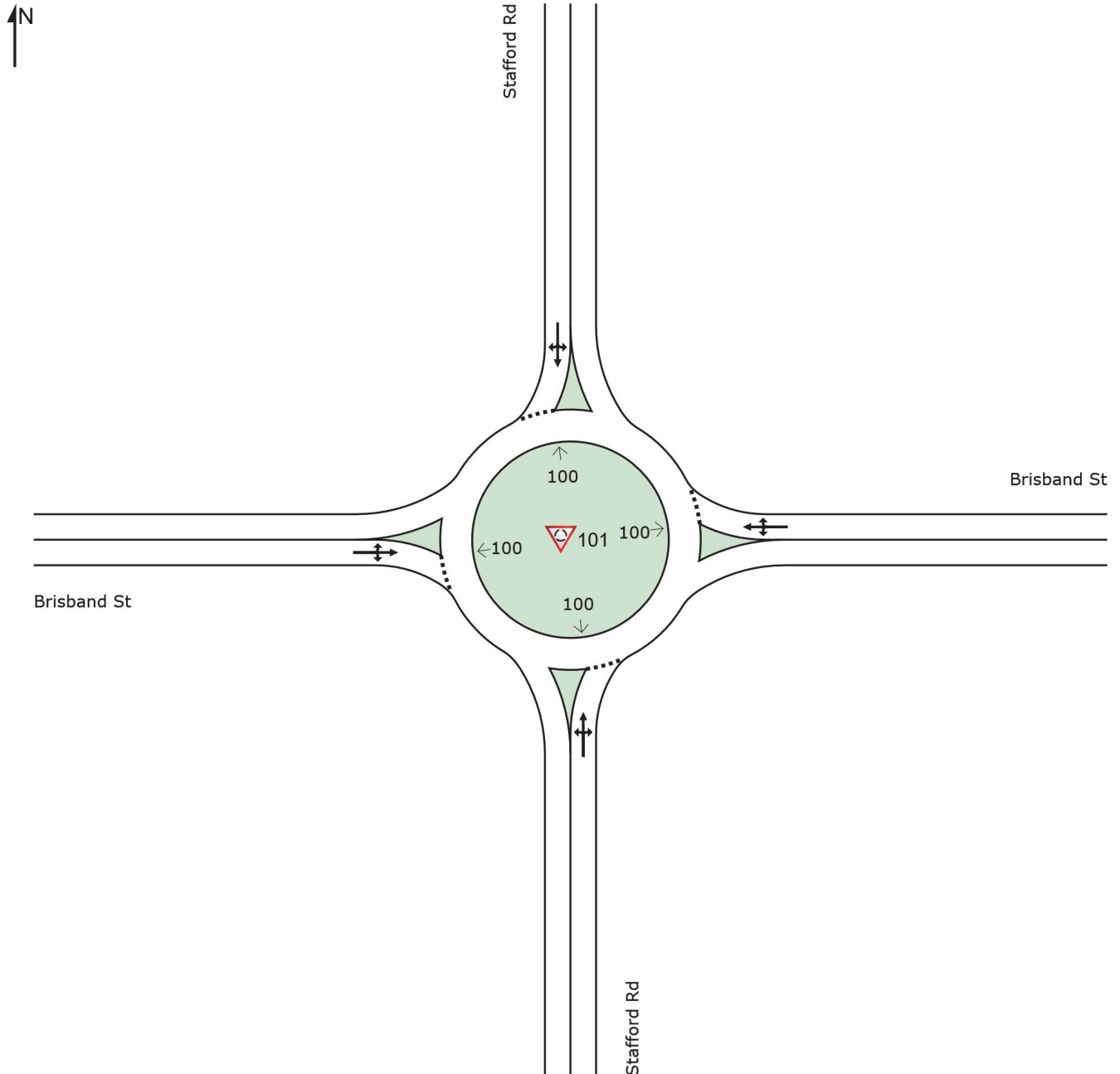
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Stafford Rd/Brisband St (Site Folder: East & South Master Plan - Future 2040 Mitigation)]

Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Stafford Rd/Brisband St (Site Folder: East & South Master Plan - Future 2040 Mitigation)]

Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] ft				
South: Stafford Rd														
3	L2	15	10.0	16	10.0	0.494	8.9	LOS A	3.4	85.7	0.51	0.35	0.51	33.2
8	T1	440	0.0	463	0.0	0.494	8.6	LOS A	3.4	85.7	0.51	0.35	0.51	35.8
18	R2	85	0.0	89	0.0	0.494	8.6	LOS A	3.4	85.7	0.51	0.35	0.51	36.5
Approach		540	0.3	568	0.3	0.494	8.6	LOS A	3.4	85.7	0.51	0.35	0.51	35.8
East: Brisband St														
1	L2	45	0.0	47	0.0	0.125	5.8	LOS A	0.5	13.0	0.55	0.49	0.55	38.0
6	T1	15	0.0	16	0.0	0.125	5.8	LOS A	0.5	13.0	0.55	0.49	0.55	34.9
16	R2	35	0.0	37	0.0	0.125	5.8	LOS A	0.5	13.0	0.55	0.49	0.55	36.8
Approach		95	0.0	100	0.0	0.125	5.8	LOS A	0.5	13.0	0.55	0.49	0.55	37.1
North: Stafford Rd														
7	L2	100	0.0	105	0.0	0.780	16.1	LOS C	10.8	273.4	0.66	0.35	0.66	33.1
4	T1	780	2.0	821	2.0	0.780	16.1	LOS C	10.8	273.4	0.66	0.35	0.66	31.6
14	R2	45	0.0	47	0.0	0.780	16.1	LOS C	10.8	273.4	0.66	0.35	0.66	28.8
Approach		925	1.7	974	1.7	0.780	16.1	LOS C	10.8	273.4	0.66	0.35	0.66	31.6
West: Brisband St														
5	L2	50	0.0	53	0.0	0.168	9.4	LOS A	0.6	16.0	0.68	0.68	0.68	31.1
2	T1	15	0.0	16	0.0	0.168	9.4	LOS A	0.6	16.0	0.68	0.68	0.68	32.3
12	R2	15	0.0	16	0.0	0.168	9.4	LOS A	0.6	16.0	0.68	0.68	0.68	30.3
Approach		80	0.0	84	0.0	0.168	9.4	LOS A	0.6	16.0	0.68	0.68	0.68	31.2
All Vehicles		1640	1.0	1726	1.0	0.780	12.7	LOS B	10.8	273.4	0.60	0.37	0.60	33.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

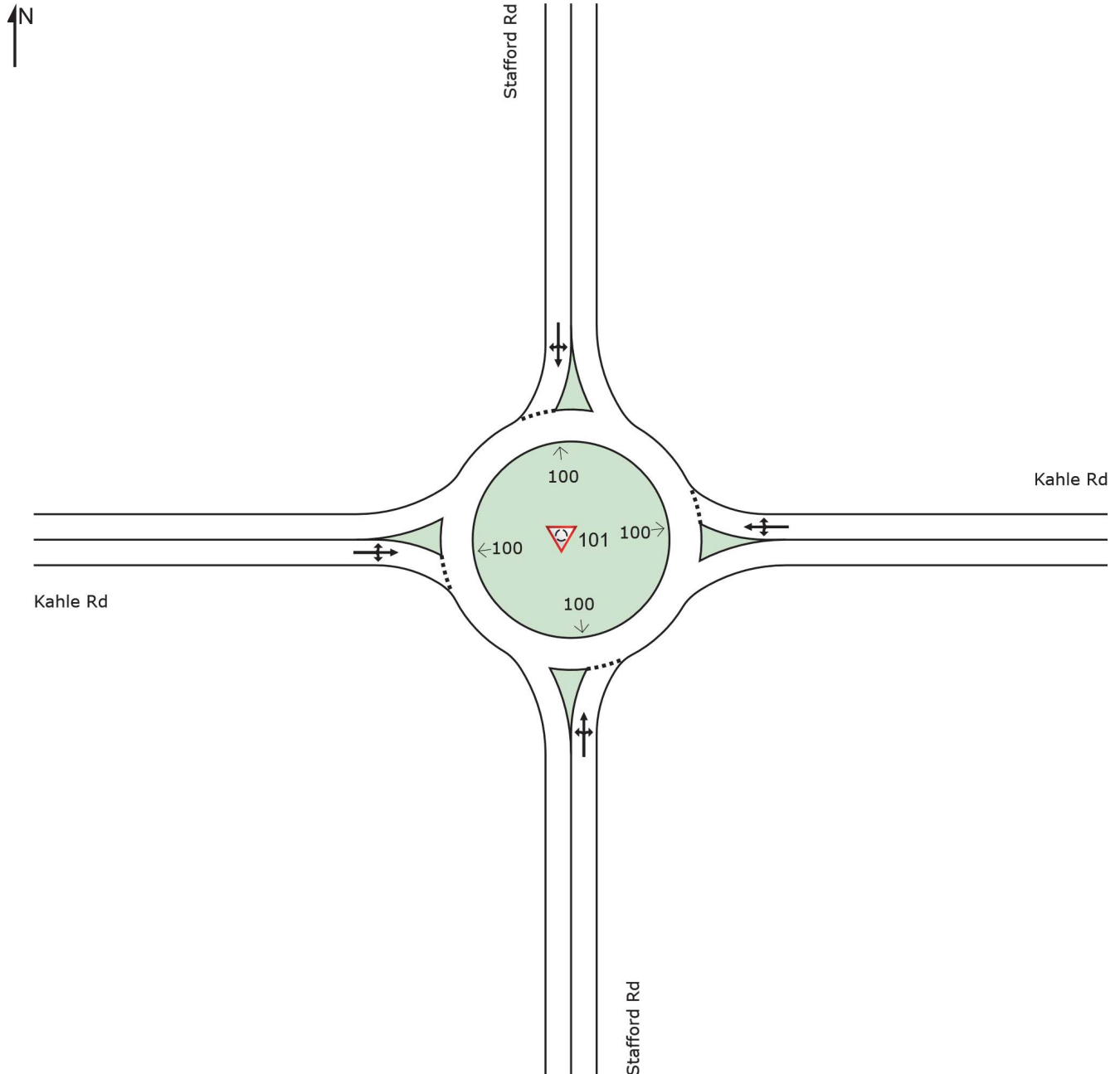
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Stafford Rd/Kahle Rd (Site Folder: East & South Master Plan - Future 2040 Mitigation)]

Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Stafford Rd/Kahle Rd (Site Folder: East & South Master Plan - Future 2040 Mitigation)]

Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] ft				
South: Stafford Rd														
3	L2	5	0.0	5	0.0	0.489	8.2	LOS A	3.4	86.9	0.42	0.25	0.42	33.6
8	T1	535	2.0	563	2.0	0.489	8.3	LOS A	3.4	86.9	0.42	0.25	0.42	35.7
18	R2	15	0.0	16	0.0	0.489	8.2	LOS A	3.4	86.9	0.42	0.25	0.42	36.7
Approach		555	1.9	584	1.9	0.489	8.3	LOS A	3.4	86.9	0.42	0.25	0.42	35.7
East: Kahle Rd														
1	L2	15	0.0	16	0.0	0.074	5.8	LOS A	0.3	7.3	0.58	0.52	0.58	38.6
6	T1	10	0.0	11	0.0	0.074	5.8	LOS A	0.3	7.3	0.58	0.52	0.58	35.4
16	R2	25	0.0	26	0.0	0.074	5.8	LOS A	0.3	7.3	0.58	0.52	0.58	37.4
Approach		50	0.0	53	0.0	0.074	5.8	LOS A	0.3	7.3	0.58	0.52	0.58	37.3
North: Stafford Rd														
7	L2	40	0.0	42	0.0	0.993	41.1	LOS E	126.9	3219.2	1.00	0.58	1.33	24.4
4	T1	1160	2.0	1221	2.0	0.993	41.1	LOS E	126.9	3219.2	1.00	0.58	1.33	23.6
14	R2	35	0.0	37	0.0	0.993	41.1	LOS E	126.9	3219.2	1.00	0.58	1.33	22.0
Approach		1235	1.9	1300	1.9	0.993	41.1	LOS E	126.9	3219.2	1.00	0.58	1.33	23.6
West: Kahle Rd														
5	L2	65	0.0	68	0.0	0.231	13.9	LOS B	0.8	21.0	0.78	0.78	0.78	29.0
2	T1	10	0.0	11	0.0	0.231	13.9	LOS B	0.8	21.0	0.78	0.78	0.78	30.0
12	R2	5	0.0	5	0.0	0.231	13.9	LOS B	0.8	21.0	0.78	0.78	0.78	28.3
Approach		80	0.0	84	0.0	0.231	13.9	LOS B	0.8	21.0	0.78	0.78	0.78	29.1
All Vehicles		1920	1.8	2021	1.8	0.993	29.6	LOS D	126.9	3219.2	0.81	0.49	1.03	26.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

HCM 6th TWSC
12: Stafford Rd & Frog Pond Ln

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗	↗	↘		↗	↘	
Traffic Vol, veh/h	0	0	10	0	0	80	5	475	45	165	915	100
Future Vol, veh/h	0	0	10	0	0	80	5	475	45	165	915	100
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	2	10
Mvmt Flow	0	0	11	0	0	87	5	516	49	179	995	109

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	1052	-	-	541	1106	0	0	565	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.2	-	-	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	278	0	0	545	639	-	-	1017	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	278	-	-	545	638	-	-	1017	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	18.5		12.9		0.1		1.3	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	638	-	-	278	545	1017	-	-
HCM Lane V/C Ratio	0.009	-	-	0.039	0.16	0.176	-	-
HCM Control Delay (s)	10.7	-	-	18.5	12.9	9.3	-	-
HCM Lane LOS	B	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.6	0.6	-	-

Technical Memorandum

Date: September 6, 2022

Project: Wilsonville Frog Pond East and South Master Plan

To: Andrew Parish – APG/MIG
Joe Dills – APG/MIG

From: Mike Carr, PE – Murraysmith
Julia King, EIT – Murraysmith
Joshua Owens, PE – Murraysmith

Re: Proposed Infrastructure Plans - Water, Wastewater, Stormwater Systems

Introduction

This technical memorandum provides a summary of new water, wastewater, and stormwater infrastructure necessary for the development of Wilsonville Frog Pond East and South areas, to be documented in the area's Master Plan. Analyses were performed to estimate sizes and propose layouts of the proposed systems, using applicable City standards for the systems. The planned infrastructure will also be used for cost estimates and preparation of infrastructure funding strategies.

Background

In 2015, the Frog Pond Area Plan (FPAP) was adopted by the City of Wilsonville. The Frog Pond area consists of three separate neighborhoods: West, East, and South. A master plan for Frog Pond West was developed in 2017 and development in Frog Pond West began soon after. Based on current information from the City, it is estimated that 80% of the parcels in Frog Pond West are currently, or soon to be, under development.

In 2018, the Frog Pond East and South areas were brought into the regional Urban Growth Boundary (UGB). The City initiated master planning in 2020. To date, the master plan process has prepared a draft preferred land use plan. The preferred alternative identifies residential uses of varied housing types, a neighborhood commercial area, streets and trails, and parks and open space. For the purpose of this infrastructure analysis, the plan is assumed to include 1,800 total housing units in the combined East and South neighborhoods. Infrastructure plans were developed for the preferred alternative and are further described in the individual sections below.

The City has also identified a higher-density scenario which calls for 2,384 total units (20 units per net residential acre) in the combined East and South neighborhoods. This scenario represents a very robust buildout of housing, especially middle housing. Infrastructure needs for the higher-

density alternative were estimated to determine the difference in needs between the two alternative plans. These are also described below.

Proposed Water System

The water purveyor for the Frog Pond area is the City of Wilsonville. The City's *Water System Master Plan* (WSMP), adopted September 6, 2012, is the current basis for domestic water and fire system planning within the Frog Pond East and South. The recommendations provided in the 2015 FPAP for water system improvements still apply for the recommended development concepts for Frog Pond East and South. These areas will be extensions of water pressure Zone B which operates in an elevation range from 100 feet to 285 feet and has a hydraulic grade of 400 feet.

Distribution System

Figure 1 shows the proposed preliminary water system layout for the East and South neighborhoods, including off-site improvements needed to serve the area. The existing 12-inch waterline in Boeckman Road is the primary backbone connection for Frog Pond East and South to the City's water supply and storage system. A looped system consisting of 12-inch and 8-inch distribution mains is proposed for supply of domestic water to Frog Pond East and South. The 12-inch main network provides a redundant capacity of 1,500 gallons per minute (gpm) for fire flow to all areas. In accordance with City Public Works Standards, 12-inch mains are also required for the commercial main street area proposed along Brisband Road in Frog Pond East. For all residential zones, 8-inch mains are required, with all lines interconnected as a network to minimize dead ends.

The plan calls for new 12-inch waterlines extending north in Stafford Road and east in Advance Road to extend the distribution system into Frog Pond East and South, connecting to the existing 12-inch waterlines in Boeckman Road and Advance Road. Additional points of connection will also be made to proposed waterlines planned to be installed in Frog Pond Lane and Brisband Road as part of the Frog Pond West development.

The northernmost neighborhoods in Frog Pond East along SW Kahle Road need to be connected to the City's existing water system with a 12-inch loop that connects to the south side of the BPA easement in two locations, one being a connection at the intersection of Stafford Road and SW Kahle Roads, and the other to the 12-inch waterline in the commercial main street. The loop could be constructed across the BPA easement either in the proposed road extending northeast from Frog Pond Lane, or it could cross the BPA easement further to the east via the proposed pedestrian bridge over the main fork of the Newland Creek. The decision on where to route the loop will depend on what areas are developed first and whether the pedestrian bridge is built. In either scenario the 12-inch mainline along SW Stafford Road and SW Kahle Road will be required.

The WSMP recommended two additional connections to the existing distribution system to reliably serve Frog Pond East and South through buildout. The first is a 12-inch connection to the Canyon Creek Road waterline via a crossing of Boeckman Creek at the west end of Frog Pond Lane, for connection to the Stafford Road waterline in conjunction with development in Frog Pond East.

The second is a crossing of Meridian Creek with a 12-inch main, south of the Meridian Creek Middle School, installed in conjunction with development of Frog Pond South. Both creek crossings are assumed to be below grade directionally drilled pipelines; however, they may be installed on future pedestrian bridges where under consideration by the City.

Storage System

The WSMP identified an overall water storage deficiency in the City which will be further increased by development in Frog Pond East and South. The WSMP proposed a 3.0-million-gallon West Side Tank and 24-inch transmission main project to provide sufficient storage for the City. The City has this project budgeted in the City's current 5-Year Capital Improvement Program, with design expected to begin in FY2022/23. The project is anticipated to be completed in 2025.

The extent of the storage deficiency and its impact on development of Frog Pond East and South is unknown at this time, since the WSMP is 10 years old and significant development has occurred in the City in that period. Additional analysis may be conducted to determine what, if any, impact any development in Frog Pond East and South prior to implementation of the new water tank would have on the existing water system and its customers.

The water system layout and sizing is primarily dependent on the street network to distribute fire flow to the designated land use types. Given the higher-density scenario using the same land use pattern and street plan, it is estimated that waterline sizes and costs would remain the same as with the preferred water system layout.

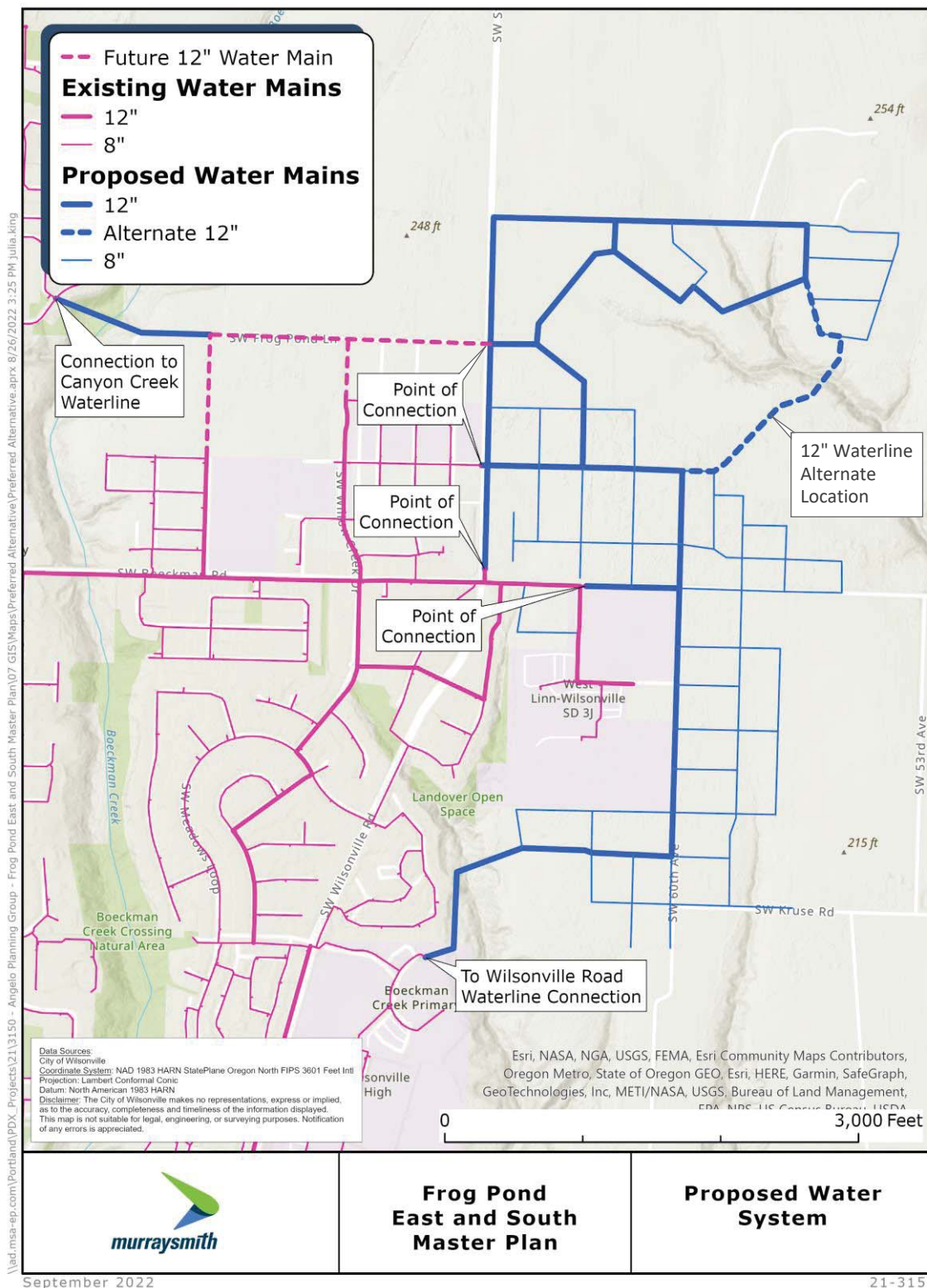
Proposed Wastewater System

The City of Wilsonville will provide sanitary sewer service for the Frog Pond East and South area as an extension of the City's existing collection system. The City's *Wastewater Collection System Master Plan* (WCSMP), adopted in 2014, is the current basis for wastewater system planning within the City. The 2015 FPAP and subsequent studies provide the specific framework for wastewater system planning in the Frog Pond East and South area, along with design criteria from the 2017 Public Works Standards.

Figure 2 shows the proposed preliminary wastewater system layout for the Frog Pond East and South neighborhoods.

The area was divided into five sewer basins, one for each of the four lift stations required and one that flows by gravity out of the Frog Pond area. Basin peak flows were calculated using preliminary land use data provided by MIG and unit flow values determined from the WCSMP. Residences were assumed to have 2.48 people per unit and an average sewer production rate of 67 gallons per person per day. Commercial sectors were assumed to generate 1,000 gallons per acre per day and schools were estimated to generate 25 gallons per day per person. Average dry weather flows were used with a peaking factor of 2 to estimate the peak dry weather flows. Wet weather flows were estimated to have an infiltration and inflow rate of 1,800 gallons per acre per day over the entire basin. Detailed calculations can be found in Appendix A.

Figure 1 – Preliminary Water System Layout



Each basin was analyzed for both the preferred housing scenario of 1,800 total units, and the higher-density scenario of 2,384 total units. The four lift station basins will each require an 8-inch gravity pipe to convey wastewater to the lift station at an assumed slope of 0.5%, and a 4-inch force main discharge to the downstream basin. These requirements are the same for both housing scenarios. **Table 1** shows the peak wet weather flow for each lift station basin and the required pipe sizes.

Table 1 - Lift Station Basins

Basin	Total Peak Flow for 1,800 Units (cfs)	Total Peak Flow for 1,800 Units (gpm)	Total Peak Flow for 2,384 Units (gpm)	Recommended Lift Station Design Capacity (gpm)	Force Main Size (in)	Gravity Sewer Size (in)
LS1	0.130	58	70	135	4	8
LS2	0.159	71	86	135	4	8
LS3	0.123	55	67	135	4	8
LS4	0.489	220	260	260	4	8

Table 1 shows that the recommended capacity for LS1, LS2 and LS3 lift stations is 135 gpm, which is the minimum size required to meet design criteria for 4-inch sewage force mains. This is the same for both housing scenarios. Capacity of LS4 would increase somewhat, from 220 gpm in the preferred scenario, to 260 gpm in the higher-density scenario. This change is estimated to be relatively insignificant in the overall cost of constructing the wastewater facilities for LS4 basin.

The main trunk traveling north to south on SW Stafford Road conveys sewage from both lift station 1 and 2 and a portion of the gravity basin. This pipe has the capacity to carry both housing density scenarios at an 8-inch size; however, this pipe is identified in the WCSMP as a 12-inch line for future extension to the north.

Extension of the Boeckman Road Trunk Sewer east on Advance Road is needed to convey sewage from both Lift Stations 3 and 4 and a portion of the gravity basin. A 10-inch size is required to provide capacity necessary for both housing density scenarios.

All wastewater from Frog Pond East and South is to be conveyed to the wastewater treatment plant through connection to the existing Boeckman Road Trunk Sewer, which flows west to the existing Boeckman Creek Interceptor Sewer and the Memorial Park Pump Station. The Boeckman Road Trunk Sewer is being upsized to 18-inch diameter as part of improvements to Boeckman Road, including Boeckman Dip Bridge, with completion anticipated for 2024.

The Boeckman Creek Interceptor Sewer is a 12-inch to 18-inch diameter pipe extending from Boeckman Road to the Memorial Park Pump Station. Capacity of the Boeckman Interceptor was determined to be sufficient for full buildout of Frog Pond West but will be insufficient to serve full build-out of Frog Pond East and South. The WCSMP recommends the Boeckman Creek Interceptor

Sewer be upsized for buildout of Frog Pond East and South. The City is currently planning to upsize the Boeckman Interceptor in conjunction with a regional trail in the creek corridor. Design of the project will begin in 2022, with construction anticipated to be completed in the fall of 2025.

Though the Boeckman Creek Interceptor will not have sufficient capacity for full buildout of Frog Pond East and South, there will be some capacity available for initial development in the area, depending on how much capacity has been taken up by Frog Pond West. A specific amount has not been calculated. With the Frog Pond West area nearing full development, it is recommended the City reevaluate the remaining capacity in the downstream Boeckman Creek system to estimate how many new dwelling units in Frog Pond East and South can be reliably connected before the planned interceptor improvements are complete.

The WCSMP estimated that the sewer line on SW Kahle Road would need to be a 10-inch pipeline; however based on updated loading conditions, calculations show an 8-inch pipe will be adequate to convey the flow from the areas tributary to the Kahle Road sewer line.

Proposed Stormwater System

<<To Follow - Stormwater Infrastructure Plan is still in development as of September 6, 2022>>

References

Angelo Planning Group. (2015). *Frog Pond Area Plan*.

City of Wilsonville. (2017). *Public Works Standards*.

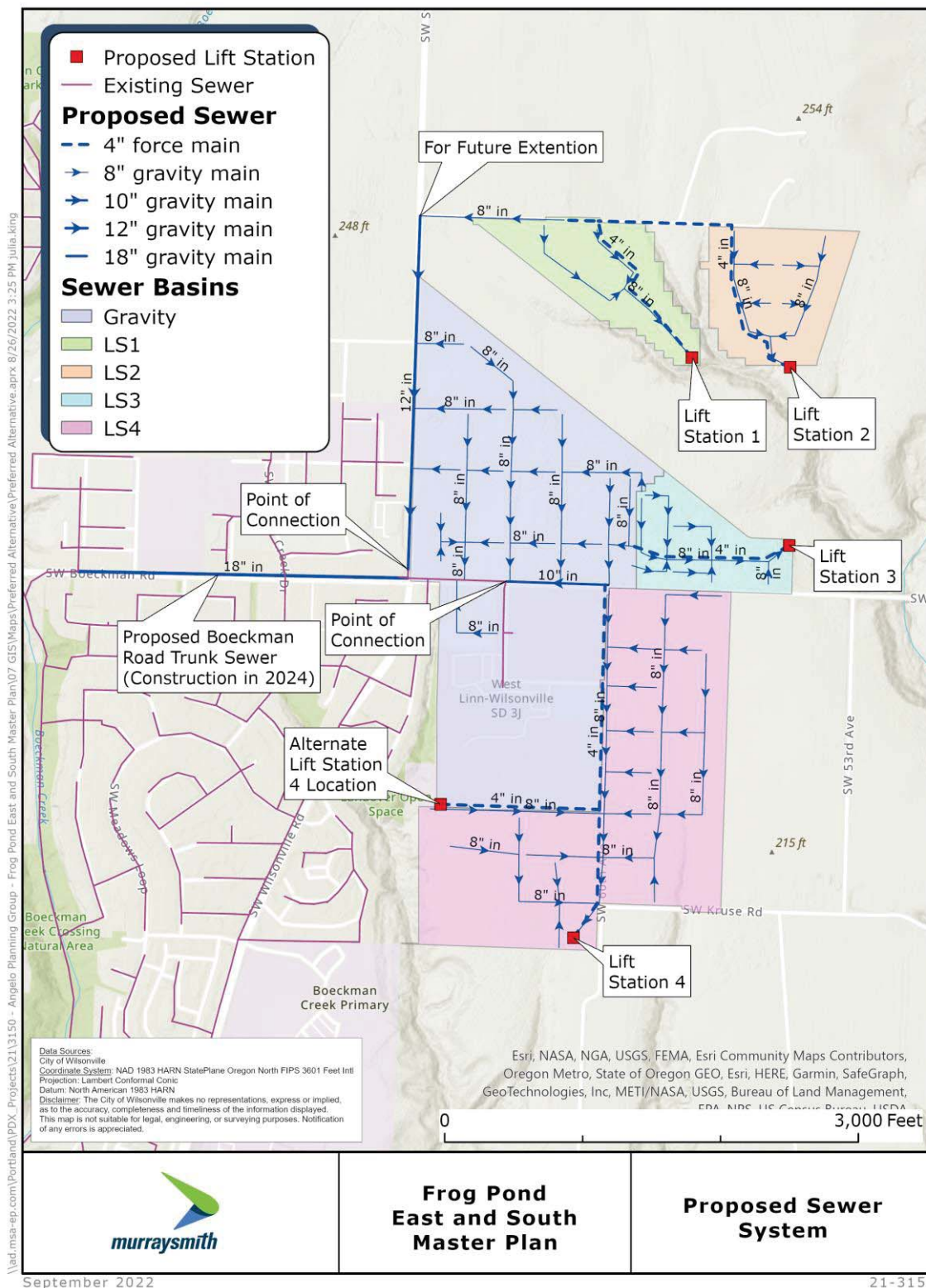
Keller Associates. (2012). *Water System Master Plan*.

Murraysmith. (2014). *Wastewater Collection System Master Plan*.

Murraysmith. (2021). *Findings of HB 2001 Sensitivity Analysis*.

URS. (2012). *Stormwater Master Plan*.

Figure 2 – Preliminary Wastewater System Layout



Appendix A

Project: 21-3150 Frog Pond Master Plan
 Date: 8/26/2022
 Author: JK
 Description: Frog Pond East and South sewer basin land use and flow calculations for 1,800 total residential units

Assumptions	
Category	Average Sewer GPD
Person	67 gallons/person/day
Commercial	1000 gallons/acre/day
School	25 gallons/person/day
I&I	1800 gallons/acre/day

Gravity Pipe Assumptions	
Slope	0.005
Manning's n	0.013

Diameter	Max Flow in Pipe (cfs)
4	0.135
6	0.398
8	0.857
10	1.553

Basin	Total Area (ac)	MF Units	SFA Units	SFD Units	Total Residential Units	Commercial Area (ac)	School Area (ac)	School Students and Employees	Park/Street Area (ac)	Residential Area (ac)
Gravity	105.0	174	308	274	756	4.9	27.1	1305	27.9	45.0
LS1	18.1	0	63	93	155	0.0	0.0	0	0.4	17.7
LS2	20.7	0	86	111	197	0.0	0.0	0	1.0	19.7
LS3	15.4	0	72	84	156	0.0	0.0	0	1.4	14.0
LS4	76.7	48	212	276	536	0.0	0.0	0	25.1	51.6
Totals	235.9	222	740	837	1,800	4.9	27.1	1305	55.9	148.0

Basin	Average Dry Weather Flow (gpm)	Peak Average Dry Weather Flow (gpm)	Peak I&I Flow (gpm)	Total Peak Flow (gpm)	Total Peak Flow (cfs)	Force Main Size (in)	Force Main Velocity	Does Gravity Flow fit in 8in	Does Gravity Flow fit in 10 in
Gravity	96.6	193.3	131.3	324.5	0.723	N/A	N/A	Yes	Yes
LS1	17.9	35.9	22.6	58.5	0.130	4	1.49	Yes	Yes
LS2	22.7	45.4	25.8	71.2	0.159	4	1.82	Yes	Yes
LS3	18.0	36.0	19.2	55.2	0.123	4	1.41	Yes	Yes
LS4	61.8	123.6	95.9	219.5	0.489	4	5.61	Yes	Yes

Trunk	Total Peak Flow (cfs)	Does Gravity Flow fit in 8in	Does Gravity Flow fit in 10in
SW Stafford Road Trunk (cfs)	0.651	Yes	Yes
Boeckman Trunk Extension (cfs)	0.974	Pipe Overcapacity	Yes

Project: 21-3150 Frog Pond Master Plan

Date: 8/26/2022

Author: JK

Description: Frog Pond East and South sewer basin land use and flow calculations for 2,384 total residential units

Flow Assumptions	
Category	Average Sewer GPD
Person	67 gallons/person/day
Commercial	1000 gallons/acre/day
School	25 gallons/person/day
I&I	1800 gallons/acre/day

Pipe Assumptions	
Slope	0.005
Manning's n	0.013

Diameter	Max Flow in Pipe (cfs)
4	0.135
6	0.398
8	0.857
10	1.553

Basin	Residential Units (32% increase)	Commercial Area	School Students and Employees
Gravity	1,001	4.9	1305
LS1	206	0.0	0
LS2	261	0.0	0
LS3	207	0.0	0
LS4	709	0.0	0
Total	2,384	4.9	1305

Basin	Average Dry Weather Flow (gpm)	Peak Average Dry Weather Flow (gpm)	Peak I&I Flow (gpm)	Total Peak Flow (gpm)	Total Peak Flow (cfs)	Force Main Size (in)	Force Main Velocity	Does Gravity Flow fit in 8in	Does Gravity Flow fit in 10in
Gravity	124.9	249.9	131.3	381.1	0.849	N/A	N/A	Yes	Yes
LS1	23.7	47.5	22.6	70.1	0.156	4	1.79	Yes	Yes
LS2	30.1	60.1	25.8	86.0	0.192	4	2.19	Yes	Yes
LS3	23.8	47.7	19.2	66.9	0.149	4	1.71	Yes	Yes
LS4	81.9	163.7	95.9	259.7	0.579	4	6.63	Yes	Yes

Trunk	Total Peak Flow (cfs)	Does Gravity Flow fit in 8in	Does Gravity Flow fit in 10in
SW Stafford Road Trunk (cfs)	0.772	Yes	Yes
Boeckman Trunk Extension (cfs)	1.152	Pipe Overcapacity	Yes

Frog Pond East and South Master Plan

City Council

Work Session October 3, 2022



Agenda for Tonight's Work Session

- Infrastructure
 - Transportation
 - Water and Sanitary Sewer
- Looking forward and next steps



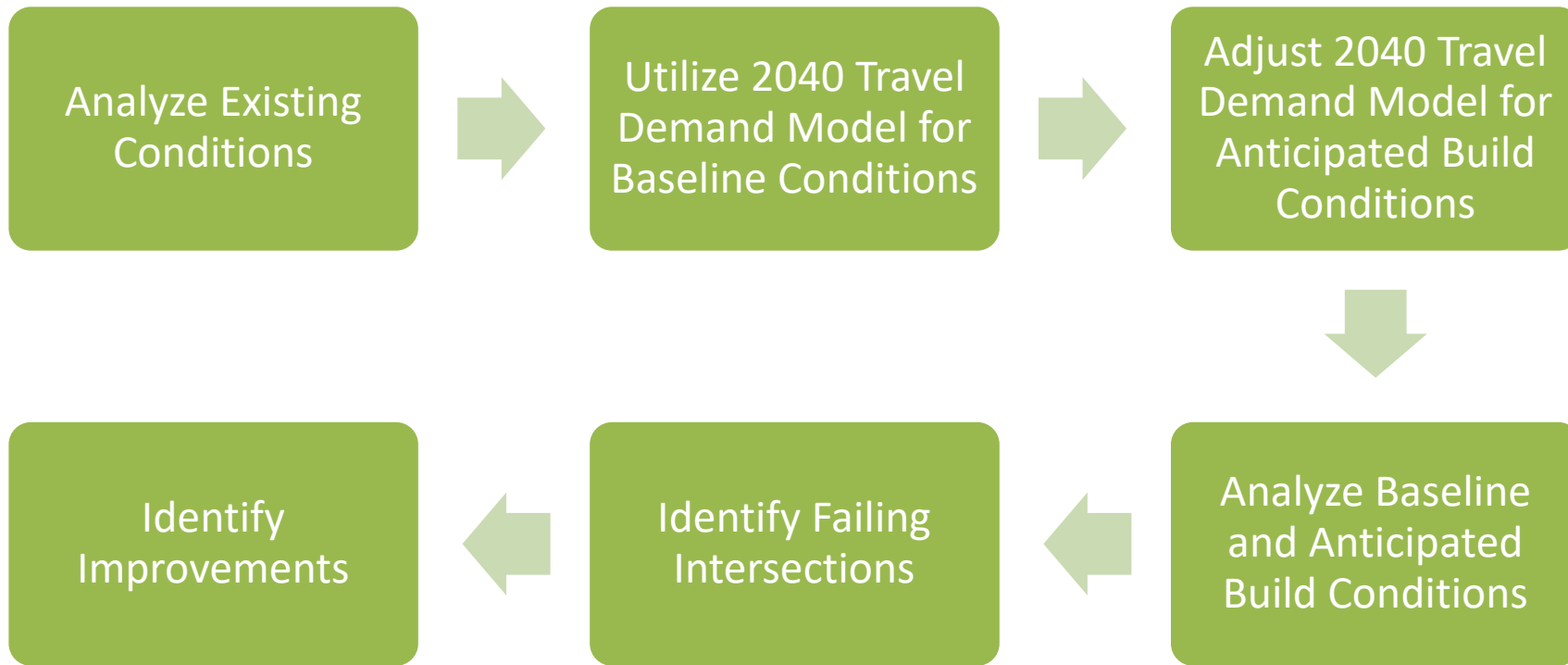
Infrastructure



Infrastructure: Background and Purpose

- Preliminary work during Frog Pond Area Plan
- List of projects for cost estimating

Transportation Analysis



TRAFFIC OPERATIONS

City Standard = Level of Service (LOS) D

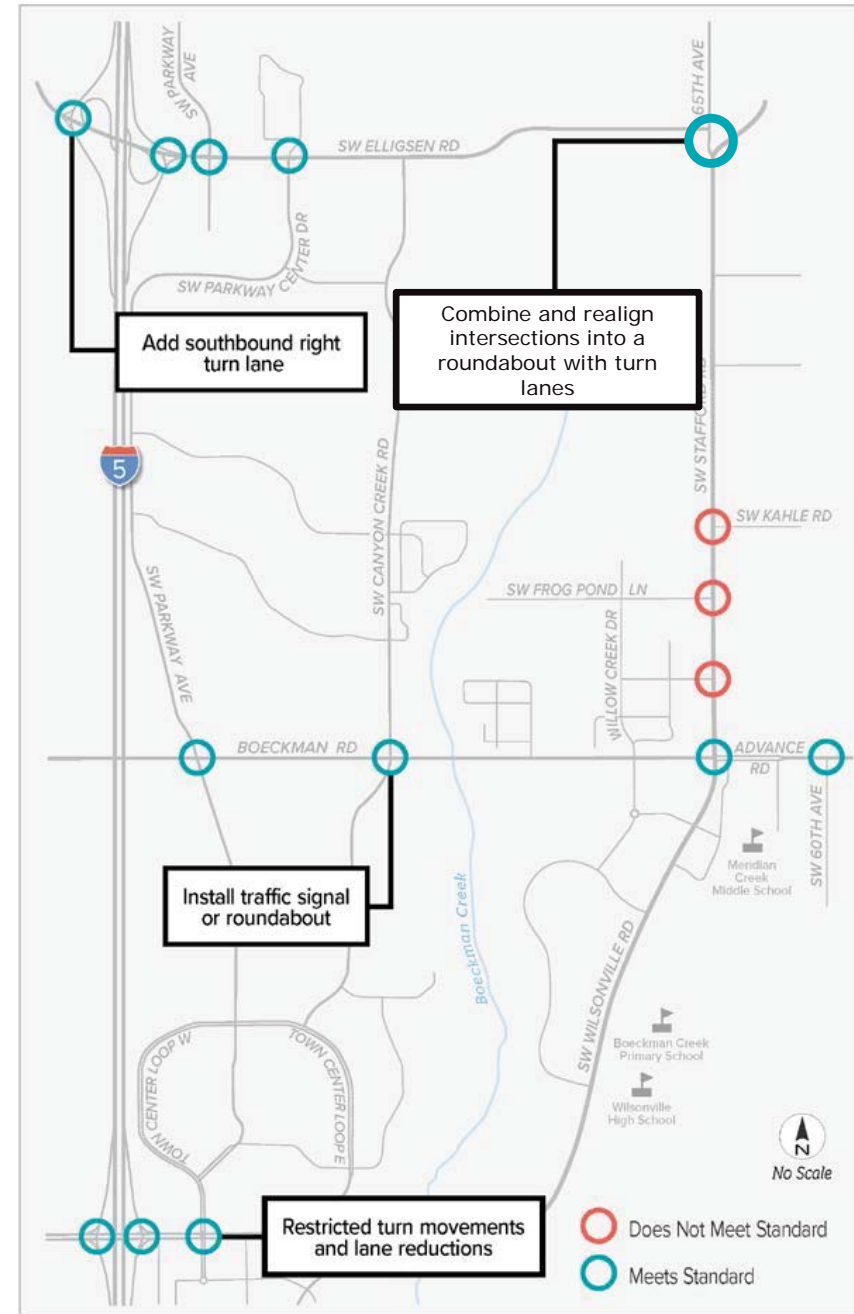
- Does Not Meet Standard
- Meets Standard

2022 Existing Conditions

- Stafford Rd/65th Avenue fails to meet City standard as two-way stop

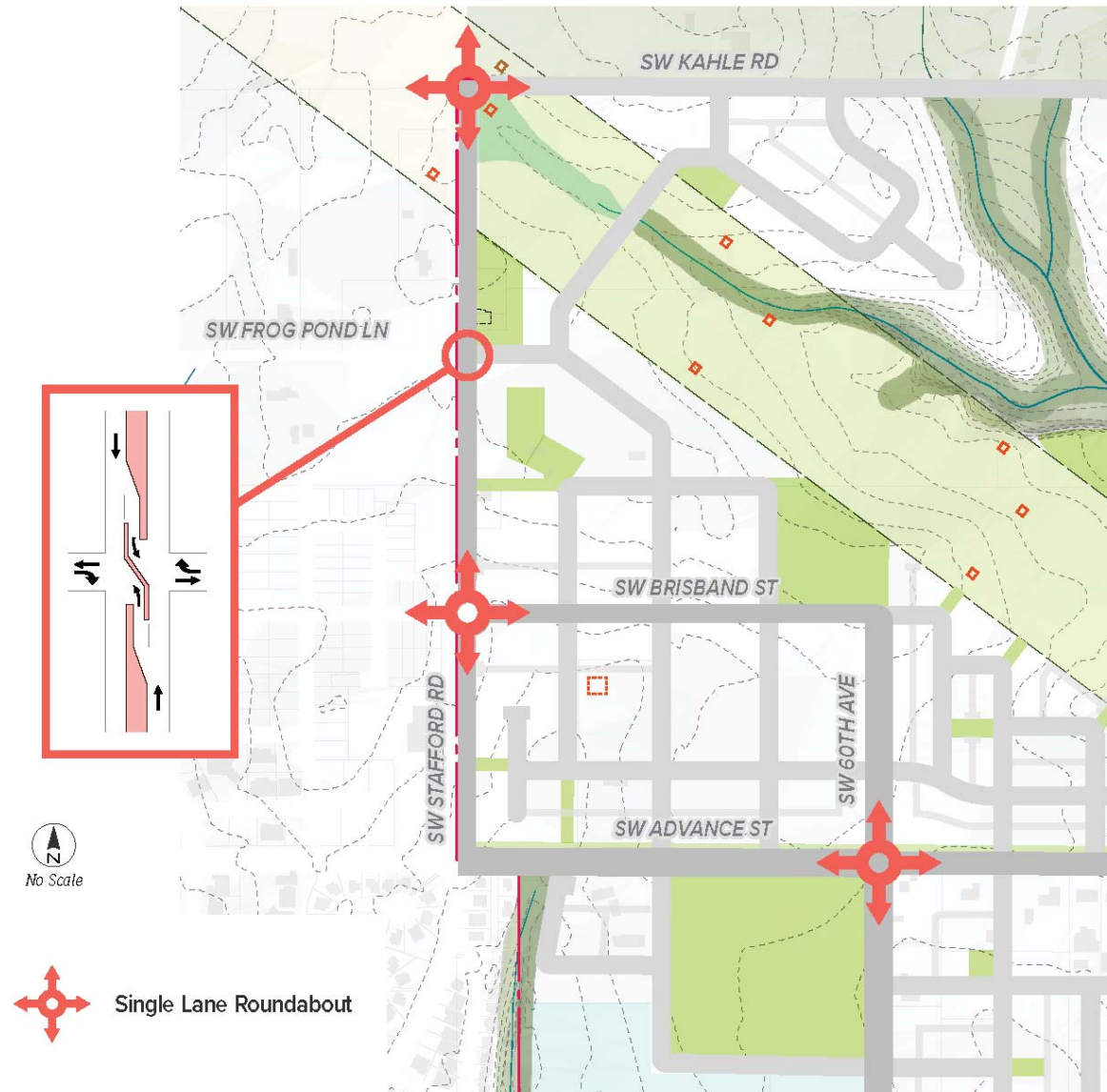
2040 Baseline and Anticipated Build Conditions

- Assume TSP Projects shown
- Standard is not met at the following intersections as two-way stop-controlled with left-turn lanes
 - **Kahle Road**
 - **Frog Pond Lane**
 - **Brisband Street**

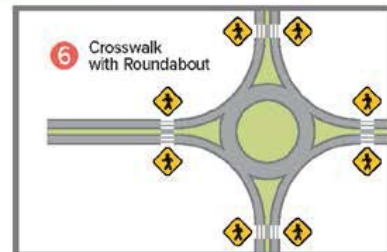
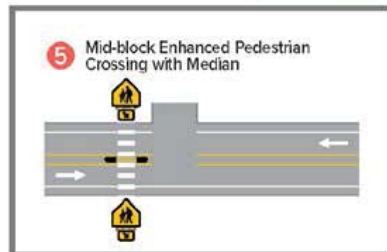
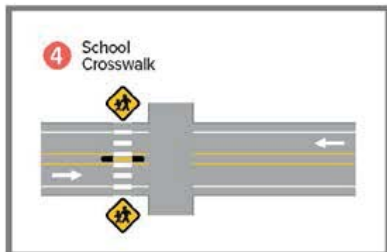


INTERSECTION IMPROVEMENTS

- **Stafford Road/Kahle Road:**
Single-lane roundabout
- **Stafford Road/Frog Pond Lane:**
Median with minor street restrictions
- **Stafford Road/Brisband Street:**
Single-lane roundabout
- **Advance Road/SW 60th Avenue:**
Single-lane roundabout for safety and as a transition point between rural and residential areas



PEDESTRIAN AND BICYCLE TREATMENTS



- 7 SW Stafford Rd path/track/lane
- 8 SW Advance St path/track/lane
- # Pedestrian Treatments
- Multiuse Path, Cycle Track, or Protected Bike Lanes
- Enhanced Crosswalk
- Crosswalk School Crosswalk



Water

DISTRIBUTION

New 12 inch backbone under planned street system

Connections to existing system:

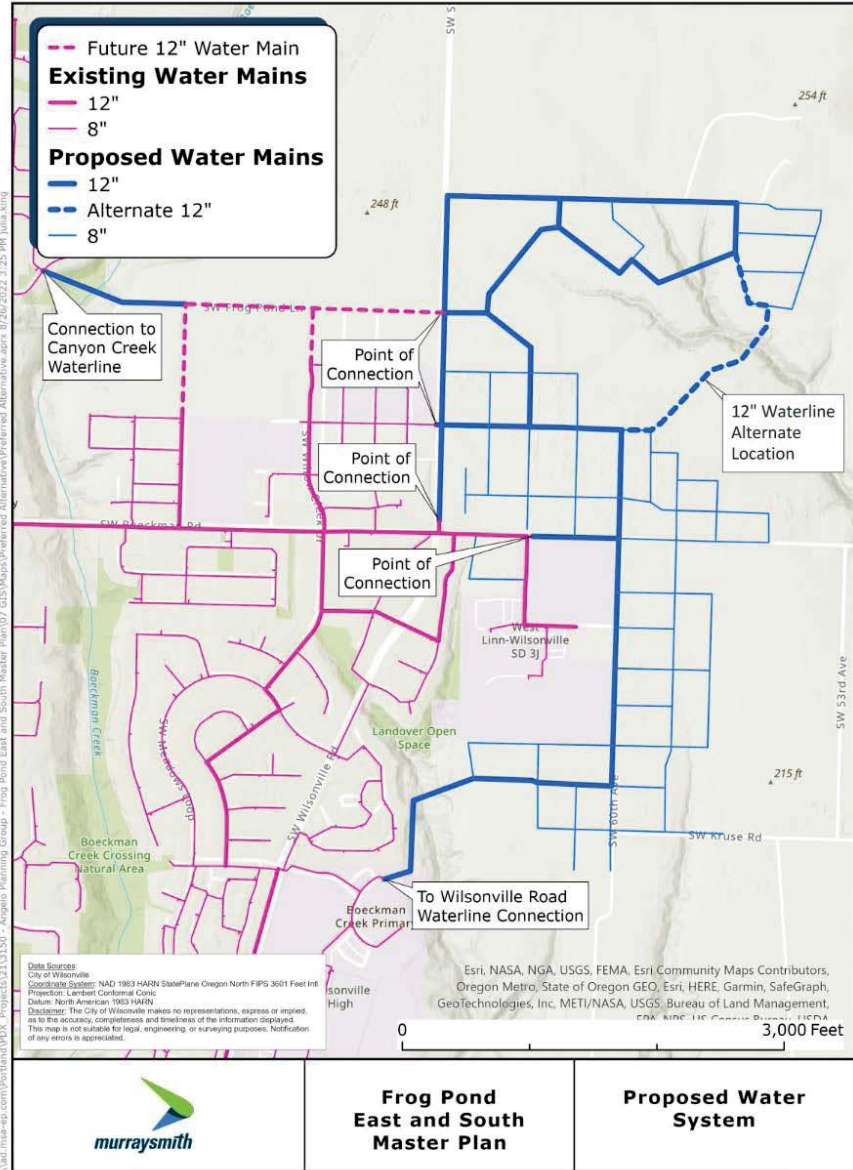
- Boeckman/Stafford
- Frog Pond West
- Boeckman Creek Crossing (FP East)
- Meridian Creek Crossing (FP South)

STORAGE

General system deficiency identified in 2012

West Side Tank-scheduled completion 2025

Figure 1 – Preliminary Water System Layout



Wastewater

LOCAL SERVICE

Frog Pond East

- Primarily gravity
- 3 small lift stations needed

Frog Pond South

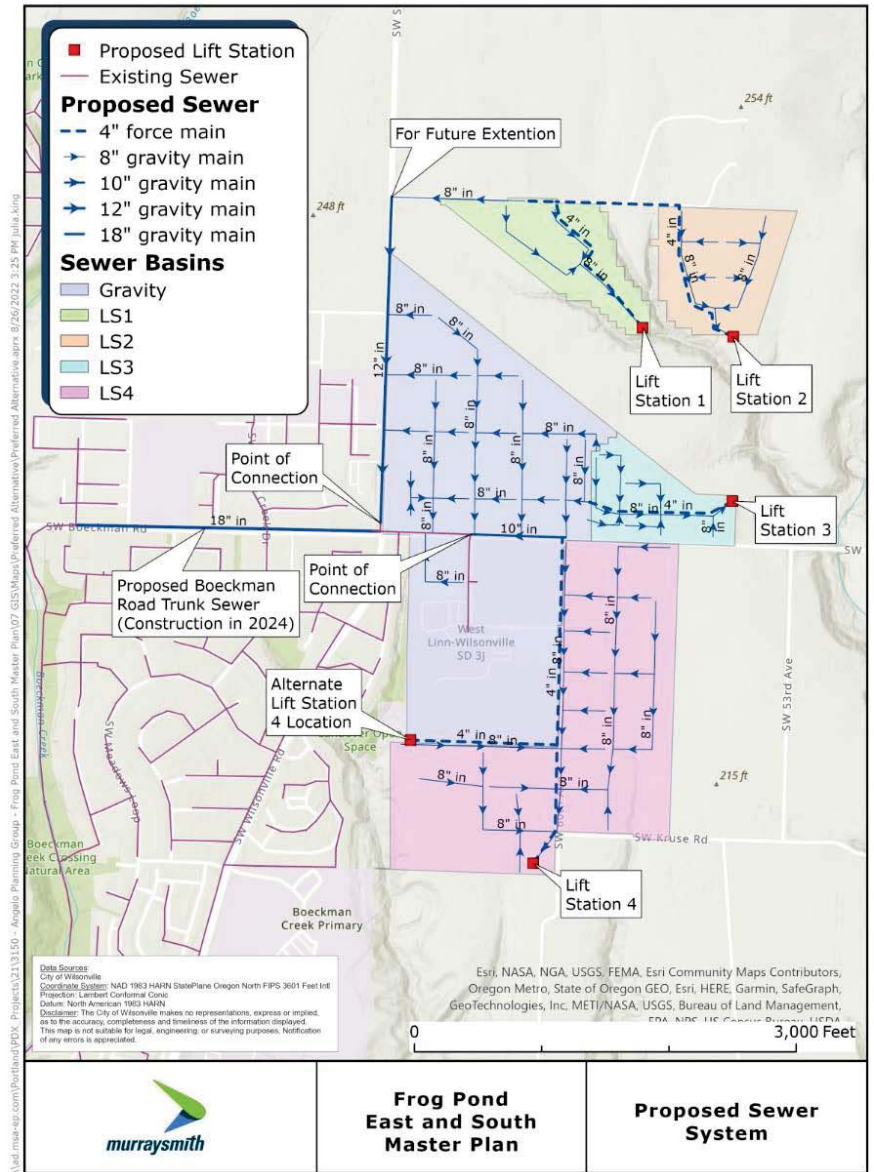
- Lift station required

OFFSITE CIP PROJECTS

Boeckman Road Trunk Sewer-scheduled completion 2024

Boeckman Creek Interceptor-schedule completion 2025

Figure 2 – Preliminary Wastewater System Layout



Infrastructure Questions and Comments



Upcoming Timeline

- Oct 17 – CC work session residential and commercial policy
- Oct 19 – PC work session entire draft Master Plan
- November 7 – CC work session entire draft Master Plan
- Nov 16 – PC public hearing on Master Plan
- Dec 5 – CC public hearing on Master Plan
- Dec 19 – CC 2nd reading
- 2023 – development code and other implementation



City Council Meeting Action Minutes
October 3, 2022

City Council members present included:

Mayor Fitzgerald
Council President Akervall
Councilor Lehan
Councilor West
Councilor Linville

Ryan Adams, Assistant City Attorney
Jeanna Troha, Assistant City Manager
Zoe Mombert, Assistant to the City Manager
Mark Ottenad, Public/Government Affairs Director
Georgia McAlister, Associate Planner
Zach Weigel, City Engineer
Andrea Villagrana, Human Resource Manager
Delora Kerber, Public Works Director
Steve Gering, Industrial Pretreatment Coordinator
Dan Pauly, Planning Manager
Kerry Rappold, Natural Resources Manager

Staff present included:

Bryan Cosgrove, City Manager
Amanda Guile-Hinman, City Attorney
Kimberly Veliz, City Recorder

AGENDA ITEM	ACTIONS
WORK SESSION	START: 5:00 p.m.
A. Frog Pond East and South Master Plan	Council heard a presentation on Frog Pond East and South and provided feedback.
B. Review of the draft Solid Waste Collection Rate Report, September 2022	Staff presented on Resolution No. 3004, which adopts findings and recommendations of the 2022 Solid Waste Collection Rate Report and Rate Schedule. The resolution was scheduled for City Council consideration on November 7, 2022.
C. Local Discharge Limits Development	Staff presented on Resolution No. 2994, which establishes local discharge limitations to control conventional, non-conventional, and toxic pollutant discharges from non-domestic industrial users of the City of Wilsonville sanitary sewer system and repealing Resolution Nos. 1267, 1504 and 1888.
REGULAR MEETING	
<u>Mayor's Business</u>	
A. Upcoming Meetings	Upcoming meetings were announced by the Mayor as well as the regional meetings she attended on behalf of the City.
Communications	
A. PGE Green Power Energy Report for Wilsonville	Portland General Electric (PGE) representative detailed how voluntary participation in PGE's "Green Future" program by the City and greater community is supporting regional renewable energy initiatives.

<p>B. Boones Ferry Primary (BFP) Stormwater CEP Project Update</p> <p>C. Boeckman Creek Primary Watershed CEP Update</p>	<p>Staff presented on Community Enhancement Program projects completed in collaboration with students at Boones Ferry Primary and Boeckman Creek Primary.</p>
<p><u>Consent Agenda</u></p> <p>A. Resolution No. 2994 A Resolution Of The City Of Wilsonville Establishing Local Discharge Limitations To Control Conventional, Non-Conventional, And Toxic Pollutant Discharges From Non-Domestic Industrial Users Of The City Of Wilsonville Sanitary Sewer System And Repealing Resolution Nos. 1267, 1504 And 1888.</p> <p>B. Minutes of the September 19, 2022 City Council Meeting.</p>	<p>The Consent Agenda was approved 5-0.</p>
<p><u>New Business</u></p> <p>A. None.</p>	
<p><u>Continuing Business</u></p> <p>A. Ordinance No. 868 An Ordinance Of The City Of Wilsonville Annexing Approximately 4.92 Acres Of Property Located North Of SW Frog Pond Lane At 7315 SW Frog Pond Lane For Development Of A 12-Lot Residential Subdivision.</p> <p>B. Ordinance No. 869 An Ordinance Of The City Of Wilsonville Approving A Zone Map Amendment From The Clackamas County Rural Residential Farm Forest 5-Acre (RRFF-5) Zone To The Residential Neighborhood (RN) Zone On Approximately 4.07 Acres Located South Of SW Frog Pond Lane At 7314 SW Frog Pond Lane For Development Of A 12-Lot Residential Subdivision.</p>	<p>Ordinance No. 868 was adopted on second reading by a vote of 5-0.</p> <p>Ordinance No. 869 was adopted on second reading by a vote of 5-0.</p>
<p><u>Public Hearing</u></p> <p>A. None.</p>	
<p><u>City Manager's Business</u></p>	<p>Mentioned the Nature Park and the employees whom were instrumental in creating it won an Oregon State Parks award.</p> <p>Explained a tree expert from Oregon State would be looking at the Kinsman Oak in the next few weeks.</p>
<p><u>Legal Business</u></p>	<p>No report.</p>
<p>ADJOURN</p>	<p>8:25 p.m.</p>



PLANNING COMMISSION

WEDNESDAY, SEPTEMBER 28, 2022

WORK SESSION

1. Frog Pond East and South Master Plan (Pauly) (120 minutes)



PLANNING COMMISSION AGENDA

September 28, 2022 at 6:00 PM

Wilsonville City Hall & Remote Video Conferencing

PARTICIPANTS MAY ATTEND THE MEETING AT:

City Hall, 29799 SW Town Center Loop East, Wilsonville, Oregon

YouTube: <https://youtube.com/c/CityofWilsonvilleOR>

Zoom: <https://us02web.zoom.us/j/87232181012>

TO PROVIDE PUBLIC TESTIMONY:

Individuals may submit a testimony card online:

<https://www.ci.wilsonville.or.us/PC-SpeakerCard>

or via email to Dan Pauly: Pauly@ci.wilsonville.or.us, 503-570-1536

by 2:00 PM on the date of the meeting noting the agenda item

for which testimony is being submitted in the subject line.

CALL TO ORDER - ROLL CALL [6:00 PM]

Olive Gallagher
Jennifer Willard
Kamran Mesbah
Ron Heberlein

Breanne Tusinski
Aaron Woods
Andrew Karr

PLEDGE OF ALLEGIANCE

CITIZEN INPUT

This is the time that citizens have the opportunity to address the Planning Commission regarding any item that is not already scheduled for a formal Public Hearing tonight. Therefore, if any member of the audience would like to speak about any Work Session item or any other matter of concern, please raise your hand so that we may hear from you now.

WORK SESSION [6:05 PM]

1. Frog Pond East and South Master Plan (Pauly)(120 Minutes)

ADJOURN [8:05 PM]

Time frames for agenda items are not time certain (i.e. agenda items may be considered earlier than indicated). The City will endeavor to provide the following services, without cost, if requested at least 48 hours prior to the meeting by contacting Mandi Simmons, Administrative Assistant at 503-682-4960: assistive listening devices (ALD), sign language interpreter, and/or bilingual interpreter. Those who need

accessibility assistance can contact the City by phone through the Federal Information Relay Service at 1-800-877-8339 for TTY/Voice communication.

Habr  interpretes disponibles para aqu llas personas que no hablan Ingl s, previo acuerdo.
Comun quese al 503-682-4960.

Frog Pond East and South Land Use and Housing Policy Work Session

Wilsonville Planning Commission
September 28, 2022



WILSONVILLE
OREGON

Tonight's Goals

- Master Plan policies to guide development code work
 - Residential
 - Commercial



Looking Forward to Development Code

- Clear and objective standards
- Discretionary alternative



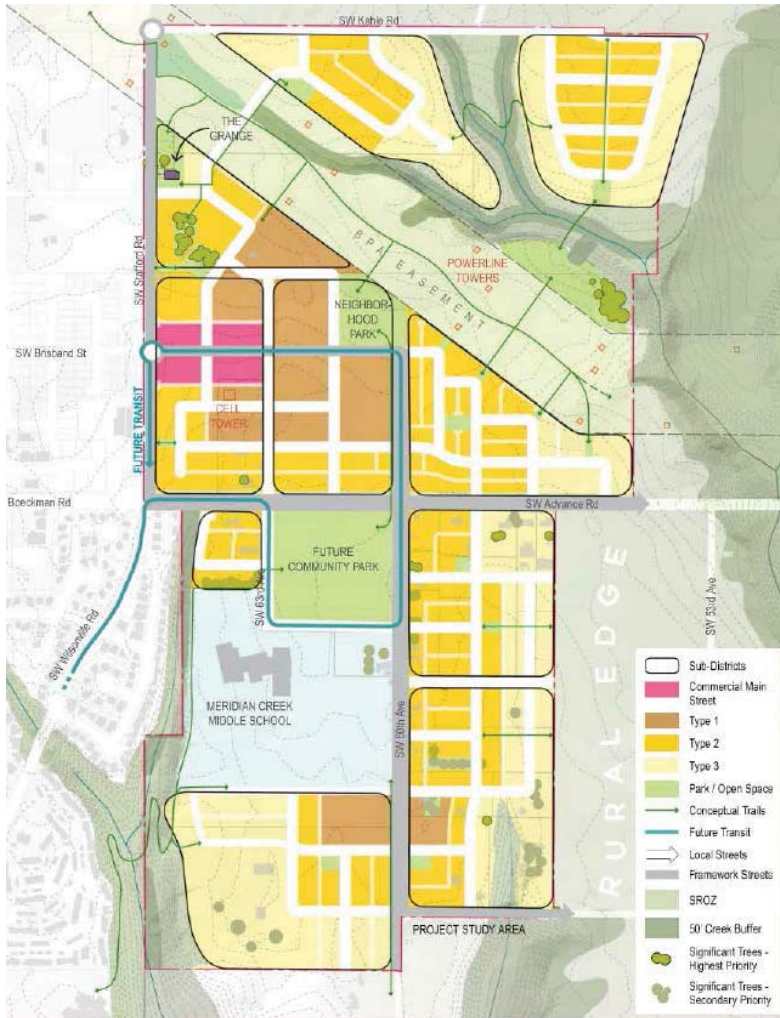
Where we are in the process

- Tonight – residential and commercial policy
- Oct 19 – review draft Master Plan
- Nov 16 – public hearing on Master Plan

- 2023 – development code and other implementation



What do the colors on this map mean?



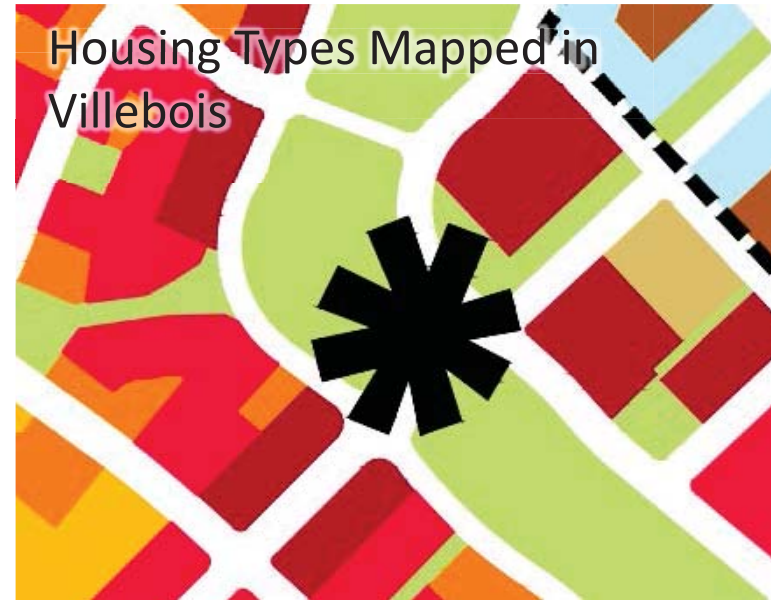
- Colors traditionally and in other areas of Wilsonville?
 - Type of units (i.e. single-family homes vs multi-family)
 - Density (number of units per acre)
- What do the colors mean on this map?
 - The look and feel or **urban form**
 - Building height, building width, distance between buildings, distance of building from street, minimum lot size



Scales of Variety in Frog Pond E+S



Large/Broad Scale
Zoomed Out
(urban forms)
Mapped



Granular Scale
Zoomed In
(housing type)
Development standards
(not mapped)



Residential Policies



Residential Policies

- Policies to Confirm
 - Permit the full spectrum of housing types
 - Require minimum densities
 - Use Type 1, Type 2, and Type 3 urban forms
- Policy for Deeper Dive
 - Standards for "fine-grained" variety



Allow Full Spectrum of Housing Types

- Single-Family Dwelling Units
- Townhouses
- Duplex
- Triplex and quadplex
- Cluster housing (including cottages and tiny homes)
- Multiple-Family Dwelling Units
- Cohousing
- Manufactured homes
- ADU's (including tiny homes)



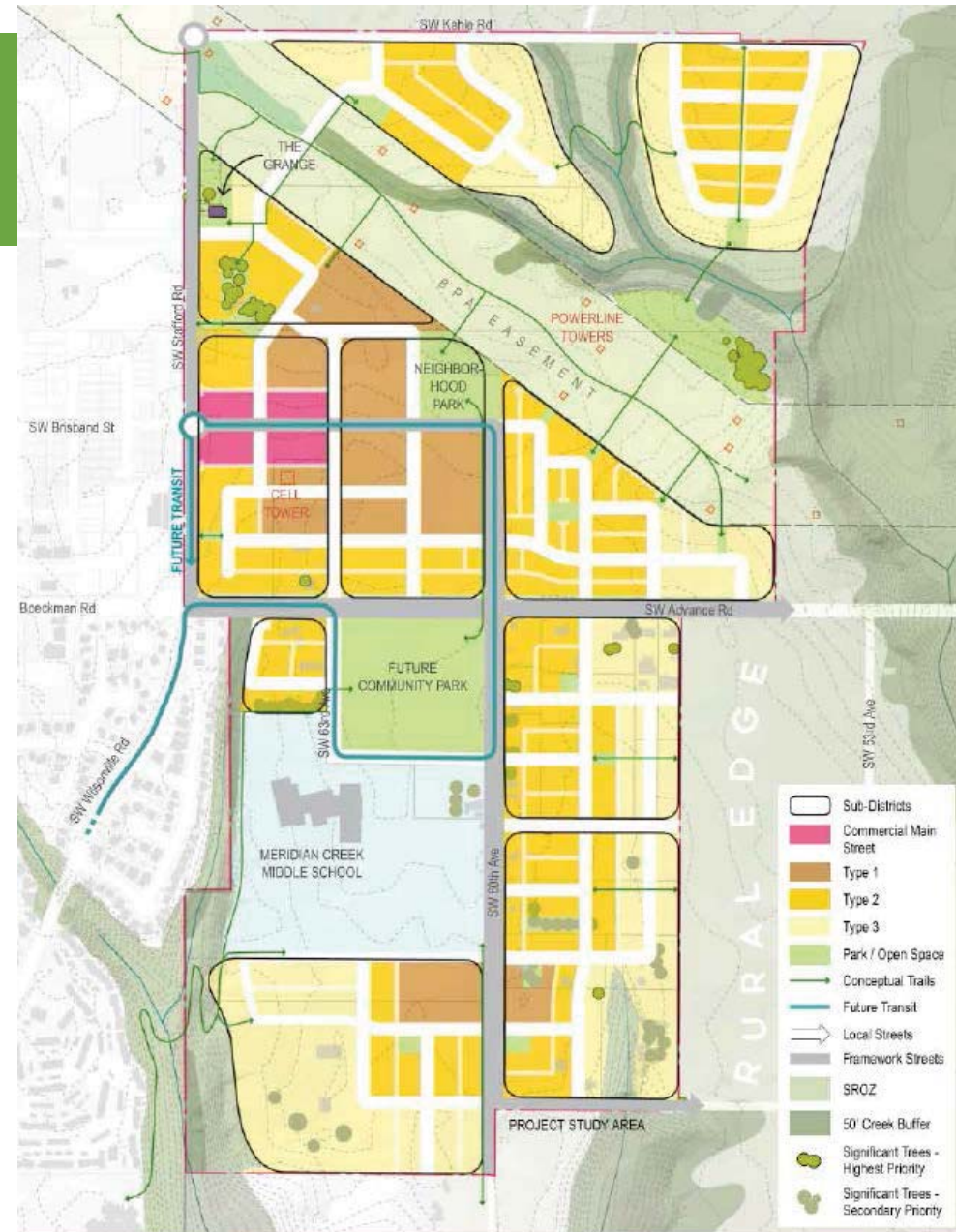
Require Minimum Density

- Meet expectations of plan
- Infrastructure design and funding
- Regulatory requirements



3 Urban Forms

- Establish look and feel standards:
 - Building bulk
 - Height
 - Width
 - Setbacks
 - Between buildings
 - From streets
 - Minimum lot size
 - Lot coverage



Questions/Discussion

- PC feedback on:
 - Permit the full spectrum of housing types
 - Require minimum densities
 - Use Type 1, Type 2, and Type 3 urban forms

Housing Variety Policy



Purpose of the Variety Policy

- Policy implementation of the Master Plan's three key intended outcomes:
 - Variety throughout, including accessible options
 - Integration of affordable choices
 - Transect



Three Steps to Variety Policy

A Draft Approach

1. Categorize housing unit types
2. Establish minimum categories per subdistrict (or property)
3. Regulate percentages of categories
 - Maximum net area for a category
 - Minimum net area for target categories
 - Minimum middle housing mix

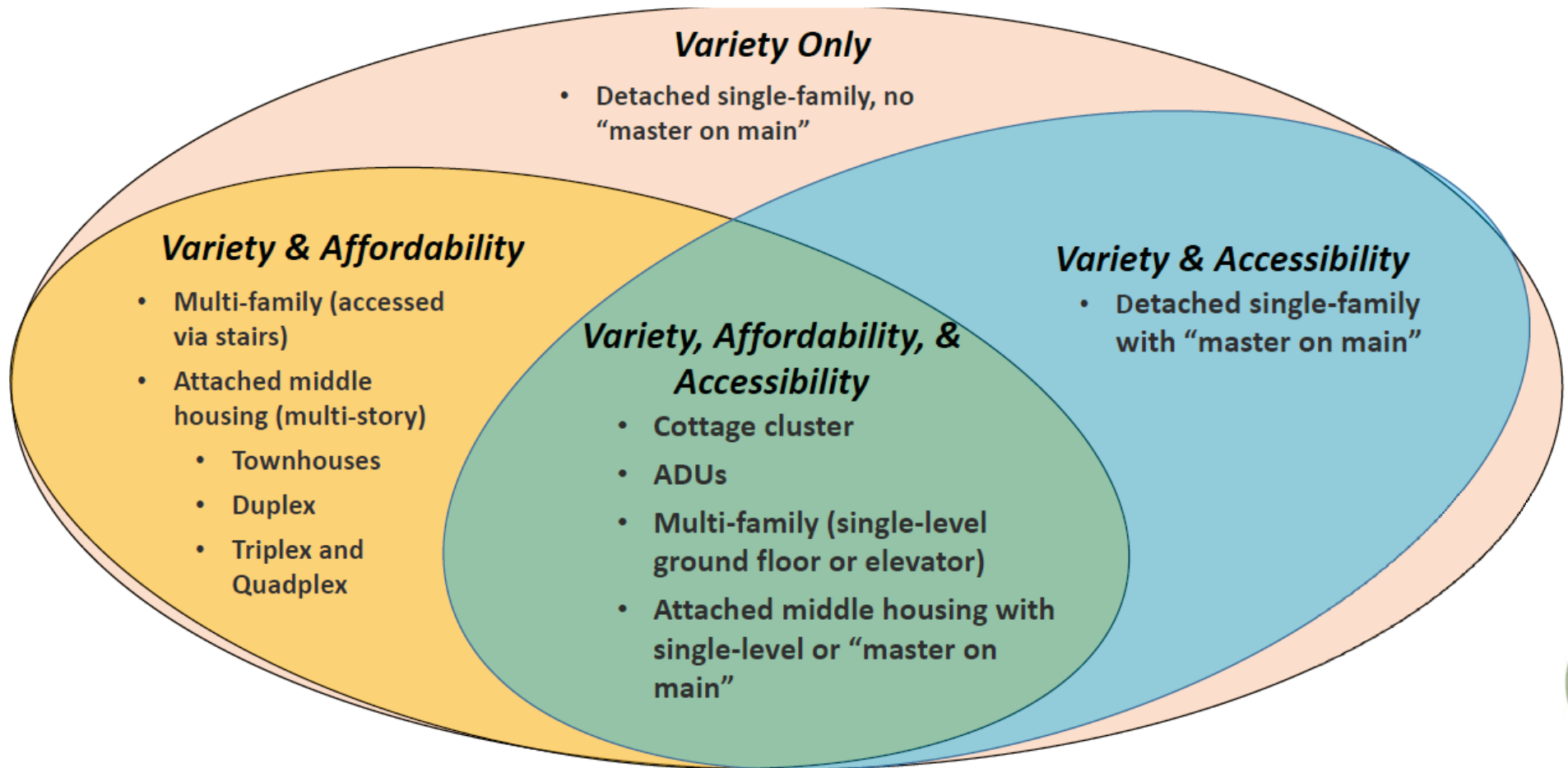


Step 1: Categorize Housing Unit Types

- Why?
 - To provide “buckets” of housing types to choose from in meeting variety standards
- How?
 - Considerations:
 - Market rate affordability in the 80% to 120% MFI range
 - Accessibility (adaptable single-level)
 - Housing choices/variety generally

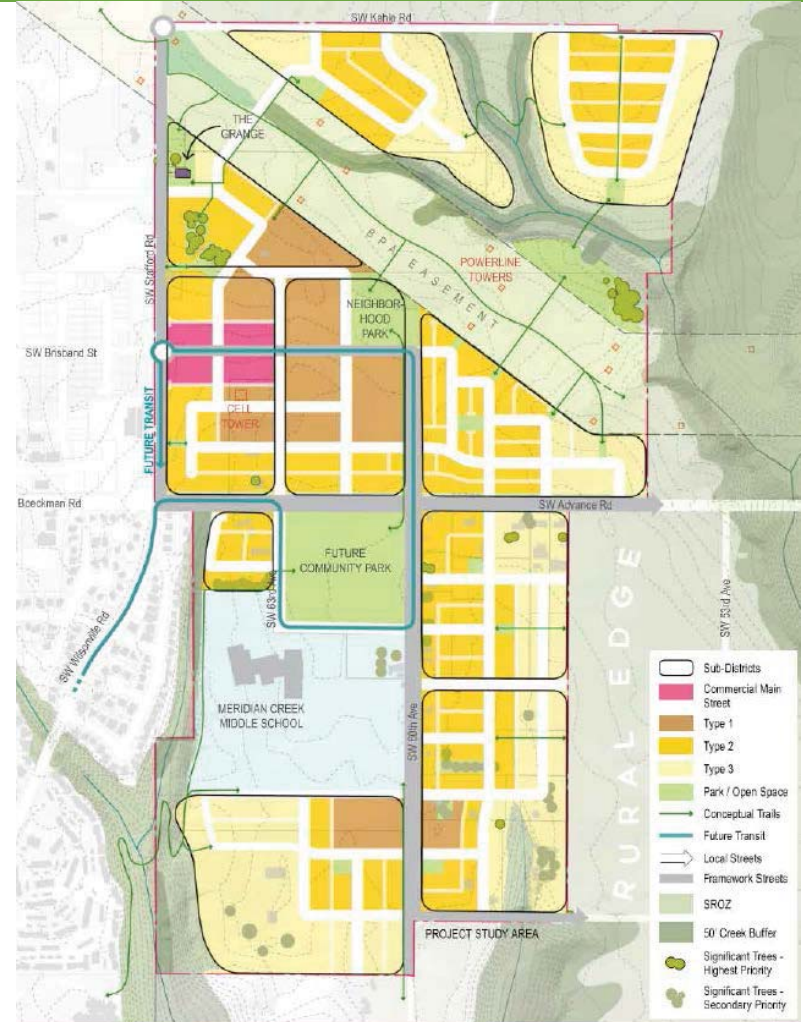


A Framework for Housing Categories



Step 2: Minimum Categories Per Area

- Why:
 - To ensure variety
 - For inclusion of target types (e.g. middle housing)
- How:
 - Smaller properties provide fewer categories
 - Larger properties provide more categories
 - Consider X categories per subdistrict
- Standards to be set with the code



Step 3A: Maximum Net Area for a Category

- Why: So a given category does not dominate
- How: Set a clear and objective maximum*
 - 50% seems to be default answer
 - Affordable Housing Analysis
 - Easily understandable
 - Make 40-60% in Comp Plan to allow flexibility

* *Allow flexibility in discretionary review*



Step 3B: Minimum Net Area for Target Categories

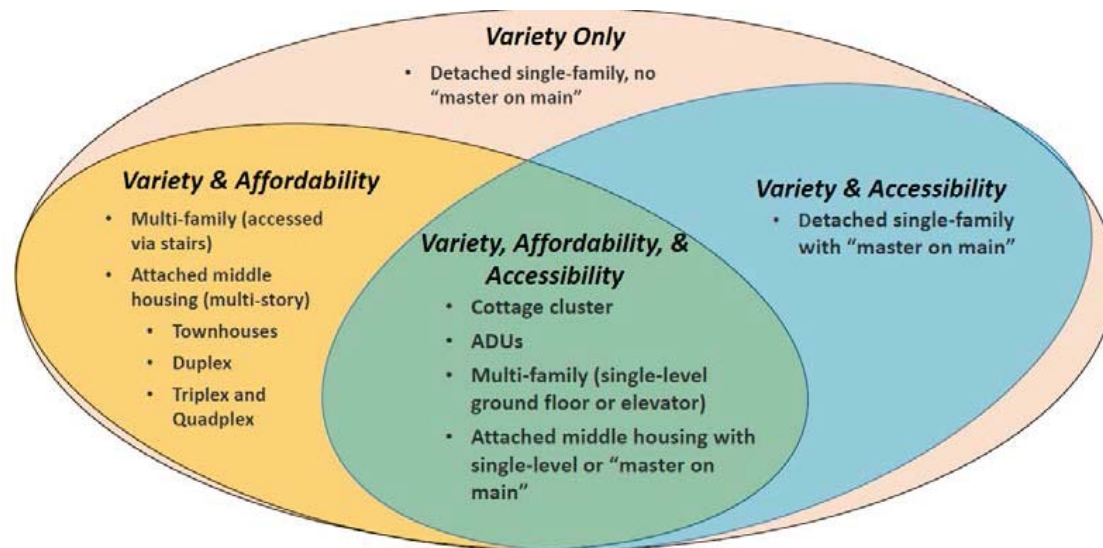
- Why:
 - Achieve affordability and accessibility
 - Ensure meaningful amounts are provided
 - Be responsive to community input
- How:
 - Set a clear and objective minimum*
for certain target housing categories

* Allow flexibility in discretionary review



Step 3B: Regulating Percentage: Minimums

- What percent to require?
 - Suggest a minimum approx. 10 - 20% of net area for any category
 - Market feasibility important



Step 3C: Minimum Middle Housing Mix

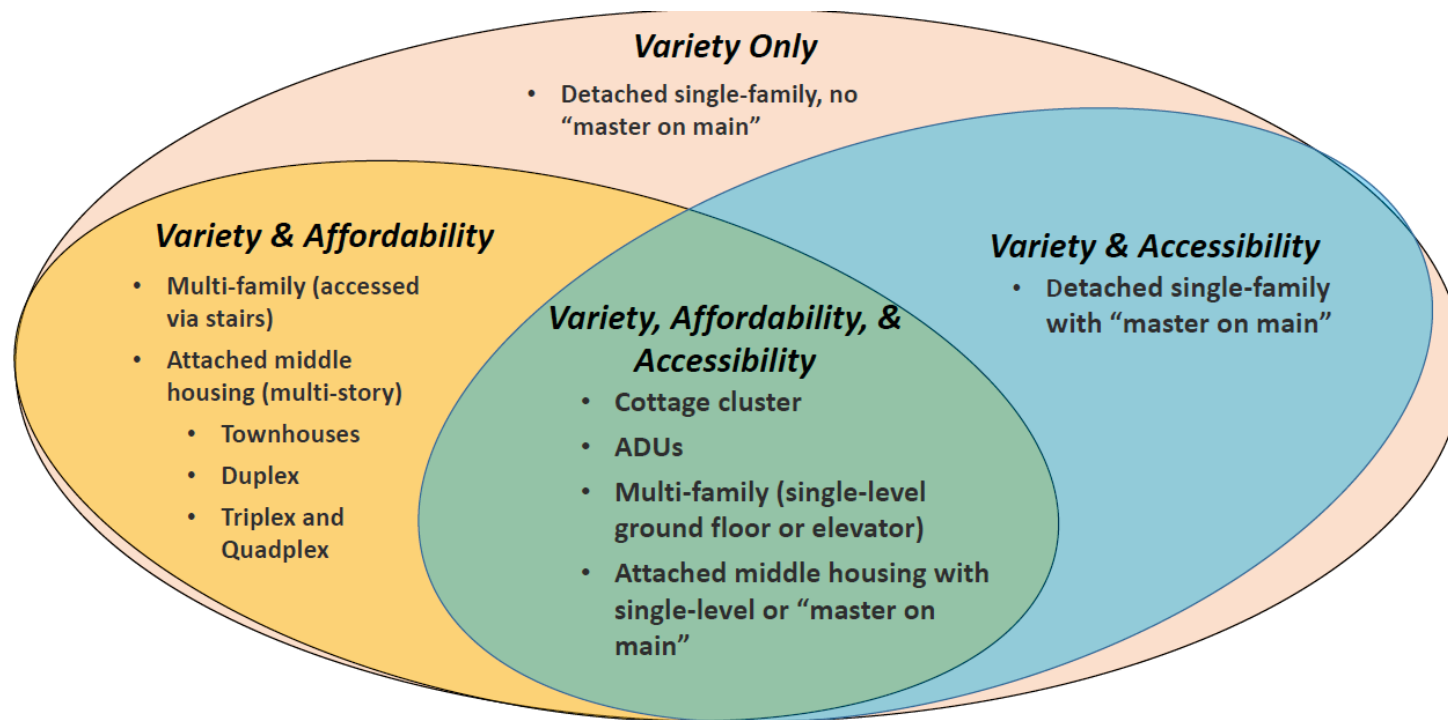
- Why:
 - Council's goal of affordable home ownership
 - Tends to be "for sale" more than multi-family
 - "Missing" from past development
 - Only approx. 10% of current Wilsonville housing
 - Provide opportunity to meet unmet/future demand
- How:
 - Set a clear and objective minimum for middle housing types



Variety Policy Guidance Requested

What is the Commission's feedback on:

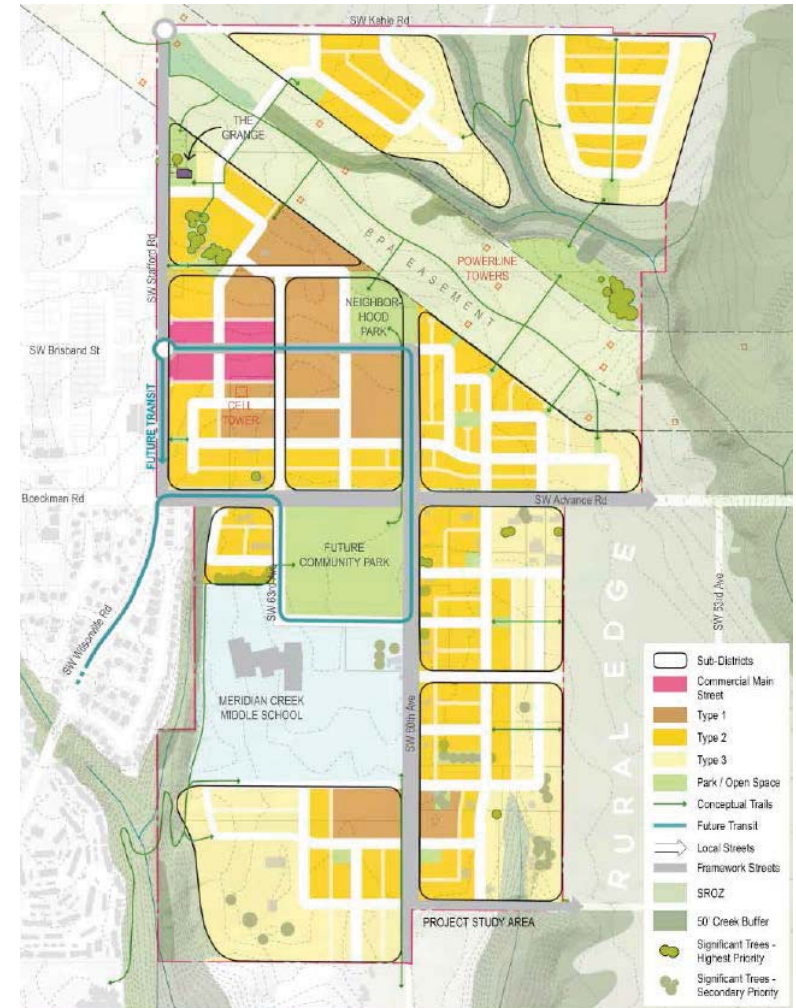
- Housing categories as a tool for variety, and the draft framework for categories?



Variety Policy Guidance Requested

What is the Commission's feedback on:

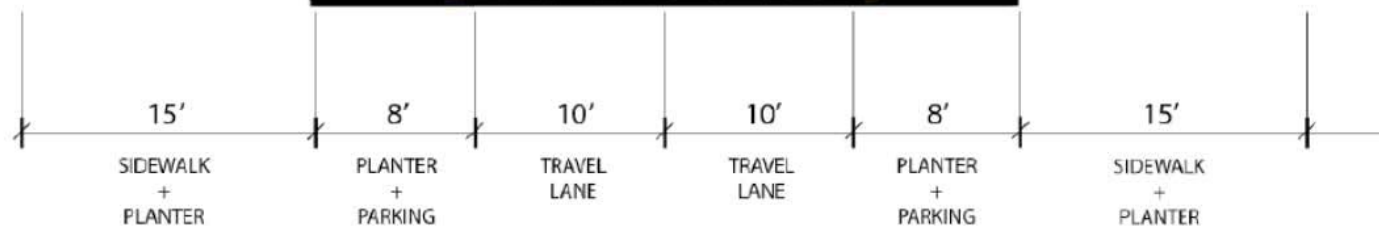
- Establishing a minimum number of categories per subdistrict (or property)?
 - *Example: 3*
- Regulating percentages of categories:
 - a. Maximum net area per category?
 - *Example: 50%*
 - b. Minimum net area for target categories?
 - *Example: 10 - 20%*
 - c. Minimum middle housing mix?
 - *Example: 2 middle housing types*



Commercial Main Street



Commercial Main Street Zoning



Commercial Main Street Zoning

- Should the City be flexible to allow commercial or vertical mixed use ?
- Should the City base the design standards on Town Center main street code ?



Next Steps

- October 19 work session:
 - Follow up on housing policy
 - Review draft Master Plan report



PLANNING COMMISSION MEETING MINUTES

September 28, 2022 at 6:00 PM

City Hall Council Chambers & Remote Video Conferencing

Draft PC Minutes are to be reviewed and approved at the November 16, 2022 PC Meeting.

CALL TO ORDER - ROLL CALL

A regular meeting of the Wilsonville Planning Commission was held at City Hall beginning at 6:00 p.m. on Wednesday, September 28, 2022. Chair Heberlein called the meeting to order at 6:02 p.m., followed by roll call. Those present:

Planning Commission: Ron Heberlein, Kamran Mesbah Andrew Karr, and Breanne Tusinski. Jennifer Willard, Aaron Woods, Olive Gallagher were absent.

City Staff: Miranda Bateschell, Daniel Pauly, Georgia McAlister.

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was recited.

CITIZEN'S INPUT

This is an opportunity for visitors to address the Planning Commission on items not on the agenda. There was none at this time.

Chair Heberlein confirmed the Planning Commission would take public comment after the presentation.

WORK SESSION

1. Frog Pond East and South Master Plan (Pauly)

Dan Pauly, Planning Manager, introduced the work session, noting tonight's discussion would be focused on land use, particularly housing policy, and not going through detailed tables or the actual text of the Development Code, which would come in due time. He began presenting the continuing work on the Frog Pond East and South Master Plan via PowerPoint, noting the immediate goal for tonight's work session was to put implementation policies into the Master Plan document to guide Development Code work for both residential and commercial pieces. The project team sought clear guidance from the Commission on the language that should be in the Master Plan to direct what should happen with the Development Code. Tonight's discussion would eventually influence the clear and objective standards needed for the Development Code, as well as the guidelines, purpose statements, and intents that would be crucial if developers elected to go through the discretionary review alternative, which the City allowed.

- He highlighted the timeline of the Master Plan process, noting the public hearing would be held on November 16th. The Commission would focus on the Development Code the first half of 2023, and other implementation policies, such as the details of infrastructure funding mechanisms, as well as some public works standards around stormwater and other detailed standards.
- He noted the current colors shown on the map on Slide 5 did not represent different types of units or establish density, but represented the urban form, the look and feel of the area, the distance between buildings and from the streets, minimum lot size etc. In the end, the Zoning Map would show all these as one color, since it would be zoned the same.

Joe Dills, MIG, noted the clear and objective standards requirement in State law and being reinforced by the courts had a new emphasis, so tonight's policy discussion would focus on directing clear and objective standards by going from the policy intent to some of the potential details, but as stated, a discretionary review alternative would be in between and provide flexibility. Some of the specificity in tonight's presentation had that particular lens of thinking all the way through the clear and objective standards.

Miranda Bateschell, Planning Director, noted the project team had a number of questions to get input from the Commission, so tonight would involve much more dialogue and discussion than presentation. The Commission's feedback would help the project team get moving on what was needed in the Master Plan and also to bring something back to the Commission in the near future for the Development Code. She thanked the Commission for meeting a second time this month, knowing two meetings were also scheduled for next month.

Mr. Dills continued with the PowerPoint presentation, highlighting the Residential Policies the project team sought to confirm and receive further feedback on from the Commission. Key concepts reviewed included housing types, minimum density requirements, urban form standards, and how to achieve fine-grained variety standards.

The Commission provided feedback on the Residential Policies as follows with responses to questions by project team as noted:

- The full spectrum of housing being permitted for all the areas within Frog Pond East and South going forward should be shown as it would help realize the intent in planning the area.
- **Mr. Dills** understood manufactured housing was required to be allowed in all residential zones, but perhaps, only in single-family residential zones. The law passed in 1975.
 - **Mr. Pauly** added the City could still apply architectural standards, so it would blend in. He noted cottage cluster housing could be pre-fab homes.
- **Mr. Dills** explained a definition for cohousing was written in the Development Code as part of the Frog Pond Area Plan work. Cohousing was generally where there were shared facilities in a master planned unit of land. He was uncertain if not having individual lots was required, however, the cohousing projects built in the Portland area were one ownership, individual residential units, either attached or detached, with common facilities for cooking or communal rooms, etc.
- It was highly unlikely the full spectrum of housing types would be seen in the East and South, regardless of the City having them available, since it was still up to the builder to determine what they wanted. (Slide 9)
 - **Mr. Pauly** agreed, adding the project team would talk more about that.

- The financial or economic feasibility of some of the housing types was not going to pencil out, and the type of housing was being left to the developer; however, the project team had some analysis of what would be feasible.
- **Mr. Pauly** said that was right, noting cohousing had been explored for one property in Frog Pond West, but it did not get built. He expected all the other housing types could be built, though he was uncertain manufactured homes would be what the Commission had in mind. He could see a manufactured cottage or something like that easily coming into the mix, or alternative building methods. The line between townhouses, duplexes, triplexes, and quadplexes was kind of gray with some of the other laws at play, but for all intents and purposes, they would likely be built. Cluster housing cottages were a probability, and definitely multi-family and ADUs.
- He confirmed the City was allowing all of the housing types and that some had a higher probability of being built than others, so the housing types would not likely be evenly distributed. He noted the requirements would be categorized so there would be multiple ways to meet one requirement with different unit types.
- Minimum densities should be required and using the urban forms was supported, though the devil would be in the details as to how to make that happen.

Mr. Dills continued the PowerPoint presentation, reviewing housing variety policy, which was new, noting its purpose and the key intended outcomes of its implementation with additional comments from Mr. Pauly. The three-step approach for delivering housing variety was described. The project team had had a good discussion about whether to incentivize versus require the percentages of housing categories and, being doubtful that suggesting or incentivizing would result in housing variety, the project team received guidance to include some minimum category requirements.

Discussion and feedback from the Planning Commission was as follows with responses by project team to Commissioner questions as noted:

- The allowable housing types (Slide 9) included manufactured and cohousing, but neither were included in the Venn diagram. (Slide 17)
 - **Mr. Pauly** noted there were many different ways to classify housing types. Manufactured housing could be an ADU, cottage cluster, detached, single-level home, etc. It was allowed, but that was not how it was categorized to get at the housing variety policies; same for cohousing homes.
 - **Mr. Dills** added they would have to have a home in some category. He agreed manufactured and cohousing would need to be added as the full spectrum of housing varieties was represented in the categories.
- As housing types, manufactured and cohousing should be categorized as well.
 - **Mr. Pauly** believed cohousing fits into that; however, manufactured homes could be several different unit types.
- Putting a note at the bottom was suggested if there were exclusions. If there was a reason why a type was not put into the categories, it should be noted, such as “Manufactured homes could be in any of the categories”.
- **Mr. Pauly** confirmed the specific definition of manufactured housing was based on State statute and rules.

- The components of a house could be manufactured in a specific design in a factory and assembled on site. It was not mobile homes like manufactured housing used to be, just stamping out the same thing. These days, manufactured housing was very high-quality.
 - **Mr. Pauly** added that technology could change and improve during the lifetime of the Master Plan.
- If including the definition of manufactured housing, the Master Plan would be saying that new technology was available to all categories, which would be a good asterisk or footnote. Cohousing needed to have a home.
 - Including a reference to the State definition or having a definition in the Master Plan for both a cohousing and manufactured home would be helpful as it was a more ambiguous housing type.
 - **Mr. Pauly** noted a lot of the definitions came from the Development Code and suggested adding a glossary in the Master Plan indicating where the definitions came from.
- **Mr. Dills** noted the point was very well-taken about modern-day practices and manufacturing components to homes, suggesting they look at the definitions through that current lens.
 - He offered another policy perspective given the market was strong at a couple of ends of the spectrum. The townhouse, multi-family, detached single-family, ends of the spectrum were strong, and if the project team knew those were likely to be delivered in Frog Pond East and South, perhaps the system should be set up so the requirements get at a little more than that, which was where the green and blue bubbles came in and the Commission's choices about how many categories get required in the Development Code. (Slide 17)
 - **Mr. Pauly** noted the requirements had to have a market feasibility reality to it as well, so that how much was required was reasonably absorbable by the market.
- If the City strongly believed a housing type was needed ~~there~~ in a particular area and there was no demand for it, it might be okay for the City to wait for that property to develop. The City did not have to build it now, if it was not the right product or the right time.
 - **Ms. Bateschell** agreed that was a policy choice the Commission should discuss. From what she had heard, it was not synonymous demand and market feasibility either, as there was a lot more to what the market was producing that was not just about demand. Part of that was ~~that~~ some of the green types had been less traditional or traditional at a certain point in history, but not currently. There were also market economies or scales of economies that developers took advantage of that could play into their market feasibility, but not necessarily equate to the fact that there was no demand for certain housing types; there likely was demand for these housing types.
- **Mr. Pauly** clarified the housing variety requirements for large properties could be by subdistrict, but properties smaller than a subdistrict would probably be by property. There was some feasibility when implementing the requirements as it was hard to do the math across property lines if the requirement applied to only a portion of what was being developed.
- If it was not economically feasible to build a needed housing type, and the City could wait, did that mean the property owner was going to wait? The concern was that the property owner would have to develop whatever required subcategory was left in that particular geographic area, and if they were not willing to build that type, the City would not allow them to develop their property.
 - **Mr. Pauly** said the project team had thought about how to avoid such situations and would discuss it more in the course of the work session.

- **Mr. Dills** added the team believed the solution was to set up the system so that individual properties have their required number of categories for that ownership, clearly and objectively stated in the Development Code.
 - The best example was the South neighborhood. The majority of homes on the east side of 60th Ave were 5 and 10 acre lots, so the system needed to be set up so that any individual property could go forward without having to rely on the adjacent property, and not be in the shell game of who has consumed how many categories elsewhere. The East neighborhood is different as it had larger ownerships, and the subdistrict mapping and good quality master planning by those owners and developers could deliver the system, too, and plan where to do the units they wanted to bring in first, which in some cases was a matter of the sewer's location. What product would come in to the market first and second, or maybe two markets would hit at the same time; all those things were in play for a master planned, larger developer situation, so the Master Plan needed to anticipate incremental development of that area where small, medium, and big projects would be happening.
- **Mr. Dills** agreed the South neighborhood could be exclusively categorized by property and East potentially by a mix of subdistricts because it was part of a large parcel, or by property if an individual area necessitated that.
- In a subdistrict with small properties, how would the City ensure the first property owner did not get all the good stuff and leave the rest for the property owners?
 - **Mr. Dills** replied the project team learned a lot by laying out the sewer system. At the south end of 60th Ave there was a lift station, which meant a line had to be brought south, which was where the gravity went, into lift station where it was then forced up to the gravity system of Advance and Boeckman Roads. Installing that line would open up all of those properties to the south, at least from a sewer perspective, so they could come in at the owner's timing once the infrastructure was in place.
- Though the City was not in the practice of having temporary lift stations as part of the development, it was technically possible. The City's main would be built as it went down/south, with a temporary lift station a quarter way down that pumped up and when the next quarter was ready, the City would basically move the lift station down and continue to build as that was more accessible to the main street and so forth. It was a more phased approach.
- The assignment of housing types to properties from the get-go was great because one of the alternatives was to allow property owners to start trading if they wanted something different, as long as in the end, everyone had the housing types that the City wanted.
 - **Mr. Pauly** replied it was a matter of getting it at the right geography so that smaller geographies, whether by subdistrict or property, could get variety at that granular level rather than having it more segregated, which the project team heard was clearly not wanted.
- Would it be possible to make sure that these housing categories and mixes were built all together as opposed to having all the single-family built first?
 - **Mr. Pauly** clarified each development would have to propose a mix, resulting in a mix occurring throughout.
 - **Mr. Dills** added the timing of the construction would be up to the developer.
 - **Mr. Pauly** noted the land use approvals would be done.
- **Commissioner Mesbah** noted the land use had also been approved in Villebois before the fires. He did not want the Planning Commission to have done all the work and not thought through all of that, allowing the first comers to burn the bridges, which would be an unfair way to

develop this area. If the City of Wilsonville was going into this development with a vision, it was important to make the vision stick, and not have it derailed by popular demand later on.

- **Ms. Bateschell** agreed that was an important point, and as the project team worked through the discussion tonight, the remaining choices, policy options, and feedback from the Commission, might influence some of the Commission's thoughts. Tonight's discussion was to help formulate what the housing variety policy would look like. Feedback on whether to require the housing mix; and if so, how and at what level; what were the maximum or minimum percentages, etc. would help better meet that objective, depending on what the Planning Commission decided.
- **Chair Heberlein** believed some of it would come down to the City communicating the intent better when those developments came forward to DRB, making sure that the community was aware of the process that was gone through to get to that point, as some of it was just a lack of knowledge. People needed to know DRB review was not the first step, but step thirty in the process.
- **Commissioner Mesbah** agreed with communicating the vision clearly, effectively, and continually, but also the values behind the vision. People complained about beautiful areas being developed but did not know the land use plans for the area. People need to know the values behind it. The City was trying to create these categories for variety because variety was what was going to strengthen the city and its supply of housing, residents, manpower, effective governance, etc. It becomes a moral imperative for the City to maintain that value through the vision and through realizing it and building it.

Mr. Dills continued the presentation, discussing the basic percentages and metrics to guide how the housing categories were applied to geographies. He described reasons for the proposed maximum net area for each housing category, minimum net area for any target category, and minimum middle housing mix as well as how and each could be accomplished.

Mr. Dills confirmed the Commission was comfortable with the notion of housing categories and that there would be categories per subarea with the preference of being on a tax lot basis, so properties did not get isolated.

Discussion and feedback about regulating questions with regard to Housing Variety Policy was as follows with responses to Commissioner questions as noted:

- Middle housing was part of the Variety and Affordability category and the Variety, Affordability, and Accessibility categories. Was the project team talking about specifying a minimum percentage of net area for those categories, but then adding a minimum requirement of middle housing within that category as well?
 - **Mr. Pauly** clarified it would actually be an overlap; for example, a unit could be in two different categories and also meet the middle category requirement.
 - **Ms. Bateschell** added the unit could meet multiple standards and objectives at the same time.
 - She confirmed it could be its own category, but it had not been because through the process, the City had heard that middle housing was not necessarily always the ultimate goal to having a housing variety policy, but to also have a variety of housing, so places did not have all the same housing type, and to provide for the various needs and wants in the community; not everyone wanted the same house type. There was also interest in having the housing variety policy address the affordability question. Moving forward, housing

would be getting more expensive and less affordable, and the project team's analysis revealed a huge pocket of that would have to be subsidized. The City had the ability to meet some demand within the 80% to 120% area medium income brackets, with housing types that were more affordable than the standard, single-family detached home. The category was more about that than what the form of the house was necessarily. It was about whether it was a more affordable housing type. Similarly, the City heard it was important moving forward to have homes that were accessible to people with limited mobility issues. Those had been the drivers behind a lot of the input heard from Planning Commission, City Council, and the community, which was why the project team chose to categorize the types as presented.

- Some middle housing as built, addressed those categories, values, and objectives behind the City's policies, but some did not. Middle housing in and of itself did not necessarily address that policy objective. The project team chose to place middle housing in multiple categories because it could sometimes meet those policy objectives and not at other times.
- The other question about middle housing regarded not only the City's compliance with House Bill 2001, but also the value at the State level that these housing types were clustered for a reason, and those middle housing types had been of interest to City Council in helping to achieve first-time home buyer opportunities and not necessarily in the form of a multi-family residential condo project. This led to the secondary question about whether that was also a policy objective, and if so, did the Commission want to have a minimum number of types. She noted the Commission caught on very quickly that middle housing was basically duplicated within the Venn diagram. The City could require a developer to build two housing types and to meet the percentages for Variety & Affordability and for Variety, Affordability, and Accessibility and they could pick two middle housing types to achieve that. Building townhomes and cottage clusters, or a single-level, accessible middle housing type, would meet both the standards for minimum percentages as well as the middle housing requirement.
- One subdistrict was going to have multiple property owners, potentially, so would individual property owners be able to adhere to the guidelines by multi-tiering it or would it hamstring them in what they could build?
 - **Mr. Pauly** responded the table concept Mr. Dills alluded to was important because the City was going to look at the Development Code at that property level, see what property was going to develop together.
 - He confirmed the districting would be at the property owner level, and then the City's guidelines would be either at the larger subdistrict on the East or the properties in South. That sub districting would not be done on smaller properties because each individual property did not need a green focal point, so other policies played into the subdistricts.
 - **Ms. Bateschell** noted the Commission could choose at what level those standards applied. Given the conversation around policy, the minimum number of middle housing types could be applied at a different scale than the minimums and maximums, which had been discussed as being per development, but the minimum middle housing could be applied differently.
 - **Mr. Pauly** added it could be applied at a higher level, for example, per subdistrict in the South, which would tend to happen anyway.
 - **Mr. Dills** added, or it could be only for properties over X acres that had the flexibility and would be doing more categories anyway. The project team did not have the specific answer to the

question, but it was a good critique. The team needed to figure out how 3C married up with 3A and 3B. It could be if 3A and 3B were satisfied, then 3C would also be achieved. He suggested that team work on that and return with ideas.

- It seemed the Commission agreed that minimums and maximums were wanted to control the variety, and now it had to come up with what could be put into a policy.
 - **Mr. Pauly** stated 3A and 3B were kind of the drivers, and if 3C fit into 3A and 3C that would probably go in the Code.
 - **Ms. Bateschell** suggested the Commission talk more about 3A and 3B to see if it became more clear whether 3C was met, as the Venn diagram had categories that did not have middle housing.
 - Apply 3A and 3B to the parcels in the development to see if it worked would very quickly reveal whether 3C was needed or not. Having 3A, 3B and 3C was fine, the question coming up was whether that would be practicable with all the available parcels or would they not end up being applied on smaller parcels. If it was applicable at the parcel level, 3A, 3B, and 3C were fine.
 - Policy could not be made that was not applicable to individual properties. It could inadvertently create conflict between the properties.
- The Planning Commission confirmed it was comfortable with the minimums and maximums platform.
 - A minimum might be needed for middle housing if it was going to be too tempting to work around it, resulting in no middle housing, which was needed.
 - It would be nice if 3A and 3B drove 3C.
 - In running the scenarios, if developers were able to skirt middle housing easily, then that would indicate a need for a middle housing minimum. If middle housing happened anyway, that was easy; but how could the City make sure the housing types that did not in the short term, did happen eventually and to ensure middle housing was not built because it was more difficult, too inconvenient, etc.
 - That also needed to be analyzed across individual properties to avoid making one development overpower another in the same subdistrict and prevent a "First builder in wins, the last builder is stuck with all the middle housing" type of scenario.
- **Mr. Pauly** gathered that the Commission was comfortable with the provided percentages. The project team had referenced the affordable housing analysis, which essentially said that market aside, 50% single-family and 50% middle housing would tend to be built. Even with some multi-family, it would still be around 50% detached single-family, which signaled to the project team that 50% not only met the variety, but it was also what the market would tend to do anyway.
- Visual examples showing how the percentages would look on a block were requested to give the Commission a feel for what a 50% mix might look like, for example.
 - **Mr. Pauly** noted he was uncertain the project team had the bandwidth, but that could possibly be explored when getting into the details of the Development Code. Going back to the urban form, he noted the team anticipated the middle housing design standards would continue to apply and would tend to make the townhouse or multi-family building look more like a large, single-family in terms of asymmetry or symmetry, door locations etc. Those were existing standards the City did not plan to change, but those architectural standards were still at play and would tend to help different unit types be more complimentary to each other. He believed design would help address the feel issue.

- Using Frog Pond West or an area of Villebois was suggested to get an example of what those areas would look like with certain categorizations and percentages. Finding a place with the same percentages would be helpful in looking and walking around it to see if it felt right.
 - **Mr. Pauly** added even taking a development like Morgan Farm, for instance, and indicating which units would be townhouses rather than single-family given certain percentages would be fairly simple to do or pulling some areas of Villebois that have a variety and show the percentage.
- **Commissioner Karr** noted the percentages he had given for housing types at a previous meeting had come from driving around Villebois and visualizing how to replicate something like that in Frog Pond. Pictures speak a thousand words.
- It could be fixed through architectural design as well, so the City had to make an allowance for that.

Mr. Dills continued the PowerPoint presentation, describing the Commercial Main Street streetscape components and noting the policy related questions for the Commission as follows:

Should the City be flexible to allow commercial or vertical mixed use?

Should the City base the design standards on the Town Center main street code?

The project team addressed questions from the Commission, which also provided additional comments as follows:

- Staff clarified a four-story building height was being considered for the Commercial Main Street and that Town Center had a range for building height. Each Town Center subdistrict had a different target, the higher end being five stories, which could go higher if certain waiver criteria were met.
- Three-story multi-family would be allowed in a residential area and four-stories in commercial, but a Type 1 could go up to four-story multi-family. Three-story building heights were pretty much allowed everywhere within the city.
- **Mr. Pauly** noted if there was interest in vertical mixed use resulting in four-plus stories, then maybe it makes sense to allow three story broadly. The team agreed that having kind of the Type 2 along Stafford Rd made sense for the most part, but the space in the image was across from a green space, so given the relationship, maybe having that little block as Type 1 could make it taller and mix better with a vertical mixed use product on Brisband St. At the street, there would be a transition to allow for a more subtle transition. The developer had expressed interest in doing that and having a more consistent look rather than going four-story all the way down the two sides of the street. Similarly, on the south side, the land use shown would be updated on the next version as constraints were revealed at that corner of Stafford and Advance Rds following wetland studies.
- The concern was having a four-story building next to a cottage cluster; an overpowering feeling of a big building with a small building next to it. However, being able to move or specify types would give it more of a smoother transition.
- A spot in Villebois had the mixed use with three-story, single-family homes next door, and it worked pretty well for that area. Mixed use with apartments or condos, etc. above was really trendy right now, and there was market demand for it.

- **Mr. Pauly** noted in terms of urban form, single-family houses, even though they were detached, were very much a bulky product, close to the street with limited setbacks that would fit more into that Type 1 category.
- The project team should make sure the image represented what it envisioned the Main Street area would look like. A three-story scale looked about right, but the idea of four-story buildings seemed a bit much.
 - **Mr. Dills** clarified he had not heard how many stories the team intended to represent in the Main Street diagram, whether it was a three- or four-story product.
 - **Mr. Pauly** noted there were some economies of scale to make construction feasible.
- **Commissioner Karr** liked the idea of the Main Street somewhat conforming or scaling down to the Town Center, giving the town a feel of continuity.
- **Chair Heberlein** stated he was supportive of both questions in terms of using the Town Center code.

Following a brief discussion, Staff confirmed the Commission wanted vertical mixed use for the Commercial Main Street area and that the project team should ensure there was no abrupt transition from any vertical mixed use on Brisband St.

Ms. Bateschell agreed understanding whether mixed use would be feasible from a developer's perspective was important, as that had been part of the challenge in Villebois.

The Planning Commission took a brief recess at 7:31 pm and reconvened the meeting at 7:37 pm.

Chair Heberlein called for public testimony.

Sparkle Anderson confirmed via phone with Staff that she could not hear the meeting via Zoom and that she had no public comment at this time.

Mimi Doukas, AKS Engineering, representing West Hills Development, which was working on the Azar property which comprised about half of the land within Frog Pond East, so West Hills had a very strong interest with how the development plan moved forward. Staff was aware of and had alluded to things the developer wanted to adjust in the land plan itself. West Hills did have a vision for what could happen in the Azar property, and had heard quite loudly from the City Council, Planning Commission, Staff that housing variety was a very important goal. West Hills shared that goal. Real estate worked better if there was a variety of housing as everything sold faster, looked better, and got more market share. The Azar property within the City's land plan had the most Type 1, the only Commercial Main Street zone, as well as Type 2 and Type 3, so West Hills had an urban design spectrum for that intensity would be. West Hills planned to build single-family detached and attached homes, multi-family, garden style apartments, and the vertical mixed use for the town center. Vertical mixed use was one of the trickier components and yes, West Hills was a bit concerned about how much commercial was viable in that location. West Hills knew vertical housing had a real opportunity, but the presented main street concepts were different from the garden style walk-ups West Hills was thinking of for Type 1 to help transition around the Town Center that would be a more affordable multi-family type.

- The vertical mixed use being discussed for the town center would need elevators and was a different type of development and price point. West Hills wanted and was striving for that type of variety but was concerned the level of complexity going into the regulations discussed tonight would

make development very challenging on implementation. The single-family detached and townhouses in Types 1, 2, and 3 would all be different housing types. A detached home in Type 3 was not the same as a detached home in Type 1, so there would be a variety of each of those housing types across the different urban design categories. Some of the City's concerns about housing variety would be addressed in the urban design overlay, which was why she cautioned against putting too many additional layers on top, which would break West Hills' implementation at some point.

- She was also concerned about how the percent requirements for housing variety were placed either by tax lot or by subdistricts. The subdistricts AKS and West Hills had to work through on Frog Pond West were challenging. Densities were assigned on subdistricts that did not match the number of units approved relative to the development standards; they did not quite line up. There were real problems on the implementation side. She advised being careful on how subdistricts were done and how that percentage was applied.
- Her main message was to be careful with how much calculus was put into the Development Code. The City was going to get variety with some basic controls. The 50% maximum of a single housing type was a good, straight forward regulation.
- She noted 3C middle housing was already covered in 3A and 3B for housing variety. Small lot, single-family detached and townhomes could be middle housing, or not middle housing. Again, too much calculus risked breaking the system.
- While the Commission did not want to be driven by market viability, it did want a plan that worked and market realities factored into what could get financing, what could attract a developer, and what could attract buyers, so market viability should not be ignored. She believed 3A and 3B made sense, but she would not add 3C on top.
- From West Hills' perspective, applying the housing variety percentages across the entire tax lot rather than the subcategories of colors across the tax lot was recommended. West Hills' site could end up with nine different categories, and maybe more if done by subcategory and by tax lot. That was a lot to deal with, particularly when townhomes or small lot, single-family detached houses could mean different things depending on size; small or big, the City would get variety regardless.

Chair Heberlein thanked Ms. Doukas for her comments, noting it was important for the Commission to hear some of the reality, so it did not get lost in the idealism of it all.

Commissioner Mesbah believed only a headcount was needed to make sure 3C was covered in 3A and 3B, it was not an added requirement but there to ensure 3C was covered. He asked if West Hills saw some other angle on that.

Ms. Doukas clarified her struggle was she was not 100% sure what middle housing was ~~versus~~ and was not. What was a small lot detached home versus a middle housing home, or an exploded duplex versus a middle housing duplex. There were traditional homes that would check the box on middle housing, and she did not know how to draw that bright line.

Ms. Bateschell clarified the City would do it based on the State law definitions.

Ms. Doukas replied she still did not think that was a bright line.

Mr. Pauly added, especially when it came to cluster housing.

Ms. Doukas noted cluster housing was a completely different housing type that West Hills did not build as that category did not match what West Hills builds. It built masters on the main and there was probably potential for ADUs, but mostly, it was a variety of sizes of detached homes, townhomes, garden apartments, and vertical apartments and middle housing was probably in that mix of things.

Chair Heberlein noted one challenge Ms. Doukas raised was some of the issues in terms of the Frog Pond West implementation. Were there were things the City could learn to make sure it did not repeat the same mistakes in East and South?

Mr. Pauly stated he agreed 100% about not doing subdistricts like Frog Pond West in the way it was addressed per property, and as experienced in Villebois, implementing regulations over two different developments added difficulty to the calculus. He believed in keeping it at the right scale and continuing to have that lens as the project team got into the details of the implementation.

Dan Grimberg, West Hills Land Development, stated West Hills had been involved in six different UGB expansion areas, including six projects in Frog Pond West with three that had been developed and three more that had been annexed into the city and had DRB and zoning approval. West Hills was very excited about its opportunity in Frog Pond East with the Azar property and was trying to get plugged in with the planning process, which was moving so fast that West Hills could not catch up and that was concerning. When the Master Plan was finally approved, West Hills would have to make it work with all the different percentages and definitions.

- West Hills had a great opportunity and wanted to develop all of the Azar property, then move on. The developer supported housing variety to a certain point, but it had to make sense in the market. West Hills did not create the market, it produced for a market. All those housing types could be done, though there could be a few it would choose not to do in Frog Pond East because there was no market. Adding 10% because someone would eventually want it did not work because West Hills could not develop part of a property. West Hills invested millions of dollars buying entire properties and could not afford to buy properties to develop parts of it 20 years later; streets, utilities, etc. all had to be put in for the entire property and it all needed to work. West Hills was good at blending different housing types, but each one had to be viable; banks did not lend on maybes.
- The City was doing a good job and West Hills would like to have more input. West Hills had a plan for the Planning Commission to understand what the developer was talking about and see how those percentages would look which could get the planning locked in. If West Hills could not make the planning work, development would not happen, nor would variety and no one got anything.
- West Hills pioneered the market and made Frog Pond West work with the large lot and eventually that became successful, but it was not easy earlier on. Frog Pond East was going to be more affordable, and West Hills wanted to provide more affordable housing as there was more of a market for it. West Hills was not trying to not do what the Commission wanted, but West Hills might just do it a little differently. The developer wanted to share its vision with the Commission which he believed was close to the Commission's. He was concerned about number being locked in because that may or may not work.

Commissioner Karr noted he liked that West Hills had a plan and was interested in seeing it. He also wanted to understand whether those plans could be applied to smaller parcels as he was concerned only one type of house would be built unless minimums and maximums existed. He did not want them

to be onerous or break somebody's plan, but the rest of Frog Pond needed to be protected, not just East, but also South where the property areas were much smaller.

Mr. Grimberg responded Frog Pond West was a good example as those were all small parcels. West Hills typically combined smaller parcels into 10- to 20-acre parcels, which was how Frog Pond West was primarily developing. The developments could have a variety of lot sizes, and now West Hills was excited about the new middle housing component. It was playing around with that on a lot of its opportunities as it provided another type of housing. With middle housing as a possibility, West Hills believed it could be made compatible and a lot of variety could be created through good architecture as done in Villebois. Frog Pond West was zoned for the overall area, not per property, and that was one way to get a variety of housing; one property got medium housing and the 5 to 10 acres next door got the small lot, and there was variety within that. A lot of variety could be created by combining different types of housing, but different design would also create great variety. Housing variety could be created on any size development, it just might not be as varied because it was smaller.

Chair Heberlein stated he was uncertain how the Commission could interact with the developer and asked Staff to decide what was feasible. It would be great to understand what Frog Pond East could look like conceptually to get a feel for how this type of development could look with West Hills' plan.

Ms. Bateschell noted the City has had several conversations with West Hills through the process in terms of keeping them engaged as a stakeholder along with other property owners in Frog Pond East and South to make sure they were aware and had opportunity to provide input along the way. It was a fast-moving master plan project compared to other master plans Staff has done, so she understood the feeling that the communication had not been as slow or extensive as on other projects. The City had seen proposals from West Hills and were working with them in thinking through that as Staff had these conversations with the Commission.

- Regarding the concern about a lot of percentages, she reiterated the project team was really trying to understand where it might go to make sure the intent was framed correctly in the Master Plan. What would move forward in October and November would be around the policies and the intent that would go in the Master Plan itself and adopted into the Comprehensive Plan. Work on some of the details around percentages and what would go into the Development Code would continue into the new year. Staff was also open to and planning on having more conversations with stakeholders and developers about what that Development Code would look like as the project team started bringing the Master Plan back to the Planning Commission and City Council.

Mr. Pauly added West Hills was welcome to submit any documents into the record for Staff to share with the Planning Commission.

Chair Heberlein understood variety was important to the Commission and the City needed to have all of those different types, the only question being how to ensure it happened.

Commissioner Karr added that both variety and affordability drove how to build or develop the Master Plan.

ADJOURNMENT

The meeting was adjourned at 8:06 pm.

Respectfully submitted,

By Paula Pinyerd of ABC Transcription Services, LLC. for
Mandi Simmons, Planning Administrative Assistant



PLANNING COMMISSION

WEDNESDAY, SEPTEMBER 14, 2022

WORK SESSION

4. Frog Pond East and South Master Plan (Pauly) (45 minutes)



**PLANNING COMMISSION MEETING
STAFF REPORT**

Meeting Date: September 14, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable Comments: N/A	
Staff Recommendation: Provide input regarding Frog Pond East and South Master Plan.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE PLANNING COMMISSION:

Provide feedback and input on infrastructure analyses and plans for Frog Pond East and South.

EXECUTIVE SUMMARY:

Following designation of the area on the east side of Wilsonville as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a Master Plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the urban reserve land known as Frog Pond East and South. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process will also identify water, sewer, stormwater, and transportation infrastructure needs and funding sources.

This will be the Planning Commission's eighth work session on the Frog Pond East and South Master Plan. The previous work sessions and their content were as follows:

Work Session 1-October 2021: Focus on overall project scope and the outreach plan.

Work Session 2-December 2021: Initial feedback on the needs and opportunities for affordable housing and housing variety.

Work Session 3-February 2022: Continuation of the topic of housing needs for more detailed feedback and direction, introduction of the neighborhood commercial evaluation.

Work Session 4-April 2022: Further discussion of the neighborhood commercial center and discussion of the design concepts for development of land use and urban design alternatives.

Work Session 5-June 2022: Review and direction on draft land use alternatives, including mapping the locations of different housing design types and forms (grouped into Type 1, Type 2, and Type 3).

Work Session 6-July 2022: Review of draft preferred land use alternative and direction on land use policies around housing variety.

Work Session 7-August 2022: Direction on criteria for evaluating housing variety policy options and public realm master plan components.

This *Work Session 8* will primarily focus on the Transportation Analysis (Attachment 1) and Infrastructure Technical Memo (Attachment 2). The consultant team will be available to discuss and answer any questions. In addition, the project team will report back on questions about role of Frog Pond West in filling housing needs and the costs of ADUs.

Transportation Analysis and Proposed Infrastructure

The 2015 Frog Pond Area Plan set the vision for all three Frog Pond neighborhoods and thus, included a transportation evaluation that encompassed Frog Pond East and South. Traffic modeling has thus anticipated development of these neighborhoods consistent with the Plan. The attached Transportation Analysis (Attachment 1) refines the prior 2015 evaluation. The Transportation Analysis is based on the maximum potential amount of commercial - to test the system, the analysis assumed 50,000 square feet although the current recommendation is a maximum of 44,000 square feet - and the likely number of dwelling units (1,800) under the preferred land use alternative. As a next step, the information from the preferred land use alternative Transportation Analysis will be used to develop a street project list to include in the infrastructure plan.

Key points of the Transportation Analysis are as follows:

- With recommended improvements and construction of high-priority projects in the Wilsonville and Clackamas County Transportation System Plans (TSPs), level of service will be met at impacted intersections, both nearby and further away in Wilsonville. This includes at I-5 interchanges and the Elligsen/Stafford intersection.
- New round-a-bouts are recommended on Stafford Road at Kahle Road and Brisband Street and on Advance Road at 60th Avenue.
- A median/barrier is recommended on Stafford Road at Frog Pond Lane to prevent traffic from crossing Stafford Road while still allowing most movements to and from Stafford Road into Frog Pond West and Frog Pond East.
- A number of pedestrian crossing amenities are recommended subject to further refinement with public input, including from stakeholders such as the school district.

A separate sensitivity analysis is also planned to test a higher hypothetical dwelling unit count of approximately 2,400 units. This higher dwelling unit amount reflects 20 units per net acre, which is a density prescribed in one of the compliance options in State administrative rules for new urban areas to comply with House Bill 2001 middle housing law. The project team is still analyzing and confirming impact of a higher unit count and will share in a future work session.

Water, Sanitary Sewer Proposed Infrastructure

Similar to the transportation analysis, initial water, sanitary sewer, and stormwater analysis was completed for the 2015 Frog Pond Area Plan. In a June work session, an existing conditions analysis was presented, which included the discussion of existing conditions of the Frog Pond East and South area infrastructure, previously prepared plans, and a review of applicable standards. The Infrastructure Technical Memo (Attachment 2) builds on this previous work and lays out the proposed infrastructure to serve Frog Pond East and South in a manner that meets City standards. Like the Transportation Analysis, the Infrastructure Technical Memo tests the maximum potential amount of commercial and the likely number of dwelling units under the

preferred land use alternative. The infrastructure memo also includes testing for the higher residential unit count of approximately 2,400 for the reasons described above under the Transportation Analysis.

The information from the Infrastructure Technical Memo will be used to estimate infrastructure costs for the Frog Pond East and South Master Plan area. The following are some key points from the proposed infrastructure analysis regarding water and sanitary sewer:

- Key off-site infrastructure planned in the City's existing infrastructure master plans are needed to provide infrastructure capacity to Frog Pond East and South:
 - Water storage capacity: Westside tank northwest of Villebois, anticipated completion 2025.
 - Downstream sanitary sewer capacity: Boeckman Road Sewer Trunk Line, construction planned in 2024. Boeckman Creek sewer interceptor, anticipated completion 2025.
- The exact amount of development that can occur in Frog Pond East and South prior to completion of the key planned off-site infrastructure projects will need further analysis. This may occur either as part of the Master Plan and/or at time of development proposal. Capacity will depend on the amount and timing of development in Frog Pond East and South relative to development in Frog Pond West and elsewhere in the City.
- Not previously identified in an infrastructure master plan, important off-site 12-inch water distribution connections are needed under Boeckman Creek from the end of Frog Pond Lane towards Canyon Creek Road and beneath Meridian Creek just south of Meridian Creek Middle School.
- Due to topography, Frog Pond East and South will require four sanitary sewer lift stations.
- The hypothetical higher density residential land use scenario would not substantially impact or increase costs for the planned framework water system or sanitary sewer system.

Stormwater infrastructure will also be part of the Frog Pond East and South Master Plan. Additional analysis and discussion is needed by the project team prior to presentation of stormwater infrastructure to the Planning Commission. The team plans to bring forward in an upcoming work session.

Follow Up from Past Work Session on Housing Variety

The following are questions from the prior work session regarding housing variety and policy development and responses from the project team. The project team invites the Planning Commission to review this information and ask any additional clarifying questions.

Q: Does the data in the Affordable Housing Analysis, specifically the need for higher-end housing, reflect the development of Frog Pond West?

A: Frog Pond West began developing in 2019 and is not reflected in data presented from 2018. Figure 9 of the Affordable Housing Analysis shows a deficit of 773 units for households making 150% or more of MFI. According to Exhibit 4 in the same report 150% MFI represents a household income of approximately \$140,000 which could afford a home of about \$770,000. Staff notes increased interest rates are currently making it less affordable, but for consistency will use the data from the Affordable Housing Analysis. A majority of the detached homes in Frog Pond West are selling at or above this price satisfying a large portion of this need. Exact numbers are not known and will not be analyzed until the needs citywide housing needs analysis scheduled in 2023, but based on review of readily available real estate data staff is comfortable saying at least 400-500 units in this price range will be completed in Frog Pond West, likely more. In addition, completion of Clermont in Villebois is expected to produce at least 60-70 additional homes in this price area. At most, the 2018 need for households 150% or more MFI remaining to be satisfied by Frog Pond East and South is 200-300 units. Current draft housing variety policy would allow this to be met.

Q: What is the expected affordability to rent or buy an Accessory Dwelling Unit (ADU) in Frog Pond East and South relative to other unit types?

A: According to the ADU Memo presented to the Commission in February, and reattached here (Attachment 3), the rent for an ADU in Frog Pond West is expected to be from the \$1,000's to over \$2,000, similar to market-rate apartments of similar size. The memo's analysis predicts the sale price for a for-sale ADU would be \$300,000's to \$400,000's, similar to the anticipated cost of a for-sale condo or small townhouse.

The project team otherwise continues to develop draft policies and regulations around housing variety that will be discussed at future work sessions. The project team does encourage the Planning Commission to share additional thoughts or questions that have come up around housing variety.

Discussion Questions:

1. What questions or comments does the Commission have about the Transportation Analysis (Attachment 1)?
2. What questions or comments does the Commission have about the Infrastructure Analysis (Attachment 2)?

3. What additional feedback or direction, if any, does the Commission have for the preferred alternative and draft residential variety policies since the prior work session?

EXPECTED RESULTS:

Feedback and direction from the Planning Commission to guide continued development and refinement of the Frog Pond East and South Master Plan on: transportation and other infrastructure and housing variety policy.

TIMELINE:

This is the eighth in a series of work sessions for the Planning Commission. The next work session is planned for October. The Master Plan is scheduled to be completed by December 2022, with some implementation elements extending into early 2023.

CURRENT YEAR BUDGET IMPACTS:

The project is funded by a combination of a \$350,000 Metro grant, an \$81,000 Oregon DLCD grant, and matching City funds in the form of staff time. \$311,000 is budgeted in FY 22/23 to complete the project.

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which lays out a robust public engagement program that will include meaningful and impactful involvement of people who identify with historically marginalized communities. The project team recently completed a number of outreach events, results and impacts of which will be shared in an upcoming work session.

POTENTIAL IMPACTS OR BENEFIT TO THE COMMUNITY:

Furthering of the City's Equitable Housing Strategic Plan and Council's goal of affordable home ownership, while creating Wilsonville's next great neighborhoods.

ALTERNATIVES:

The Planning Commission and City Council can continue to direct changes to the draft plan elements. In addition, the Planning Commission and City Council continues to have a number of policy options related to housing variety.

ATTACHMENTS:

1. Transportation Analysis (dated September 7, 2022)
2. Infrastructure Technical Memo (dated September 6, 2022)
3. ADU Memo (dated January 31, 2022)

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FROG POND EAST & SOUTH MASTER PLAN

TRANSPORTATION ANALYSIS: EXISTING AND FUTURE CONDITIONS

SEPTEMBER 2022



EAST & SOUTH
MASTER PLAN

DRAFT

PREPARED FOR THE CITY OF WILSONVILLE



PREPARED BY DKS ASSOCIATES



DRAFT

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This report documents the traffic analysis performed in association with the Frog Pond East & South Master Plan in Wilsonville, Oregon. This report provides a more refined evaluation of the East and South land use as compared to the Frog Pond Area Plan,¹ which was adopted in 2015, and builds on the work of the Frog Pond West Master Plan,² which was adopted in 2017.

An executive summary of this transportation analysis is provided below. The following sections of this memorandum document the existing traffic conditions (2022), future baseline and build traffic conditions (2040), and a list of resulting transportation projects. The year 2040 was selected for future analysis to be consistent with the Metro Regional Transportation Plan (RTP) and Wilsonville Travel Demand Model's horizon year.

EXECUTIVE SUMMARY

To determine existing and future transportation conditions for the Frog Pond East and South neighborhoods, a comprehensive traffic analysis was performed. The analysis focused on the major intersections both within the project vicinity and within Wilsonville at large, including the two I-5 interchange areas (i.e., Wilsonville Road and Elligsen Road). The study area includes 15 total intersections, including 4 key gateway intersections to the neighborhoods.

The existing conditions analysis was based on recent 2021 and 2022 traffic counts and existing intersection geometries, while the future analysis was based on traffic forecasts for the 2040 horizon year and improved intersection geometries associated with all High Priority Projects included in Wilsonville's Transportation System Plan (TSP). The future analysis consisted of two scenarios: 2040 Baseline and 2040 Build. The future land use assumptions are consistent with the Metro model, which was used to update the travel demand model for the Build scenario. The 2040 Baseline scenario assumes no additional growth beyond what is currently assumed in the 2040 model and the 2040 Build scenario represents the likely build-out of the study area, which includes up to 1,800 housing units and up to 44,000 square feet of commercial space within the East and South neighborhoods.

The City has also identified a hypothetical higher-density alternative which calls for approximately 2,400 total units in the combined East and South neighborhoods. This higher dwelling unit amount reflects 20 units per net acre, which is a density prescribed in one of the compliance options in State administrative rules for new urban areas to comply with House Bill 2001 middle housing law. The project team is still analyzing and confirming the impact of a hypothetical higher unit count and will incorporate it into a future draft of this Transportation Analysis.

Intersection traffic operations were analyzed for the weekday PM peak hour under the existing and both future scenarios to evaluate if the study intersections meet desired performance levels as required by the City of Wilsonville, Clackamas County, and Oregon Department of Transportation

¹ Frog Pond West Master Plan, City of Wilsonville, July 17, 2017.

² Frog Pond Area Plan, City of Wilsonville, November 16, 2015.

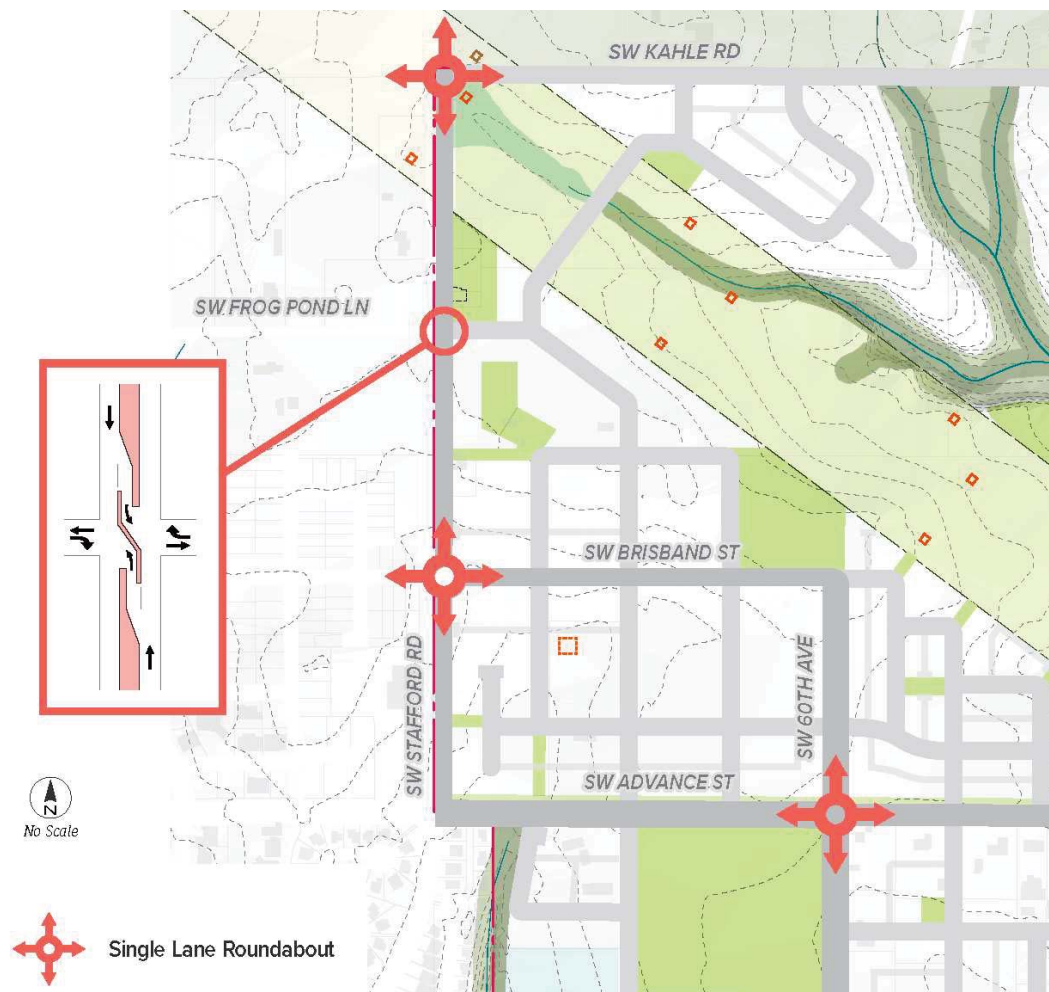


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(ODOT). All intersections except the Stafford Road/65th Avenue intersection currently meet operating standards and targets. Additional coordination between Clackamas County and City of Wilsonville is recommended regarding the necessary improvements to that intersection to accommodate future Frog Pond development.

In the future 2040 scenarios, all but three of the study intersections are expected to continue to meet standards and targets in the future assuming the completion of the High Priority Projects identified in the TSP. Those three intersections are located along Stafford Road and are the gateway intersections to the Frog Pond East neighborhood and were analyzed as stop controlled intersections. The following transportation improvements are recommended for these intersections.

- **Stafford Road/Kahle Road:** Install a single-lane roundabout
- **Stafford Road/Frog Pond Lane:** Install a raised median to prohibit minor street through and left turns and install an enhanced pedestrian crossing with a center refuge median.
- **Stafford Road/Brisband Street:** Install a single-lane roundabout



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FIGURE 1: RECOMMENDED INTERSECTION IMPROVEMENTS

Additional transportation projects were identified for the East and South neighborhood to enhance safety, which are listed below:

- Install a roundabout at Advance Road/60th Avenue. The installation of a roundabout at this location will create a gateway between the high-speed rural traffic and the new desired slower urban speeds. The roundabout will also provide for slower speeds and improved access to the Frog Pond neighborhoods.
- Install various pedestrian, bicycle, and trail improvements on Stafford Road and Advance Road (shown below).

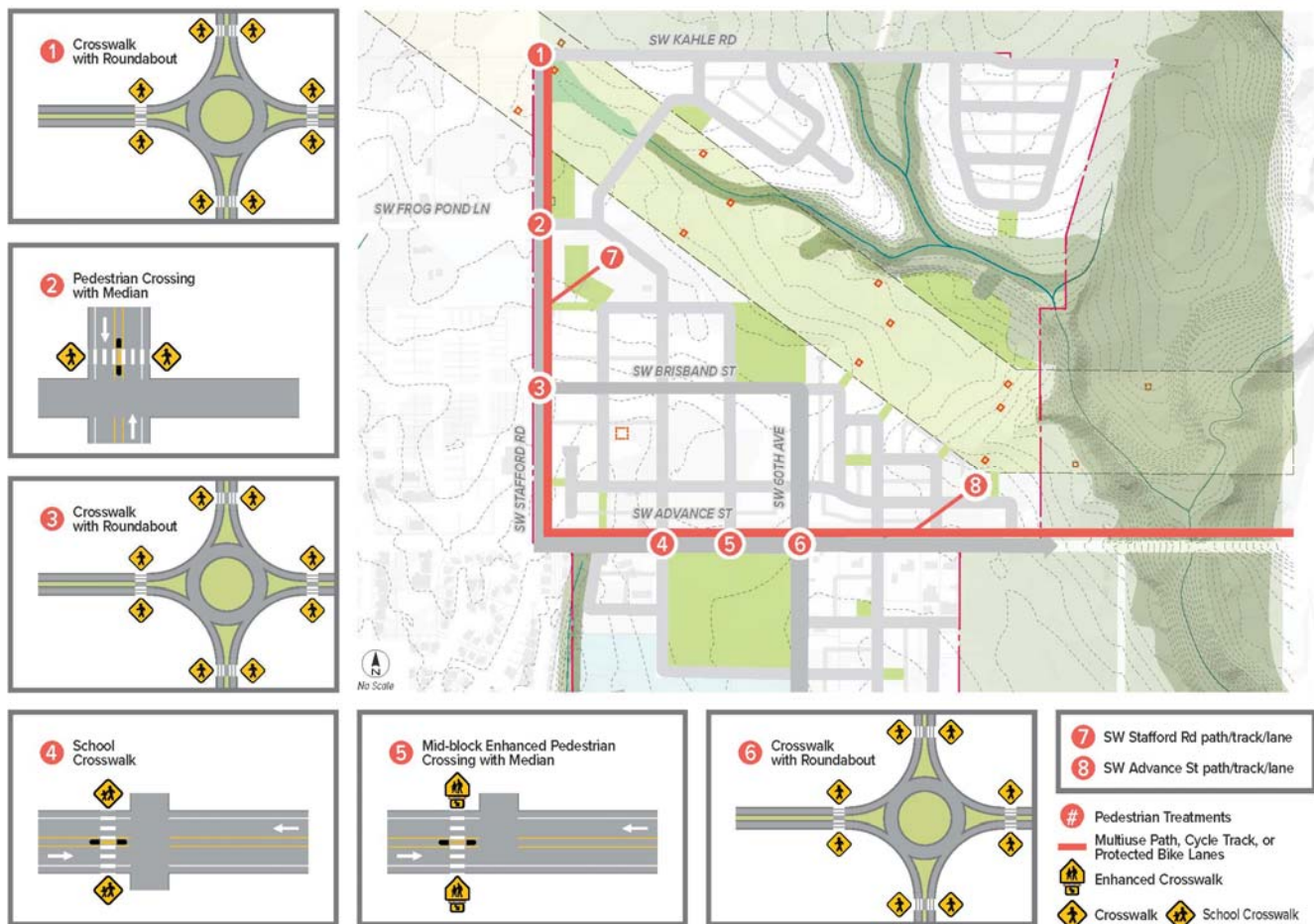


FIGURE 2: RECOMMENDED PEDESTRIAN, BICYCLE, AND TRAIL IMPROVEMENTS



EXISTING TRAFFIC CONDITIONS (2022)

Existing traffic conditions were evaluated for the study area and include traffic volumes; intersection operations; and bike, pedestrian, and trail conditions.

EXISTING TRAFFIC VOLUMES

Traffic counts were collected for the PM peak period (4:00 to 6:00 p.m.) at the following study intersections.³ The PM peak hour traffic volumes (i.e., the highest hourly volumes during the peak period) are shown in Figure 3 and the traffic counts are provided in the appendix.

- Elligsen Road/I-5 Southbound Ramp
- Elligsen Road/I-5 Northbound Ramp
- Elligsen Road/Parkway Avenue
- Elligsen Road/Parkway Center Drive
- Stafford Road/65th Avenue
- Boeckman Road/Parkway Avenue
- Boeckman Road/Canyon Creek Road
- Boeckman Road-Advance Road/Stafford Road-Wilsonville Road
- Advance Road/60th Avenue
- Stafford Road/Brisband Street
- Stafford Road/Frog Pond Lane
- Stafford Road/Kahle Road
- Wilsonville Road/I-5 Southbound Ramp
- Wilsonville Road/I-5 Northbound Ramp
- Wilsonville Road/Town Center Loop West

INTERSECTION PERFORMANCE MEASURES

Agency mobility standards often require intersections to meet level of service (LOS) or volume-to-capacity (v/c) intersection operation thresholds. Additional operational details are provided in the appendix.

- The intersection LOS is similar to a “report card” rating based upon average vehicle delay. Level of service A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. Level of service D and E are progressively worse operating conditions. Level of service F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity. This condition is typically evident in long queues and delays.
- The volume-to-capacity (v/c) ratio represents the level of saturation of the intersection or individual movement. It is determined by dividing the peak hour traffic volume by the maximum hourly capacity of an intersection or turn movement. When the V/C ratio

³ The counts were collected on September 22, 2021; September 30, 2021; March 30, 2022; May 18, 2022; and June 7, 2022.



approaches 0.95, operations become unstable and small disruptions can cause the traffic flow to break down, resulting in the formation of excessive queues.

The City of Wilsonville requires all intersections to meet its minimum acceptable level of service (LOS) standard of LOS D for the PM peak period.⁴

Clackamas County requires that, for intersections outside of city limits, signalized and roundabout intersections must meet the volume-to-capacity ratio (v/c) of 0.90 or less and unsignalized intersections must meet the minimum LOS standard of LOS E during the PM peak period.⁵

ODOT specifies a typical mobility target for interchange ramps of a volume-to-capacity ratio (v/c) of 0.85. However, when the interchange vicinity is fully developed and adequate storage is available on the interchange ramp to prevent queues from backing up on the main line, then the target can be increased to a 0.90 v/c ratio.⁶ This is the case for both of the I-5 interchange areas in Wilsonville.

EXISTING INTERSECTION OPERATIONS

Intersection operations were analyzed for the PM peak hour to evaluate whether the transportation network currently operates within desired performance levels as required by the City of Wilsonville, Clackamas County, and ODOT. Intersections are the focus of the analysis because they are the controlling bottlenecks of traffic flow and the ability of a roadway system to carry traffic efficiently is nearly always diminished in their vicinity.

The existing PM peak hour intersection operations at the study intersection were determined based on the 6th Edition Highway Capacity Manual methodology.⁷ Table 1 lists the estimated average delay (in seconds), level of service (LOS), and volume to capacity (v/c) ratio for each study intersection. As shown, all intersections currently meet operating standards and targets with exception of Stafford Road/65th Avenue, which is within Clackamas County's jurisdiction. Additional coordination between Clackamas County and City of Wilsonville is recommended regarding the necessary improvements at this intersection to accommodate future Frog Pond development.

⁴ Policy 5, Wilsonville Transportation System Plan, Amended November 16, 2020.

⁵ System Performance Policies, Chapter 5: Transportation System Plan, Clackamas County Comprehensive Plan, Amended January 1, 2022.

⁶ Oregon Highway Plan, Action 1F.1, Oregon Department Of Transportation, Amended May 2015.

⁷ Highway Capacity Manual, 6th Edition, Transportation Research Board, 2017.



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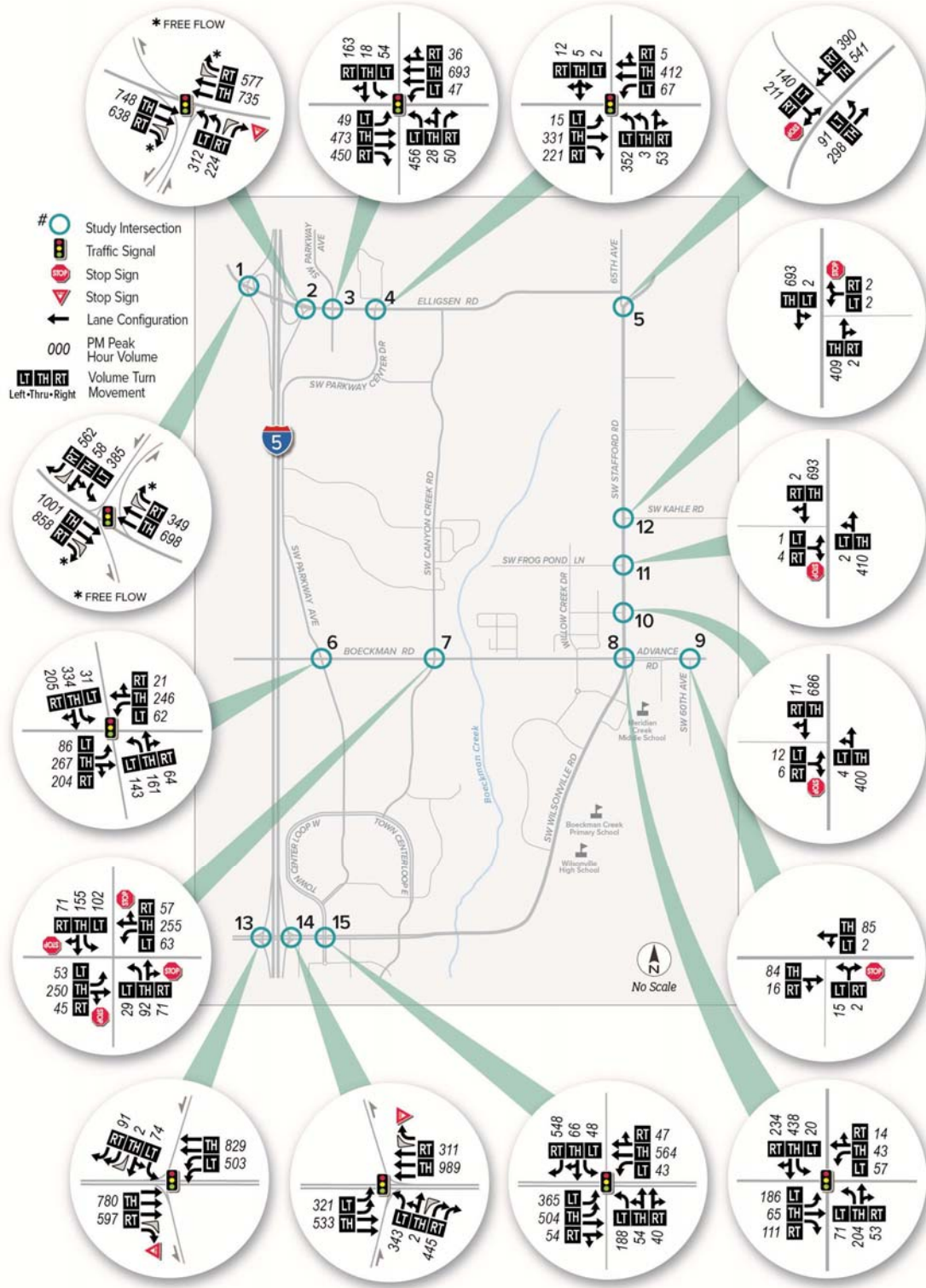


FIGURE 3: EXISTING 2022 TRAFFIC VOLUMES, LANE GEOMETRIES, AND TRAFFIC CONTROL



TABLE 1: EXISTING (2022) INTERSECTION OPERATIONS

INTERSECTION	OPERATING STANDARD	PM PEAK HOUR		
		V/C	DELAY	LOS
SIGNALIZED				
ELLIGSEN RD/I-5 SB RAMPS	v/c ≤ 0.90	0.74	19.5	B
ELLIGSEN RD/I-5 NB RAMPS	v/c ≤ 0.90	0.34	8.4	A
ELLIGSEN RD/PARKWAY AVE	LOS D	0.32	15.9	B
ELLIGSEN RD/PARKWAY CENTER DR	LOS D	0.40	14.9	B
BOECKMAN RD/PARKWAY AVE	LOS D	0.84	25.6	C
STAFFORD RD-WILSONVILLE RD /BOECKMAN RD-ADVANCE RD	LOS D	0.65	17.0	B
WILSONVILLE RD/I-5 SB RAMPS	v/c ≤ 0.90	0.38	19.3	B
WILSONVILLE RD/I-5 NB RAMPS	v/c ≤ 0.90	0.44	16.2	B
WILSONVILLE RD/TOWN CENTER LP WEST	LOS D	0.38	28.1	C
TWO-WAY STOP-CONTROLLED				
STAFFORD RD/65 TH AVE	LOS E	>1.20	>120	B/F
ADVANCE RD/60 TH AVE	LOS D	0.03	9.8	A/A
STAFFORD RD/BRISBAND ST	LOS D	0.08	20.9	A/C
STAFFORD RD/FROG POND LN	LOS D	0.02	15.7	A/C
STAFFORD RD/KAHLE RD	LOS D	0.01	16.9	A/C
ALL-WAY STOP-CONTROLLED				
BOECKMAN RD/CANYON CREEK RD	LOS D	0.71	20.3	C

SIGNALIZED INTERSECTION:

Delay = Average Intersection Delay (secs)
v/c = Total Volume-to-Capacity Ratio
LOS = Total Level of Service

TWO-WAY STOP-CONTROLLED INTERSECTION:

Delay = Critical Movement Delay (secs)
v/c = Critical Movement Volume-to-Capacity Ratio
LOS = Critical Levels of Service (Major/Minor Road)

ALL-WAY STOP CONTROLLED INTERSECTION:

Delay = Average Intersection Delay (secs)
v/c = Critical Movement Volume-to-Capacity Ratio
LOS = Total Level of Service



BICYCLE, PEDESTRIAN, AND TRAIL NEEDS

Bicycle, pedestrian, transit, and trail conditions and needs were considered for the study area, with particular emphasis on connectivity to the rest of Wilsonville's neighborhoods, trails, parks, and schools.

The Wilsonville TSP identifies various multimodal improvement projects that are intended to address the deficiencies. Projects within the vicinity of the Frog Pond Area include urban upgrades to Boeckman Road and Stafford Road, which include bike lanes, sidewalks, and transit stop improvements/additions. The TSP also includes a project for new trails through the Frog Pond East and South neighborhoods.

ADVANCE ROAD NEEDS

Additional school safety improvements should be considered on Advance Road near Meridian Creek Middle School. An increase in pedestrian and bicycle traffic to and from the school can be expected with the buildout of the East and South neighborhoods, necessitating pedestrian crossing enhancements on Advance Road.

The urban upgrade improvements on Boeckman Road are currently in the design phase and a separated multi-use path, cycle track, or protected bike lanes are being considered along Boeckman Road. It is desired by the City to extend the identified multimodal improvements on Boeckman Road to the west of Stafford Road along Advance Road fronting the Frog Pond development.

STAFFORD ROAD NEEDS

Pedestrian crossing enhancements on Stafford Road will be needed as the East neighborhood is built out. A significant increase in pedestrian and bicycle trips are expected across Stafford Road between the existing Frog Pond West neighborhood and the planned primary school (in Frog Pond West) to housing and commercial uses in the East neighborhood. Key locations for crossing enhancements would be at Frog Pond Lane and Brisband Street. A signalized crossing already exists at the Stafford Road-Wilsonville Road/Boeckman Road-Advance Road intersection.

Separated pedestrian and bicycle facilities are also desired along Stafford Road since it is a higher speed, higher volume facility. A separated multi-use path, cycle track, or protected bike lanes should be considered along Stafford Road fronting the Frog Pond development on either the west or east side. Given that the majority of the west side of Stafford Road has already gone through development review, the east side of Stafford Road would be the preferred location for a separated pedestrian and bicycle facility.

Recommendations for bicycle and pedestrian projects are listed on page 18 of this memo.



FUTURE BASELINE CONDITIONS (2040)

Future baseline (2040) traffic conditions were evaluated for the study area and include the forecasted baseline traffic volumes and intersection operations. For analysis purposes, the East and South neighborhoods are assumed to experience full build-out by the year 2040.

FUTURE BASELINE TRAFFIC VOLUMES

Future traffic volumes were forecasted for the study intersections using the recently updated travel forecast models developed specifically for Wilsonville. The models apply trip generation and trip distribution data directly taken from the Metro regional travel demand forecast models but add additional detail to better represent local travel conditions and routing within Wilsonville.

Figure 4 shows the PM peak hour traffic volumes for the study intersections based on the Metro model assumptions. As the forecasts are consistent with the current Metro land use assumptions, this scenario is referred to as the 2040 Baseline scenario. This scenario already accounts for some existing homes in the West neighborhood and contains land use assumptions (housing and some employment) in the East and South neighborhoods in 2040.

It should be noted that the Metro model was used for this study because it represents the latest regionally approved land use for Wilsonville and the Region. This model was completed by Metro, in collaboration with the City, after the City's TSP was approved and includes additional land use and transportation network assumptions adopted by Metro after the TSP was adopted.



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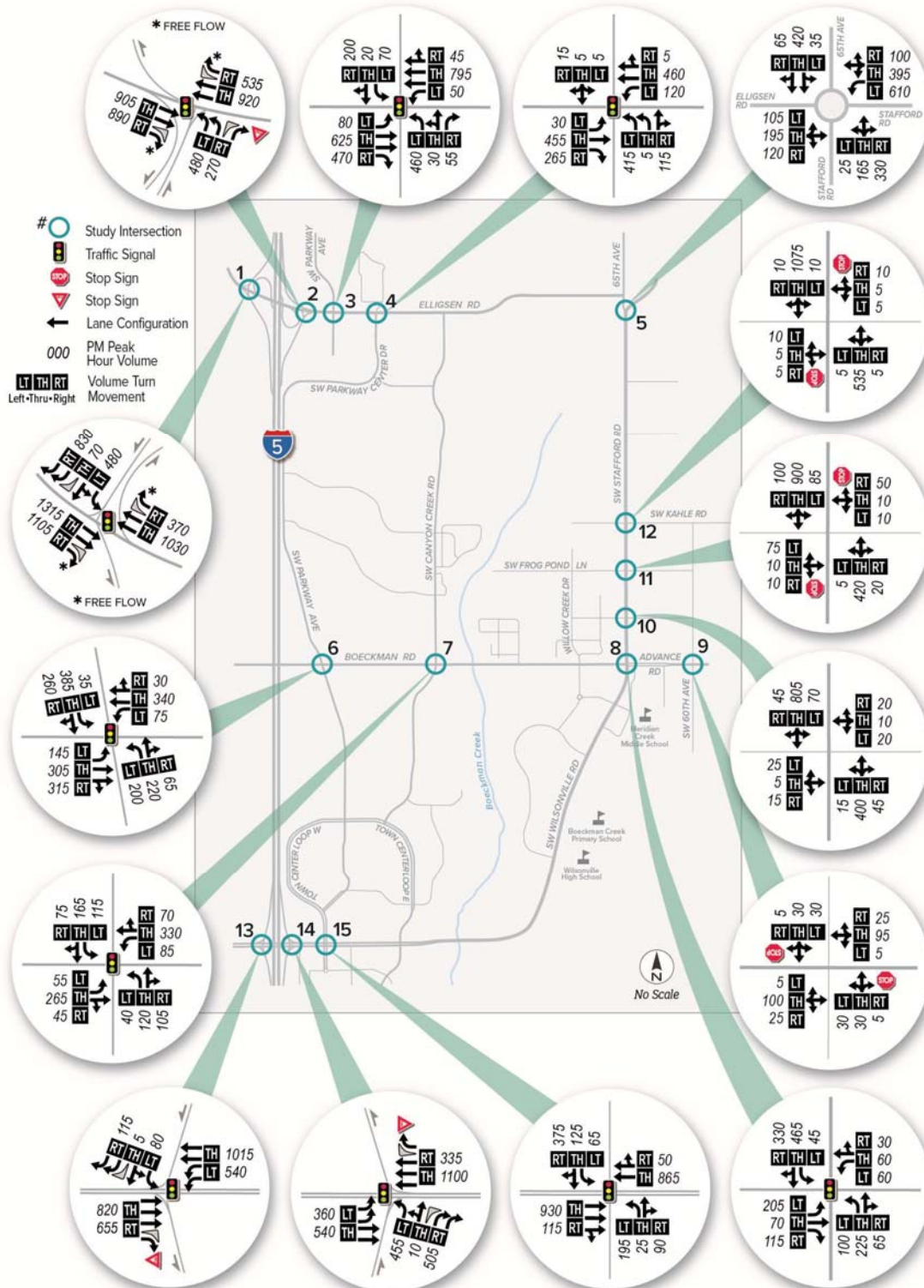


FIGURE 4: BASELINE (2040) TRAFFIC VOLUMES, LANE GEOMETRIES, AND TRAFFIC CONTROL



FUTURE HIGH-PRIORITY TSP PROJECTS

The future baseline scenario assumed improved intersection geometries associated with all High Priority Projects included in Wilsonville's TSP. The High Priority Projects applicable to the Frog Pond study area include the following:

- Addition of a second southbound right turn lane on the I-5 Southbound Off-Ramp at Elligsen Road (SI-07).
- Addition of dual eastbound and westbound through lanes at Boeckman Road/Parkway Avenue intersection (RW-01).
- Installation of traffic signal at Boeckman Road/Canyon Creek Road (UU-01). The City of Wilsonville is currently in the conceptual design phase for this intersection and a roundabout is also under consideration.
- Intersection modifications at Wilsonville Road/Town Center Loop West which including eliminating westbound and eastbound left turns, addition of an eastbound through "trap" lane, and reduction of the northbound and southbound approaches to a left turn lane and shared through-right turn lane (SI-09).
- Installation of a roundabout and combination of the existing intersections of Elligsen Road/65th Avenue and Stafford Road/65th Avenue (SI-03). This intersection is located within Clackamas County and is identified in their TSP but is also referenced in the Wilsonville TSP. For this analysis, the roundabout was evaluated as a partial dual-lane roundabout.

FUTURE BASELINE INTERSECTION OPERATIONS

Intersection traffic operations under the future 2040 Baseline scenario were analyzed for the PM peak hour to evaluate whether the transportation network is expected to remain within desired performance levels as required by the City of Wilsonville, Clackamas County, and ODOT.

Table 2 lists the estimated average delay (in seconds), level of service (LOS), and volume to capacity (v/c) ratio that each study intersection and future access is expected to experience.

As shown, all intersections are expected to meet operating standards and targets under Baseline conditions with exception of the Stafford Road/Kahle Road, Stafford Road/Frog Pond Lane, and Stafford Road/Brisband Street intersections, which were analyzed as key gateways to the Frog Pond East neighborhood.



TABLE 2: FUTURE BASELINE (2040) INTERSECTION OPERATIONS

INTERSECTION	OPERATING STANDARD	PM PEAK HOUR		
		V/C	DELAY	LOS
SIGNALIZED				
ELDIGSEN RD/I-5 SB RAMPS	v/c ≤ 0.90	0.73	18.1	B
ELDIGSEN RD/I-5 NB RAMPS	v/c ≤ 0.90	0.45	9.3	A
ELDIGSEN RD/PARKWAY AVE	LOS D	0.52	24.4	C
ELDIGSEN RD/PARKWAY CENTER DR	LOS D	0.55	16.9	B
BOECKMAN RD/PARKWAY AVE	LOS D	0.82	23.5	C
BOECKMAN RD/CANYON CREEK RD	LOS D	0.57	15.2	B
STAFFORD RD-WILSONVILLE RD /BOECKMAN RD-ADVANCE RD	LOS D	0.79	22.5	C
WILSONVILLE RD/I-5 SB RAMPS	v/c ≤ 0.90	0.40	14.0	B
WILSONVILLE RD/I-5 NB RAMPS	v/c ≤ 0.90	0.52	22.2	C
WILSONVILLE RD/TOWN CENTER LP WEST	LOS D	0.82	44.3	D
TWO-WAY STOP-CONTROLLED				
ADVANCE RD/60 TH AVE	LOS D	0.11	11.4	A/B
STAFFORD RD/BRISBAND ST	LOS D	0.49	72.6	A/F
STAFFORD RD/FROG POND LN	LOS D	>1.20	>120	B/F
STAFFORD RD/KAHLE RD	LOS D	0.29	70.3	B/F
ROUNDBOUT				
STAFFORD RD/65 TH AVE/ELDIGSEN RD	v/c ≤ 0.90	0.84	17.9	B

SIGNALIZED INTERSECTION:

Delay = Average Intersection Delay (secs)
v/c = Total Volume-to-Capacity Ratio
LOS = Total Level of Service

TWO-WAY STOP-CONTROLLED INTERSECTION:

Delay = Critical Movement Delay (secs)
v/c = Critical Movement Volume-to-Capacity Ratio
LOS = Critical Levels of Service (Major/Minor Road)

ROUNDBOUT INTERSECTION:

Delay = Average Intersection Delay (secs)
v/c = Critical Movement Volume-to-Capacity Ratio
LOS = Total Level of Service



ANTICIPATED BUILD CONDITIONS (2040)

Anticipated build (2040) traffic conditions were evaluated for the study area and include the land use assumptions, anticipated build traffic volumes and intersection operations, and identified transportation improvements.

LAND USE ASSUMPTIONS AND ADJUSTMENTS

As mentioned previously, the 2040 Wilsonville Travel Demand model currently contains housing and job land use assumptions for the Frog Pond East and South neighborhoods. Now that the East and South neighborhood layouts have been further refined, the assumed quantity of housing units and commercial space have been estimated. To best analyze the impact of the estimated full buildout of the East and South neighborhoods, DKS adjusted the Wilsonville Travel Demand Model assumptions for the transportation analysis zones (TAZs) that comprise the Frog Pond East and South neighborhoods to account for a higher number of housing units than what is currently assumed.

Table 3 lists the land use adjustments that were applied to the 2040 Travel Demand Model to emulate the anticipated land use generation for Frog Pond (Build scenario). As shown below, the number of household units for both neighborhoods was increased by 136% and 0 jobs were increased.

TABLE 3: TRAVEL DEMAND MODEL ADJUSTMENTS

	HOUSEHOLDS	JOBS
EAST NEIGHBORHOOD	Increase by 103%	No Change 0%
SOUTH NEIGHBORHOOD	Increase by 225%	No Change 0%
TOTAL	Increase by 130%	No Change 0%

ANTICIPATED BUILD TRAFFIC VOLUMES

The future 2040 Build traffic volumes were forecasted for the study area using the Wilsonville travel forecast model with the adjustments as previously discussed. Intersection operations were then evaluated to determine how sufficiently the City's future transportation system would support the long-term estimated build-out of the Frog Pond East and South neighborhoods, therefore determining what improvements might be needed. The PM peak hour traffic volumes, lane geometries, and intersection operating conditions are shown in Figure 5.



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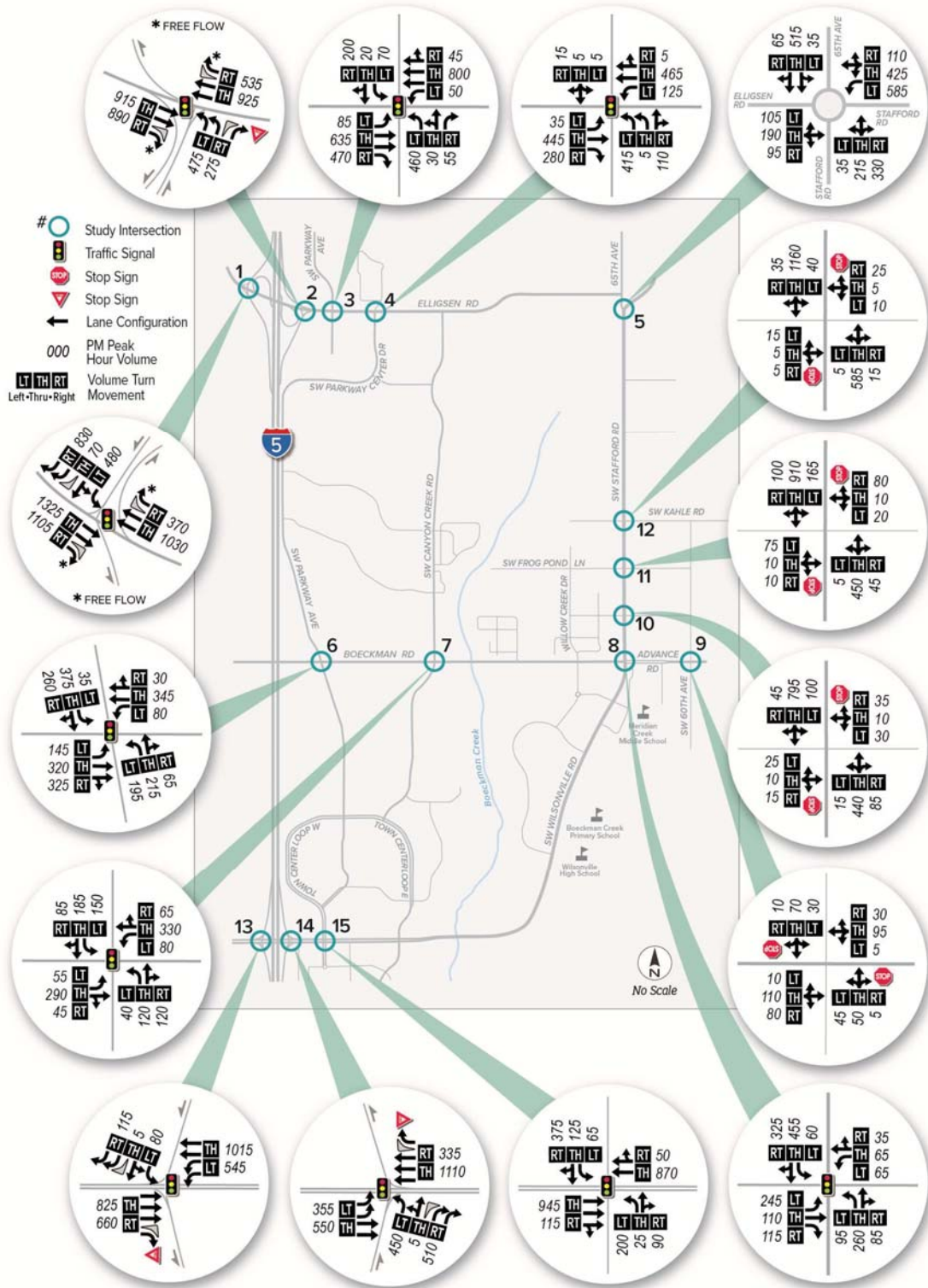


FIGURE 5: BUILD (2040) TRAFFIC VOLUMES, LANE GEOMETRIES, AND TRAFFIC CONTROL



ANTICIPATED BUILD INTERSECTION OPERATIONS

Intersection traffic operations under the future 2040 Build scenario were analyzed for the PM peak hour with the same intersection geometries that were assumed in the Baseline scenario. Table 4 the estimated average delay (in seconds), level of service (LOS), and volume to capacity (v/c) ratio for each study intersection.

TABLE 4: ANTICIPATED BUILD (2040) INTERSECTION OPERATIONS

INTERSECTION	OPERATING STANDARD	PM PEAK HOUR		
		V/C	DELAY	LOS
SIGNALIZED				
ELLIGSEN RD/I-5 SB RAMPS	v/c ≤ 0.90	0.73	18.2	B
ELLIGSEN RD/I-5 NB RAMPS	v/c ≤ 0.90	0.45	9.2	A
ELLIGSEN RD/PARKWAY AVE	LOS D	0.53	24.5	C
ELLIGSEN RD/PARKWAY CENTER DR	LOS D	0.54	16.8	B
BOECKMAN RD/PARKWAY AVE	LOS D	0.81	23.3	C
BOECKMAN RD/CANYON CREEK RD	LOS D	0.60	15.9	B
BOECKMAN RD-ADVANCE RD/ STAFFORD RD-WILSONVILLE RD	LOS D	0.81	22.6	C
WILSONVILLE RD/I-5 SB RAMPS	v/c ≤ 0.90	0.40	14.0	B
WILSONVILLE RD/I-5 NB RAMPS	v/c ≤ 0.90	0.52	22.1	C
WILSONVILLE RD/TOWN CENTER LP WEST	LOS D	0.82	44.1	D
TWO-WAY STOP-CONTROLLED				
ADVANCE RD/60 TH AVE	LOS D	0.20	13.2	A/B
STAFFORD RD/BRISBAND ST	LOS D	0.85	>120	A/F
STAFFORD RD/FROG POND LN	LOS D	>1.20	>120	B/F
STAFFORD RD/KAHLE RD	LOS D	0.65	>120	B/F
ROUNDBOUT				
STAFFORD RD/65 TH AVE/ ELLIGSEN RD	v/c ≤ 0.90	0.85	21.0	C

SIGNALIZED INTERSECTION:

Delay = Average Intersection Delay (secs)
v/c = Total Volume-to-Capacity Ratio
LOS = Total Level of Service

TWO-WAY STOP-CONTROLLED INTERSECTION:

Delay = Critical Movement Delay (secs)
v/c = Critical Movement Volume-to-Capacity Ratio
LOS = Critical Levels of Service (Major/Minor Road)

ROUNDBOUT INTERSECTION:

Delay = Average Intersection Delay (secs)
v/c = Critical Movement Volume-to-Capacity Ratio
LOS = Total Level of Service



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As shown, the unsignalized intersections/accesses along Stafford Road (Kahle Road, Frog Pond Lane, and Brisband Street) are expected to exceed the City's LOS D performance standard. The primary reason is the high through volumes that influence delay experienced by side street vehicles attempting to turn left.

RECOMMENDED TRANSPORTATION IMPROVEMENTS

The three intersections along Stafford Road are located approximately within 800–900 feet from one another. Therefore, the interaction of all improvements at these intersections must be carefully considered due to their proximity. The following projects have therefore been identified to improve the three gateway intersections along Stafford Road to meet the City's level of service D performance standard.

Due to the planned location of the commercial uses off Brisband Street, it is desirable to allow all vehicle turning movements at the Brisband Street intersection to provide full access and connectivity to those land uses. It is also desirable to have a full-access gateway intersection at the far north end of the housing development to function as a gateway between the rural higher speed traffic and urban slower speed traffic and provide safe access to the Frog Pond development. There is a strong desire to preserve the historic Grange building on the northeast corner of Stafford Road/Frog Pond Lane intersection. Turn restrictions could be implemented at the Stafford Road/Frog Pond Lane intersection (restrict minor street through and left turns) to allow access to safe movements (left in, right in and right out). A full access roundabout at Frog Pond Lane would likely require the removal or relocation of the historic Grange building due to the required footprint of the improvement.

If two intersections are improved with roundabouts with a limited access between the two full-access locations, it is likely that many of the residents and drivers familiar with the area would choose to turn left or go through at those improved intersections during the peak periods, particularly with good Collector/Local Street connectivity. Local street connections in both the East and West neighborhoods are planned that would allow sufficient connectivity for vehicles to access the proposed roundabouts Kahle Road or Brisband Street to cross Stafford Road or turn left onto Stafford Road. A discussion on the advantages and disadvantages of roundabouts are provided in a subsequent section.

The recommended improvements are highlighted below.

KAHLE ROAD/STAFFORD ROAD

At this intersection, install a single-lane roundabout with pedestrian island. In addition to meeting capacity needs, the proposed roundabout would improve safety and provide a distinct transition between the rural and urban land use and traffic speeds in the area. The roundabout should include pedestrian medians for enhanced pedestrian crossings.

FROG POND LANE/STAFFORD ROAD

At this intersection, install a raised center median and traffic separator that allows northbound and southbound right and left turns from Stafford Road and minor street



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right turns but restricts minor street eastbound and westbound through and left turn movements to and from Frog Pond West and East. The restriction is needed to facilitate safe vehicle and pedestrian/bicycle movements at the intersection and to meet the City's LOS standard. This intersection should include enhanced pedestrian crossings with median breaks for safe and improved pedestrian connectivity.

BRISBAND STREET/STAFFORD ROAD

At this intersection, install a single-lane roundabout. This will require a slight shift of Stafford Road to the east to accommodate the necessary right-of-way. The roundabout should include pedestrian medians for enhanced pedestrian crossings.

60TH AVENUE/ADVANCE ROAD

At this intersection, install a single-lane roundabout. While not a necessary improvement for traffic operating conditions, the proposed roundabout would improve safety and provide a distinct transition between the rural land use with high-speed traffic and urban land use with slower vehicle speeds and the need for multimodal safety in the area.

IMPROVED OPERATING CONDITIONS

The table below shows the intersection operations for the four intersections with the identified transportation improvements in place. As shown, all four intersections will meet the City LOS standard while providing safe multimodal improvements for pedestrian and bicycles.

TABLE 5: ANTICIPATED BUILD (2040) INTERSECTION OPERATIONS - IMPROVEMENTS

INTERSECTION	IMPROVEMENT	OPERATING STANDARD	PM PEAK HOUR		
			V/C	DELAY	LOS
ADVANCE RD/ 60 TH AVE	Roundabout	LOS D	0.19	4.3	A
STAFFORD RD/ BRISBAND ST	Roundabout	LOS D	0.78	12.7	B
STAFFORD RD/ FROG POND LN	Two-Way Stop-Controlled with Minor Street Turn Restrictions	LOS D	0.04	18.5	B/C
STAFFORD RD/ KAHLE RD	Roundabout	LOS D	0.99	29.6	D

TWO-WAY STOP-CONTROLLED INTERSECTION:
 Delay = Critical Movement Delay (secs)
 v/c = Critical Movement Volume-to-Capacity Ratio
 LOS = Critical Levels of Service (Major/Minor Road)

ROUNDAABOUT INTERSECTION:
 Delay = Average Intersection Delay (secs)
 v/c = Critical Movement Volume-to-Capacity Ratio
 LOS = Total Level of Service



Advantages of Installing a Roundabout

- Roundabouts can reduce delay for side street traffic because no approach is given more priority than another. Therefore, the Kahle Road and Brisband Street intersections would no longer be anticipated to operate at LOS F in the future scenarios.
- Roundabouts can help to slow traffic speeds on the roadway. Typical circulating speeds for a roundabout are 15 – 20 miles per hour (mph), which would help to calm traffic in the vicinity of the Frog Pond development area.
- Converting a stop-controlled intersection to a single-lane roundabout can reduce fatal and injury crashes by 82%.
- Roundabouts reduce the number of conflict points between vehicles and between vehicles and pedestrians/bicycles.
- Roundabouts at Stafford Road/Kahle Road and Advance Road/60th Avenue would provide clear gateways between the rural and urban environments. The Stafford Road/Kahle Road location is under the BPA power line easement and would have underutilized land available to accommodate the larger footprint that roundabouts require.

Disadvantages of Installing a Roundabout

- Because all approaches are treated the same and must yield to traffic within the roundabout, this would introduce delay for traffic on the major approaches (Stafford Road).
- Roundabouts are more difficult for large trucks and agricultural vehicles to navigate and may result in complaints from the freight community and farmers.
- Roundabouts can be difficult for school aged pedestrians and bicyclists to cross because there is no exclusive stop phase (as is provided with a traffic signal). The lack of straight paths and clear turns can also be difficult for the vision impaired.
- Roundabouts require a larger footprint, which would require additional right-of-way dedication or acquisition.



IDENTIFIED PROJECTS

The following lists of transportation projects have been identified through the evaluation of the proposed Frog Pond East and South neighborhoods.

STREET PROJECTS

- Widen Stafford Road to a three-lane cross section (two travel lanes with a center turn lane). Include curb, gutter, sidewalks, landscape strips, and bicycle facilities on both sides. Additionally, acquire the necessary right-of-way to accommodate a five-lane cross section. See sensitivity analysis in next section for explanation.
- Widen Advance Road to a three-lane cross section (two travel lanes with a center turn lane). Include curb, gutter, sidewalks, landscape strips, and bicycle facilities on both sides.
- Construct Local And Neighborhood Collector streets through the East and South neighborhoods consistent with the draft master plan to provide connections to the internal land uses.

INTERSECTION PROJECTS

- Install a single-lane roundabout at Stafford Road/Kahle Road.
- Install a median that restricts minor street left turn and through movements at Stafford Road/Frog Pond Lane.
- Install a single-lane roundabout at Stafford Road/Brisband Street.
- Install a single-lane roundabout at Advance Road/60th Avenue.

PEDESTRIAN, BICYCLE, AND TRAIL PROJECTS

- Install a mid-block crossing on Advance Road between 60th Avenue and 63rd Avenue to facilitate safe crossings between the future park and East neighborhood. A Rectangular Rapid Flashing Beacon (RRFB) should be added to one of the crossings at either 63rd Avenue, 60th Avenue, or the midblock crossing between them.
- Install a crosswalk with median at the Frog Pond Lane/Stafford Road. It is assumed that additional safe and accessible bicycle and pedestrian crossings will be provided via the identified roundabouts at Kahle Road/Stafford Road and Brisband Street/Stafford Road.
- Extend the planned pedestrian and bicycle facility improvements on Boeckman Road to Advance Road east of Stafford Road. The desired cross section for Boeckman Road is still in the design stage but will likely include a multi-use path, cycle track, or protected bike lanes.
- Construct a separated multi-use path, two-way cycle track, or protected bike lanes along the east side of Stafford Road.
- Construct pedestrian and bicycle trails through the East and South neighborhoods consistent with the draft master plan to provide connections to existing local and regional trails in Wilsonville



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APPENDIX



EAST & SOUTH MASTER PLAN

Item 3.

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- Park / Open Space
- Conceptual Trails
- Future Transit
- Local Streets
- Framework Streets
- SROZ
- 50' Creek Buffer
- Significant Trees - Highest Priority
- Significant Trees - Secondary Priority

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EXISTING 2022 HCM REPORTS

FUTURE BASELINE 2040 HCM REPORTS

ANTICIPATED BUILD 2040 HCM REPORTS

RECOMMENDED IMPROVEMENTS HCM REPORTS



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TRAFFIC COUNT DATA



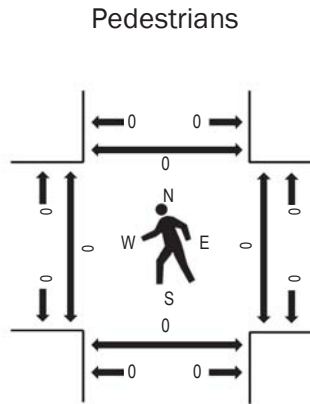
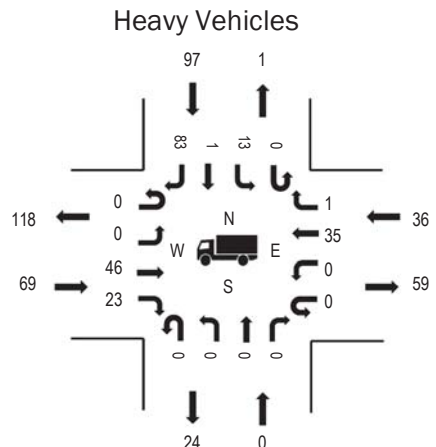
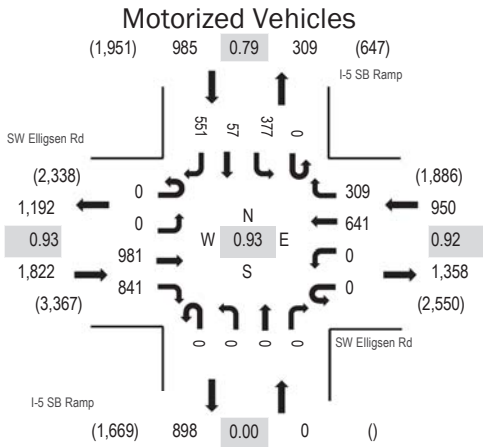


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Location: 4 I-5 SB Ramp & SW Elligsen Rd PM
Date: Wednesday, September 22, 2021
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:00 PM - 04:15 PM

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Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.8%	0.93
WB	3.8%	0.92
NB	0.0%	0.00
SB	9.8%	0.79
All	5.4%	0.93

Traffic Counts - Motorized Vehicles

Interval Start Time	SW Elligsen Rd Eastbound				SW Elligsen Rd Westbound				I-5 SB Ramp Northbound				I-5 SB Ramp Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	74	72	0	0	41	26	0	0	0	0	0	47	8	53	321	3,757
4:05 PM	0	0	92	65	0	0	48	29	0	0	0	0	0	46	10	56	346	3,746
4:10 PM	0	0	97	77	0	0	55	23	0	0	0	0	0	37	13	43	345	3,709
4:15 PM	0	0	65	74	0	0	54	20	0	0	0	0	0	40	5	45	303	3,652
4:20 PM	0	0	76	71	0	0	60	31	0	0	0	0	0	24	8	50	320	3,655
4:25 PM	0	0	67	68	0	0	67	32	0	0	0	0	0	25	6	42	307	3,601
4:30 PM	0	0	108	61	0	0	50	28	0	0	0	0	0	34	0	37	318	3,622
4:35 PM	0	0	86	72	0	0	56	31	0	0	0	0	0	13	0	47	305	3,585
4:40 PM	0	0	86	78	0	0	40	31	0	0	0	0	0	25	1	54	315	3,573
4:45 PM	0	0	75	73	0	0	59	17	0	0	0	0	0	31	1	32	288	3,553
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5:10 PM	0	0	87	58	0	0	48	35	0	0	0	0	0	21	3	36	288	
5:15 PM	0	0	75	65	0	0	55	53	0	0	0	0	0	22	0	36	306	
5:20 PM	0	0	65	59	0	0	49	24	0	0	0	0	0	31	0	38	266	
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5:35 PM	0	0	69	66	0	0	68	26	0	0	0	0	0	20	7	37	293	
5:40 PM	0	0	72	57	0	0	45	29	0	0	0	0	0	33	10	49	295	
5:45 PM	0	0	54	50	0	0	56	19	0	0	0	0	0	32	6	56	273	
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5:55 PM	0	0	54	40	0	0	44	14	0	0	0	0	0	45	5	52	254	
Count Total	0	0	1,814	1,553	0	0	1,239	647	0	0	0	0	0	736	116	1,099	7,204	
Peak Hour	0	0	981	841	0	0	641	309	0	0	0	0	0	377	57	551	3,757	

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Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	9	0	2	6	17	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	10	0	2	6	18	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	2	0	3	8	13	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	2	0	6	10	18	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	5	0	1	6	12	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	6	0	3	7	16	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	6	0	4	7	17	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	1	0	1	9	11	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	10	0	4	11	25	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	7	0	1	7	15	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	5	0	2	12	19	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	6	0	7	8	21	4:55 PM	0	0	1	0	1	4:55 PM	0	0	0	1	1
5:00 PM	4	0	1	7	12	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	2	0	3	3	8	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	4	0	2	7	13	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	2	6	8	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	3	0	4	10	17	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
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5:35 PM	4	0	5	5	14	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	7	0	2	2	11	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	7	0	1	6	14	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	9	0	3	7	19	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	5	0	3	7	15	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	125	0	66	166	357	Count Total	0	0	1	0	1	Count Total	0	0	0	1	1
Peak Hour	69	0	36	97	202	Peak Hour	0	0	1	0	1	Peak Hour	0	0	0	1	1

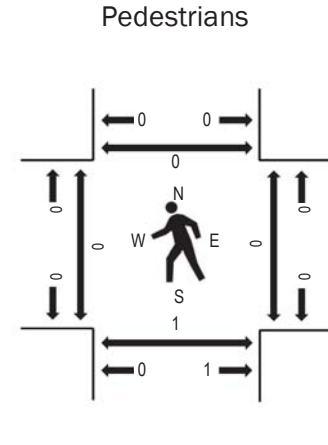
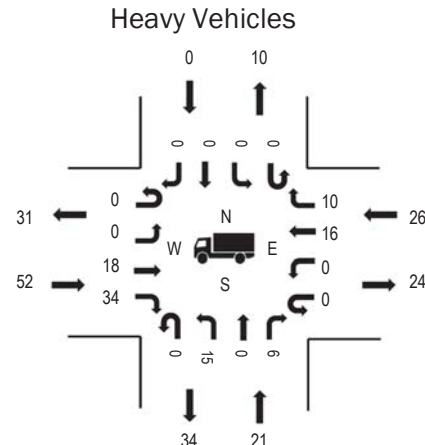
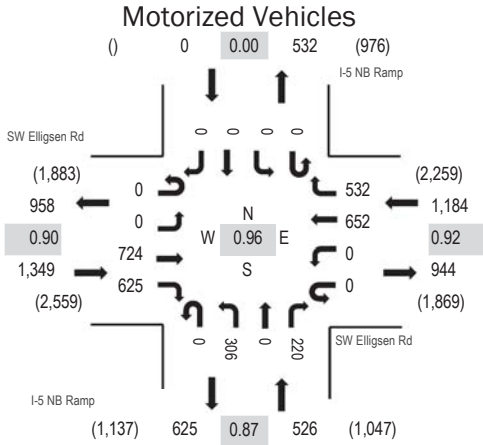


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Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.9%	0.90
WB	2.2%	0.92
NB	4.0%	0.87
SB	0.0%	0.00
All	3.2%	0.96

Traffic Counts - Motorized Vehicles

Interval Start Time	SW Elligsen Rd Eastbound				SW Elligsen Rd Westbound				I-5 NB Ramp Northbound				I-5 NB Ramp Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	76	41	0	0	48	36	0	18	0	18	0	0	0	0	237	3,045
4:05 PM	0	0	76	54	0	0	51	49	0	25	0	21	0	0	0	0	276	3,059
4:10 PM	0	0	58	73	0	0	58	46	0	19	0	16	0	0	0	0	270	3,051
4:15 PM	0	0	70	43	0	0	49	47	0	23	0	16	0	0	0	0	248	3,023
4:20 PM	0	0	60	51	0	0	64	44	0	29	0	16	0	0	0	0	264	3,027
4:25 PM	0	0	53	40	0	0	62	39	0	37	0	22	0	0	0	0	253	3,006
4:30 PM	0	0	64	62	0	0	51	43	0	27	0	30	0	0	0	0	277	3,015
4:35 PM	0	0	42	65	0	0	65	46	0	23	0	17	0	0	0	0	258	2,977
4:40 PM	0	0	53	57	0	0	46	37	0	25	0	13	0	0	0	0	231	2,959
4:45 PM	0	0	59	43	0	0	48	39	0	27	0	17	0	0	0	0	233	2,971
4:50 PM	0	0	74	39	0	0	50	52	0	25	0	21	0	0	0	0	261	2,936
4:55 PM	0	0	58	52	0	0	48	38	0	28	0	13	0	0	0	0	237	2,862
5:00 PM	0	0	57	46	0	0	60	52	0	18	0	18	0	0	0	0	251	2,820
5:05 PM	0	0	58	61	0	0	66	48	0	19	0	16	0	0	0	0	268	
5:10 PM	0	0	52	49	0	0	61	42	0	21	0	17	0	0	0	0	242	
5:15 PM	0	0	51	39	0	0	72	33	0	38	0	19	0	0	0	0	252	
5:20 PM	0	0	59	41	0	0	48	42	0	25	0	28	0	0	0	0	243	
5:25 PM	0	0	66	54	0	0	64	37	0	18	0	23	0	0	0	0	262	
5:30 PM	0	0	63	40	0	0	50	49	0	23	0	14	0	0	0	0	239	
5:35 PM	0	0	48	41	0	0	53	42	0	41	0	15	0	0	0	0	240	
5:40 PM	0	0	67	42	0	0	51	37	0	23	0	23	0	0	0	0	243	
5:45 PM	0	0	47	28	0	0	51	27	0	24	0	21	0	0	0	0	198	
5:50 PM	0	0	55	40	0	0	37	22	0	16	0	17	0	0	0	0	187	
5:55 PM	0	0	56	36	0	0	30	29	0	28	0	16	0	0	0	0	195	
Count Total	0	0	1,422	1,137	0	0	1,283	976	0	600	0	447	0	0	0	0	5,865	
Peak Hour	0	0	724	625	0	0	652	532	0	306	0	220	0	0	0	0	3,059	

DRAFT

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	7	1	2	0	10	4:00 PM	1	0	0	0	1	4:00 PM	0	0	0	0	0
4:05 PM	4	2	1	0	7	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	2	2	2	0	6	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	3	3	1	0	7	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	7	2	5	0	14	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	4	2	2	0	8	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	7	2	3	0	12	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	2	1	2	0	5	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	6	0	4	0	10	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	6	0	0	0	6	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	6	2	2	0	10	4:50 PM	0	0	0	0	0	4:50 PM	0	1	0	0	1
4:55 PM	4	5	2	0	11	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	0	2	0	3	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	4	3	1	0	8	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	3	0	1	0	4	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	1	4	1	0	6	5:15 PM	0	0	0	0	0	5:15 PM	0	1	0	0	1
5:20 PM	2	4	1	0	7	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	4	2	0	0	6	5:25 PM	0	0	1	0	1	5:25 PM	0	0	0	0	0
5:30 PM	7	1	2	0	10	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	5	3	3	0	11	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	4	2	1	0	7	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	3	1	1	0	5	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	4	2	2	0	8	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	3	2	5	0	10	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	99	46	46	0	191	Count Total	1	0	1	0	2	Count Total	0	2	0	0	2
Peak Hour	52	21	26	0	99	Peak Hour	0	0	0	0	0	Peak Hour	0	1	0	0	1

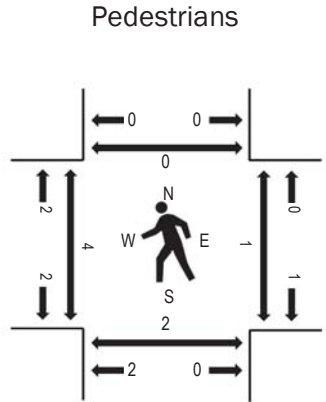
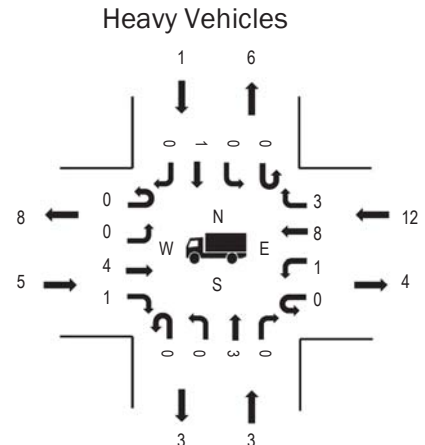
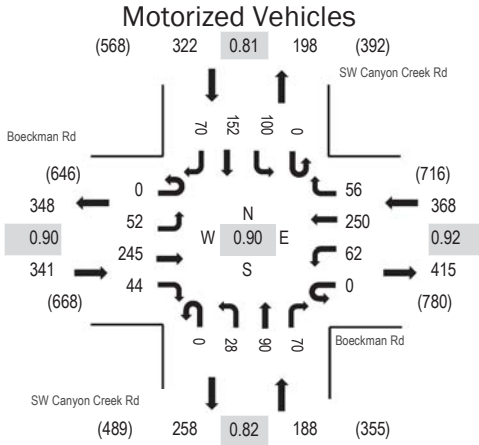


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Location: 2 SW Canyon Creek Rd & Boeckman Rd PM
Date: Thursday, September 30, 2021
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 04:50 PM - 05:05 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.5%	0.90
WB	3.3%	0.92
NB	1.6%	0.82
SB	0.3%	0.81
All	1.7%	0.90

Traffic Counts - Motorized Vehicles

Interval Start Time	Boeckman Rd Eastbound				Boeckman Rd Westbound				SW Canyon Creek Rd Northbound				SW Canyon Creek Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	6	17	8	0	11	31	4	0	4	5	2	0	5	9	4	106	1,142
4:05 PM	0	4	22	2	0	4	18	7	0	0	8	6	0	2	9	1	83	1,148
4:10 PM	0	5	21	3	0	3	20	4	0	1	5	5	0	3	15	7	92	1,172
4:15 PM	0	5	14	3	0	2	15	5	0	2	15	6	0	8	7	3	85	1,184
4:20 PM	0	2	28	2	0	4	14	6	0	2	11	4	0	5	15	3	96	1,201
4:25 PM	0	3	19	7	0	7	22	4	0	3	7	4	0	7	9	2	94	1,201
4:30 PM	0	3	23	3	0	8	21	4	0	2	4	5	0	7	5	9	94	1,202
4:35 PM	0	4	22	5	0	2	19	5	0	3	10	1	0	3	13	3	90	1,214
4:40 PM	0	3	19	2	0	6	12	3	0	3	8	4	0	11	14	7	92	1,215
4:45 PM	0	3	18	4	0	1	20	3	0	3	5	3	0	9	9	7	85	1,219
4:50 PM	0	8	12	4	0	5	31	6	0	2	9	5	0	12	16	3	113	1,214
4:55 PM	0	7	25	2	0	6	19	3	0	3	7	8	0	9	13	10	112	1,190
5:00 PM	0	5	22	0	0	2	12	6	0	5	9	11	0	16	15	9	112	1,165
5:05 PM	0	2	27	7	0	8	24	6	0	1	7	3	0	9	10	3	107	
5:10 PM	0	3	21	6	0	8	20	5	0	1	11	4	0	6	12	7	104	
5:15 PM	0	7	19	3	0	4	20	6	0	3	10	7	0	6	14	3	102	
5:20 PM	0	5	14	5	0	7	23	7	0	3	4	5	0	6	11	6	96	
5:25 PM	0	4	19	6	0	7	18	5	0	2	3	3	0	7	16	5	95	
5:30 PM	0	2	25	5	0	3	20	3	0	1	10	7	0	10	11	9	106	
5:35 PM	0	3	21	1	0	6	17	5	0	3	8	5	0	4	17	1	91	
5:40 PM	0	3	22	1	0	5	26	1	0	1	7	9	0	6	8	7	96	
5:45 PM	0	1	21	3	0	7	20	2	0	2	8	6	0	6	2	2	80	
5:50 PM	0	2	16	4	0	5	20	6	0	0	11	2	0	10	10	3	89	
5:55 PM	0	4	19	2	0	6	16	5	0	0	5	3	0	9	14	4	87	
Count Total	0	94	486	88	0	127	478	111	0	50	187	118	0	176	274	118	2,307	
Peak Hour	0	52	245	44	0	62	250	56	0	28	90	70	0	100	152	70	1,219	

DRAFT

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	3	0	3	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	2	2	0	4	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	1	0	1	0	2	4:10 PM	0	0	0	0	0	4:10 PM	0	2	0	0	2
4:15 PM	1	1	0	1	3	4:15 PM	0	0	0	0	0	4:15 PM	1	2	2	0	5
4:20 PM	0	1	1	0	2	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	0	2	0	3	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	2	0	3	4:30 PM	0	0	0	0	0	4:30 PM	0	2	0	0	2
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	2	0	2
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	1	1	4:40 PM	0	0	0	0	0
4:45 PM	0	0	1	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	1	0	1	4:50 PM	0	0	0	1	1	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	0	0	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	1	0	0	1
5:05 PM	1	0	0	0	1	5:05 PM	0	0	0	0	0	5:05 PM	1	0	0	0	1
5:10 PM	1	0	1	0	2	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	1	1	2	5:15 PM	0	0	0	0	0	5:15 PM	1	0	0	0	1
5:20 PM	2	0	2	0	4	5:20 PM	0	0	0	0	0	5:20 PM	0	1	0	0	1
5:25 PM	0	0	1	0	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	1	2	0	3	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	2	3	0	5	5:35 PM	0	0	0	0	0	5:35 PM	0	0	1	0	1
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	2	0	0	0	2
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	2	0	0	0	2
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	1	0	0	1
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	9	7	23	2	41	Count Total	0	0	0	2	2	Count Total	7	9	5	0	21
Peak Hour	5	3	12	1	21	Peak Hour	0	0	0	1	1	Peak Hour	4	2	1	0	7



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Location: 4 SW Wilsonville Rd & SW Advance Rd PM

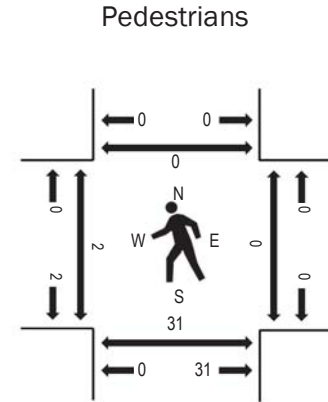
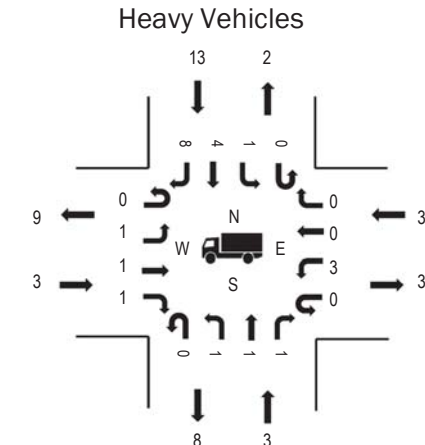
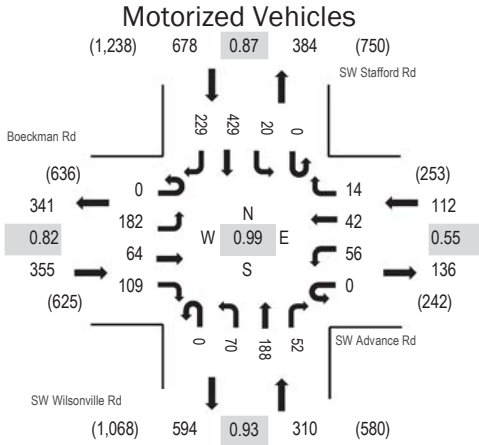
Date: Thursday, September 30, 2021

Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.8%	0.82
WB	2.7%	0.55
NB	1.0%	0.93
SB	1.9%	0.87
All	1.5%	0.99

Traffic Counts - Motorized Vehicles

Interval Start Time	Boeckman Rd Eastbound				SW Advance Rd Westbound				SW Wilsonville Rd Northbound				SW Stafford Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	11	4	8	0	16	19	12	0	4	14	1	0	5	26	16	136	1,289
4:05 PM	0	16	1	0	0	3	2	3	0	4	20	1	0	2	22	19	93	1,263
4:10 PM	0	17	6	3	0	4	2	6	0	4	16	3	0	0	31	14	106	1,294
4:15 PM	0	10	2	0	0	4	1	3	0	7	14	4	0	0	23	15	83	1,323
4:20 PM	0	20	7	6	0	9	2	5	0	5	13	1	0	0	30	12	110	1,350
4:25 PM	0	12	3	7	0	5	5	3	0	1	18	7	0	3	25	27	116	1,363
4:30 PM	0	11	5	8	0	3	2	0	0	2	10	3	0	1	24	23	92	1,376
4:35 PM	0	18	2	6	0	2	3	2	0	2	14	3	0	3	29	14	98	1,399
4:40 PM	0	11	3	8	0	3	1	4	0	3	14	5	0	1	31	13	97	1,424
4:45 PM	0	15	4	12	0	8	2	0	0	5	17	7	0	0	25	23	118	1,455
4:50 PM	0	15	6	1	0	2	6	2	0	8	15	7	0	2	35	21	120	1,435
4:55 PM	0	16	13	9	0	0	1	2	0	3	9	4	0	1	41	21	120	1,424
5:00 PM	0	19	10	6	0	6	1	0	0	6	16	6	0	2	21	17	110	1,407
5:05 PM	0	12	6	15	0	8	8	5	0	6	15	5	0	1	28	15	124	
5:10 PM	0	23	3	14	0	11	12	2	0	8	15	4	0	2	28	13	135	
5:15 PM	0	14	2	9	0	4	3	1	0	6	14	2	0	3	30	22	110	
5:20 PM	0	7	2	15	0	2	1	0	0	6	22	3	0	1	42	22	123	
5:25 PM	0	13	3	8	0	4	2	0	0	5	19	4	0	2	54	15	129	
5:30 PM	0	15	5	5	0	6	0	0	0	8	16	1	0	2	41	16	115	
5:35 PM	0	16	4	7	0	2	3	2	0	3	16	3	0	2	45	20	123	
5:40 PM	0	17	6	8	0	3	3	0	0	6	14	6	0	2	39	24	128	
5:45 PM	0	7	4	4	0	5	2	2	0	2	13	6	0	0	35	18	98	
5:50 PM	0	13	2	11	0	3	3	0	0	14	11	2	0	3	31	16	109	
5:55 PM	0	8	4	12	0	1	1	0	0	6	15	8	0	1	36	11	103	
Count Total	0	336	107	182	0	114	85	54	0	124	360	96	0	39	772	427	2,696	
Peak Hour	0	182	64	109	0	56	42	14	0	70	188	52	0	20	429	229	1,455	

DRAFT

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	4	1	5	4:00 PM	0	0	0	0	0	4:00 PM	0	8	0	0	8
4:05 PM	0	0	1	0	1	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	1	2	1	0	4	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	1	1	0	0	2	4:15 PM	0	0	0	0	0	4:15 PM	0	1	0	0	1
4:20 PM	0	4	0	1	5	4:20 PM	0	0	0	0	0	4:20 PM	0	1	0	0	1
4:25 PM	0	1	0	1	2	4:25 PM	0	0	0	0	0	4:25 PM	0	44	0	0	44
4:30 PM	0	0	1	3	4	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	1	1	4:40 PM	0	0	0	0	0	4:40 PM	0	11	0	0	11
4:45 PM	0	0	0	1	1	4:45 PM	0	0	0	0	0	4:45 PM	0	9	0	0	9
4:50 PM	0	0	0	2	2	4:50 PM	0	0	0	0	0	4:50 PM	0	22	0	0	22
4:55 PM	0	1	0	1	2	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	1	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	1	0	0	1
5:05 PM	0	0	0	1	1	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	2	0	0	1	3	5:10 PM	0	0	0	0	0	5:10 PM	1	0	0	0	1
5:15 PM	0	0	1	2	3	5:15 PM	0	0	0	0	0	5:15 PM	0	3	0	0	3
5:20 PM	0	0	0	1	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	1	0	0	0	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	2	1	0	3	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	3	3	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	1	1	5:40 PM	0	0	0	0	0	5:40 PM	2	0	0	0	2
5:45 PM	0	0	1	0	1	5:45 PM	0	0	0	0	0	5:45 PM	2	0	0	0	2
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	5	11	11	20	47	Count Total	0	0	0	0	0	Count Total	5	100	0	0	105
Peak Hour	3	3	3	13	22	Peak Hour	0	0	0	0	0	Peak Hour	3	35	0	0	38

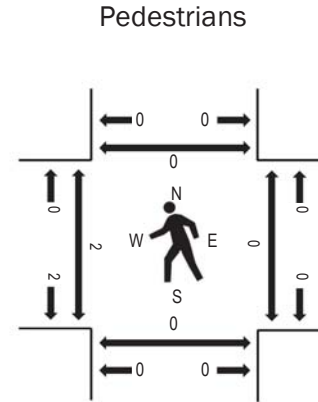
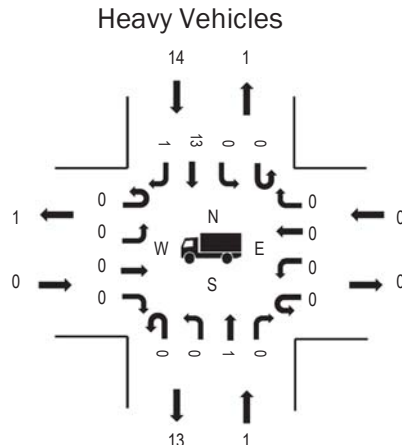
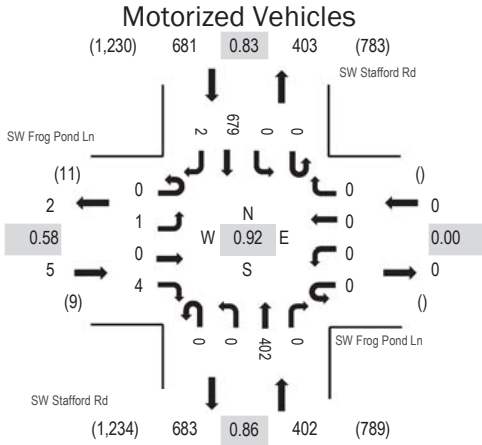


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Location: 6 SW Stafford Rd & SW Frog Pond Ln PM
Date: Thursday, September 30, 2021
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:20 PM - 05:35 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.58
WB	0.0%	0.00
NB	0.2%	0.86
SB	2.1%	0.83
All	1.4%	0.92

Traffic Counts - Motorized Vehicles

Interval Start Time	SW Frog Pond Ln Eastbound				SW Frog Pond Ln Westbound				SW Stafford Rd Northbound				SW Stafford Rd Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	0	1	0	0	0	0	0	1	38	0	0	0	47	0	87	971
4:05 PM	0	0	0	0	0	0	0	0	0	0	39	0	0	0	31	0	70	965
4:10 PM	0	0	0	0	0	0	0	0	0	1	33	0	0	0	48	0	82	983
4:15 PM	0	0	0	0	0	0	0	0	0	1	28	0	0	0	41	0	70	988
4:20 PM	0	0	0	0	0	0	0	0	0	1	39	0	0	0	52	0	92	1,004
4:25 PM	0	0	0	1	0	0	0	0	0	0	36	0	0	0	43	0	80	1,011
4:30 PM	0	0	0	1	0	0	0	0	0	2	19	0	0	0	44	1	67	1,036
4:35 PM	0	0	0	0	0	0	0	0	0	0	36	0	0	0	47	1	84	1,060
4:40 PM	0	0	0	0	0	0	0	0	0	0	33	0	0	0	44	0	77	1,064
4:45 PM	0	0	0	0	0	0	0	0	0	0	29	0	0	0	59	0	88	1,088
4:50 PM	0	0	0	2	0	0	0	0	0	0	34	0	0	0	57	0	93	1,084
4:55 PM	0	0	0	1	0	0	0	0	0	0	31	0	0	0	49	0	81	1,066
5:00 PM	0	0	0	0	0	0	0	0	0	0	38	0	0	0	43	0	81	1,057
5:05 PM	0	0	0	1	0	0	0	0	0	0	36	0	0	0	50	1	88	
5:10 PM	0	0	0	0	0	0	0	0	0	0	46	0	0	0	41	0	87	
5:15 PM	0	0	0	0	0	0	0	0	0	0	32	0	0	0	53	1	86	
5:20 PM	0	1	0	0	0	0	0	0	0	0	28	0	0	0	70	0	99	
5:25 PM	0	0	0	0	0	0	0	0	0	0	29	0	0	0	76	0	105	
5:30 PM	0	0	0	0	0	0	0	0	0	0	31	0	0	0	60	0	91	
5:35 PM	0	0	0	0	0	0	0	0	0	0	32	0	0	0	56	0	88	
5:40 PM	0	0	0	0	0	0	0	0	0	0	36	0	0	0	65	0	101	
5:45 PM	0	0	0	0	0	0	0	0	0	1	33	0	0	0	50	0	84	
5:50 PM	0	0	0	1	0	0	0	0	0	0	24	0	0	0	50	0	75	
5:55 PM	0	0	0	0	0	0	0	0	0	0	22	0	0	0	50	0	72	
Count Total	0	1	0	8	0	0	0	0	0	7	782	0	0	0	1,226	4	2,028	
Peak Hour	0	1	0	4	0	0	0	0	0	0	402	0	0	0	679	2	1,088	

DRAFT

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	2	0	1	3	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	1	1	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	2	0	1	3	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	2	0	1	3	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	2	0	2	4	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	0	0	0	1	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	0	1	2	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	1	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	2	2	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	1	1	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	1	1	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	2	2	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	1	0	2	3	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	1	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	1	1	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	2	2	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	1	1	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	1	1	5:40 PM	0	0	0	0	0	5:40 PM	2	0	0	0	2
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	2	0	0	0	2
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	2	9	0	22	33	Count Total	0	0	0	0	0	Count Total	4	0	0	0	4
Peak Hour	0	1	0	14	15	Peak Hour	0	0	0	0	0	Peak Hour	2	0	0	0	2

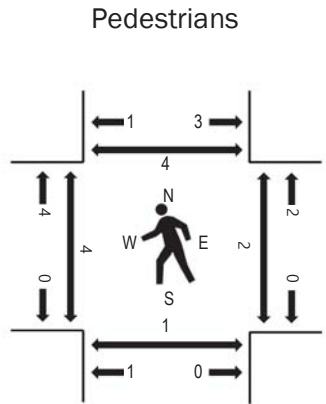
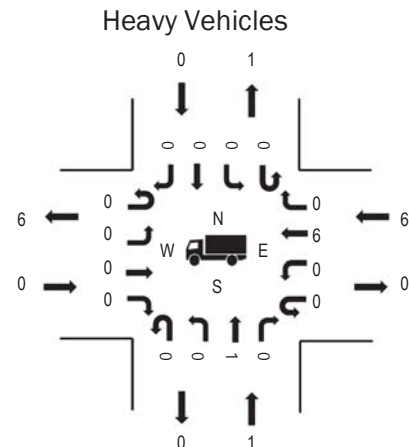
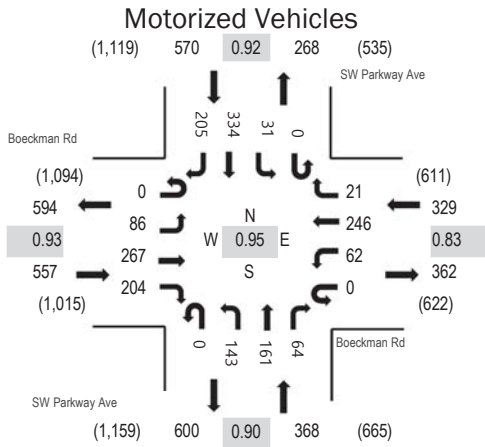


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Location: 1 SW Parkway Ave & Boeckman Rd PM
Date: Wednesday, March 30, 2022
Peak Hour: 04:20 PM - 05:20 PM
Peak 15-Minutes: 05:05 PM - 05:20 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.93
WB	1.8%	0.83
NB	0.3%	0.90
SB	0.0%	0.92
All	0.4%	0.95

Traffic Counts - Motorized Vehicles

Interval Start Time	Boeckman Rd Eastbound				Boeckman Rd Westbound				SW Parkway Ave Northbound				SW Parkway Ave Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	8	17	21	0	4	14	3	0	8	12	7	0	4	29	22	149	1,773
4:05 PM	0	9	20	20	0	1	10	5	0	10	12	5	0	0	29	13	134	1,780
4:10 PM	0	3	19	13	0	5	22	2	0	11	10	5	0	1	30	28	149	1,811
4:15 PM	0	5	16	18	0	4	25	1	0	12	12	2	0	1	35	22	153	1,809
4:20 PM	0	10	27	18	0	4	18	2	0	9	9	4	0	3	28	15	147	1,824
4:25 PM	0	6	20	19	0	3	15	2	0	9	16	5	0	2	26	12	135	1,814
4:30 PM	0	7	13	12	0	5	13	0	0	13	15	4	0	1	37	26	146	1,822
4:35 PM	0	9	33	22	0	6	22	3	0	12	13	6	0	1	27	17	171	1,821
4:40 PM	0	4	23	20	0	1	16	0	0	14	18	9	0	2	29	17	153	1,789
4:45 PM	0	7	23	8	0	3	30	2	0	12	6	7	0	2	25	14	139	1,754
4:50 PM	0	10	22	16	0	9	17	2	0	17	18	3	0	4	24	15	157	1,726
4:55 PM	0	4	18	14	0	7	15	0	0	9	14	4	0	5	25	25	140	1,668
5:00 PM	0	11	15	16	0	5	22	1	0	14	11	5	0	1	34	21	156	1,637
5:05 PM	0	6	22	25	0	4	35	4	0	8	11	7	0	3	20	20	165	
5:10 PM	0	6	16	18	0	7	14	3	0	11	18	5	0	3	34	12	147	
5:15 PM	0	6	35	16	0	8	29	2	0	15	12	5	0	4	25	11	168	
5:20 PM	0	8	16	18	0	6	23	0	0	6	16	6	0	2	25	11	137	
5:25 PM	0	11	13	17	0	6	24	2	0	12	13	2	0	1	22	20	143	
5:30 PM	0	8	20	10	0	3	18	2	0	14	19	2	0	2	29	18	145	
5:35 PM	0	11	15	16	0	8	16	3	0	7	6	6	0	3	30	18	139	
5:40 PM	0	8	17	14	0	10	13	1	0	5	9	3	0	4	21	13	118	
5:45 PM	0	3	13	10	0	6	10	4	0	6	17	2	0	1	26	13	111	
5:50 PM	0	9	8	9	0	5	5	3	0	6	12	0	0	4	25	13	99	
5:55 PM	0	10	13	12	0	1	15	2	0	6	8	8	0	2	21	11	109	
Count Total	0	179	454	382	0	121	441	49	0	246	307	112	0	56	656	407	3,410	
Peak Hour	0	86	267	204	0	62	246	21	0	143	161	64	0	31	334	205	1,824	

DRAFT

Location: 1 SW Parkway Ave & Boeckman Rd PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	1	1	2	4:00 PM	0	0	0	0	0
4:05 PM	2	0	0	0	2	4:05 PM	0	0	1	0	1	4:05 PM	0	1	0	0	1
4:10 PM	0	1	0	0	1	4:10 PM	1	0	0	1	2	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	1	1
4:20 PM	0	0	2	0	2	4:20 PM	0	0	1	0	1	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	1	0	0	1	4:25 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1	4:30 PM	0	0	1	0	1	4:30 PM	0	0	0	0	0
4:35 PM	0	0	1	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	1	1	0	2	4:40 PM	0	0	0	0	0	4:40 PM	1	0	0	0	1
4:45 PM	0	0	1	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	1	0	1	2
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	1	0	0	0	1	4:55 PM	1	0	0	1	2
5:00 PM	0	0	0	0	0	5:00 PM	1	0	0	0	1	5:00 PM	2	0	0	2	4
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	2	0	2
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	1	0	1
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	2	2	0	4
5:25 PM	0	0	0	0	0	5:25 PM	1	0	1	0	2	5:25 PM	0	0	1	0	1
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	2	0	1	2	5
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	1	1	5:45 PM	0	0	1	1	2
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	1	1	1	3
5:55 PM	0	0	2	0	2	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	2	2	8	0	12	Count Total	4	1	5	3	13	Count Total	6	5	9	9	29
Peak Hour	0	1	6	0	7	Peak Hour	2	1	2	0	5	Peak Hour	4	1	3	4	12

DRAFT

Location: 4 Parkway Center Dr & SW Elligsen Rd PM

Location: 4 Parkway Center Dr & SW Elligsen Rd PM

Date: Wednesday, March 30, 2022

Peak Hour: 04:15 PM - 05:15 PM

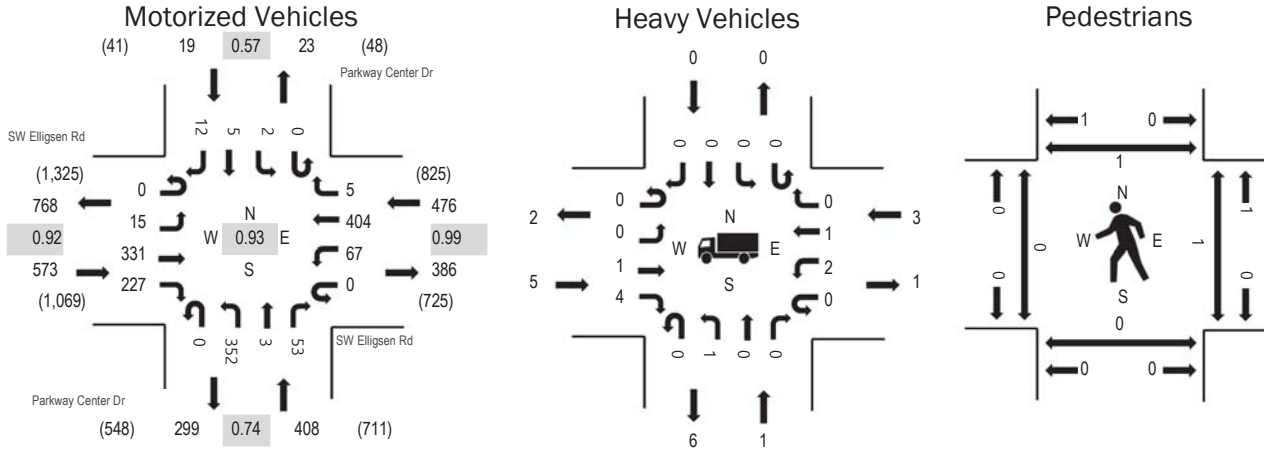
Peak 15-Minutes: 04:30 PM - 04:45 PM



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Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.9%	0.92
WB	0.6%	0.99
NB	0.2%	0.74
SB	0.0%	0.57
All	0.6%	0.93

Traffic Counts - Motorized Vehicles

Interval Start Time	SW Elligsen Rd Eastbound				SW Elligsen Rd Westbound				Parkway Center Dr Northbound				Parkway Center Dr Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	19	18	0	3	19	0	0	24	0	4	0	0	0	0	87	1,408
4:05 PM	0	1	33	13	0	5	26	0	0	23	0	10	0	0	1	2	114	1,455
4:10 PM	0	0	19	18	0	4	26	0	0	26	0	6	0	0	2	3	104	1,463
4:15 PM	0	0	34	23	0	9	37	0	0	18	0	5	0	0	0	3	129	1,476
4:20 PM	0	1	16	11	0	9	33	0	0	25	1	5	0	0	0	2	103	1,467
4:25 PM	0	2	34	31	0	4	28	0	0	28	0	6	0	0	1	1	135	1,472
4:30 PM	0	0	24	19	0	7	36	1	0	31	1	5	0	1	1	1	127	1,432
4:35 PM	0	0	19	14	0	4	39	1	0	45	0	5	0	0	0	1	128	1,388
4:40 PM	0	0	26	25	0	7	25	0	0	56	0	2	0	0	1	0	142	1,359
4:45 PM	0	1	32	15	0	2	31	0	0	21	1	5	0	0	0	1	109	1,316
4:50 PM	0	3	28	21	0	7	34	1	0	19	0	5	0	1	0	0	119	1,308
4:55 PM	0	0	26	16	0	6	35	0	0	24	0	3	0	0	0	1	111	1,253
5:00 PM	0	3	27	16	0	4	29	1	0	42	0	10	0	0	1	1	134	1,238
5:05 PM	0	3	34	17	0	3	40	1	0	23	0	1	0	0	0	0	122	
5:10 PM	0	2	31	19	0	5	37	0	0	20	0	1	0	0	1	1	117	
5:15 PM	0	3	30	18	0	7	27	0	0	22	1	9	0	0	1	2	120	
5:20 PM	0	1	28	10	0	3	34	1	0	25	0	4	0	0	0	2	108	
5:25 PM	0	6	24	19	0	5	26	0	0	12	1	2	0	0	0	0	95	
5:30 PM	0	0	11	18	0	5	26	0	0	19	1	3	0	0	0	0	83	
5:35 PM	0	4	31	11	0	1	23	0	0	18	0	6	0	0	0	5	99	
5:40 PM	0	1	21	22	0	5	28	0	0	17	0	3	0	0	0	2	99	
5:45 PM	0	1	23	19	0	4	23	0	0	27	0	3	0	0	1	0	101	
5:50 PM	0	1	15	14	0	4	13	0	0	13	0	3	0	0	0	1	64	
5:55 PM	0	3	26	15	0	3	28	0	0	15	0	6	0	0	0	0	96	
Count Total	0	36	611	422	0	116	703	6	0	593	6	112	0	2	10	29	2,646	
Peak Hour	0	15	331	227	0	67	404	5	0	352	3	53	0	2	5	12	1,476	

DRAFT

Location: 4 Parkway Center Dr & SW Elligsen Rd PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	1	1	0	2	4:05 PM	1	0	0	0	1	4:05 PM	0	0	0	0	0
4:10 PM	0	0	1	0	1	4:10 PM	0	0	0	0	0	4:10 PM	0	1	1	0	2
4:15 PM	0	0	1	0	1	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	1	0	1	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	0	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	1	0	0	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	1	0	0	0	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	1	1	2
4:50 PM	0	1	0	0	1	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	0	0	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	1	0	1	0	2	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	1	0	0	0	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	3	0	2	0	5	5:20 PM	0	0	0	0	0	5:20 PM	0	0	1	0	1
5:25 PM	4	0	0	0	4	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	1	0	0	0	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	1	0	0	0	1	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	1	0	0	0	1	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	1	0	0	0	1	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	2	0	0	0	2	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	19	2	7	0	28	Count Total	1	0	0	0	1	Count Total	0	1	3	1	5
Peak Hour	5	1	3	0	9	Peak Hour	0	0	0	0	0	Peak Hour	0	0	1	1	2



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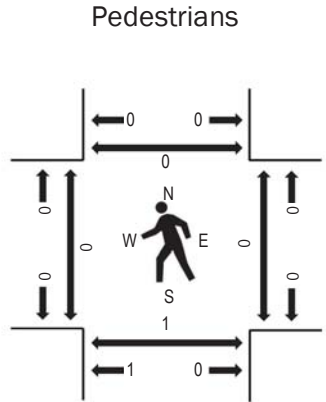
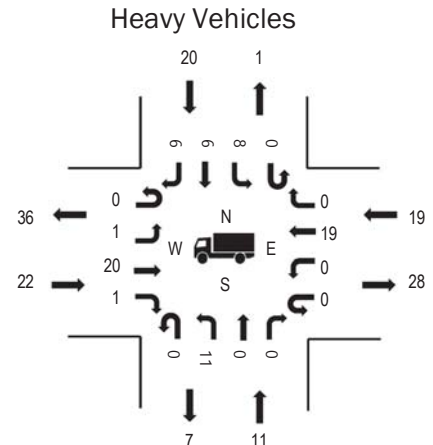
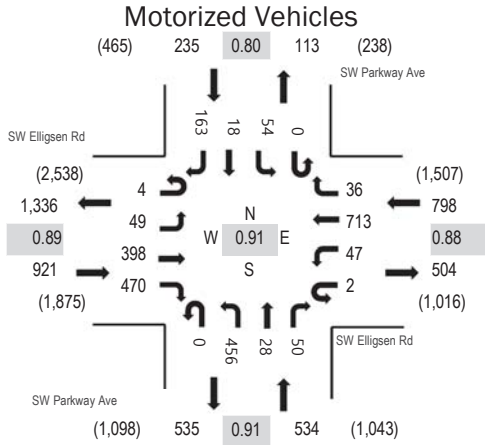
Location: 1 SW Parkway Ave & SW Elligsen Rd PM

Date: Tuesday, June 7, 2022

Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.4%	0.89
WB	2.4%	0.88
NB	2.1%	0.91
SB	8.5%	0.80
All	2.9%	0.91

Traffic Counts - Motorized Vehicles

Interval Start Time	SW Elligsen Rd Eastbound				SW Elligsen Rd Westbound				SW Parkway Ave Northbound				SW Parkway Ave Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	10	44	50	0	6	52	4	0	44	4	5	0	6	0	12	237	2,488
4:05 PM	0	7	36	56	0	5	56	4	0	42	2	3	0	6	2	17	236	2,463
4:10 PM	1	5	33	42	1	4	61	3	0	40	1	5	0	3	0	15	214	2,464
4:15 PM	0	3	31	30	0	6	63	5	0	38	3	7	0	5	3	18	212	2,479
4:20 PM	1	2	18	34	0	5	63	4	0	41	4	5	0	7	0	18	202	2,487
4:25 PM	0	3	23	30	0	4	64	3	0	42	1	3	0	7	3	17	200	2,463
4:30 PM	0	4	29	32	0	4	68	2	0	38	2	4	0	3	1	12	199	2,472
4:35 PM	1	5	32	32	0	5	69	3	0	34	4	7	0	3	1	9	205	2,471
4:40 PM	0	4	28	41	0	2	54	2	0	30	2	4	0	4	1	10	182	2,454
4:45 PM	1	3	32	44	1	1	51	1	0	37	2	2	0	3	2	12	192	2,467
4:50 PM	0	2	43	42	0	2	54	2	0	36	1	3	0	4	2	10	201	2,475
4:55 PM	0	1	49	37	0	3	58	3	0	34	2	2	0	3	3	13	208	2,439
5:00 PM	0	1	24	28	0	6	71	6	0	41	4	5	0	2	2	22	212	2,402
5:05 PM	0	7	34	46	0	7	68	5	0	39	2	2	0	3	4	20	237	
5:10 PM	0	8	39	46	0	6	65	6	0	33	1	2	0	3	2	18	229	
5:15 PM	0	7	38	52	0	8	51	4	0	29	3	5	0	4	4	15	220	
5:20 PM	0	5	23	33	0	5	51	3	0	31	3	3	0	3	7	11	178	
5:25 PM	0	5	45	44	0	4	53	4	0	29	2	5	0	2	4	12	209	
5:30 PM	0	3	43	32	0	6	51	3	0	40	1	2	0	4	3	10	198	
5:35 PM	0	3	28	37	0	6	43	2	0	46	3	3	0	4	4	9	188	
5:40 PM	0	6	43	34	0	3	45	1	0	42	2	7	0	2	3	7	195	
5:45 PM	0	6	44	46	0	4	40	2	0	36	2	6	0	2	2	10	200	
5:50 PM	0	3	33	31	0	2	39	1	0	31	2	7	0	2	1	13	165	
5:55 PM	0	7	33	37	0	2	35	1	0	35	1	4	0	3	2	11	171	
Count Total	4	110	825	936	2	106	1,325	74	0	888	54	101	0	88	56	321	4,890	
Peak Hour	4	49	398	470	2	47	713	36	0	456	28	50	0	54	18	163	2,488	

DRAFT

Location: 1 SW Parkway Ave & SW Elligsen Rd PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

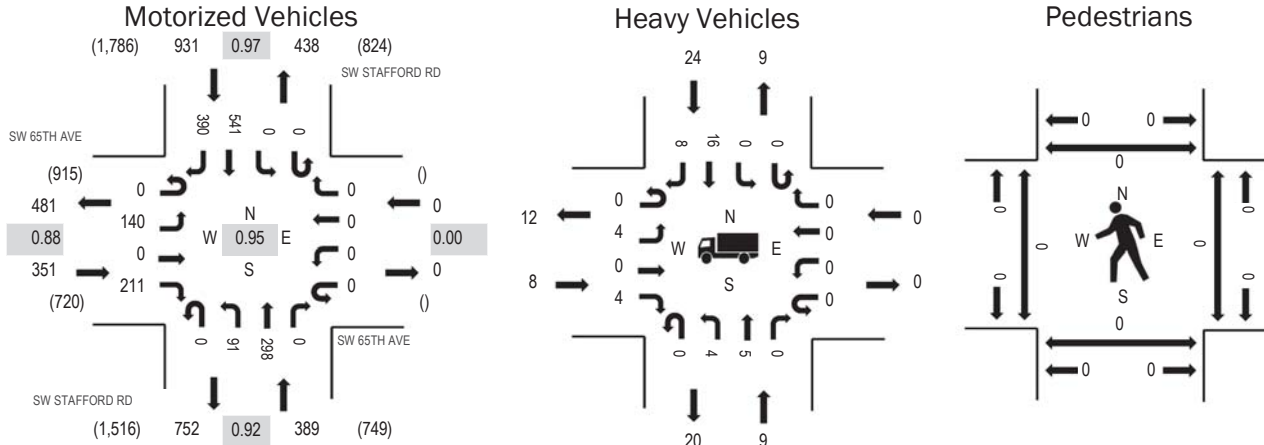
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	4	2	1	0	7	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	1	1	1	3	6	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	2	1	2	0	5	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	2	1	2	3	8	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	4	1	1	2	8	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	1	1	3	6	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	3	2	6	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	2	1	1	1	5	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	3	2	5	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	2	1	1	1	5	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	2	1	2	1	6	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	1	1	2	5	4:55 PM	0	0	0	0	0	4:55 PM	0	1	0	0	1
5:00 PM	0	2	3	0	5	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	1	1
5:05 PM	0	1	2	1	4	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	1	3	1	5	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	1	1	1	3	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	1	2	1	4	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	2	1	0	3	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	3	1	4	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	2	1	1	4	5:35 PM	0	0	0	0	0	5:35 PM	0	0	1	0	1
5:40 PM	0	2	4	1	7	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	2	1	1	4	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	1	2	1	4	5:50 PM	0	1	0	0	1	5:50 PM	0	0	0	0	0
5:55 PM	0	1	1	1	3	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	22	27	43	30	122	Count Total	0	1	0	0	1	Count Total	0	1	1	1	3
Peak Hour	22	11	19	20	72	Peak Hour	0	0	0	0	0	Peak Hour	0	1	0	0	1



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Location: 2 SW STAFFORD RD & SW 65TH AVE PM
Date: Wednesday, May 18, 2022
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:10 PM - 04:25 PM

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.3%	0.88
WB	0.0%	0.00
NB	2.3%	0.92
SB	2.6%	0.97
All	2.5%	0.95

Traffic Counts - Motorized Vehicles

Interval Start Time	SW 65TH AVE Eastbound				SW 65TH AVE Westbound				SW STAFFORD RD Northbound				SW STAFFORD RD Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	9	0	9	0	0	0	0	0	13	19	0	0	0	52	37	139	1,671
4:05 PM	0	11	0	21	0	0	0	0	0	9	24	0	0	0	34	36	135	1,659
4:10 PM	0	12	0	16	0	0	0	0	0	8	30	0	0	0	48	38	152	1,666
4:15 PM	0	18	0	13	0	0	0	0	0	1	31	0	0	0	43	42	148	1,657
4:20 PM	0	17	0	13	0	0	0	0	0	12	24	0	0	0	45	31	142	1,652
4:25 PM	0	12	0	27	0	0	0	0	0	5	22	0	0	0	36	28	130	1,651
4:30 PM	0	7	0	17	0	0	0	0	0	8	22	0	0	0	49	35	138	1,652
4:35 PM	0	10	0	30	0	0	0	0	0	7	24	0	0	0	43	21	135	1,644
4:40 PM	0	11	0	13	0	0	0	0	0	4	26	0	0	0	47	34	135	1,670
4:45 PM	0	9	0	16	0	0	0	0	0	8	28	0	0	0	50	31	142	1,656
4:50 PM	0	9	0	23	0	0	0	0	0	9	26	0	0	0	48	25	140	1,622
4:55 PM	0	15	0	13	0	0	0	0	0	7	22	0	0	0	46	32	135	1,604
5:00 PM	0	11	0	18	0	0	0	0	0	8	16	0	0	0	47	27	127	1,584
5:05 PM	0	7	0	21	0	0	0	0	0	7	26	0	0	0	52	29	142	
5:10 PM	0	13	0	16	0	0	0	0	0	12	21	0	0	0	49	32	143	
5:15 PM	0	12	0	22	0	0	0	0	0	5	25	0	0	0	41	38	143	
5:20 PM	0	17	0	13	0	0	0	0	0	15	23	0	0	0	48	25	141	
5:25 PM	0	9	0	14	0	0	0	0	0	8	20	0	0	0	55	25	131	
5:30 PM	0	12	0	26	0	0	0	0	0	7	28	0	0	0	30	27	130	
5:35 PM	0	11	0	25	0	0	0	0	0	10	17	0	0	0	48	50	161	
5:40 PM	0	9	0	25	0	0	0	0	0	8	18	0	0	0	37	24	121	
5:45 PM	0	12	0	26	0	0	0	0	0	14	10	0	0	0	33	13	108	
5:50 PM	0	11	0	15	0	0	0	0	0	7	24	0	0	0	43	22	122	
5:55 PM	0	7	0	17	0	0	0	0	0	4	27	0	0	0	43	17	115	
Count Total	0	271	0	449	0	0	0	0	0	196	553	0	0	0	1,067	719	3,255	
Peak Hour	0	140	0	211	0	0	0	0	0	91	298	0	0	0	541	390	1,671	

DRAFT

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	2	0	2	5	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	2	0	2	4	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	1	0	2	3	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	4	4	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	0	0	1	2	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	3	3	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	2	0	0	2	4	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	1	0	2	3	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	1	0	1	2	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	4	0	0	0	4	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	2	0	5	7	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	2	2	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	2	2	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	1	0	2	3	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	1	0	0	3	4	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	2	2	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	1	0	0	1	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	9	11	0	35	55	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	8	9	0	24	41	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

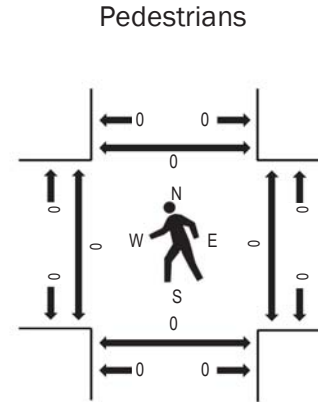
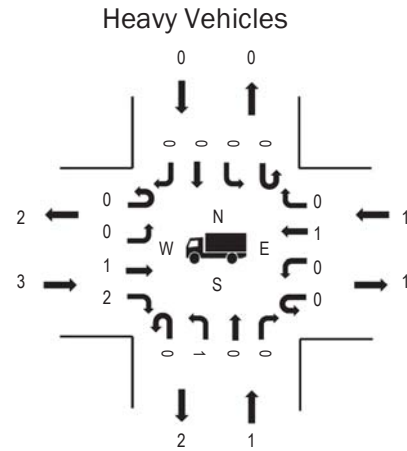
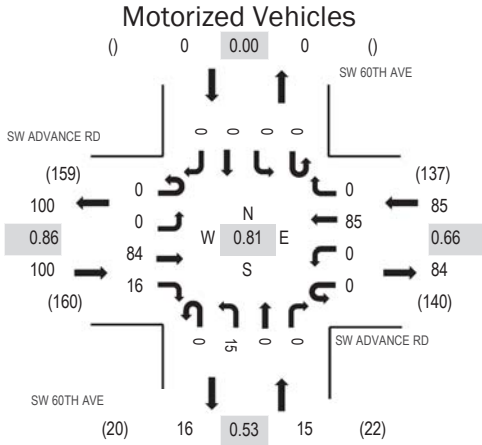


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Location: 3 SW 60TH AVE & SW ADVANCE RD PM
Date: Wednesday, May 18, 2022
Peak Hour: 04:20 PM - 05:20 PM
Peak 15-Minutes: 04:40 PM - 04:55 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.0%	0.86
WB	1.2%	0.66
NB	6.7%	0.53
SB	0.0%	0.00
All	2.5%	0.81

Traffic Counts - Motorized Vehicles

Interval Start Time	SW ADVANCE RD Eastbound				SW ADVANCE RD Westbound				SW 60TH AVE Northbound				SW 60TH AVE Southbound				Total	Rolling Hour	
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	158
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	179
4:10 PM	0	0	9	0	0	0	6	0	0	1	0	0	0	0	0	0	0	16	189
4:15 PM	0	0	4	2	0	0	3	0	0	0	0	0	0	0	0	0	0	9	193
4:20 PM	0	0	12	0	0	0	5	0	0	0	0	0	0	0	0	0	0	17	200
4:25 PM	0	0	6	2	0	0	3	0	0	3	0	0	0	0	0	0	0	14	196
4:30 PM	0	0	6	2	0	0	5	0	0	1	0	0	0	0	0	0	0	14	194
4:35 PM	0	0	5	1	0	0	6	0	0	1	0	0	0	0	0	0	0	13	193
4:40 PM	0	0	9	1	0	0	9	0	0	4	0	0	0	0	0	0	0	23	192
4:45 PM	0	0	2	1	0	0	14	0	0	3	0	0	0	0	0	0	0	20	180
4:50 PM	0	0	6	2	0	0	10	0	0	1	0	0	0	0	0	0	0	19	164
4:55 PM	0	0	6	1	0	0	6	0	0	0	0	0	0	0	0	0	0	13	161
5:00 PM	0	0	11	2	0	0	8	0	0	0	0	0	0	0	0	0	0	21	161
5:05 PM	0	0	5	1	0	0	4	0	0	0	0	0	0	0	0	0	0	10	
5:10 PM	0	0	10	0	0	0	9	0	0	1	0	0	0	0	0	0	0	20	
5:15 PM	0	0	6	3	0	0	6	0	0	1	0	0	0	0	0	0	0	16	
5:20 PM	0	0	6	1	0	0	4	0	0	2	0	0	0	0	0	0	0	13	
5:25 PM	0	0	3	0	0	0	6	0	0	3	0	0	0	0	0	0	0	12	
5:30 PM	0	0	8	0	0	0	4	0	0	1	0	0	0	0	0	0	0	13	
5:35 PM	0	0	5	0	0	0	7	0	0	0	0	0	0	0	0	0	0	12	
5:40 PM	0	0	5	0	0	0	6	0	0	0	0	0	0	0	0	0	0	11	
5:45 PM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4	
5:50 PM	0	0	10	0	0	0	6	0	0	0	0	0	0	0	0	0	0	16	
5:55 PM	0	0	6	1	0	0	6	0	0	0	0	0	0	0	0	0	0	13	
Count Total	0	0	140	20	0	0	137	0	0	22	0	0	0	0	0	0	0	319	
Peak Hour	0	0	84	16	0	0	85	0	0	15	0	0	0	0	0	0	0	200	

DRAFT

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	1	0	0	0	1	4:15 PM	1	0	0	0	1	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	1	0	0	1	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	0	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	0	1	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	0	0	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	1	0	0	0	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0	5:25 PM	1	0	0	0	1	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	0	1	0	1	5:35 PM	0	1	0	0	1	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	1	0	0	0	1	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	5	1	2	0	8	Count Total	2	1	0	0	3	Count Total	0	0	0	0	0
Peak Hour	3	1	1	0	5	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0



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Location: 4 TOWN CENTER LOOP W & SW WILSONVILLE RD PM

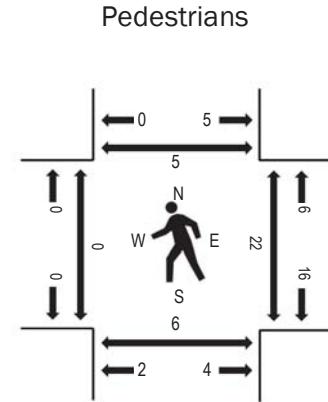
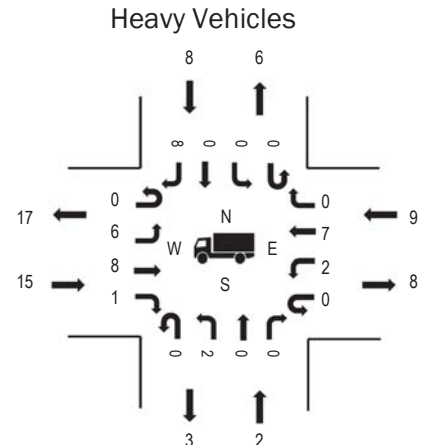
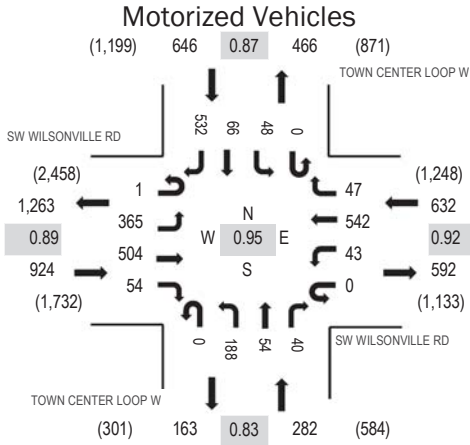
Date: Wednesday, May 18, 2022

Peak Hour: 04:05 PM - 05:05 PM

Peak 15-Minutes: 04:35 PM - 04:50 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.6%	0.89
WB	1.4%	0.92
NB	0.7%	0.83
SB	1.2%	0.87
All	1.4%	0.95

Traffic Counts - Motorized Vehicles

Interval Start Time	SW WILSONVILLE RD Eastbound				SW WILSONVILLE RD Westbound				TOWN CENTER LOOP W Northbound				TOWN CENTER LOOP W Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	27	36	3	0	0	50	0	0	15	6	1	0	1	0	27	166	2,446
4:05 PM	0	31	47	5	0	6	44	3	0	10	6	4	0	5	4	60	225	2,484
4:10 PM	0	40	40	2	0	2	24	6	0	13	7	2	0	2	7	36	181	2,468
4:15 PM	0	30	33	2	0	6	44	2	0	20	6	3	0	6	4	50	206	2,463
4:20 PM	0	32	31	2	0	4	52	3	0	16	4	5	0	2	4	39	194	2,450
4:25 PM	0	26	42	3	0	2	42	6	0	12	4	1	0	5	8	54	205	2,458
4:30 PM	0	28	40	6	0	0	38	4	0	22	4	3	0	3	6	58	212	2,454
4:35 PM	0	29	36	7	0	1	58	5	0	16	4	4	0	4	3	45	212	2,445
4:40 PM	0	45	49	2	0	4	40	3	0	17	5	2	0	2	6	35	210	2,417
4:45 PM	0	33	47	5	0	5	59	4	0	15	2	4	0	7	6	42	229	2,396
4:50 PM	0	26	46	7	0	4	38	3	0	19	4	6	0	5	8	36	202	2,386
4:55 PM	0	26	51	9	0	6	42	4	0	13	3	2	0	5	6	37	204	2,352
5:00 PM	1	19	42	4	0	3	61	4	0	15	5	4	0	2	4	40	204	2,317
5:05 PM	0	19	47	3	0	3	37	2	0	24	8	1	0	4	4	57	209	
5:10 PM	0	13	24	3	0	2	50	9	0	23	5	3	0	5	6	33	176	
5:15 PM	0	23	37	3	0	1	54	1	0	20	9	3	0	1	3	38	193	
5:20 PM	0	23	47	8	1	2	51	3	0	20	3	1	0	4	7	32	202	
5:25 PM	0	31	44	3	0	1	36	1	0	19	8	2	0	3	12	41	201	
5:30 PM	0	21	41	3	0	1	52	6	0	17	7	6	0	3	3	43	203	
5:35 PM	0	26	43	2	0	2	48	6	0	7	4	5	1	1	9	30	184	
5:40 PM	0	26	32	10	0	2	38	7	0	20	4	2	0	3	4	41	189	
5:45 PM	0	34	51	2	0	1	44	5	0	19	7	1	0	5	11	39	219	
5:50 PM	0	18	27	1	0	4	50	4	0	15	4	3	0	3	6	33	168	
5:55 PM	0	28	44	5	0	3	35	4	0	7	2	1	0	5	5	30	169	
Count Total	1	654	977	100	1	65	1,087	95	0	394	121	69	1	86	136	976	4,763	
Peak Hour	1	365	504	54	0	43	542	47	0	188	54	40	0	48	66	532	2,484	

DRAFT

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	2	0	0	0	2	4:00 PM	0	0	0	0	0	4:00 PM	0	0	1	0	1
4:05 PM	3	0	0	0	3	4:05 PM	0	0	0	0	0	4:05 PM	0	2	1	1	4
4:10 PM	2	0	0	2	4	4:10 PM	0	0	0	0	0	4:10 PM	0	1	5	0	6
4:15 PM	2	0	0	0	2	4:15 PM	0	0	0	0	0	4:15 PM	0	1	4	0	5
4:20 PM	0	0	2	1	3	4:20 PM	0	0	0	0	0	4:20 PM	0	0	2	2	4
4:25 PM	0	1	0	1	2	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	1	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	1	0	0	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	2	0	2
4:40 PM	5	0	2	1	8	4:40 PM	0	0	0	0	0	4:40 PM	0	1	2	1	4
4:45 PM	0	0	2	1	3	4:45 PM	0	0	0	0	0	4:45 PM	0	0	2	0	2
4:50 PM	1	0	0	0	1	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	1	2	0	4	4:55 PM	0	0	0	0	0	4:55 PM	0	0	3	2	5
5:00 PM	0	0	1	1	2	5:00 PM	0	0	0	0	0	5:00 PM	0	1	2	0	3
5:05 PM	2	1	2	1	6	5:05 PM	0	0	0	0	0	5:05 PM	0	1	0	0	1
5:10 PM	3	1	2	0	6	5:10 PM	0	0	0	0	0	5:10 PM	0	0	1	0	1
5:15 PM	1	0	1	2	4	5:15 PM	1	0	0	0	1	5:15 PM	0	0	2	0	2
5:20 PM	1	0	2	0	3	5:20 PM	0	0	0	0	0	5:20 PM	0	0	3	0	3
5:25 PM	1	0	1	1	3	5:25 PM	0	0	0	1	1	5:25 PM	0	2	4	0	6
5:30 PM	0	1	0	0	1	5:30 PM	0	0	0	0	0	5:30 PM	0	1	4	1	6
5:35 PM	1	0	0	0	1	5:35 PM	1	0	0	0	1	5:35 PM	0	3	0	1	4
5:40 PM	1	0	0	1	2	5:40 PM	0	0	0	0	0	5:40 PM	0	2	3	1	6
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	2	1	3
5:55 PM	0	0	1	1	2	5:55 PM	0	0	0	0	0	5:55 PM	0	0	9	3	12
Count Total	27	5	18	14	64	Count Total	2	0	0	1	3	Count Total	0	15	52	13	80
Peak Hour	15	2	9	8	34	Peak Hour	0	0	0	0	0	Peak Hour	0	6	23	6	35



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Location: 5 I-5 NB RAMPS & SW WILSONVILLE RD PM

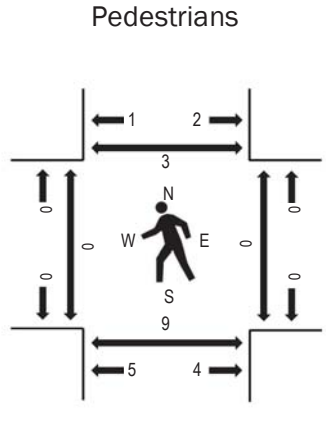
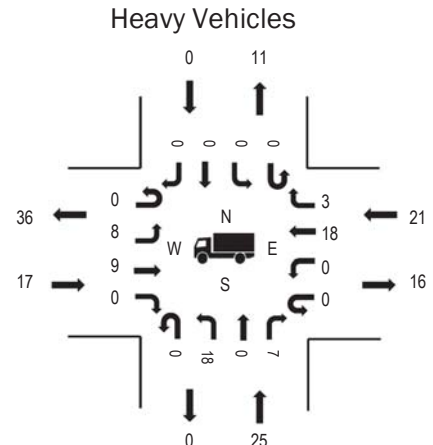
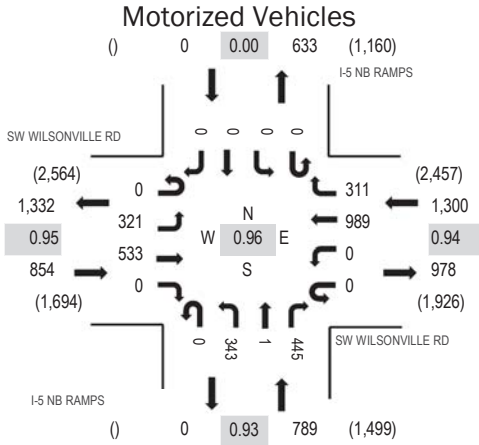
Date: Wednesday, May 18, 2022

Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 04:35 PM - 04:50 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.0%	0.95
WB	1.6%	0.94
NB	3.2%	0.93
SB	0.0%	0.00
All	2.1%	0.96

Traffic Counts - Motorized Vehicles

Interval Start Time	SW WILSONVILLE RD Eastbound				SW WILSONVILLE RD Westbound				I-5 NB RAMPS Northbound				I-5 NB RAMPS Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	21	40	0	0	0	72	20	0	29	0	23	0	0	0	0	205	2,877
4:05 PM	0	29	57	0	0	0	82	32	0	13	0	38	0	0	0	0	251	2,913
4:10 PM	0	19	49	0	0	0	60	12	0	36	0	31	0	0	0	0	207	2,910
4:15 PM	0	32	44	0	0	0	64	51	0	34	0	43	0	0	0	0	268	2,943
4:20 PM	0	36	28	0	0	0	79	27	0	27	0	38	0	0	0	0	235	2,906
4:25 PM	0	28	42	0	0	0	90	19	0	19	0	35	0	0	0	0	233	2,915
4:30 PM	0	18	48	0	0	0	92	26	0	25	0	35	0	0	0	0	244	2,907
4:35 PM	0	29	40	0	0	0	70	49	0	29	0	47	0	0	0	0	264	2,904
4:40 PM	0	31	53	0	0	0	83	7	0	21	0	41	0	0	0	0	236	2,855
4:45 PM	0	22	51	0	0	0	99	19	0	40	0	34	0	0	0	0	265	2,839
4:50 PM	0	21	51	0	0	0	75	18	0	31	0	39	0	0	0	0	235	2,821
4:55 PM	0	23	53	0	0	0	69	23	0	28	0	38	0	0	0	0	234	2,781
5:00 PM	0	24	45	0	0	0	86	30	0	22	0	34	0	0	0	0	241	2,773
5:05 PM	0	24	48	0	0	0	111	7	0	26	1	31	0	0	0	0	248	
5:10 PM	0	33	30	0	0	0	71	35	0	41	0	30	0	0	0	0	240	
5:15 PM	0	20	31	0	0	0	78	34	0	33	0	35	0	0	0	0	231	
5:20 PM	0	17	58	0	0	0	82	21	0	32	0	34	0	0	0	0	244	
5:25 PM	0	16	50	0	0	0	83	13	0	24	1	38	0	0	0	0	225	
5:30 PM	0	27	44	0	0	0	67	45	0	26	0	32	0	0	0	0	241	
5:35 PM	0	29	51	0	0	0	62	23	0	25	1	24	0	0	0	0	215	
5:40 PM	0	16	41	0	0	0	88	10	0	35	0	30	0	0	0	0	220	
5:45 PM	0	25	53	0	0	0	89	14	0	27	0	39	0	0	0	0	247	
5:50 PM	0	24	35	0	0	0	57	21	0	33	0	25	0	0	0	0	195	
5:55 PM	0	25	63	0	0	0	81	11	0	18	1	27	0	0	0	0	226	
Count Total	0	589	1,105	0	0	0	1,890	567	0	674	4	821	0	0	0	0	5,650	
Peak Hour	0	321	533	0	0	0	989	311	0	343	1	445	0	0	0	0	2,943	

DRAFT

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	3	2	0	0	5	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	1	1
4:05 PM	3	1	0	0	4	4:05 PM	0	0	0	0	0	4:05 PM	0	1	0	1	2
4:10 PM	3	2	1	0	6	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	2	2
4:15 PM	2	4	1	0	7	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	3	1	2	0	6	4:20 PM	0	0	0	0	0	4:20 PM	0	1	0	0	1
4:25 PM	1	1	3	0	5	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	1	0	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	5	3	0	0	8	4:40 PM	0	0	0	0	0	4:40 PM	0	3	0	1	4
4:45 PM	1	4	5	0	10	4:45 PM	0	0	0	0	0	4:45 PM	0	4	0	0	4
4:50 PM	1	3	0	0	4	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	4	4
4:55 PM	2	1	2	0	5	4:55 PM	0	0	0	0	0	4:55 PM	0	1	0	0	1
5:00 PM	0	2	2	0	4	5:00 PM	0	0	0	0	0	5:00 PM	0	2	0	0	2
5:05 PM	1	1	3	0	5	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	1	4	2	0	7	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	2	1	3	0	6	5:15 PM	0	0	0	0	0	5:15 PM	0	2	0	1	3
5:20 PM	0	3	2	0	5	5:20 PM	0	0	0	0	0	5:20 PM	0	1	0	0	1
5:25 PM	0	3	2	0	5	5:25 PM	0	0	0	0	0	5:25 PM	0	2	0	0	2
5:30 PM	1	0	1	0	2	5:30 PM	0	0	0	0	0	5:30 PM	0	1	0	2	3
5:35 PM	2	1	0	0	3	5:35 PM	1	0	0	0	1	5:35 PM	0	3	0	0	3
5:40 PM	2	3	0	0	5	5:40 PM	0	0	0	0	0	5:40 PM	0	3	0	0	3
5:45 PM	2	0	1	0	3	5:45 PM	0	0	0	0	0	5:45 PM	0	1	0	2	3
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	2	0	2	5:55 PM	0	0	0	0	0	5:55 PM	0	1	0	2	3
Count Total	35	41	33	0	109	Count Total	1	0	0	0	1	Count Total	0	26	0	16	42
Peak Hour	17	25	21	0	63	Peak Hour	0	0	0	0	0	Peak Hour	0	11	0	5	16



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Location: 6 I-5 SB RAMPS & SW WILSONVILLE RD PM

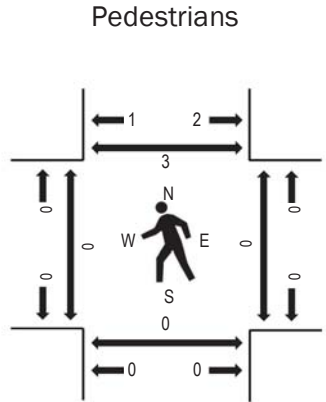
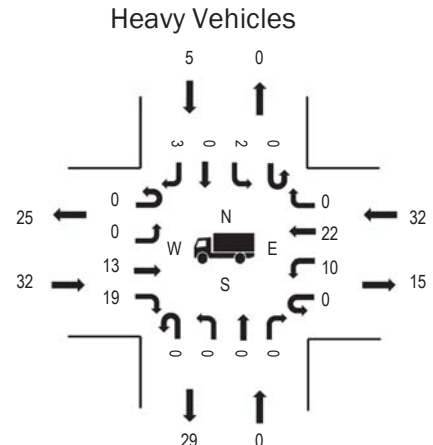
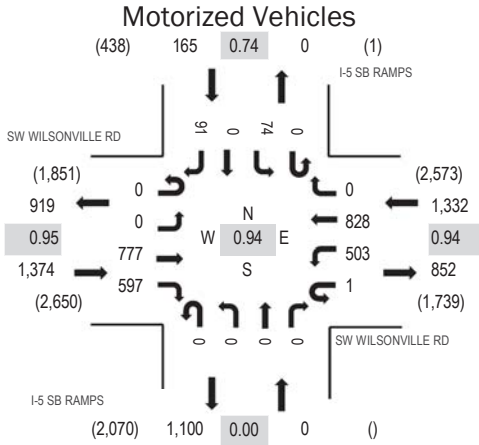
Date: Wednesday, May 18, 2022

Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 04:35 PM - 04:50 PM

DRAFT

Peak Hour



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.3%	0.95
WB	2.4%	0.94
NB	0.0%	0.00
SB	3.0%	0.74
All	2.4%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	SW WILSONVILLE RD Eastbound				SW WILSONVILLE RD Westbound				I-5 SB RAMPS Northbound				I-5 SB RAMPS Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	72	61	0	40	69	0	0	0	0	0	0	10	0	10	262	2,863
4:05 PM	0	0	73	49	0	38	63	0	0	0	0	0	0	7	0	5	235	2,849
4:10 PM	0	0	67	47	0	32	57	0	0	0	0	0	0	9	0	7	219	2,870
4:15 PM	0	0	65	60	0	27	77	0	0	0	0	0	0	6	0	8	243	2,871
4:20 PM	0	0	56	58	1	48	65	0	0	0	0	0	0	7	0	13	248	2,860
4:25 PM	0	0	77	36	0	51	51	0	0	0	0	0	0	3	0	8	226	2,841
4:30 PM	0	0	56	53	0	37	63	0	0	0	0	0	0	5	0	9	223	2,813
4:35 PM	0	0	71	61	0	45	86	0	0	0	0	0	0	6	0	7	276	2,870
4:40 PM	0	0	76	52	0	48	64	0	0	0	0	0	0	4	0	4	248	2,832
4:45 PM	0	0	65	40	0	47	71	0	0	0	0	0	0	8	0	7	238	2,808
4:50 PM	0	0	55	36	0	33	68	0	0	0	0	0	0	6	0	4	202	2,762
4:55 PM	0	0	77	44	0	42	69	0	0	0	0	0	0	6	0	5	243	2,811
5:00 PM	0	0	68	49	0	44	72	0	0	0	0	0	0	5	0	10	248	2,798
5:05 PM	0	0	70	50	0	44	74	0	0	0	0	0	0	9	0	9	256	
5:10 PM	0	0	41	58	0	37	68	0	0	0	0	0	0	9	0	7	220	
5:15 PM	0	0	54	38	0	52	75	0	0	0	0	0	0	3	0	10	232	
5:20 PM	0	0	66	37	0	44	55	1	0	0	0	0	0	10	0	16	229	
5:25 PM	0	0	51	36	0	38	56	0	0	0	0	0	0	8	0	9	198	
5:30 PM	0	0	88	57	0	38	71	0	0	0	0	0	0	10	0	16	280	
5:35 PM	0	0	63	42	0	33	78	0	0	0	0	0	0	6	0	16	238	
5:40 PM	0	0	60	32	0	44	60	0	0	0	0	0	0	13	0	15	224	
5:45 PM	0	0	48	31	0	27	62	0	0	0	0	0	0	9	0	15	192	
5:50 PM	0	0	70	37	0	45	72	0	0	0	0	0	0	8	0	19	251	
5:55 PM	0	0	60	37	0	35	56	0	0	0	0	0	0	22	0	20	230	
Count Total	0	0	1,549	1,101	1	969	1,602	1	0	0	0	0	0	189	0	249	5,661	
Peak Hour	0	0	777	597	1	503	828	0	0	0	0	0	0	74	0	91	2,871	

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Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	6	0	2	3	11	4:00 PM	0	0	0	0	0	4:00 PM	1	0	0	2	3
4:05 PM	2	0	0	2	4	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	2	2
4:10 PM	8	0	4	2	14	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	3	0	2	1	6	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	5	0	5	0	10	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	0	1	0	2	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	2	0	1	0	3	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	7	0	0	0	7	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	1	1
4:40 PM	7	0	7	1	15	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	3	1	4	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	2	2
4:50 PM	2	0	5	1	8	4:50 PM	0	0	0	0	0	4:50 PM	1	0	0	1	2
4:55 PM	1	0	1	0	2	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	1	0	2	0	3	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	2	0	1	1	4	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	1	0	4	0	5	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	1	1
5:15 PM	3	0	4	1	8	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	4	0	4	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	1	0	0	0	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	2	0	1	3	6	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	2	2
5:35 PM	2	0	1	0	3	5:35 PM	1	0	0	0	1	5:35 PM	0	0	0	0	0
5:40 PM	6	0	3	1	10	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	2	2
5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	1	1
5:55 PM	2	0	2	1	5	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	1	1
Count Total	64	0	53	18	135	Count Total	1	0	0	0	1	Count Total	2	0	0	15	17
Peak Hour	32	0	32	5	69	Peak Hour	0	0	0	0	0	Peak Hour	1	0	0	5	6

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LOS DESCRIPTION



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TRAFFIC LEVELS OF SERVICE

Analysis of traffic volumes is useful in understanding the general nature of traffic in an area, but by itself indicates neither the ability of the street network to carry additional traffic nor the quality of service afforded by the street facilities. For this, the concept of level of service has been developed to subjectively describe traffic performance. Level of service can be measured at intersections and along key roadway segments.

Levels of service categories are similar to report card ratings for traffic performance. Intersections are typically the controlling bottlenecks of traffic flow and the ability of a roadway system to carry traffic efficiently is generally diminished in their vicinities. Levels of Service A, B and C indicate conditions where traffic moves without significant delays over periods of peak travel demand. Level of service D and E are progressively worse peak hour operating conditions and F conditions represent where demand exceeds the capacity of an intersection. Most urban communities set level of service D as the minimum acceptable level of service for peak hour operation and plan for level of service C or better for all other times of the day. The Highway Capacity Manual provides level of service calculation methodology for both intersections and arterials¹. The following two sections provide interpretations of the analysis approaches.

¹ *2000 Highway Capacity Manual*, Transportation Research Board, Washington D.C., 2000, Chapter 16 and 17.

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UNSIGNALIZED INTERSECTIONS (Two-Way Stop Controlled)

Unsignalized intersection level of service is reported for the major street and minor street (generally, left turn movements). The method assesses available and critical gaps in the traffic stream which make it possible for side street traffic to enter the main street flow. The 2010 Highway Capacity Manual describes the detailed methodology. It is not unusual for an intersection to experience level of service E or F conditions for the minor street left turn movement. It should be understood that, often, a poor level of service is experienced by only a few vehicles and the intersection as a whole operates acceptably.

Unsignalized intersection levels of service are described in the following table.

Level-of-Service Criteria: Automobile Mode

Control Delay (s/vehicle)	LOS by Volume-to-Capacity Ratio	
	$v/c \leq 1.0$	$v/c > 1.0$
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

Note: The LOS criteria apply to each lane on a given approach and to each approach on the minor street.
LOS is not calculated for major-street approaches or for the intersection as a whole

SIGNALIZED INTERSECTIONS

For signalized intersections, level of service is evaluated based upon average vehicle delay experienced by vehicles entering an intersection. Control delay (or signal delay) includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. In previous versions of this chapter of the HCM (1994 and earlier), delay included only stopped delay. As delay increases, the level of service decreases. Calculations for signalized and unsignalized intersections are different due to the variation in traffic control. The 2000 Highway Capacity Manual provides the basis for these calculations.

Level of Service	Delay (secs.)	Description
A	<10.00	Free Flow/Insignificant Delays: No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Most vehicles do not stop at all. Progression is extremely favorable and most vehicles arrive during the green phase.
B	10.1-20.0	Stable Operation/Minimal Delays: An occasional approach phase is fully utilized. Many drivers begin to feel somewhat restricted within platoons of vehicles. This level generally occurs with good progression, short cycle lengths, or both.
C	20.1-35.0	Stable Operation/Acceptable Delays: Major approach phases fully utilized. Most drivers feel somewhat restricted. Higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, and the number of vehicles stopping is significant.
D	35.1-55.0	Approaching Unstable/Tolerable Delays: The influence of congestion becomes more noticeable. Drivers may have to wait through more than one red signal indication. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. The proportion of vehicles not stopping declines, and individual cycle failures are noticeable.
E	55.1-80.0	Unstable Operation/Significant Delays: Volumes at or near capacity. Vehicles may wait through several signal cycles. Long queues form upstream from intersection. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are a frequent occurrence.
F	>80.0	Forced Flow/Excessive Delays: Represents jammed conditions. Queues may block upstream intersections. This level occurs when arrival flow rates exceed intersection capacity, and is considered to be unacceptable to most drivers. Poor progression, long cycle lengths, and v/c ratios approaching 1.0 may contribute to these high delay levels.

Source: 2000 Highway Capacity Manual, Transportation Research Board, Washington D.C.

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EXISTING 2022 HCM REPORTS



HCM 6th Signalized Intersection Summary

1: I-5 SB Ramp & Elligsen Rd

WV Frog Pond East & South Master Plan

Existing 2022

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖	↖	↖
Traffic Volume (veh/h)	0	1001	858	0	698	349	0	0	0	385	58	562
Future Volume (veh/h)	0	1001	858	0	698	349	0	0	0	385	58	562
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1856	0	1826	1900				1856	1870	1678
Adj Flow Rate, veh/h	0	1076	0	0	751	0				458	0	547
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	5	3	0	5	0				3	2	15
Cap, veh/h	0	1740		0	1740					1492	0	600
Arrive On Green	0.00	0.50	0.00	0.00	1.00	0.00				0.42	0.00	0.42
Sat Flow, veh/h	0	3561	1572	0	3561	1610				3534	0	1422
Grp Volume(v), veh/h	0	1076	0	0	751	0				458	0	547
Grp Sat Flow(s),veh/h/ln	0	1735	1572	0	1735	1610				1767	0	1422
Q Serve(g_s), s	0.0	23.5	0.0	0.0	0.0	0.0				9.0	0.0	37.9
Cycle Q Clear(g_c), s	0.0	23.5	0.0	0.0	0.0	0.0				9.0	0.0	37.9
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1740		0	1740					1492	0	600
V/C Ratio(X)	0.00	0.62		0.00	0.43					0.31	0.00	0.91
Avail Cap(c_a), veh/h	0	1740		0	1740					1818	0	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.93	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.9	0.0	0.0	0.0	0.0				20.1	0.0	28.5
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.0	0.7	0.0				0.1	0.0	13.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.3	0.0	0.0	0.2	0.0				3.6	0.0	14.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.6	0.0	0.0	0.7	0.0				20.2	0.0	42.3
LnGrp LOS	A	C		A	A					C	A	D
Approach Vol, veh/h		1076			751						1005	
Approach Delay, s/veh		20.6			0.7						32.3	
Approach LOS		C			A						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		56.7		48.3		56.7						
Change Period (Y+Rc), s		5.0		4.0		5.0						
Max Green Setting (Gmax), s		42.0		54.0		42.0						
Max Q Clear Time (g_c+1), s		25.5		39.9		2.0						
Green Ext Time (p_c), s		5.1		4.4		3.9						
Intersection Summary												
HCM 6th Ctrl Delay				19.5								
HCM 6th LOS				B								
Notes												
User approved volume balancing among the lanes for turning movement.												
User approved changes to right turn type.												
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Summary

2: I-5 NB Ramp & Elligsen Rd

WV Frog Pond East & South Master Plan
Existing 2022

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑	↑	↑↑		↑			
Traffic Volume (veh/h)	0	748	638	0	735	577	312	0	224	0	0	0
Future Volume (veh/h)	0	748	638	0	735	577	312	0	224	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1826	0	1870	1870	1826	0	1856			
Adj Flow Rate, veh/h	0	779	0	0	766	0	325	0	0			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	0	2	5	0	2	2	5	0	3			
Cap, veh/h	0	2800		0	2800		426	0				
Arrive On Green	0.00	1.00	0.00	0.00	1.00	0.00	0.13	0.00	0.00			
Sat Flow, veh/h	0	3647	1547	0	3647	1585	3374	0	1572			
Grp Volume(v), veh/h	0	779	0	0	766	0	325	0	0			
Grp Sat Flow(s),veh/h/ln	0	1777	1547	0	1777	1585	1687	0	1572			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2800		0	2800		426	0				
V/C Ratio(X)	0.00	0.28		0.00	0.27		0.76	0.00				
Avail Cap(c_a), veh/h	0	2800		0	2800		1253	0				
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.78	0.00	0.00	0.89	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	44.3	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.2	0.0	2.9	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	0.0	0.1	0.0	4.2	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.2	0.0	0.0	0.2	0.0	47.2	0.0	0.0			
LnGrp LOS	A	A		A	A		D	A				
Approach Vol, veh/h		779			766			325				
Approach Delay, s/veh		0.2			0.2			47.2				
Approach LOS		A			A			D				
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		87.7			87.7			17.3				
Change Period (Y+Rc), s		5.0			5.0			4.0				
Max Green Setting (Gmax), s		57.0			57.0			39.0				
Max Q Clear Time (g_c+1), s		2.0			2.0			11.8				
Green Ext Time (p_c), s		4.1			4.0			1.5				

Intersection Summary

HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Parkway Ave & Elligsen Rd

WV Frog Pond East & South Master Plan

Existing 2022

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	473	450	47	693	36	456	28	50	54	18	163
Future Volume (veh/h)	49	473	450	47	693	36	456	28	50	54	18	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1826	1900	1900	1856	1900	1870	1900	1900	1678	1411	1841
Adj Flow Rate, veh/h	54	520	306	52	762	35	523	0	8	59	20	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	5	0	0	3	0	2	0	0	15	33	4
Cap, veh/h	70	1894	1168	68	2702	124	640	0	289	82	68	3
Arrive On Green	0.07	0.91	0.91	0.07	1.00	1.00	0.18	0.00	0.18	0.05	0.05	0.05
Sat Flow, veh/h	1781	3469	1609	1810	4964	227	3563	0	1610	1598	1332	67
Grp Volume(v), veh/h	54	520	306	52	518	279	523	0	8	59	0	21
Grp Sat Flow(s),veh/h/ln	1781	1735	1609	1810	1689	1814	1781	0	1610	1598	0	1399
Q Serve(g_s), s	3.1	1.9	1.6	3.0	0.0	0.0	14.8	0.0	0.4	3.8	0.0	1.5
Cycle Q Clear(g_c), s	3.1	1.9	1.6	3.0	0.0	0.0	14.8	0.0	0.4	3.8	0.0	1.5
Prop In Lane	1.00		1.00	1.00		0.13	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	70	1894	1168	68	1838	988	640	0	289	82	0	72
V/C Ratio(X)	0.78	0.27	0.26	0.77	0.28	0.28	0.82	0.00	0.03	0.72	0.00	0.29
Avail Cap(c_a), veh/h	161	1894	1168	267	1838	988	950	0	429	228	0	200
HCM Platoon Ratio	1.67	1.67	1.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	0.90	0.90	0.90	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	2.2	0.8	48.1	0.0	0.0	41.4	0.0	35.5	49.1	0.0	48.0
Incr Delay (d2), s/veh	15.8	0.3	0.5	15.0	0.3	0.6	3.5	0.0	0.0	11.3	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.6	0.8	1.6	0.1	0.2	6.8	0.0	0.2	1.8	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.4	2.5	1.3	63.1	0.3	0.6	44.9	0.0	35.5	60.4	0.0	50.2
LnGrp LOS	E	A	A	E	A	A	D	A	D	E	A	D
Approach Vol, veh/h		880			849			531				80
Approach Delay, s/veh		5.9			4.3			44.8				57.7
Approach LOS		A			A			D				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	62.3		10.4	8.6	62.2		23.9				
Change Period (Y+Rc), s	4.5	5.0		5.0	4.5	5.0		5.0				
Max Green Setting (Gmax), s	15.5	27.0		15.0	9.5	33.0		28.0				
Max Q Clear Time (g_c+1), s	15.0	3.9		5.8	5.1	2.0		16.8				
Green Ext Time (p_c), s	0.1	3.9		0.1	0.0	3.7		2.1				

Intersection Summary

HCM 6th Ctrl Delay	15.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Parkway Center Dr & Elligsen Rd

WV Frog Pond East & South Master Plan

Existing 2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	331	221	67	412	5	352	3	53	2	5	12
Future Volume (veh/h)	15	331	221	67	412	5	352	3	53	2	5	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1856	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	356	171	72	443	5	378	3	4	2	5	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	2	3	0	0	0	0	0	0	0	0
Cap, veh/h	706	1158	1182	733	2396	27	480	101	134	13	33	0
Arrive On Green	0.06	1.00	1.00	0.08	0.66	0.66	0.14	0.14	0.14	0.01	0.02	0.00
Sat Flow, veh/h	1810	1900	1584	1767	3656	41	3510	737	982	535	1338	0
Grp Volume(v), veh/h	16	356	171	72	219	229	378	0	7	7	0	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1584	1767	1805	1893	1755	0	1719	1873	0	0
Q Serve(g_s), s	0.3	0.0	0.0	1.3	5.0	5.0	10.9	0.0	0.4	0.4	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	0.0	1.3	5.0	5.0	10.9	0.0	0.4	0.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.57	0.29		0.00
Lane Grp Cap(c), veh/h	706	1158	1182	733	1183	1240	480	0	235	47	0	0
V/C Ratio(X)	0.02	0.31	0.14	0.10	0.18	0.19	0.79	0.00	0.03	0.15	0.00	0.00
Avail Cap(c_a), veh/h	805	1158	1182	783	1183	1240	970	0	475	143	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.6	0.0	0.0	4.8	7.1	7.1	43.8	0.0	39.3	50.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.2	0.0	0.3	0.3	1.1	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.1	0.4	1.8	1.9	4.7	0.0	0.2	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.6	0.7	0.2	4.8	7.4	7.4	45.0	0.0	39.3	50.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		543			520			385				7
Approach Delay, s/veh		0.7			7.1			44.8				50.9
Approach LOS		A			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	68.0		6.6	7.2	72.8		18.4				
Change Period (Y+Rc), s	5.0	5.0		5.5	5.0	5.0		5.0				
Max Green Setting (Gmax), s	40.0	40.0		6.5	8.0	42.0		28.0				
Max Q Clear Time (g_c+1), s	3.0	2.0		2.4	2.3	7.0		12.9				
Green Ext Time (p_c), s	0.0	0.5		0.0	0.0	0.3		0.3				

Intersection Summary

HCM 6th Ctrl Delay	14.9
HCM 6th LOS	B

HCM 6th TWSC
5: Stafford Rd & 65th Ave

WV Frog Pond East & South Master Plan
Existing 2022

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Intersection						
Int Delay, s/veh	59.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑	↑	
Traffic Vol, veh/h	140	211	91	298	541	390
Future Vol, veh/h	140	211	91	298	541	390
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	175	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	2	4	2	3	2
Mvmt Flow	147	222	96	314	569	411
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1281	775	980	0	-	0
Stage 1	775	-	-	-	-	-
Stage 2	506	-	-	-	-	-
Critical Hdwy	6.43	6.22	4.14	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.318	2.236	-	-	-
Pot Cap-1 Maneuver	182	398	696	-	-	-
Stage 1	453	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	157	398	696	-	-	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	390	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	280.3	2.6	0			
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	696	-	247	-	-	
HCM Lane V/C Ratio	0.138	-	1.496	-	-	
HCM Control Delay (s)	11	-	280.3	-	-	
HCM Lane LOS	B	-	F	-	-	
HCM 95th %tile Q(veh)	0.5	-	21.7	-	-	

HCM 6th Signalized Intersection Summary

6: Parkway Ave & Boeckman Rd

WV Frog Pond East & South Master Plan

Existing 2022

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	267	204	62	246	21	143	161	64	31	334	205
Future Volume (veh/h)	86	267	204	62	246	21	143	161	64	31	334	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1870	1900	1900	1885	1900	1900	1900	1900
Adj Flow Rate, veh/h	91	281	183	65	259	18	151	169	51	33	352	191
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	2	0	0	1	0	0	0	0
Cap, veh/h	372	321	209	215	499	35	299	562	170	522	415	225
Arrive On Green	0.05	0.30	0.30	0.04	0.29	0.28	0.08	0.41	0.40	0.03	0.36	0.35
Sat Flow, veh/h	1810	1061	691	1810	1724	120	1810	1381	417	1810	1156	627
Grp Volume(v), veh/h	91	0	464	65	0	277	151	0	220	33	0	543
Grp Sat Flow(s),veh/h/ln	1810	0	1751	1810	0	1844	1810	0	1797	1810	0	1783
Q Serve(g_s), s	2.5	0.0	18.0	1.8	0.0	9.0	3.6	0.0	5.9	0.8	0.0	20.2
Cycle Q Clear(g_c), s	2.5	0.0	18.0	1.8	0.0	9.0	3.6	0.0	5.9	0.8	0.0	20.2
Prop In Lane	1.00		0.39	1.00		0.06	1.00		0.23	1.00		0.35
Lane Grp Cap(c), veh/h	372	0	529	215	0	534	299	0	732	522	0	640
V/C Ratio(X)	0.24	0.00	0.88	0.30	0.00	0.52	0.51	0.00	0.30	0.06	0.00	0.85
Avail Cap(c_a), veh/h	477	0	635	343	0	669	364	0	802	675	0	796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.3	0.0	23.8	19.2	0.0	21.3	15.9	0.0	14.4	14.1	0.0	21.3
Incr Delay (d2), s/veh	0.3	0.0	11.0	0.6	0.0	0.6	1.0	0.0	0.3	0.0	0.0	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	8.3	0.7	0.0	3.6	1.3	0.0	2.2	0.3	0.0	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.5	0.0	34.9	19.8	0.0	21.9	16.9	0.0	14.7	14.2	0.0	29.2
LnGrp LOS	B	A	C	B	A	C	B	A	B	B	A	C
Approach Vol, veh/h		555			342			371				576
Approach Delay, s/veh		32.0			21.5			15.6				28.3
Approach LOS		C			C			B				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	29.7	6.9	25.7	5.9	33.2	7.8	24.8				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	8.0	31.5	8.0	25.5	8.0	31.5	8.0	25.5				
Max Q Clear Time (g_c+1), s	5.6	22.2	3.8	20.0	2.8	7.9	4.5	11.0				
Green Ext Time (p_c), s	0.1	3.1	0.0	1.1	0.0	1.7	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			25.6									
HCM 6th LOS			C									

HCM 6th AWSC
7: Canyon Creek Rd & Boeckman Rd

WV Frog Pond East & South Master Plan
Existing 2022

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Intersection

Intersection Delay, s/veh20.3

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	53	250	45	63	255	57	29	92	71	102	155	71
Future Vol, veh/h	53	250	45	63	255	57	29	92	71	102	155	71
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	2	2	2	3	5	0	3	0	0	1	0
Mvmt Flow	59	278	50	70	283	63	32	102	79	113	172	79
Number of Lanes	1	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	22.5	23.8	15.2	17
HCM LOS	C	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	100%	0%	100%	0%
Vol Thru, %	0%	56%	0%	85%	0%	82%	0%	69%
Vol Right, %	0%	44%	0%	15%	0%	18%	0%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	163	53	295	63	312	102	226
LT Vol	29	0	53	0	63	0	102	0
Through Vol	0	92	0	250	0	255	0	155
RT Vol	0	71	0	45	0	57	0	71
Lane Flow Rate	32	181	59	328	70	347	113	251
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.077	0.395	0.131	0.675	0.155	0.708	0.26	0.525
Departure Headway (Hd)	8.627	7.847	8.004	7.415	7.982	7.355	8.257	7.533
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	414	456	446	485	448	489	434	477
Service Time	6.414	5.634	5.782	5.192	5.759	5.131	6.037	5.313
HCM Lane V/C Ratio	0.077	0.397	0.132	0.676	0.156	0.71	0.26	0.526
HCM Control Delay	12.1	15.7	12	24.4	12.2	26.2	13.9	18.4
HCM Lane LOS	B	C	B	C	B	D	B	C
HCM 95th-tile Q	0.2	1.9	0.4	5	0.5	5.5	1	3

HCM 6th Signalized Intersection Summary

8: Wilsonville Rd/Stafford Rd & Boeckman Rd/Advance Rd

WV Frog Pond East & South Master Plan

Existing 2022

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	65	111	57	43	14	71	204	53	20	438	234
Future Volume (veh/h)	186	65	111	57	43	14	71	204	53	20	438	234
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.93		0.90	0.90		0.88	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1885	1826	1900	1900	1885	1885	1870	1826	1885	1856
Adj Flow Rate, veh/h	188	66	18	58	43	1	72	206	45	20	442	216
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	2	1	5	0	0	1	1	2	5	1	3
Cap, veh/h	483	384	297	362	246	6	271	681	149	551	512	250
Arrive On Green	0.12	0.21	0.21	0.05	0.13	0.13	0.05	0.46	0.45	0.02	0.43	0.42
Sat Flow, veh/h	1795	1870	1445	1739	1842	43	1795	1491	326	1739	1195	584
Grp Volume(v), veh/h	188	66	18	58	0	44	72	0	251	20	0	658
Grp Sat Flow(s),veh/h/ln	1795	1870	1445	1739	0	1885	1795	0	1817	1739	0	1778
Q Serve(g_s), s	4.9	1.7	0.6	1.7	0.0	1.2	1.3	0.0	5.2	0.4	0.0	20.0
Cycle Q Clear(g_c), s	4.9	1.7	0.6	1.7	0.0	1.2	1.3	0.0	5.2	0.4	0.0	20.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.18	1.00		0.33
Lane Grp Cap(c), veh/h	483	384	297	362	0	252	271	0	829	551	0	762
V/C Ratio(X)	0.39	0.17	0.06	0.16	0.00	0.17	0.27	0.00	0.30	0.04	0.00	0.86
Avail Cap(c_a), veh/h	555	743	574	409	0	590	308	0	1277	635	0	1251
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.9	19.4	19.0	20.5	0.0	22.8	12.5	0.0	10.2	9.6	0.0	15.5
Incr Delay (d2), s/veh	0.4	0.2	0.1	0.2	0.0	0.2	0.4	0.0	0.2	0.0	0.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.7	0.2	0.6	0.0	0.5	0.5	0.0	1.8	0.1	0.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.3	19.6	19.1	20.6	0.0	23.1	12.9	0.0	10.4	9.6	0.0	19.1
LnGrp LOS	B	B	B	C	A	C	B	A	B	A	A	B
Approach Vol, veh/h		272			102			323			678	
Approach Delay, s/veh		17.9			21.7			11.0			18.8	
Approach LOS		B			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	29.5	11.2	11.9	5.1	31.1	7.0	16.2				
Change Period (Y+Rc), s	4.0	4.5	4.5	4.5	4.0	4.5	4.5	4.5				
Max Green Setting (Gmax), s	4.0	41.3	9.1	18.1	4.0	41.3	4.1	23.1				
Max Q Clear Time (g_c+1/3), s	4.0	22.0	6.9	3.2	2.4	7.2	3.7	3.7				
Green Ext Time (p_c), s	0.0	3.0	0.1	0.1	0.0	1.0	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay												17.0
HCM 6th LOS												B

HCM 6th TWSC
9: 60th Ave & Advance Rd

WV Frog Pond East & South Master Plan
Existing 2022

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Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	84	16	2	85	15	2
Future Vol, veh/h	84	16	2	85	15	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	1	12	0	1	7	0
Mvmt Flow	104	20	2	105	19	2

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	124	0	223
Stage 1	-	-	-	-	114
Stage 2	-	-	-	-	109
Critical Hdwy	-	-	4.1	-	6.47
Critical Hdwy Stg 1	-	-	-	-	5.47
Critical Hdwy Stg 2	-	-	-	-	5.47
Follow-up Hdwy	-	-	2.2	-	3.563
Pot Cap-1 Maneuver	-	-	1475	-	754
Stage 1	-	-	-	-	899
Stage 2	-	-	-	-	903
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1475	-	753
Mov Cap-2 Maneuver	-	-	-	-	753
Stage 1	-	-	-	-	899
Stage 2	-	-	-	-	902




Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	771	-	-	1475	-
HCM Lane V/C Ratio	0.027	-	-	0.002	-
HCM Control Delay (s)	9.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
10: Stafford Rd & Brisband St

WV Frog Pond East & South Master Plan
Existing 2022

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Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	6	4	400	686	11
Future Vol, veh/h	12	6	4	400	686	11
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	25	0	2	0
Mvmt Flow	13	7	4	435	746	12

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1197	754	760	0	-	0
Stage 1	754	-	-	-	-	-
Stage 2	443	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.35	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.425	-	-	-
Pot Cap-1 Maneuver	207	412	757	-	-	-
Stage 1	468	-	-	-	-	-
Stage 2	651	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	205	411	756	-	-	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	464	-	-	-	-	-
Stage 2	650	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.9	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	756	-	246	-	-
HCM Lane V/C Ratio	0.006	-	0.08	-	-
HCM Control Delay (s)	9.8	0	20.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

HCM 6th TWSC
11: Stafford Rd & Frog Pond Ln

WV Frog Pond East & South Master Plan
Existing 2022

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Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	1	4	2	410	693	2
Future Vol, veh/h	1	4	2	410	693	2
Conflicting Peds, #/hr	0	0	2	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	2	50
Mvmt Flow	1	4	2	446	753	2

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1206	756	757	0	-	0
Stage 1	756	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	205	411	863	-	-	-
Stage 1	467	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	204	410	862	-	-	-
Mov Cap-2 Maneuver	204	-	-	-	-	-
Stage 1	465	-	-	-	-	-
Stage 2	646	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	862	-	341	-	-
HCM Lane V/C Ratio	0.003	-	0.016	-	-
HCM Control Delay (s)	9.2	0	15.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
12: Stafford Rd & Kahle Rd

WV Frog Pond East & South Master Plan
Existing 2022

DRAFT

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WT		BT			BT
Traffic Vol, veh/h	2	2	409	2	2	693
Future Vol, veh/h	2	2	409	2	2	693
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	2	2	445	2	2	753

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1203	446	0	0	447
Stage 1	446	-	-	-	-
Stage 2	757	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	206	617	-	-	1124
Stage 1	649	-	-	-	-
Stage 2	467	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	205	617	-	-	1124
Mov Cap-2 Maneuver	205	-	-	-	-
Stage 1	649	-	-	-	-
Stage 2	466	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	308	1124
HCM Lane V/C Ratio	-	-	0.014	0.002
HCM Control Delay (s)	-	-	16.9	8.2
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0	0

HCM 6th Signalized Intersection Summary

13: I-5 SB Ramp & Wilsonville Rd

WV Frog Pond East & South Master Plan

Existing 2022

DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↘↗	↑↑					↘	↗	↗↗
Traffic Volume (veh/h)	0	780	597	503	829	0	0	0	0	74	2	91
Future Volume (veh/h)	0	780	597	503	829	0	0	0	0	74	2	91
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1856	1870	1856	0				1856	1900	1856
Adj Flow Rate, veh/h	0	830	0	535	882	0				80	0	9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	2	3	2	3	0				3	0	3
Cap, veh/h	0	3357		631	3089	0				180	0	155
Arrive On Green	0.00	0.66	0.00	0.12	0.59	0.00				0.05	0.00	0.05
Sat Flow, veh/h	0	5274	1572	3456	3618	0				3534	0	3039
Grp Volume(v), veh/h	0	830	0	535	882	0				80	0	9
Grp Sat Flow(s),veh/h/ln	0	1702	1572	1728	1763	0				1767	0	1520
Q Serve(g_s), s	0.0	7.3	0.0	16.7	13.6	0.0				2.4	0.0	0.3
Cycle Q Clear(g_c), s	0.0	7.3	0.0	16.7	13.6	0.0				2.4	0.0	0.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3357		631	3089	0				180	0	155
V/C Ratio(X)	0.00	0.25		0.85	0.29	0.00				0.44	0.00	0.06
Avail Cap(c_a), veh/h	0	3357		785	3089	0				610	0	525
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.93	0.93	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	7.7	0.0	46.8	5.6	0.0				50.7	0.0	49.7
Incr Delay (d2), s/veh	0.0	0.2	0.0	6.8	0.2	0.0				1.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.5	0.0	8.0	5.7	0.0				1.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	7.9	0.0	53.5	5.8	0.0				52.4	0.0	49.8
LnGrp LOS	A	A		D	A	A				D	A	D
Approach Vol, veh/h		830			1417						89	
Approach Delay, s/veh		7.9			23.9						52.1	
Approach LOS		A			C						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	24.1	76.3		9.6		100.4						
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0						
Max Green Setting (Gmax), s	25.0	54.0		19.0		75.0						
Max Q Clear Time (g_c+1), s	18.7	9.3		4.4		15.6						
Green Ext Time (p_c), s	1.4	4.4		0.2		4.8						

Intersection Summary

HCM 6th Ctrl Delay	19.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

14: I-5 NB Ramp & Wilsonville Rd

WV Frog Pond East & South Master Plan

Existing 2022

DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑			↑↑↑	↔	↔	↔	↔↔			
Traffic Volume (veh/h)	321	533	0	0	989	311	343	2	445	0	0	0
Future Volume (veh/h)	321	533	0	0	989	311	343	2	445	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No		No					
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1885	1826	1900	1870			
Adj Flow Rate, veh/h	334	555	0	0	1030	0	358	0	180			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	1	5	0	2			
Cap, veh/h	407	2822	0	0	3268		463	0	412			
Arrive On Green	0.24	1.00	0.00	0.00	1.00	0.00	0.13	0.00	0.13			
Sat Flow, veh/h	3456	3647	0	0	5274	1598	3478	0	3089			
Grp Volume(v), veh/h	334	555	0	0	1030	0	358	0	180			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1702	1598	1739	0	1545			
Q Serve(g_s), s	10.1	0.0	0.0	0.0	0.0	0.0	10.9	0.0	5.9			
Cycle Q Clear(g_c), s	10.1	0.0	0.0	0.0	0.0	0.0	10.9	0.0	5.9			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	407	2822	0	0	3268		463	0	412			
V/C Ratio(X)	0.82	0.20	0.00	0.00	0.32		0.77	0.00	0.44			
Avail Cap(c_a), veh/h	785	2822	0	0	3268		949	0	842			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(l)	0.97	0.97	0.00	0.00	0.73	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	41.0	0.0	0.0	0.0	0.0	0.0	46.1	0.0	43.9			
Incr Delay (d2), s/veh	2.5	0.2	0.0	0.0	0.2	0.0	1.7	0.0	0.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.9	0.1	0.0	0.0	0.1	0.0	4.8	0.0	2.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	0.2	0.0	0.0	0.2	0.0	47.8	0.0	44.3			
LnGrp LOS	D	A	A	A	A		D	A	D			
Approach Vol, veh/h		889			1030			538				
Approach Delay, s/veh		16.4			0.2			46.6				
Approach LOS		B			A			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		91.3			16.9	74.4		18.7				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		53.0			25.0	43.0		30.0				
Max Q Clear Time (g_c+1), s		2.0			12.1	2.0		12.9				
Green Ext Time (p_c), s		6.1			0.9	12.8		1.7				

Intersection Summary

HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

15: Town Center Lp West & Wilsonville Rd

WV Frog Pond East & South Master Plan

Existing 2022

DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↓		↔	↑↓		↔	↔↔		↔	↓	↔
Traffic Volume (veh/h)	365	504	54	43	564	47	188	54	40	48	66	548
Future Volume (veh/h)	365	504	54	43	564	47	188	54	40	48	66	548
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.95	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1826	1885	1900	1885	1900	1900	1900	1900	1870
Adj Flow Rate, veh/h	384	531	51	45	594	44	198	57	16	51	139	116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	5	1	0	1	0	0	0	0	2
Cap, veh/h	445	1912	183	57	1648	122	462	181	51	189	199	153
Arrive On Green	0.26	1.00	1.00	0.03	0.49	0.48	0.13	0.13	0.13	0.10	0.10	0.10
Sat Flow, veh/h	3456	3275	314	1739	3377	250	3591	1408	395	1810	1900	1465
Grp Volume(v), veh/h	384	287	295	45	315	323	198	0	73	51	139	116
Grp Sat Flow(s),veh/h/ln	1728	1777	1812	1739	1791	1835	1795	0	1804	1810	1900	1465
Q Serve(g_s), s	11.7	0.0	0.0	2.8	12.0	12.1	5.6	0.0	4.0	2.9	7.8	8.5
Cycle Q Clear(g_c), s	11.7	0.0	0.0	2.8	12.0	12.1	5.6	0.0	4.0	2.9	7.8	8.5
Prop In Lane	1.00		0.17	1.00		0.14	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	445	1037	1058	57	874	896	462	0	232	189	199	153
V/C Ratio(X)	0.86	0.28	0.28	0.79	0.36	0.36	0.43	0.00	0.31	0.27	0.70	0.76
Avail Cap(c_a), veh/h	534	1037	1058	111	874	896	914	0	459	296	311	240
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	0.0	0.0	52.8	17.5	17.5	44.2	0.0	43.5	45.4	47.6	47.9
Incr Delay (d2), s/veh	11.0	0.6	0.6	16.0	1.2	1.1	0.5	0.0	0.6	0.6	3.3	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.2	0.2	1.5	5.1	5.2	2.5	0.0	1.9	1.3	3.8	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.0	0.6	0.6	68.9	18.6	18.7	44.7	0.0	44.1	45.9	50.9	53.4
LnGrp LOS	D	A	A	E	B	B	D	A	D	D	D	D
Approach Vol, veh/h		966			683			271			306	
Approach Delay, s/veh		20.6			22.0			44.5			51.0	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	68.2		15.5	18.1	57.7		18.7				
Change Period (Y+Rc), s	4.0	4.5		4.5	4.0	4.5		4.5				
Max Green Setting (Gmax), s	40.0			17.5	17.0	30.0		28.0				
Max Q Clear Time (g_c+1), s		2.0		10.5	13.7	14.1		7.6				
Green Ext Time (p_c), s	0.0	3.9		0.5	0.5	3.5		0.9				

Intersection Summary

HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

DRAFT

ID	Software/Method	Intersection	Control Type	LOS	Delay	V/C Ratio
1	Synchro HCM 6th Signal	I-5 SB Ramp & Elligsen Rd	Signal	B	19.5	0.74
2	Synchro HCM 6th Signal	I-5 NB Ramp & Elligsen Rd	Signal	A	8.4	0.34
3	Synchro HCM 6th Signal	Parkway Ave & Elligsen Rd	Signal	B	15.9	0.32
4	Synchro HCM 6th Signal	Parkway Center Dr & Elligsen Rd	Signal	B	14.9	0.40
6	Synchro HCM 6th Signal	Parkway Ave & Boeckman Rd	Signal	C	25.6	0.84
8	Synchro HCM 6th Signal	Wilsonville Rd/Stafford Rd & Boeckman Rd/	Signal	B	17.0	0.65
13	Synchro HCM 6th Signal	I-5 SB Ramp & Wilsonville Rd	Signal	B	19.3	0.38
14	Synchro HCM 6th Signal	I-5 NB Ramp & Wilsonville Rd	Signal	B	16.2	0.44
15	Synchro HCM 6th Signal	Town Center Lp West & Wilsonville Rd	Signal	C	28.1	0.38

DRAFT

FUTURE BASELINE 2040 HCM REPORTS



HCM 6th Signalized Intersection Summary

1: I-5 SB Ramp & Elligsen Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

DRAFT



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↘	↖	↗↗
Traffic Volume (veh/h)	0	1315	1105	0	1030	370	0	0	0	480	70	830
Future Volume (veh/h)	0	1315	1105	0	1030	370	0	0	0	480	70	830
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1856	0	1826	1900				1856	1870	1678
Adj Flow Rate, veh/h	0	1384	0	0	1084	0				558	0	798
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	5	3	0	5	0				3	2	15
Cap, veh/h	0	2019		0	2019					1208	0	951
Arrive On Green	0.00	0.58	0.00	0.00	1.00	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	3561	1572	0	3561	1610				3534	0	2784
Grp Volume(v), veh/h	0	1384	0	0	1084	0				558	0	798
Grp Sat Flow(s),veh/h/ln	0	1735	1572	0	1735	1610				1767	0	1392
Q Serve(g_s), s	0.0	29.1	0.0	0.0	0.0	0.0				13.0	0.0	27.8
Cycle Q Clear(g_c), s	0.0	29.1	0.0	0.0	0.0	0.0				13.0	0.0	27.8
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2019		0	2019					1208	0	951
V/C Ratio(X)	0.00	0.69		0.00	0.54					0.46	0.00	0.84
Avail Cap(c_a), veh/h	0	2019		0	2019					1447	0	1140
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.86	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.3	0.0	0.0	0.0	0.0				27.0	0.0	31.9
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.0	0.9	0.0				0.3	0.0	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.0	0.0	0.0	0.2	0.0				5.4	0.0	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.2	0.0	0.0	0.9	0.0				27.3	0.0	36.8
LnGrp LOS	A	B		A	A					C	A	D
Approach Vol, veh/h		1384			1084						1356	
Approach Delay, s/veh		17.2			0.9						32.9	
Approach LOS		B			A						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		65.1		39.9		65.1						
Change Period (Y+Rc), s		5.0		4.0		5.0						
Max Green Setting (Gmax), s		53.0		43.0		53.0						
Max Q Clear Time (g_c+1), s		31.1		29.8		2.0						
Green Ext Time (p_c), s		7.8		6.1		6.4						

Intersection Summary

HCM 6th Ctrl Delay	18.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

User approved changes to right turn type.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

2: I-5 NB Ramp & Elligsen Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑	↑	↑↑		↑			
Traffic Volume (veh/h)	0	905	890	0	920	535	480	0	270	0	0	0
Future Volume (veh/h)	0	905	890	0	920	535	480	0	270	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1826	0	1870	1870	1826	0	1856			
Adj Flow Rate, veh/h	0	943	0	0	958	0	500	0	0			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	0	2	5	0	2	2	5	0	3			
Cap, veh/h	0	2598		0	2598		618	0				
Arrive On Green	0.00	1.00	0.00	0.00	1.00	0.00	0.18	0.00	0.00			
Sat Flow, veh/h	0	3647	1547	0	3647	1585	3374	0	1572			
Grp Volume(v), veh/h	0	943	0	0	958	0	500	0	0			
Grp Sat Flow(s),veh/h/ln	0	1777	1547	0	1777	1585	1687	0	1572			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	14.9	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	14.9	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2598		0	2598		618	0				
V/C Ratio(X)	0.00	0.36		0.00	0.37		0.81	0.00				
Avail Cap(c_a), veh/h	0	2598		0	2598		1253	0				
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.67	0.00	0.00	0.86	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	41.1	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.3	0.0	2.6	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	0.0	0.1	0.0	6.3	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.3	0.0	0.0	0.3	0.0	43.7	0.0	0.0			
LnGrp LOS	A	A		A	A		D	A				
Approach Vol, veh/h		943			958			500				
Approach Delay, s/veh		0.3			0.3			43.7				
Approach LOS		A			A			D				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		81.8				81.8		23.2				
Change Period (Y+Rc), s		5.0				5.0		4.0				
Max Green Setting (Gmax), s		57.0				57.0		39.0				
Max Q Clear Time (g_c+1), s		2.0				2.0		16.9				
Green Ext Time (p_c), s		5.2				5.3		2.3				

Intersection Summary

HCM 6th Ctrl Delay	9.3
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Parkway Ave & Elligsen Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	625	470	50	795	45	460	30	55	70	20	200
Future Volume (veh/h)	80	625	470	50	795	45	460	30	55	70	20	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1826	1900	1900	1856	1900	1870	1900	1900	1678	1411	1841
Adj Flow Rate, veh/h	88	687	314	55	874	44	529	0	8	77	22	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	5	0	0	3	0	2	0	0	15	33	4
Cap, veh/h	111	1839	1142	72	2507	126	640	0	289	103	82	7
Arrive On Green	0.13	1.00	1.00	0.01	0.17	0.17	0.18	0.00	0.18	0.06	0.06	0.06
Sat Flow, veh/h	1781	3469	1609	1810	4940	248	3563	0	1610	1598	1274	116
Grp Volume(v), veh/h	88	687	314	55	597	321	529	0	8	77	0	24
Grp Sat Flow(s),veh/h/ln	1781	1735	1609	1810	1689	1811	1781	0	1610	1598	0	1390
Q Serve(g_s), s	5.0	0.0	0.0	3.2	16.4	16.5	15.0	0.0	0.4	5.0	0.0	1.7
Cycle Q Clear(g_c), s	5.0	0.0	0.0	3.2	16.4	16.5	15.0	0.0	0.4	5.0	0.0	1.7
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	111	1839	1142	72	1714	919	640	0	289	103	0	90
V/C Ratio(X)	0.79	0.37	0.27	0.76	0.35	0.35	0.83	0.00	0.03	0.75	0.00	0.27
Avail Cap(c_a), veh/h	198	1839	1142	267	1714	919	882	0	399	228	0	199
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	0.87	0.87	0.87	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.3	0.0	0.0	51.3	28.4	28.4	41.5	0.0	35.5	48.3	0.0	46.8
Incr Delay (d2), s/veh	10.6	0.5	0.5	13.2	0.5	0.9	4.7	0.0	0.0	10.3	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.1	0.2	1.7	7.5	8.2	7.0	0.0	0.2	2.3	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.8	0.5	0.5	64.5	28.8	29.3	46.2	0.0	35.5	58.6	0.0	48.3
LnGrp LOS	E	A	A	E	C	C	D	A	D	E	A	D
Approach Vol, veh/h		1089			973			537			101	
Approach Delay, s/veh		5.0			31.0			46.0			56.2	
Approach LOS		A			C			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7	60.7		11.8	11.1	58.3		23.9				
Change Period (Y+Rc), s	4.5	5.0		5.0	4.5	5.0		5.0				
Max Green Setting (Gmax), s	15.5	29.0		15.0	11.7	32.8		26.0				
Max Q Clear Time (g_c+1), s	15.2	2.0		7.0	7.0	18.5		17.0				
Green Ext Time (p_c), s	0.1	5.1		0.2	0.1	3.6		1.8				

Intersection Summary

HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Parkway Center Dr & Elligsen Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	455	265	120	460	5	415	5	115	5	5	15
Future Volume (veh/h)	30	455	265	120	460	5	415	5	115	5	5	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1856	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	32	489	190	129	495	5	446	5	13	5	5	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	2	3	0	0	0	0	0	0	0	0
Cap, veh/h	659	1101	1164	586	2267	23	546	72	188	27	27	0
Arrive On Green	0.06	0.77	0.77	0.08	0.62	0.62	0.16	0.16	0.16	0.01	0.03	0.00
Sat Flow, veh/h	1810	1900	1584	1767	3661	37	3510	466	1211	927	927	0
Grp Volume(v), veh/h	32	489	190	129	244	256	446	0	18	10	0	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1584	1767	1805	1893	1755	0	1677	1854	0	0
Q Serve(g_s), s	0.7	9.4	2.2	2.6	6.2	6.3	12.9	0.0	1.0	0.6	0.0	0.0
Cycle Q Clear(g_c), s	0.7	9.4	2.2	2.6	6.2	6.3	12.9	0.0	1.0	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.72	0.50		0.00
Lane Grp Cap(c), veh/h	659	1101	1164	586	1118	1172	546	0	261	53	0	0
V/C Ratio(X)	0.05	0.44	0.16	0.22	0.22	0.22	0.82	0.00	0.07	0.19	0.00	0.00
Avail Cap(c_a), veh/h	734	1101	1164	590	1118	1172	903	0	431	141	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.5	6.1	2.2	6.5	8.8	8.8	42.9	0.0	37.8	50.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.3	0.1	0.4	0.4	1.2	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.2	1.1	0.9	2.4	2.5	5.6	0.0	0.4	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.5	7.3	2.4	6.5	9.3	9.2	44.0	0.0	37.9	50.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		711			629			464			10	
Approach Delay, s/veh		6.0			8.7			43.8			50.8	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.8	64.8		7.0	8.6	69.0		20.3				
Change Period (Y+Rc), s	5.0	5.0		5.5	5.0	5.0		5.0				
Max Green Setting (Gmax), s	44.0	44.0		6.5	8.0	44.0		26.0				
Max Q Clear Time (g_c+1), s	11.6	11.4		2.6	2.7	8.3		14.9				
Green Ext Time (p_c), s	0.0	0.6		0.0	0.0	0.4		0.3				

Intersection Summary

HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

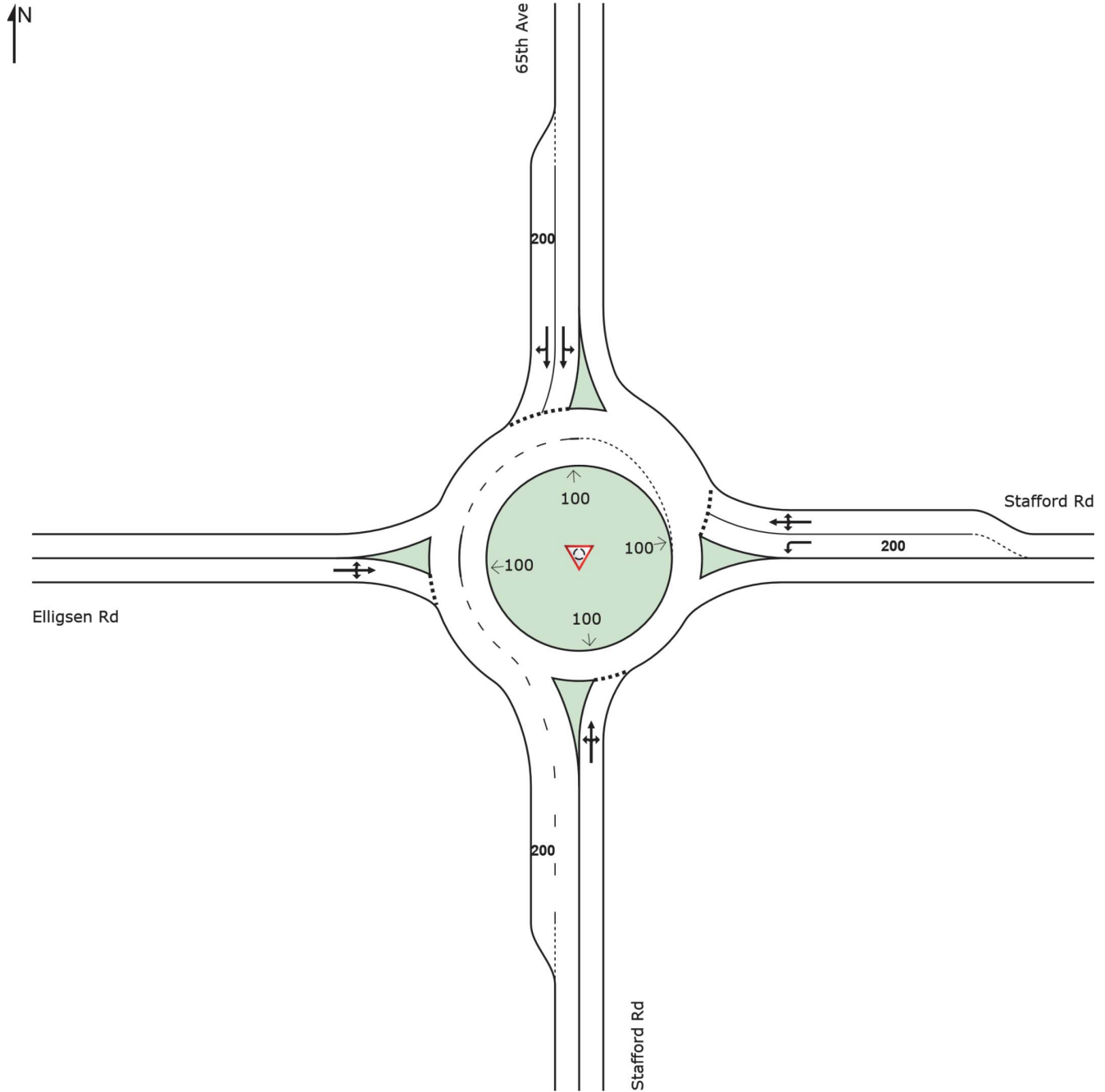
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SITE LAYOUT

Site: [Stafford Rd/65th Ave - Baseline (Site Folder: Stafford Rd/65th Ave)]

Site Category: -
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: [Stafford Rd/65th Ave - Baseline (Site Folder: Stafford Rd/65th Ave)]

Site Category: -
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] ft				
South: Stafford Rd														
3	L2	25	2.0	26	2.0	0.584	12.0	LOS B	5.7	144.1	0.71	0.78	1.02	31.6
8	T1	165	2.0	174	2.0	0.584	12.0	LOS B	5.7	144.1	0.71	0.78	1.02	31.6
18	R2	330	2.0	347	2.0	0.584	12.0	LOS B	5.7	144.1	0.71	0.78	1.02	30.7
Approach		520	2.0	547	2.0	0.584	12.0	LOS B	5.7	144.1	0.71	0.78	1.02	31.0
East: Stafford Rd														
1	L2	610	2.0	642	2.0	0.618	12.0	LOS B	6.7	169.4	0.68	0.73	0.99	29.6
6	T1	395	2.0	416	2.0	0.502	9.4	LOS A	3.3	82.6	0.59	0.52	0.65	33.0
16	R2	100	2.0	105	2.0	0.502	9.4	LOS A	3.3	82.6	0.59	0.52	0.65	32.0
Approach		1105	2.0	1163	2.0	0.618	10.8	LOS B	6.7	169.4	0.64	0.64	0.84	30.9
North: 65th Ave														
7	L2	35	2.0	37	2.0	0.707	24.6	LOS C	5.1	128.3	0.84	1.10	1.76	27.0
4	T1	420	2.0	442	2.0	0.707	23.3	LOS C	5.1	128.3	0.81	1.03	1.57	27.7
14	R2	65	2.0	68	2.0	0.340	13.1	LOS B	1.4	34.8	0.73	0.78	0.91	30.4
Approach		520	2.0	547	2.0	0.707	22.1	LOS C	5.1	128.3	0.80	1.00	1.50	28.0
West: Elligsen Rd														
5	L2	105	2.0	111	2.0	0.839	37.2	LOS D	8.1	206.5	0.90	1.36	2.49	23.2
2	T1	195	2.0	205	2.0	0.839	37.2	LOS D	8.1	206.5	0.90	1.36	2.49	23.2
12	R2	120	2.0	126	2.0	0.839	42.9	LOS D	8.1	206.5	0.90	1.36	2.49	22.7
Approach		420	2.0	442	2.0	0.839	38.8	LOS D	8.1	206.5	0.90	1.36	2.49	23.0
All Vehicles		2565	2.0	2700	2.0	0.839	17.9	LOS B	8.1	206.5	0.73	0.86	1.28	28.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: S:\Projects\2021\21108-000 (Wilsonville Frog Pond East & South Master Plan)\03_Analysis\Synchro\Wilsonville Frog Pond East & South Master Plan - Future 2040.sip9

HCM 6th Signalized Intersection Summary

6: Parkway Ave & Boeckman Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	305	315	75	340	30	200	220	65	35	385	260
Future Volume (veh/h)	145	305	315	75	340	30	200	220	65	35	385	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.96	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1870	1900	1900	1885	1900	1900	1900	1900
Adj Flow Rate, veh/h	153	321	105	79	358	24	211	232	57	37	405	247
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	2	0	0	1	0	0	0	0
Cap, veh/h	330	554	177	282	563	38	330	706	173	575	468	286
Arrive On Green	0.09	0.21	0.20	0.05	0.17	0.16	0.09	0.48	0.48	0.03	0.42	0.42
Sat Flow, veh/h	1810	2664	853	1810	3371	225	1810	1457	358	1810	1104	673
Grp Volume(v), veh/h	153	215	211	79	188	194	211	0	289	37	0	652
Grp Sat Flow(s),veh/h/ln	1810	1805	1712	1810	1777	1819	1810	0	1814	1810	0	1777
Q Serve(g_s), s	4.8	7.5	7.8	2.5	6.9	7.0	4.3	0.0	6.9	0.8	0.0	23.5
Cycle Q Clear(g_c), s	4.8	7.5	7.8	2.5	6.9	7.0	4.3	0.0	6.9	0.8	0.0	23.5
Prop In Lane	1.00		0.50	1.00		0.12	1.00		0.20	1.00		0.38
Lane Grp Cap(c), veh/h	330	375	356	282	297	304	330	0	879	575	0	754
V/C Ratio(X)	0.46	0.57	0.59	0.28	0.63	0.64	0.64	0.00	0.33	0.06	0.00	0.87
Avail Cap(c_a), veh/h	369	580	550	395	571	584	374	0	913	727	0	894
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.3	25.1	25.3	23.1	27.3	27.4	14.7	0.0	11.2	11.1	0.0	18.5
Incr Delay (d2), s/veh	0.8	1.0	1.2	0.4	1.7	1.7	2.6	0.0	0.3	0.0	0.0	8.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.1	3.0	1.0	2.9	3.0	1.6	0.0	2.4	0.3	0.0	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.1	26.1	26.5	23.5	29.0	29.0	17.2	0.0	11.5	11.1	0.0	26.9
LnGrp LOS	C	C	C	C	C	C	B	A	B	B	A	C
Approach Vol, veh/h		579		461		500		689				
Approach Delay, s/veh		25.2		28.1		13.9		26.1				
Approach LOS		C		C		B		C				
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	33.9	7.6	18.6	6.1	38.1	10.5	15.8				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	34.9	8.0	22.1	8.0	34.9	8.0	22.1					
Max Q Clear Time (g_c+1), s	25.5	4.5	9.8	2.8	8.9	6.8	9.0					
Green Ext Time (p_c), s	0.1	3.8	0.0	1.5	0.0	2.4	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay				23.5								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary

7: Canyon Creek Rd & Boeckman Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	265	45	85	330	70	40	120	105	115	165	75
Future Volume (veh/h)	55	265	45	85	330	70	40	120	105	115	165	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1900	1870	1870	1870	1856	1826	1900	1856	1900	1900	1885	1900
Adj Flow Rate, veh/h	61	294	42	94	367	69	44	133	76	128	183	63
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	2	2	2	3	5	0	3	0	0	1	0
Cap, veh/h	335	481	69	414	478	90	345	205	117	390	307	106
Arrive On Green	0.05	0.30	0.29	0.06	0.32	0.30	0.04	0.19	0.17	0.08	0.23	0.22
Sat Flow, veh/h	1810	1600	229	1781	1518	285	1810	1103	630	1810	1328	457
Grp Volume(v), veh/h	61	0	336	94	0	436	44	0	209	128	0	246
Grp Sat Flow(s),veh/h/ln	1810	0	1828	1781	0	1803	1810	0	1733	1810	0	1786
Q Serve(g_s), s	1.0	0.0	6.9	1.6	0.0	9.5	0.9	0.0	4.9	2.5	0.0	5.4
Cycle Q Clear(g_c), s	1.0	0.0	6.9	1.6	0.0	9.5	0.9	0.0	4.9	2.5	0.0	5.4
Prop In Lane	1.00		0.13	1.00		0.16	1.00		0.36	1.00		0.26
Lane Grp Cap(c), veh/h	335	0	550	414	0	568	345	0	323	390	0	412
V/C Ratio(X)	0.18	0.00	0.61	0.23	0.00	0.77	0.13	0.00	0.65	0.33	0.00	0.60
Avail Cap(c_a), veh/h	581	0	1388	631	0	1369	609	0	997	573	0	1027
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.9	0.0	13.1	10.2	0.0	13.5	14.0	0.0	16.5	13.2	0.0	15.0
Incr Delay (d2), s/veh	0.3	0.0	1.1	0.3	0.0	2.2	0.2	0.0	2.2	0.5	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.3	0.5	0.0	3.2	0.3	0.0	1.9	0.9	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.1	0.0	14.2	10.5	0.0	15.7	14.1	0.0	18.6	13.7	0.0	16.4
LnGrp LOS	B	A	B	B	A	B	B	A	B	B	A	B
Approach Vol, veh/h		397		530		253		374				
Approach Delay, s/veh		13.7		14.8		17.9		15.4				
Approach LOS		B		B		B		B				
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	12.1	6.7	17.1	5.6	14.0	6.1	17.7				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	30	24.5	8.0	32.5	8.0	24.5	8.0	32.5				
Max Q Clear Time (g_c+1), s	11.5	6.9	3.6	8.9	2.9	7.4	3.0	11.5				
Green Ext Time (p_c), s	0.1	0.7	0.1	1.3	0.0	0.8	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay				15.2								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

8: Wilsonville Rd/Stafford Rd & Boeckman Rd/Advance Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	70	115	60	60	30	100	225	65	45	465	330
Future Volume (veh/h)	205	70	115	60	60	30	100	225	65	45	465	330
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.90	0.87		0.85	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1885	1826	1900	1900	1885	1885	1870	1826	1885	1856
Adj Flow Rate, veh/h	207	71	20	61	61	8	101	227	56	45	470	308
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	2	1	5	0	0	1	1	2	5	1	3
Cap, veh/h	427	358	275	307	175	23	238	728	180	589	516	338
Arrive On Green	0.13	0.19	0.19	0.05	0.11	0.10	0.05	0.50	0.49	0.03	0.49	0.48
Sat Flow, veh/h	1795	1870	1436	1739	1607	211	1795	1452	358	1739	1062	696
Grp Volume(v), veh/h	207	71	20	61	0	69	101	0	283	45	0	778
Grp Sat Flow(s),veh/h/ln	1795	1870	1436	1739	0	1817	1795	0	1810	1739	0	1758
Q Serve(g_s), s	6.8	2.3	0.8	2.2	0.0	2.5	2.0	0.0	6.6	0.9	0.0	28.9
Cycle Q Clear(g_c), s	6.8	2.3	0.8	2.2	0.0	2.5	2.0	0.0	6.6	0.9	0.0	28.9
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.20	1.00		0.40
Lane Grp Cap(c), veh/h	427	358	275	307	0	198	238	0	907	589	0	854
V/C Ratio(X)	0.48	0.20	0.07	0.20	0.00	0.35	0.42	0.00	0.31	0.08	0.00	0.91
Avail Cap(c_a), veh/h	490	624	479	336	0	424	252	0	1069	629	0	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.6	24.1	23.5	26.1	0.0	29.2	15.3	0.0	10.5	8.9	0.0	16.9
Incr Delay (d2), s/veh	0.6	0.2	0.1	0.2	0.0	0.8	0.9	0.0	0.2	0.0	0.0	10.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	1.0	0.3	0.9	0.0	1.1	0.7	0.0	2.3	0.3	0.0	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	24.3	23.6	26.3	0.0	30.0	16.2	0.0	10.7	8.9	0.0	27.3
LnGrp LOS	C	C	C	C	A	C	B	A	B	A	A	C
Approach Vol, veh/h		298			130			384			823	
Approach Delay, s/veh		22.8			28.3			12.1			26.3	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	38.4	13.2	11.7	6.3	39.5	7.4	17.5				
Change Period (Y+Rc), s	4.0	4.5	4.5	4.5	4.0	4.5	4.5	4.5				
Max Green Setting (Gmax), s	4.0	41.3	11.2	16.0	4.0	41.3	4.1	23.1				
Max Q Clear Time (g_c+14), s	4.0	30.9	8.8	4.5	2.9	8.6	4.2	4.3				
Green Ext Time (p_c), s	0.0	3.0	0.1	0.1	0.0	1.1	0.0	0.2				
Intersection Summary												
HCM 6th Ctrl Delay											22.5	
HCM 6th LOS											C	

HCM 6th TWSC
9: 60th Ave & Advance Rd

WV Frog Pond East & South Master Plan
Future 2040 Build

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Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	100	25	5	95	25	30	30	5	30	30	5
Future Vol, veh/h	5	100	25	5	95	25	30	30	5	30	30	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	1	12	0	1	0	7	0	0	0	0	0
Mvmt Flow	6	111	28	6	106	28	33	33	6	33	33	6

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	134	0	0	139	0	0	289	283	125	289	283	120
Stage 1	-	-	-	-	-	-	137	137	-	132	132	-
Stage 2	-	-	-	-	-	-	152	146	-	157	151	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.17	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.563	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1463	-	-	1457	-	-	653	629	931	667	629	937
Stage 1	-	-	-	-	-	-	854	787	-	876	791	-
Stage 2	-	-	-	-	-	-	839	780	-	850	776	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1463	-	-	1457	-	-	619	624	931	632	624	937
Mov Cap-2 Maneuver	-	-	-	-	-	-	619	624	-	632	624	-
Stage 1	-	-	-	-	-	-	851	784	-	872	788	-
Stage 2	-	-	-	-	-	-	796	777	-	806	773	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0.3		0.3		11.4		11.3	
HCM LOS					B		B	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	638	1463	-	-	1457	-	-	644
HCM Lane V/C Ratio	0.113	0.004	-	-	0.004	-	-	0.112
HCM Control Delay (s)	11.4	7.5	0	-	7.5	0	-	11.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.4

HCM 6th TWSC

10: Stafford Rd & Brisband St

WV Frog Pond East & South Master Plan

Future 2040 Build

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Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	5	15	20	10	20	15	400	45	70	805	45
Future Vol, veh/h	25	5	15	20	10	20	15	400	45	70	805	45
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	10	0	0	0	2	0
Mvmt Flow	27	5	16	22	11	22	16	435	49	76	875	49

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1562	1570	902	1554	1570	460	926	0	0	484	0	0
Stage 1	1054	1054	-	492	492	-	-	-	-	-	-	-
Stage 2	508	516	-	1062	1078	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.29	-	-	2.2	-	-
Pot Cap-1 Maneuver	92	112	339	93	112	605	706	-	-	1089	-	-
Stage 1	276	305	-	562	551	-	-	-	-	-	-	-
Stage 2	551	538	-	273	297	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	70	93	338	74	93	605	705	-	-	1089	-	-
Mov Cap-2 Maneuver	70	93	-	74	93	-	-	-	-	-	-	-
Stage 1	267	260	-	545	534	-	-	-	-	-	-	-
Stage 2	504	521	-	218	253	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	72.6		56.3		0.3		0.7	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	705	-	-	99	122	1089	-
HCM Lane V/C Ratio	0.023	-	-	0.494	0.445	0.07	-
HCM Control Delay (s)	10.2	0	-	72.6	56.3	8.6	0
HCM Lane LOS	B	A	-	F	F	A	A
HCM 95th %tile Q(veh)	0.1	-	-	2.2	2	0.2	-

HCM 6th TWSC
11: Stafford Rd & Frog Pond Ln

WV Frog Pond East & South Master Plan
Future 2040 Build

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Intersection												
Int Delay, s/veh	36.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	75	10	10	10	10	50	5	420	20	85	900	100
Future Vol, veh/h	75	10	10	10	10	50	5	420	20	85	900	100
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	2	10
Mvmt Flow	82	11	11	11	11	54	5	457	22	92	978	109

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1730	1708	1035	1706	1751	468	1089	0	0	479	0	0
Stage 1	1219	1219	-	478	478	-	-	-	-	-	-	-
Stage 2	511	489	-	1228	1273	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 70	92	284	73	87	599	648	-	-	1094	-	-
Stage 1	223	255	-	572	559	-	-	-	-	-	-	-
Stage 2	549	553	-	220	241	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 46	71	284	51	67	599	647	-	-	1094	-	-
Mov Cap-2 Maneuver	~ 46	71	-	51	67	-	-	-	-	-	-	-
Stage 1	220	199	-	566	553	-	-	-	-	-	-	-
Stage 2	484	547	-	156	188	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s\$	610.5	45.1	0.1	0.7
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	647	-	-	53	163	1094	-
HCM Lane V/C Ratio	0.008	-	-	1.948	0.467	0.084	-
HCM Control Delay (s)	10.6	0	-	\$ 610.5	45.1	8.6	0
HCM Lane LOS	B	A	-	F	E	A	A
HCM 95th %tile Q(veh)	0	-	-	10.1	2.2	0.3	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 6th TWSC

12: Stafford Rd & Kahle Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	5	5	5	5	10	5	535	5	10	1075	10
Future Vol, veh/h	10	5	5	5	5	10	5	535	5	10	1075	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	2	0
Mvmt Flow	11	5	5	5	5	11	5	582	5	11	1168	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1799	1793	1174	1796	1796	585	1179	0	0	587	0	0
Stage 1	1196	1196	-	595	595	-	-	-	-	-	-	-
Stage 2	603	597	-	1201	1201	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	63	82	236	63	81	515	600	-	-	998	-	-
Stage 1	229	262	-	494	496	-	-	-	-	-	-	-
Stage 2	489	495	-	228	260	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	56	78	236	56	77	515	600	-	-	998	-	-
Mov Cap-2 Maneuver	56	78	-	56	77	-	-	-	-	-	-	-
Stage 1	226	254	-	488	490	-	-	-	-	-	-	-
Stage 2	468	489	-	211	252	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	70.3		43.5		0.1		0.1	
HCM LOS	F		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	600	-	-	76	115	998	-
HCM Lane V/C Ratio	0.009	-	-	0.286	0.189	0.011	-
HCM Control Delay (s)	11.1	0	-	70.3	43.5	8.6	0
HCM Lane LOS	B	A	-	F	E	A	A
HCM 95th %tile Q(veh)	0	-	-	1	0.7	0	-

HCM 6th Signalized Intersection Summary

13: I-5 SB Ramp & Wilsonville Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑					↑	↑	↑↑
Traffic Volume (veh/h)	0	820	655	540	1015	0	0	0	0	80	5	115
Future Volume (veh/h)	0	820	655	540	1015	0	0	0	0	80	5	115
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1856	1870	1856	0				1856	1900	1856
Adj Flow Rate, veh/h	0	863	0	568	1068	0				88	0	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	3	2	3	0				3	0	3
Cap, veh/h	0	3331		644	3086	0				184	0	158
Arrive On Green	0.00	0.65	0.00	0.37	1.00	0.00				0.05	0.00	0.05
Sat Flow, veh/h	0	5274	1572	3456	3618	0				3534	0	3039
Grp Volume(v), veh/h	0	863	0	568	1068	0				88	0	13
Grp Sat Flow(s),veh/h/ln	0	1702	1572	1728	1763	0				1767	0	1520
Q Serve(g_s), s	0.0	7.8	0.0	16.9	0.0	0.0				2.7	0.0	0.4
Cycle Q Clear(g_c), s	0.0	7.8	0.0	16.9	0.0	0.0				2.7	0.0	0.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3331		644	3086	0				184	0	158
V/C Ratio(X)	0.00	0.26		0.88	0.35	0.00				0.48	0.00	0.08
Avail Cap(c_a), veh/h	0	3331		817	3086	0				610	0	525
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.88	0.88	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.0	0.0	33.4	0.0	0.0				50.7	0.0	49.6
Incr Delay (d2), s/veh	0.0	0.2	0.0	8.3	0.3	0.0				1.9	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	0.0	6.2	0.1	0.0				1.2	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	8.2	0.0	41.6	0.3	0.0				52.6	0.0	49.9
LnGrp LOS	A	A		D	A	A				D	A	D
Approach Vol, veh/h		863			1636						101	
Approach Delay, s/veh		8.2			14.6						52.3	
Approach LOS		A			B						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	24.5	75.8		9.7		100.3						
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0						
Max Green Setting (Gmax), s	26.0	53.0		19.0		75.0						
Max Q Clear Time (g_c+I1), s	18.9	9.8		4.7		2.0						
Green Ext Time (p_c), s	1.6	4.6		0.3		6.3						

Intersection Summary

HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

14: I-5 NB Ramp & Wilsonville Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑			↑↑↑	↔	↔	↔	↔↔			
Traffic Volume (veh/h)	360	540	0	0	1100	335	455	10	505	0	0	0
Future Volume (veh/h)	360	540	0	0	1100	335	455	10	505	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1885	1826	1900	1870			
Adj Flow Rate, veh/h	375	562	0	0	1146	0	481	0	264			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	1	5	0	2			
Cap, veh/h	446	2680	0	0	3006		602	0	541			
Arrive On Green	0.26	1.00	0.00	0.00	0.59	0.00	0.17	0.00	0.17			
Sat Flow, veh/h	3456	3647	0	0	5274	1598	3478	0	3124			
Grp Volume(v), veh/h	375	562	0	0	1146	0	481	0	264			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1702	1598	1739	0	1562			
Q Serve(g_s), s	11.3	0.0	0.0	0.0	13.1	0.0	14.6	0.0	8.4			
Cycle Q Clear(g_c), s	11.3	0.0	0.0	0.0	13.1	0.0	14.6	0.0	8.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	446	2680	0	0	3006		602	0	541			
V/C Ratio(X)	0.84	0.21	0.00	0.00	0.38		0.80	0.00	0.49			
Avail Cap(c_a), veh/h	723	2680	0	0	3006		1043	0	937			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.97	0.97	0.00	0.00	0.23	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	39.7	0.0	0.0	0.0	12.0	0.0	43.6	0.0	41.1			
Incr Delay (d2), s/veh	3.3	0.2	0.0	0.0	0.1	0.0	1.5	0.0	0.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.3	0.1	0.0	0.0	4.7	0.0	6.3	0.0	3.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	0.2	0.0	0.0	12.1	0.0	45.2	0.0	41.5			
LnGrp LOS	D	A	A	A	B		D	A	D			
Approach Vol, veh/h		937			1146				745			
Approach Delay, s/veh		17.3			12.1				43.9			
Approach LOS		B			B				D			
Timer - Assigned Phs		2			5	6			8			
Phs Duration (G+Y+Rc), s		87.0			18.2	68.8			23.0			
Change Period (Y+Rc), s		4.0			4.0	4.0			4.0			
Max Green Setting (Gmax), s		52.0			23.0	42.0			33.0			
Max Q Clear Time (g_c+1), s		2.0			13.3	15.1			16.6			
Green Ext Time (p_c), s		6.1			0.9	12.3			2.4			

Intersection Summary

HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

15: Town Center Lp West & Wilsonville Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑				↑↑		↑	↑		↑	↑	
Traffic Volume (veh/h)	0	930	115	0	865	50	195	25	90	65	125	375
Future Volume (veh/h)	0	930	115	0	865	50	195	25	90	65	125	375
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1885	1900	1885	1900	1900	1900	1900	1870
Adj Flow Rate, veh/h	0	979	106	0	911	49	205	26	39	68	132	353
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	1	0	1	0	0	0	0	2
Cap, veh/h	0	1396	151	0	1031	55	237	370	555	96	208	557
Arrive On Green	0.00	0.10	0.10	0.00	0.30	0.29	0.13	0.54	0.54	0.05	0.46	0.46
Sat Flow, veh/h	0	4841	505	0	3545	186	1795	681	1021	1810	448	1198
Grp Volume(v), veh/h	0	713	372	0	473	487	205	0	65	68	0	485
Grp Sat Flow(s),veh/h/ln	0	1702	1773	0	1791	1845	1795	0	1701	1810	0	1646
Q Serve(g_s), s	0.0	22.3	22.4	0.0	27.7	27.7	12.3	0.0	2.0	4.1	0.0	24.6
Cycle Q Clear(g_c), s	0.0	22.3	22.4	0.0	27.7	27.7	12.3	0.0	2.0	4.1	0.0	24.6
Prop In Lane	0.00		0.28	0.00		0.10	1.00		0.60	1.00		0.73
Lane Grp Cap(c), veh/h	0	1017	530	0	535	551	237	0	925	96	0	765
V/C Ratio(X)	0.00	0.70	0.70	0.00	0.88	0.88	0.87	0.00	0.07	0.71	0.00	0.63
Avail Cap(c_a), veh/h	0	1331	693	0	700	721	237	0	925	156	0	765
HCM Platoon Ratio	1.00	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.95	0.95	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	44.8	44.9	0.0	36.7	36.8	46.8	0.0	12.0	51.2	0.0	22.3
Incr Delay (d2), s/veh	0.0	0.9	1.7	0.0	9.8	9.5	26.9	0.0	0.1	9.2	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.3	10.9	0.0	13.2	13.6	7.3	0.0	0.8	2.1	0.0	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	45.7	46.5	0.0	46.5	46.3	73.7	0.0	12.1	60.4	0.0	26.3
LnGrp LOS	A	D	D	A	D	D	E	A	B	E	A	C
Approach Vol, veh/h		1085			960			270			553	
Approach Delay, s/veh		46.0			46.4			58.9			30.5	
Approach LOS		D			D			E			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	63.8		36.9	18.0	55.1		36.9				
Change Period (Y+Rc), s	4.0	4.5		4.5	4.0	4.5		4.5				
Max Green Setting (Gmax), s	45.5			42.5	14.0	40.5		42.5				
Max Q Clear Time (g_c+1), s	4.0			24.4	14.3	26.6		29.7				
Green Ext Time (p_c), s	0.0	0.2		3.8	0.0	1.5		2.7				
Intersection Summary												
HCM 6th Ctrl Delay												44.3
HCM 6th LOS												D

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ID	Software/Method	Intersection	Control Type	LOS	Delay	V/C Ratio
1	Synchro HCM 6th Signal	I-5 SB Ramp & Elligsen Rd	Signal	B	18.1	0.73
2	Synchro HCM 6th Signal	I-5 NB Ramp & Elligsen Rd	Signal	A	9.3	0.45
3	Synchro HCM 6th Signal	Parkway Ave & Elligsen Rd	Signal	C	24.4	0.52
4	Synchro HCM 6th Signal	Parkway Center Dr & Elligsen Rd	Signal	B	16.9	0.55
6	Synchro HCM 6th Signal	Parkway Ave & Boeckman Rd	Signal	C	23.5	0.82
7	Synchro HCM 6th Signal	Canyon Creek Rd & Boeckman Rd	Signal	B	15.2	0.57
8	Synchro HCM 6th Signal	Wilsonville Rd/Stafford Rd & Boeckman Rd/	Signal	C	22.5	0.79
13	Synchro HCM 6th Signal	I-5 SB Ramp & Wilsonville Rd	Signal	B	14.0	0.40
14	Synchro HCM 6th Signal	I-5 NB Ramp & Wilsonville Rd	Signal	C	22.2	0.52
15	Synchro HCM 6th Signal	Town Center Lp West & Wilsonville Rd	Signal	D	44.3	0.82

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ANTICIPATED BUILD 2040 HCM REPORTS



HCM 6th Signalized Intersection Summary

1: I-5 SB Ramp & Elligsen Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑	↗				↖	↖	↖↖
Traffic Volume (veh/h)	0	1325	1105	0	1030	370	0	0	0	480	70	830
Future Volume (veh/h)	0	1325	1105	0	1030	370	0	0	0	480	70	830
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1856	0	1826	1900				1856	1870	1678
Adj Flow Rate, veh/h	0	1395	0	0	1084	0				558	0	798
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	5	3	0	5	0				3	2	15
Cap, veh/h	0	2019		0	2019					1208	0	951
Arrive On Green	0.00	0.58	0.00	0.00	1.00	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	3561	1572	0	3561	1610				3534	0	2784
Grp Volume(v), veh/h	0	1395	0	0	1084	0				558	0	798
Grp Sat Flow(s),veh/h/ln	0	1735	1572	0	1735	1610				1767	0	1392
Q Serve(g_s), s	0.0	29.5	0.0	0.0	0.0	0.0				13.0	0.0	27.8
Cycle Q Clear(g_c), s	0.0	29.5	0.0	0.0	0.0	0.0				13.0	0.0	27.8
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2019		0	2019					1208	0	951
V/C Ratio(X)	0.00	0.69		0.00	0.54					0.46	0.00	0.84
Avail Cap(c_a), veh/h	0	2019		0	2019					1447	0	1140
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	0.86	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.3	0.0	0.0	0.0	0.0				27.0	0.0	31.9
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.0	0.9	0.0				0.3	0.0	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.1	0.0	0.0	0.2	0.0				5.4	0.0	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.3	0.0	0.0	0.9	0.0				27.3	0.0	36.8
LnGrp LOS	A	B		A	A					C	A	D
Approach Vol, veh/h		1395			1084						1356	
Approach Delay, s/veh		17.3			0.9						32.9	
Approach LOS		B			A						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		65.1		39.9		65.1						
Change Period (Y+Rc), s		5.0		4.0		5.0						
Max Green Setting (Gmax), s		53.0		43.0		53.0						
Max Q Clear Time (g_c+1), s		31.5		29.8		2.0						
Green Ext Time (p_c), s		7.8		6.1		6.4						
Intersection Summary												
HCM 6th Ctrl Delay			18.2									
HCM 6th LOS			B									
Notes												
User approved volume balancing among the lanes for turning movement.												
User approved changes to right turn type.												
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Summary

2: I-5 NB Ramp & Elligsen Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑	↑	↑↑		↑			
Traffic Volume (veh/h)	0	915	890	0	925	535	475	0	275	0	0	0
Future Volume (veh/h)	0	915	890	0	925	535	475	0	275	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1826	0	1870	1870	1826	0	1856			
Adj Flow Rate, veh/h	0	953	0	0	964	0	495	0	0			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	0	2	5	0	2	2	5	0	3			
Cap, veh/h	0	2603		0	2603		613	0				
Arrive On Green	0.00	1.00	0.00	0.00	1.00	0.00	0.18	0.00	0.00			
Sat Flow, veh/h	0	3647	1547	0	3647	1585	3374	0	1572			
Grp Volume(v), veh/h	0	953	0	0	964	0	495	0	0			
Grp Sat Flow(s),veh/h/ln	0	1777	1547	0	1777	1585	1687	0	1572			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	14.8	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	14.8	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2603		0	2603		613	0				
V/C Ratio(X)	0.00	0.37		0.00	0.37		0.81	0.00				
Avail Cap(c_a), veh/h	0	2603		0	2603		1253	0				
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.67	0.00	0.00	0.85	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	41.2	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.3	0.0	2.6	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	0.0	0.1	0.0	6.2	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.3	0.0	0.0	0.3	0.0	43.8	0.0	0.0			
LnGrp LOS	A	A		A	A		D	A				
Approach Vol, veh/h		953			964			495				
Approach Delay, s/veh		0.3			0.3			43.8				
Approach LOS		A			A			D				
Timer - Assigned Phs		2			6			8				
Phs Duration (G+Y+Rc), s		81.9			81.9			23.1				
Change Period (Y+Rc), s		5.0			5.0			4.0				
Max Green Setting (Gmax), s		57.0			57.0			39.0				
Max Q Clear Time (g_c+1), s		2.0			2.0			16.8				
Green Ext Time (p_c), s		5.3			5.4			2.3				

Intersection Summary

HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

3: Parkway Ave & Elligsen Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖↑↑	↑↑↑		↖	↖	↗	↖	↗	
Traffic Volume (veh/h)	85	635	470	50	800	45	460	30	55	70	20	200
Future Volume (veh/h)	85	635	470	50	800	45	460	30	55	70	20	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1826	1900	1900	1856	1900	1870	1900	1900	1678	1411	1841
Adj Flow Rate, veh/h	93	698	314	55	879	44	529	0	8	77	22	2
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	5	0	0	3	0	2	0	0	15	33	4
Cap, veh/h	117	1839	1142	72	2492	124	640	0	289	103	82	7
Arrive On Green	0.13	1.00	1.00	0.01	0.17	0.17	0.18	0.00	0.18	0.06	0.06	0.06
Sat Flow, veh/h	1781	3469	1609	1810	4941	247	3563	0	1610	1598	1274	116
Grp Volume(v), veh/h	93	698	314	55	600	323	529	0	8	77	0	24
Grp Sat Flow(s),veh/h/ln	1781	1735	1609	1810	1689	1811	1781	0	1610	1598	0	1390
Q Serve(g_s), s	5.3	0.0	0.0	3.2	16.5	16.6	15.0	0.0	0.4	5.0	0.0	1.7
Cycle Q Clear(g_c), s	5.3	0.0	0.0	3.2	16.5	16.6	15.0	0.0	0.4	5.0	0.0	1.7
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	117	1839	1142	72	1703	913	640	0	289	103	0	90
V/C Ratio(X)	0.79	0.38	0.27	0.76	0.35	0.35	0.83	0.00	0.03	0.75	0.00	0.27
Avail Cap(c_a), veh/h	204	1839	1142	267	1703	913	882	0	399	228	0	199
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	0.87	0.87	0.87	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	0.0	0.0	51.3	28.6	28.6	41.5	0.0	35.5	48.3	0.0	46.8
Incr Delay (d2), s/veh	10.2	0.5	0.5	13.2	0.5	0.9	4.7	0.0	0.0	10.3	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.1	0.2	1.7	7.5	8.2	7.0	0.0	0.2	2.3	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	0.5	0.5	64.5	29.1	29.5	46.2	0.0	35.5	58.6	0.0	48.3
LnGrp LOS	E	A	A	E	C	C	D	A	D	E	A	D
Approach Vol, veh/h		1105			978			537			101	
Approach Delay, s/veh		5.1			31.2			46.0			56.2	
Approach LOS		A			C			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7	60.7		11.8	11.4	58.0		23.9				
Change Period (Y+Rc), s	4.5	5.0		5.0	4.5	5.0		5.0				
Max Green Setting (Gmax), s	15.5	29.0		15.0	12.0	32.5		26.0				
Max Q Clear Time (g_c+15), s	15.5	2.0		7.0	7.3	18.6		17.0				
Green Ext Time (p_c), s	0.1	5.1		0.2	0.1	3.6		1.8				

Intersection Summary

HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Parkway Center Dr & Elligsen Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	445	280	125	465	5	415	5	110	5	5	15
Future Volume (veh/h)	35	445	280	125	465	5	415	5	110	5	5	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1856	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	38	478	206	134	500	5	446	5	13	5	5	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	2	3	0	0	0	0	0	0	0	0
Cap, veh/h	659	1100	1164	587	2254	23	546	72	188	27	27	0
Arrive On Green	0.06	0.77	0.77	0.08	0.62	0.62	0.16	0.16	0.16	0.01	0.03	0.00
Sat Flow, veh/h	1810	1900	1584	1767	3662	37	3510	466	1211	927	927	0
Grp Volume(v), veh/h	38	478	206	134	246	259	446	0	18	10	0	0
Grp Sat Flow(s),veh/h/ln	1810	1900	1584	1767	1805	1893	1755	0	1677	1854	0	0
Q Serve(g_s), s	0.8	9.1	2.4	2.8	6.4	6.4	12.9	0.0	1.0	0.6	0.0	0.0
Cycle Q Clear(g_c), s	0.8	9.1	2.4	2.8	6.4	6.4	12.9	0.0	1.0	0.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.72	0.50		0.00
Lane Grp Cap(c), veh/h	659	1100	1164	587	1111	1165	546	0	261	53	0	0
V/C Ratio(X)	0.06	0.43	0.18	0.23	0.22	0.22	0.82	0.00	0.07	0.19	0.00	0.00
Avail Cap(c_a), veh/h	727	1100	1164	590	1111	1165	903	0	431	141	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.4	6.1	2.2	6.5	9.0	9.0	42.9	0.0	37.8	50.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.3	0.1	0.5	0.4	1.2	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.1	1.2	0.9	2.5	2.6	5.6	0.0	0.4	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.4	7.2	2.5	6.6	9.4	9.4	44.0	0.0	37.9	50.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	D	A	A
Approach Vol, veh/h		722			639			464				10
Approach Delay, s/veh		5.9			8.8			43.8				50.8
Approach LOS		A			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.8	64.8		7.0	9.0	68.6		20.3				
Change Period (Y+Rc), s	5.0	5.0		5.5	5.0	5.0		5.0				
Max Green Setting (Gmax), s	44.0	44.0		6.5	8.0	44.0		26.0				
Max Q Clear Time (g_c+14), s	11.1	11.1		2.6	2.8	8.4		14.9				
Green Ext Time (p_c), s	0.0	0.6		0.0	0.0	0.4		0.3				

Intersection Summary

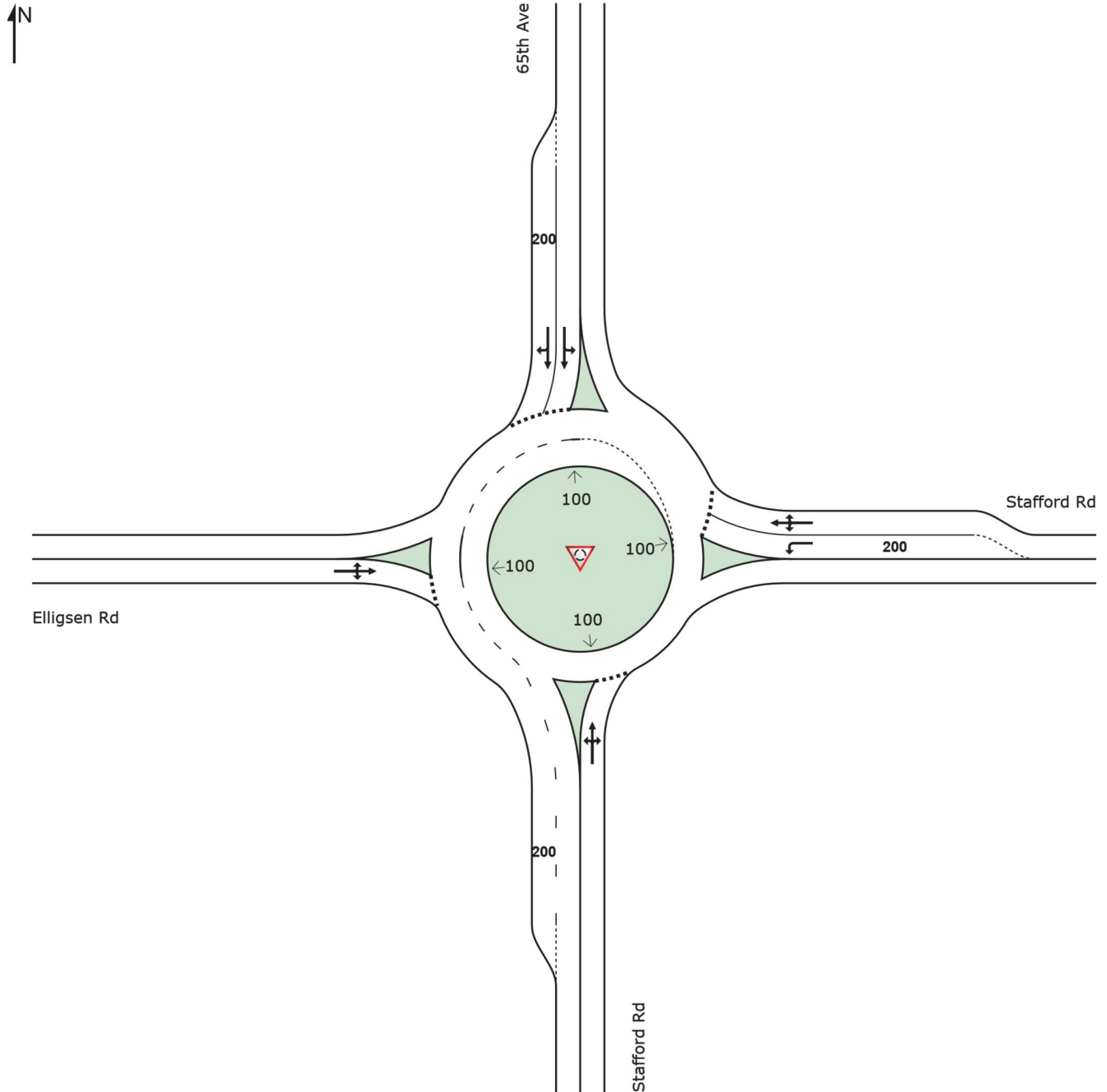
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

SITE LAYOUT

 Site: [Stafford Rd/65th Ave - Build (Site Folder: Stafford Rd/65th Ave)]

Site Category: -
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: [Stafford Rd/65th Ave - Build (Site Folder: Stafford Rd/65th Ave)]

Site Category: -
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] ft				
South: Stafford Rd														
3	L2	35	2.0	37	2.0	0.648	13.8	LOS B	7.8	199.0	0.77	0.89	1.22	30.8
8	T1	215	2.0	226	2.0	0.648	13.8	LOS B	7.8	199.0	0.77	0.89	1.22	30.8
18	R2	330	2.0	347	2.0	0.648	13.8	LOS B	7.8	199.0	0.77	0.89	1.22	30.0
Approach		580	2.0	611	2.0	0.648	13.8	LOS B	7.8	199.0	0.77	0.89	1.22	30.3
East: Stafford Rd														
1	L2	585	2.0	616	2.0	0.628	12.8	LOS B	6.8	173.3	0.72	0.84	1.15	29.3
6	T1	425	2.0	447	2.0	0.575	11.4	LOS B	5.2	132.0	0.67	0.74	0.98	32.0
16	R2	110	2.0	116	2.0	0.575	11.4	LOS B	5.2	132.0	0.67	0.74	0.98	31.1
Approach		1120	2.0	1179	2.0	0.628	12.1	LOS B	6.8	173.3	0.70	0.79	1.06	30.5
North: 65th Ave														
7	L2	35	2.0	37	2.0	0.848	37.8	LOS D	8.6	218.1	0.90	1.38	2.56	23.3
4	T1	515	2.0	542	2.0	0.848	33.9	LOS C	8.6	218.1	0.87	1.26	2.21	24.6
14	R2	65	2.0	68	2.0	0.408	14.8	LOS B	1.8	45.4	0.75	0.83	1.04	29.7
Approach		615	2.0	647	2.0	0.848	32.1	LOS C	8.6	218.1	0.86	1.22	2.11	25.0
West: Elligsen Rd														
5	L2	105	2.0	111	2.0	0.831	38.0	LOS D	7.4	188.3	0.91	1.34	2.44	23.0
2	T1	190	2.0	200	2.0	0.831	38.0	LOS D	7.4	188.3	0.91	1.34	2.44	23.0
12	R2	95	2.0	100	2.0	0.831	43.8	LOS D	7.4	188.3	0.91	1.34	2.44	22.5
Approach		390	2.0	411	2.0	0.831	39.4	LOS D	7.4	188.3	0.91	1.34	2.44	22.9
All Vehicles		2705	2.0	2847	2.0	0.848	21.0	LOS C	8.6	218.1	0.78	0.99	1.53	27.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: S:\Projects\2021\21108-000 (Wilsonville Frog Pond East & South Master Plan)\03_Analysis\Synchro\Wilsonville Frog Pond East & South Master Plan - Future 2040.sip9

HCM 6th Signalized Intersection Summary

6: Parkway Ave & Boeckman Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	320	325	80	345	30	195	215	65	35	375	260
Future Volume (veh/h)	145	320	325	80	345	30	195	215	65	35	375	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1870	1900	1900	1885	1900	1900	1900	1900
Adj Flow Rate, veh/h	153	337	119	84	363	24	205	226	56	37	395	246
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	2	0	0	1	0	0	0	0
Cap, veh/h	332	540	187	276	571	38	332	697	173	575	460	287
Arrive On Green	0.09	0.21	0.20	0.05	0.17	0.16	0.09	0.48	0.47	0.03	0.42	0.41
Sat Flow, veh/h	1810	2605	901	1810	3375	222	1810	1454	360	1810	1094	681
Grp Volume(v), veh/h	153	231	225	84	190	197	205	0	282	37	0	641
Grp Sat Flow(s),veh/h/ln	1810	1805	1701	1810	1777	1820	1810	0	1814	1810	0	1775
Q Serve(g_s), s	4.7	8.1	8.4	2.7	6.9	7.0	4.2	0.0	6.7	0.8	0.0	22.8
Cycle Q Clear(g_c), s	4.7	8.1	8.4	2.7	6.9	7.0	4.2	0.0	6.7	0.8	0.0	22.8
Prop In Lane	1.00		0.53	1.00		0.12	1.00		0.20	1.00		0.38
Lane Grp Cap(c), veh/h	332	374	352	276	300	308	332	0	870	575	0	747
V/C Ratio(X)	0.46	0.62	0.64	0.30	0.63	0.64	0.62	0.00	0.32	0.06	0.00	0.86
Avail Cap(c_a), veh/h	373	586	552	386	577	591	380	0	923	730	0	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.1	25.1	25.3	22.7	26.9	27.0	14.5	0.0	11.2	11.1	0.0	18.4
Incr Delay (d2), s/veh	0.7	1.2	1.4	0.5	1.6	1.6	2.0	0.0	0.3	0.0	0.0	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.3	3.3	1.1	2.9	3.0	1.5	0.0	2.3	0.3	0.0	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.9	26.3	26.8	23.1	28.5	28.6	16.4	0.0	11.5	11.1	0.0	26.2
LnGrp LOS	C	C	C	C	C	C	B	A	B	B	A	C
Approach Vol, veh/h		609			471			487				678
Approach Delay, s/veh		25.4			27.6			13.6				25.3
Approach LOS		C			C			B				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.1	33.3	7.8	18.4	6.0	37.4	10.4	15.8				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	34.9	8.0	22.1	8.0	34.9	8.0	22.1					
Max Q Clear Time (g_c+1), s	24.8	4.7	10.4	2.8	8.7	6.7	9.0					
Green Ext Time (p_c), s	0.1	4.0	0.0	1.6	0.0	2.3	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay												23.3
HCM 6th LOS												C

HCM 6th Signalized Intersection Summary

7: Canyon Creek Rd & Boeckman Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	290	45	80	330	65	40	120	120	150	185	85
Future Volume (veh/h)	55	290	45	80	330	65	40	120	120	150	185	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1870	1870	1856	1826	1900	1856	1900	1900	1885	1900
Adj Flow Rate, veh/h	61	322	42	89	367	63	44	133	87	167	206	74
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	2	2	2	3	5	0	3	0	0	1	0
Cap, veh/h	321	478	62	375	474	81	345	198	130	418	337	121
Arrive On Green	0.05	0.30	0.28	0.06	0.31	0.30	0.04	0.19	0.18	0.10	0.26	0.25
Sat Flow, veh/h	1810	1620	211	1781	1542	265	1810	1042	682	1810	1312	471
Grp Volume(v), veh/h	61	0	364	89	0	430	44	0	220	167	0	280
Grp Sat Flow(s),veh/h/ln	1810	0	1831	1781	0	1807	1810	0	1724	1810	0	1783
Q Serve(g_s), s	1.1	0.0	8.0	1.6	0.0	9.9	0.9	0.0	5.4	3.2	0.0	6.3
Cycle Q Clear(g_c), s	1.1	0.0	8.0	1.6	0.0	9.9	0.9	0.0	5.4	3.2	0.0	6.3
Prop In Lane	1.00		0.12	1.00		0.15	1.00		0.40	1.00		0.26
Lane Grp Cap(c), veh/h	321	0	541	375	0	555	345	0	328	418	0	458
V/C Ratio(X)	0.19	0.00	0.67	0.24	0.00	0.77	0.13	0.00	0.67	0.40	0.00	0.61
Avail Cap(c_a), veh/h	553	0	1286	582	0	1269	595	0	946	587	0	1018
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.6	0.0	14.2	11.1	0.0	14.4	14.4	0.0	17.2	12.6	0.0	15.0
Incr Delay (d2), s/veh	0.3	0.0	1.5	0.3	0.0	2.4	0.2	0.0	2.4	0.6	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.8	0.5	0.0	3.4	0.3	0.0	2.1	1.1	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.8	0.0	15.6	11.4	0.0	16.7	14.6	0.0	19.6	13.2	0.0	16.3
LnGrp LOS	B	A	B	B	A	B	B	A	B	B	A	B
Approach Vol, veh/h		425			519			264			447	
Approach Delay, s/veh		15.1			15.8			18.8			15.2	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	12.7	6.7	17.4	5.7	15.7	6.2	18.0				
Change Period (Y+Rc), s	4.0	4.5	4.0	4.5	4.0	4.5	4.0	4.5				
Max Green Setting (Gmax), s	24.5	8.0	31.5	8.0	25.5	8.0	31.5					
Max Q Clear Time (g_c+1/3), s	7.4	3.6	10.0	2.9	8.3	3.1	11.9					
Green Ext Time (p_c), s	0.2	0.8	0.1	1.4	0.0	1.0	0.0	1.6				
Intersection Summary												
HCM 6th Ctrl Delay												15.9
HCM 6th LOS												B

HCM 6th Signalized Intersection Summary

8: Wilsonville Rd/Stafford Rd & Boeckman Rd/Advance Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	245	110	115	65	65	35	95	260	85	60	455	325
Future Volume (veh/h)	245	110	115	65	65	35	95	260	85	60	455	325
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.90	0.87		0.84	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1885	1826	1900	1900	1885	1885	1870	1826	1885	1856
Adj Flow Rate, veh/h	247	111	24	66	66	12	96	263	74	61	460	301
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	1	2	1	5	0	0	1	1	2	5	1	3
Cap, veh/h	446	376	290	299	154	28	235	681	192	534	506	331
Arrive On Green	0.15	0.20	0.20	0.05	0.10	0.09	0.05	0.48	0.48	0.04	0.48	0.47
Sat Flow, veh/h	1795	1870	1442	1739	1512	275	1795	1406	396	1739	1063	695
Grp Volume(v), veh/h	247	111	24	66	0	78	96	0	337	61	0	761
Grp Sat Flow(s),veh/h/ln	1795	1870	1442	1739	0	1787	1795	0	1802	1739	0	1758
Q Serve(g_s), s	8.2	3.6	1.0	2.4	0.0	2.9	2.0	0.0	8.5	1.3	0.0	28.6
Cycle Q Clear(g_c), s	8.2	3.6	1.0	2.4	0.0	2.9	2.0	0.0	8.5	1.3	0.0	28.6
Prop In Lane	1.00		1.00	1.00		0.15	1.00		0.22	1.00		0.40
Lane Grp Cap(c), veh/h	446	376	290	299	0	181	235	0	873	534	0	837
V/C Ratio(X)	0.55	0.30	0.08	0.22	0.00	0.43	0.41	0.00	0.39	0.11	0.00	0.91
Avail Cap(c_a), veh/h	511	617	476	321	0	370	250	0	1053	563	0	1027
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	24.3	23.2	26.7	0.0	30.2	15.5	0.0	11.7	9.4	0.0	17.4
Incr Delay (d2), s/veh	0.8	0.3	0.1	0.3	0.0	1.2	0.8	0.0	0.3	0.1	0.0	10.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	1.5	0.3	1.0	0.0	1.3	0.7	0.0	3.0	0.4	0.0	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	24.6	23.3	26.9	0.0	31.4	16.3	0.0	12.0	9.5	0.0	27.7
LnGrp LOS	C	C	C	C	A	C	B	A	B	A	A	C
Approach Vol, veh/h		382			144			433			822	
Approach Delay, s/veh		23.1			29.4			13.0			26.3	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.4	38.1	14.8	11.3	6.8	38.7	7.7	18.4				
Change Period (Y+Rc), s	4.0	4.5	4.5	4.5	4.0	4.5	4.5	4.5				
Max Green Setting (Gmax), s	4.0	41.3	12.9	14.3	4.0	41.3	4.1	23.1				
Max Q Clear Time (g_c+1), s	4.0	30.6	10.2	4.9	3.3	10.5	4.4	5.6				
Green Ext Time (p_c), s	0.0	2.9	0.2	0.1	0.0	1.4	0.0	0.3				
Intersection Summary												
HCM 6th Ctrl Delay												22.6
HCM 6th LOS												C

HCM 6th TWSC
9: 60th Ave & Advance Rd

WV Frog Pond East & South Master Plan
Future 2040 Build

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Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	110	80	5	95	30	45	50	5	30	70	10
Future Vol, veh/h	10	110	80	5	95	30	45	50	5	30	70	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	1	12	0	1	0	7	0	0	0	0	0
Mvmt Flow	11	122	89	6	106	33	50	56	6	33	78	11
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	139	0	0	211	0	0	368	340	167	355	368	123
Stage 1	-	-	-	-	-	-	189	189	-	135	135	-
Stage 2	-	-	-	-	-	-	179	151	-	220	233	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.17	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.563	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1457	-	-	1372	-	-	579	585	882	604	564	933
Stage 1	-	-	-	-	-	-	801	748	-	873	789	-
Stage 2	-	-	-	-	-	-	811	776	-	787	716	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1457	-	-	1372	-	-	505	577	882	550	556	933
Mov Cap-2 Maneuver	-	-	-	-	-	-	505	577	-	550	556	-
Stage 1	-	-	-	-	-	-	794	741	-	865	785	-
Stage 2	-	-	-	-	-	-	718	772	-	717	710	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.3			13.2			12.9		
HCM LOS	B			B			B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	551	1457	-	-	1372	-	-	575				
HCM Lane V/C Ratio	0.202	0.008	-	-	0.004	-	-	0.213				
HCM Control Delay (s)	13.2	7.5	0	-	7.6	0	-	12.9				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.7	0	-	-	0	-	-	0.8				

HCM 6th TWSC
10: Stafford Rd & Brisband St

WV Frog Pond East & South Master Plan
Future 2040 Build

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Intersection												
Int Delay, s/veh	11.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	10	15	30	10	35	15	440	85	100	795	45
Future Vol, veh/h	25	10	15	30	10	35	15	440	85	100	795	45
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	10	0	0	0	2	0
Mvmt Flow	27	11	16	33	11	38	16	478	92	109	864	49

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1690	1711	891	1676	1689	524	915	0	0	570	0	0
Stage 1	1109	1109	-	556	556	-	-	-	-	-	-	-
Stage 2	581	602	-	1120	1133	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.29	-	-	2.2	-	-
Pot Cap-1 Maneuver	75	92	344	76	94	557	713	-	-	1013	-	-
Stage 1	257	288	-	519	516	-	-	-	-	-	-	-
Stage 2	503	492	-	253	280	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	50	69	343	52	71	557	712	-	-	1013	-	-
Mov Cap-2 Maneuver	50	69	-	52	71	-	-	-	-	-	-	-
Stage 1	248	224	-	502	499	-	-	-	-	-	-	-
Stage 2	443	476	-	179	218	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	137.6		133		0.3		1	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	712	-	-	73	96	1013	-
HCM Lane V/C Ratio	0.023	-	-	0.744	0.849	0.107	-
HCM Control Delay (s)	10.2	0	-	137.6	133	9	0
HCM Lane LOS	B	A	-	F	F	A	A
HCM 95th %tile Q(veh)	0.1	-	-	3.5	4.7	0.4	-

HCM 6th TWSC
11: Stafford Rd & Frog Pond Ln

WV Frog Pond East & South Master Plan
Future 2040 Build

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Intersection												
Int Delay, s/veh	121.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	75	10	10	20	10	80	5	450	45	165	910	100
Future Vol, veh/h	75	10	10	20	10	80	5	450	45	165	910	100
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	2	10
Mvmt Flow	82	11	11	22	11	87	5	489	49	179	989	109

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1977	1952	1046	1937	1982	514	1100	0	0	538	0	0
Stage 1	1404	1404	-	524	524	-	-	-	-	-	-	-
Stage 2	573	548	-	1413	1458	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 47	65	280	50	62	564	642	-	-	1040	-	-
Stage 1	175	208	-	540	533	-	-	-	-	-	-	-
Stage 2	508	520	-	173	196	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 19	35	280	24	33	564	641	-	-	1040	-	-
Mov Cap-2 Maneuver	~ 19	35	-	24	33	-	-	-	-	-	-	-
Stage 1	173	113	-	534	527	-	-	-	-	-	-	-
Stage 2	416	514	-	82	107	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, \$ 2017.7		\$ 318.8	0.1	1.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	641	-	-	22	86	1040	-
HCM Lane V/C Ratio	0.008	-	-	4.694	1.39	0.172	-
HCM Control Delay (s)	10.7	0	\$ 2017.7	\$ 318.8	9.2	0	-
HCM Lane LOS	B	A	-	F	F	A	A
HCM 95th %tile Q(veh)	0	-	-	13.1	9.1	0.6	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 6th TWSC
12: Stafford Rd & Kahle Rd

WV Frog Pond East & South Master Plan
Future 2040 Build

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Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	5	5	10	5	25	5	585	15	40	1160	35
Future Vol, veh/h	15	5	5	10	5	25	5	585	15	40	1160	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	2	0
Mvmt Flow	16	5	5	11	5	27	5	636	16	43	1261	38

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2036	2028	1280	2025	2039	644	1299	0	0	652	0	0
Stage 1	1366	1366	-	654	654	-	-	-	-	-	-	-
Stage 2	670	662	-	1371	1385	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	43	58	204	43	57	476	540	-	-	944	-	-
Stage 1	184	217	-	459	466	-	-	-	-	-	-	-
Stage 2	450	462	-	182	213	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	32	48	204	33	47	476	540	-	-	944	-	-
Mov Cap-2 Maneuver	32	48	-	33	47	-	-	-	-	-	-	-
Stage 1	181	181	-	452	459	-	-	-	-	-	-	-
Stage 2	413	455	-	143	178	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	188.1		82.1		0.1		0.3	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	540	-	-	42	87	944	-
HCM Lane V/C Ratio	0.01	-	-	0.647	0.5	0.046	-
HCM Control Delay (s)	11.7	0	-	188.1	82.1	9	0
HCM Lane LOS	B	A	-	F	F	A	A
HCM 95th %tile Q(veh)	0	-	-	2.4	2.1	0.1	-

HCM 6th Signalized Intersection Summary

13: I-5 SB Ramp & Wilsonville Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗	↖↗	↑↑					↘	↖	↗↘
Traffic Volume (veh/h)	0	825	660	545	1015	0	0	0	0	80	5	115
Future Volume (veh/h)	0	825	660	545	1015	0	0	0	0	80	5	115
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1856	1870	1856	0				1856	1900	1856
Adj Flow Rate, veh/h	0	868	0	574	1068	0				88	0	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	3	2	3	0				3	0	3
Cap, veh/h	0	3323		650	3086	0				184	0	158
Arrive On Green	0.00	0.65	0.00	0.38	1.00	0.00				0.05	0.00	0.05
Sat Flow, veh/h	0	5274	1572	3456	3618	0				3534	0	3039
Grp Volume(v), veh/h	0	868	0	574	1068	0				88	0	13
Grp Sat Flow(s),veh/h/ln	0	1702	1572	1728	1763	0				1767	0	1520
Q Serve(g_s), s	0.0	7.9	0.0	17.1	0.0	0.0				2.7	0.0	0.4
Cycle Q Clear(g_c), s	0.0	7.9	0.0	17.1	0.0	0.0				2.7	0.0	0.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3323		650	3086	0				184	0	158
V/C Ratio(X)	0.00	0.26		0.88	0.35	0.00				0.48	0.00	0.08
Avail Cap(c_a), veh/h	0	3323		817	3086	0				610	0	525
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.88	0.88	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.1	0.0	33.2	0.0	0.0				50.7	0.0	49.6
Incr Delay (d2), s/veh	0.0	0.2	0.0	8.5	0.3	0.0				1.9	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	0.0	6.3	0.1	0.0				1.2	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	8.3	0.0	41.7	0.3	0.0				52.6	0.0	49.9
LnGrp LOS	A	A		D	A	A				D	A	D
Approach Vol, veh/h		868			1642						101	
Approach Delay, s/veh		8.3			14.7						52.3	
Approach LOS		A			B						D	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	24.7	75.6		9.7		100.3						
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0						
Max Green Setting (Gmax), s	26.0	53.0		19.0		75.0						
Max Q Clear Time (g_c+1), s	19.1	9.9		4.7		2.0						
Green Ext Time (p_c), s	1.6	4.7		0.3		6.3						

Intersection Summary

HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

14: I-5 NB Ramp & Wilsonville Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑			↑↑↑	↔	↔	↔	↔↔			
Traffic Volume (veh/h)	355	550	0	0	1110	335	450	5	510	0	0	0
Future Volume (veh/h)	355	550	0	0	1110	335	450	5	510	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1885	1826	1900	1870			
Adj Flow Rate, veh/h	370	573	0	0	1156	0	473	0	287			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	1	5	0	2			
Cap, veh/h	441	2686	0	0	3022		596	0	536			
Arrive On Green	0.26	1.00	0.00	0.00	0.59	0.00	0.17	0.00	0.17			
Sat Flow, veh/h	3456	3647	0	0	5274	1598	3478	0	3124			
Grp Volume(v), veh/h	370	573	0	0	1156	0	473	0	287			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1702	1598	1739	0	1562			
Q Serve(g_s), s	11.2	0.0	0.0	0.0	13.1	0.0	14.3	0.0	9.2			
Cycle Q Clear(g_c), s	11.2	0.0	0.0	0.0	13.1	0.0	14.3	0.0	9.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	441	2686	0	0	3022		596	0	536			
V/C Ratio(X)	0.84	0.21	0.00	0.00	0.38		0.79	0.00	0.54			
Avail Cap(c_a), veh/h	723	2686	0	0	3022		1043	0	937			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	0.97	0.97	0.00	0.00	0.26	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	39.9	0.0	0.0	0.0	11.8	0.0	43.7	0.0	41.6			
Incr Delay (d2), s/veh	3.0	0.2	0.0	0.0	0.1	0.0	1.5	0.0	0.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.3	0.1	0.0	0.0	4.7	0.0	6.2	0.0	3.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	0.2	0.0	0.0	11.9	0.0	45.2	0.0	42.1			
LnGrp LOS	D	A	A	A	B		D	A	D			
Approach Vol, veh/h		943			1156				760			
Approach Delay, s/veh		17.0			11.9				44.0			
Approach LOS		B			B				D			
Timer - Assigned Phs		2			5	6			8			
Phs Duration (G+Y+Rc), s		87.1			18.0	69.1			22.9			
Change Period (Y+Rc), s		4.0			4.0	4.0			4.0			
Max Green Setting (Gmax), s		51.0			23.0	42.0			33.0			
Max Q Clear Time (g_c+1), s		2.0			13.2	15.1			16.3			
Green Ext Time (p_c), s		6.3			0.9	12.5			2.5			

Intersection Summary

HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

15: Town Center Lp West & Wilsonville Rd

WV Frog Pond East & South Master Plan

Future 2040 Build

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑↑↑			↑↑			↑	↑		↑	↑	
Traffic Volume (veh/h)	0	945	115	0	870	50	200	25	90	65	125	375
Future Volume (veh/h)	0	945	115	0	870	50	200	25	90	65	125	375
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.97	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1885	1900	1885	1900	1900	1900	1900	1870
Adj Flow Rate, veh/h	0	995	106	0	916	49	211	26	39	68	132	349
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	1	0	1	0	0	0	0	2
Cap, veh/h	0	1408	150	0	1038	56	247	369	553	96	207	546
Arrive On Green	0.00	0.10	0.10	0.00	0.30	0.30	0.14	0.54	0.54	0.05	0.46	0.46
Sat Flow, veh/h	0	4850	498	0	3546	185	1795	681	1021	1810	452	1195
Grp Volume(v), veh/h	0	723	378	0	475	490	211	0	65	68	0	481
Grp Sat Flow(s),veh/h/ln	0	1702	1775	0	1791	1845	1795	0	1701	1810	0	1646
Q Serve(g_s), s	0.0	22.6	22.7	0.0	27.8	27.8	12.6	0.0	2.0	4.1	0.0	24.6
Cycle Q Clear(g_c), s	0.0	22.6	22.7	0.0	27.8	27.8	12.6	0.0	2.0	4.1	0.0	24.6
Prop In Lane	0.00		0.28	0.00		0.10	1.00		0.60	1.00		0.73
Lane Grp Cap(c), veh/h	0	1024	534	0	538	555	247	0	922	96	0	753
V/C Ratio(X)	0.00	0.71	0.71	0.00	0.88	0.88	0.85	0.00	0.07	0.71	0.00	0.64
Avail Cap(c_a), veh/h	0	1362	710	0	716	738	253	0	922	156	0	753
HCM Platoon Ratio	1.00	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.94	0.94	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	44.8	44.9	0.0	36.6	36.6	46.3	0.0	12.1	51.2	0.0	22.9
Incr Delay (d2), s/veh	0.0	0.8	1.6	0.0	9.3	9.1	23.3	0.0	0.1	9.2	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.4	11.0	0.0	13.2	13.6	7.3	0.0	0.8	2.1	0.0	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	45.7	46.5	0.0	45.9	45.7	69.6	0.0	12.2	60.4	0.0	27.0
LnGrp LOS	A	D	D	A	D	D	E	A	B	E	A	C
Approach Vol, veh/h	1101			965			276			549		
Approach Delay, s/veh	46.0			45.8			56.1			31.2		
Approach LOS	D			D			E			C		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	9.3	63.6	37.1		18.6	54.3	37.1					
Change Period (Y+Rc), s	4.0	4.5	4.5		4.0	4.5	4.5					
Max Green Setting (Gmax), s	44.5		43.5		15.0	38.5	43.5					
Max Q Clear Time (g_c+10), s	4.0		24.7		14.6	26.6	29.8					
Green Ext Time (p_c), s	0.0	0.2	3.9		0.0	1.4	2.8					
Intersection Summary												
HCM 6th Ctrl Delay	44.1											
HCM 6th LOS	D											

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ID	Software/Method	Intersection	Control Type	LOS	Delay	V/C Ratio
1	Synchro HCM 6th Signal	I-5 SB Ramp & Elligsen Rd	Signal	B	18.2	0.73
2	Synchro HCM 6th Signal	I-5 NB Ramp & Elligsen Rd	Signal	A	9.2	0.45
3	Synchro HCM 6th Signal	Parkway Ave & Elligsen Rd	Signal	C	24.5	0.53
4	Synchro HCM 6th Signal	Parkway Center Dr & Elligsen Rd	Signal	B	16.8	0.54
6	Synchro HCM 6th Signal	Parkway Ave & Boeckman Rd	Signal	C	23.3	0.81
7	Synchro HCM 6th Signal	Canyon Creek Rd & Boeckman Rd	Signal	B	15.9	0.60
8	Synchro HCM 6th Signal	Wilsonville Rd/Stafford Rd & Boeckman Rd/	Signal	C	22.6	0.81
13	Synchro HCM 6th Signal	I-5 SB Ramp & Wilsonville Rd	Signal	B	14.0	0.40
14	Synchro HCM 6th Signal	I-5 NB Ramp & Wilsonville Rd	Signal	C	22.1	0.52
15	Synchro HCM 6th Signal	Town Center Lp West & Wilsonville Rd	Signal	D	44.1	0.82

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RECOMMENDED IMPROVEMENTS HCM REPORTS

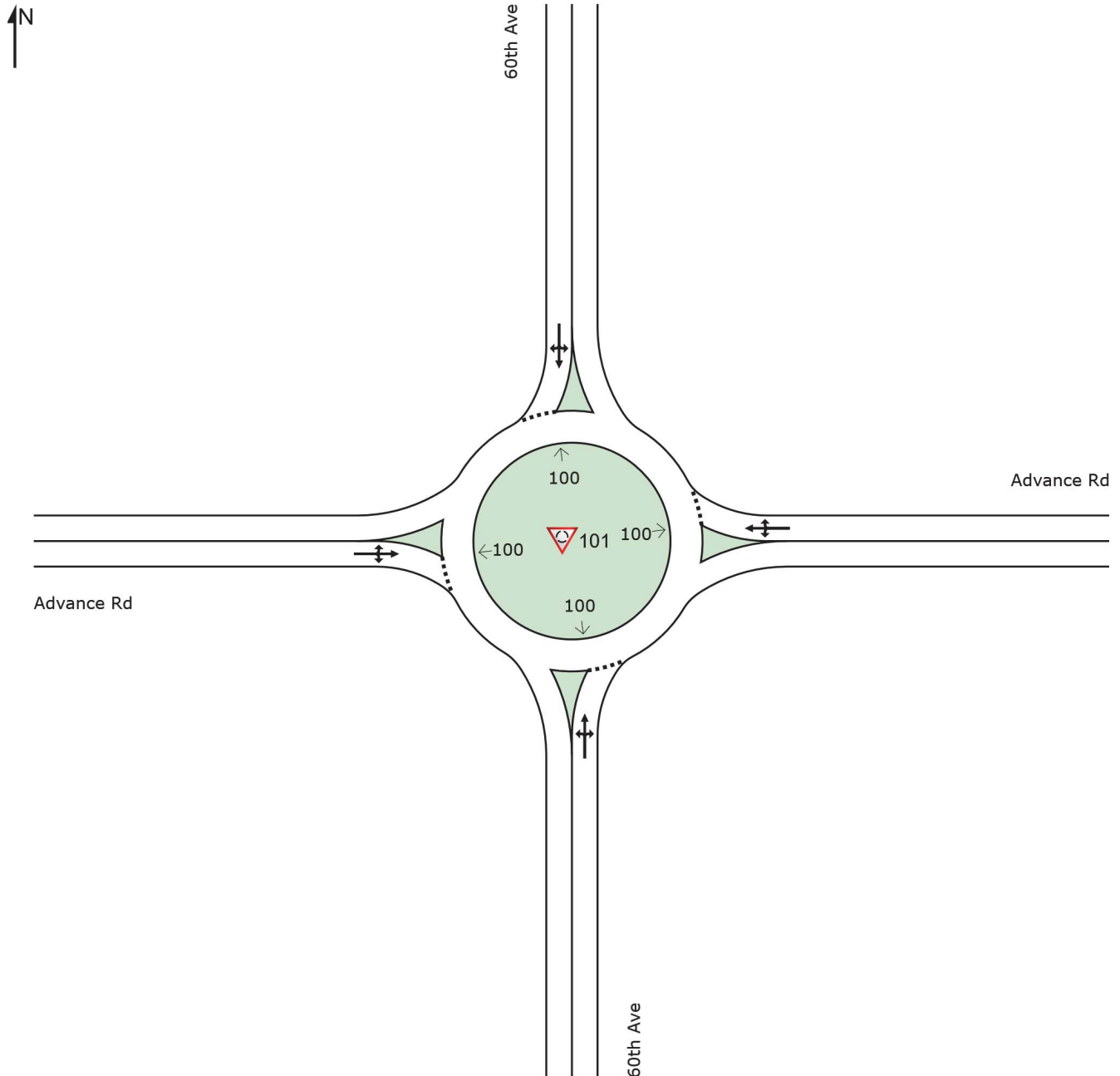


SITE LAYOUT

 Site: 101 [Advance Rd/60th Ave (Site Folder: East & South Master Plan - Future 2040 Mitigation)]

Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 101 [Advance Rd/60th Ave (Site Folder: East & South Master Plan - Future 2040 Mitigation)]

Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] ft				
South: 60th Ave														
3	L2	45	7.0	50	7.0	0.099	4.2	LOS A	0.4	10.9	0.32	0.18	0.32	34.4
8	T1	50	0.0	56	0.0	0.099	3.9	LOS A	0.4	10.9	0.32	0.18	0.32	37.1
18	R2	5	0.0	6	0.0	0.099	3.9	LOS A	0.4	10.9	0.32	0.18	0.32	37.8
Approach		100	3.2	111	3.2	0.099	4.0	LOS A	0.4	10.9	0.32	0.18	0.32	35.9
East: Advance Rd														
1	L2	5	0.0	6	0.0	0.119	4.0	LOS A	0.5	13.7	0.27	0.14	0.27	40.8
6	T1	95	1.0	106	1.0	0.119	4.0	LOS A	0.5	13.7	0.27	0.14	0.27	37.2
16	R2	30	0.0	33	0.0	0.119	4.0	LOS A	0.5	13.7	0.27	0.14	0.27	39.4
Approach		130	0.7	144	0.7	0.119	4.0	LOS A	0.5	13.7	0.27	0.14	0.27	37.8
North: 60th Ave														
7	L2	30	0.0	33	0.0	0.105	4.0	LOS A	0.5	11.8	0.32	0.18	0.32	39.4
4	T1	70	0.0	78	0.0	0.105	4.0	LOS A	0.5	11.8	0.32	0.18	0.32	37.7
14	R2	10	0.0	11	0.0	0.105	4.0	LOS A	0.5	11.8	0.32	0.18	0.32	33.6
Approach		110	0.0	122	0.0	0.105	4.0	LOS A	0.5	11.8	0.32	0.18	0.32	37.7
West: Advance Rd														
5	L2	10	0.0	11	0.0	0.191	4.6	LOS A	0.9	23.3	0.28	0.15	0.28	34.8
2	T1	110	1.0	122	1.0	0.191	4.7	LOS A	0.9	23.3	0.28	0.15	0.28	36.2
12	R2	80	12.0	89	12.0	0.191	5.0	LOS A	0.9	23.3	0.28	0.15	0.28	32.3
Approach		200	5.4	222	5.4	0.191	4.8	LOS A	0.9	23.3	0.28	0.15	0.28	34.5
All Vehicles		540	2.7	600	2.7	0.191	4.3	LOS A	0.9	23.3	0.29	0.16	0.29	36.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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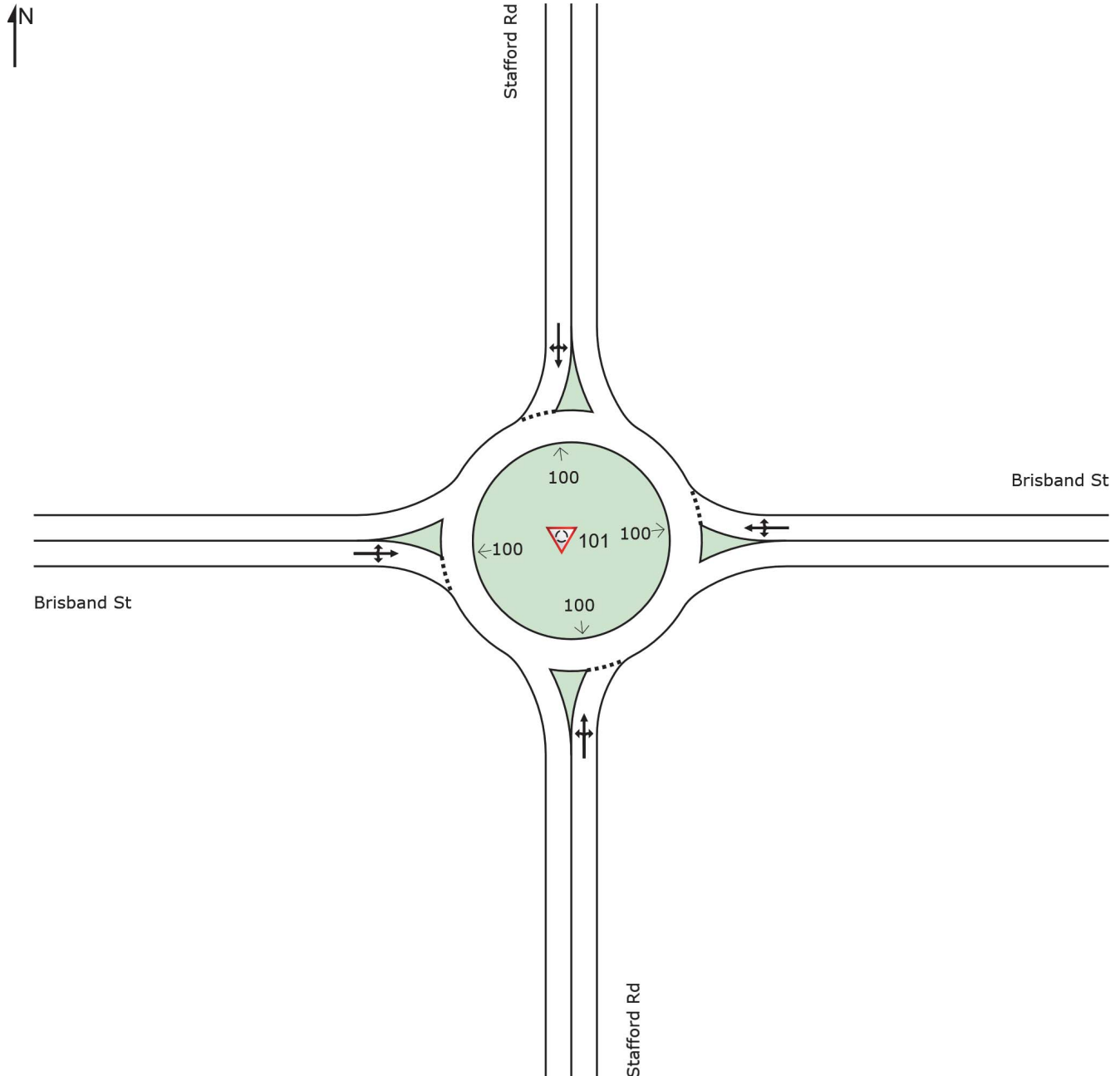
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SITE LAYOUT

 Site: 101 [Stafford Rd/Brisband St (Site Folder: East & South Master Plan - Future 2040 Mitigation)]

Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 101 [Stafford Rd/Brisband St (Site Folder: East & South Master Plan - Future 2040 Mitigation)]

Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] ft				
South: Stafford Rd														
3	L2	15	10.0	16	10.0	0.494	8.9	LOS A	3.4	85.7	0.51	0.35	0.51	33.2
8	T1	440	0.0	463	0.0	0.494	8.6	LOS A	3.4	85.7	0.51	0.35	0.51	35.8
18	R2	85	0.0	89	0.0	0.494	8.6	LOS A	3.4	85.7	0.51	0.35	0.51	36.5
Approach		540	0.3	568	0.3	0.494	8.6	LOS A	3.4	85.7	0.51	0.35	0.51	35.8
East: Brisband St														
1	L2	45	0.0	47	0.0	0.125	5.8	LOS A	0.5	13.0	0.55	0.49	0.55	38.0
6	T1	15	0.0	16	0.0	0.125	5.8	LOS A	0.5	13.0	0.55	0.49	0.55	34.9
16	R2	35	0.0	37	0.0	0.125	5.8	LOS A	0.5	13.0	0.55	0.49	0.55	36.8
Approach		95	0.0	100	0.0	0.125	5.8	LOS A	0.5	13.0	0.55	0.49	0.55	37.1
North: Stafford Rd														
7	L2	100	0.0	105	0.0	0.780	16.1	LOS C	10.8	273.4	0.66	0.35	0.66	33.1
4	T1	780	2.0	821	2.0	0.780	16.1	LOS C	10.8	273.4	0.66	0.35	0.66	31.6
14	R2	45	0.0	47	0.0	0.780	16.1	LOS C	10.8	273.4	0.66	0.35	0.66	28.8
Approach		925	1.7	974	1.7	0.780	16.1	LOS C	10.8	273.4	0.66	0.35	0.66	31.6
West: Brisband St														
5	L2	50	0.0	53	0.0	0.168	9.4	LOS A	0.6	16.0	0.68	0.68	0.68	31.1
2	T1	15	0.0	16	0.0	0.168	9.4	LOS A	0.6	16.0	0.68	0.68	0.68	32.3
12	R2	15	0.0	16	0.0	0.168	9.4	LOS A	0.6	16.0	0.68	0.68	0.68	30.3
Approach		80	0.0	84	0.0	0.168	9.4	LOS A	0.6	16.0	0.68	0.68	0.68	31.2
All Vehicles		1640	1.0	1726	1.0	0.780	12.7	LOS B	10.8	273.4	0.60	0.37	0.60	33.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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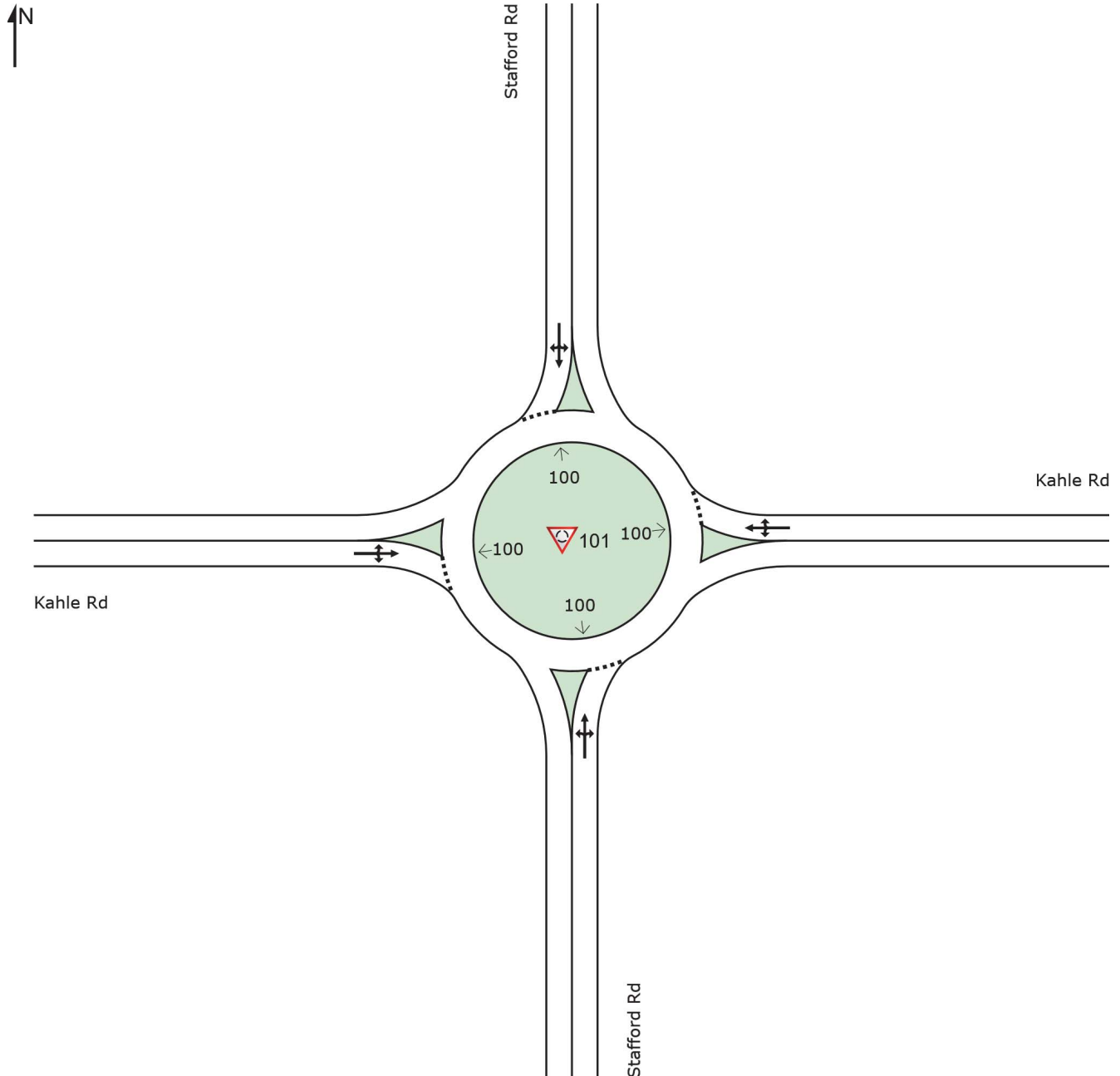
Project: S:\Projects\2021\21108-000 (Wilsonville Frog Pond East & South Master Plan)\03_Analysis\Mitigation_Final_WV FP East & South - Final Roundabout Alternatives.sip9

SITE LAYOUT

 Site: 101 [Stafford Rd/Kahle Rd (Site Folder: East & South Master Plan - Future 2040 Mitigation)]

Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 101 [Stafford Rd/Kahle Rd (Site Folder: East & South Master Plan - Future 2040 Mitigation)]

Site Category: (None)
Roundabout

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] ft				
South: Stafford Rd														
3	L2	5	0.0	5	0.0	0.489	8.2	LOS A	3.4	86.9	0.42	0.25	0.42	33.6
8	T1	535	2.0	563	2.0	0.489	8.3	LOS A	3.4	86.9	0.42	0.25	0.42	35.7
18	R2	15	0.0	16	0.0	0.489	8.2	LOS A	3.4	86.9	0.42	0.25	0.42	36.7
Approach		555	1.9	584	1.9	0.489	8.3	LOS A	3.4	86.9	0.42	0.25	0.42	35.7
East: Kahle Rd														
1	L2	15	0.0	16	0.0	0.074	5.8	LOS A	0.3	7.3	0.58	0.52	0.58	38.6
6	T1	10	0.0	11	0.0	0.074	5.8	LOS A	0.3	7.3	0.58	0.52	0.58	35.4
16	R2	25	0.0	26	0.0	0.074	5.8	LOS A	0.3	7.3	0.58	0.52	0.58	37.4
Approach		50	0.0	53	0.0	0.074	5.8	LOS A	0.3	7.3	0.58	0.52	0.58	37.3
North: Stafford Rd														
7	L2	40	0.0	42	0.0	0.993	41.1	LOS E	126.9	3219.2	1.00	0.58	1.33	24.4
4	T1	1160	2.0	1221	2.0	0.993	41.1	LOS E	126.9	3219.2	1.00	0.58	1.33	23.6
14	R2	35	0.0	37	0.0	0.993	41.1	LOS E	126.9	3219.2	1.00	0.58	1.33	22.0
Approach		1235	1.9	1300	1.9	0.993	41.1	LOS E	126.9	3219.2	1.00	0.58	1.33	23.6
West: Kahle Rd														
5	L2	65	0.0	68	0.0	0.231	13.9	LOS B	0.8	21.0	0.78	0.78	0.78	29.0
2	T1	10	0.0	11	0.0	0.231	13.9	LOS B	0.8	21.0	0.78	0.78	0.78	30.0
12	R2	5	0.0	5	0.0	0.231	13.9	LOS B	0.8	21.0	0.78	0.78	0.78	28.3
Approach		80	0.0	84	0.0	0.231	13.9	LOS B	0.8	21.0	0.78	0.78	0.78	29.1
All Vehicles		1920	1.8	2021	1.8	0.993	29.6	LOS D	126.9	3219.2	0.81	0.49	1.03	26.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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HCM 6th TWSC

12: Stafford Rd & Frog Pond Ln

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WV FP East & South
Future 2040 Mitigation

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗	↗	↘		↗	↘	
Traffic Vol, veh/h	0	0	10	0	0	80	5	475	45	165	915	100
Future Vol, veh/h	0	0	10	0	0	80	5	475	45	165	915	100
Conflicting Peds, #/hr	0	0	0	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	2	10
Mvmt Flow	0	0	11	0	0	87	5	516	49	179	995	109

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	-	-	1052	-	-	541	1106	0	0	565	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.2	-	-	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	278	0	0	545	639	-	-	1017	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	278	-	-	545	638	-	-	1017	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	18.5		12.9		0.1		1.3	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	638	-	-	278	545	1017	-
HCM Lane V/C Ratio	0.009	-	-	0.039	0.16	0.176	-
HCM Control Delay (s)	10.7	-	-	18.5	12.9	9.3	-
HCM Lane LOS	B	-	-	C	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.6	0.6	-

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Technical Memorandum

Date: September 6, 2022

Project: Wilsonville Frog Pond East and South Master Plan

To: Andrew Parish – APG/MIG
Joe Dills – APG/MIG

From: Mike Carr, PE – Murraysmith
Julia King, EIT – Murraysmith
Joshua Owens, PE – Murraysmith

Re: Proposed Infrastructure Plans - Water, Wastewater, Stormwater Systems

Introduction

This technical memorandum provides a summary of new water, wastewater, and stormwater infrastructure necessary for the development of Wilsonville Frog Pond East and South areas, to be documented in the area's Master Plan. Analyses were performed to estimate sizes and propose layouts of the proposed systems, using applicable City standards for the systems. The planned infrastructure will also be used for cost estimates and preparation of infrastructure funding strategies.

Background

In 2015, the Frog Pond Area Plan (FPAP) was adopted by the City of Wilsonville. The Frog Pond area consists of three separate neighborhoods: West, East, and South. A master plan for Frog Pond West was developed in 2017 and development in Frog Pond West began soon after. Based on current information from the City, it is estimated that 80% of the parcels in Frog Pond West are currently, or soon to be, under development.

In 2018, the Frog Pond East and South areas were brought into the regional Urban Growth Boundary (UGB). The City initiated master planning in 2020. To date, the master plan process has prepared a draft preferred land use plan. The preferred alternative identifies residential uses of varied housing types, a neighborhood commercial area, streets and trails, and parks and open space. For the purpose of this infrastructure analysis, the plan is assumed to include 1,800 total housing units in the combined East and South neighborhoods. Infrastructure plans were developed for the preferred alternative and are further described in the individual sections below.

The City has also identified a higher-density scenario which calls for 2,384 total units (20 units per net residential acre) in the combined East and South neighborhoods. This scenario represents a very robust buildout of housing, especially middle housing. Infrastructure needs for the higher-

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density alternative were estimated to determine the difference in needs between the two alternative plans. These are also described below.

Proposed Water System

The water purveyor for the Frog Pond area is the City of Wilsonville. The City's *Water System Master Plan* (WSMP), adopted September 6, 2012, is the current basis for domestic water and fire system planning within the Frog Pond East and South. The recommendations provided in the 2015 FPAP for water system improvements still apply for the recommended development concepts for Frog Pond East and South. These areas will be extensions of water pressure Zone B which operates in an elevation range from 100 feet to 285 feet and has a hydraulic grade of 400 feet.

Distribution System

Figure 1 shows the proposed preliminary water system layout for the East and South neighborhoods, including off-site improvements needed to serve the area. The existing 12-inch waterline in Boeckman Road is the primary backbone connection for Frog Pond East and South to the City's water supply and storage system. A looped system consisting of 12-inch and 8-inch distribution mains is proposed for supply of domestic water to Frog Pond East and South. The 12-inch main network provides a redundant capacity of 1,500 gallons per minute (gpm) for fire flow to all areas. In accordance with City Public Works Standards, 12-inch mains are also required for the commercial main street area proposed along Brisband Road in Frog Pond East. For all residential zones, 8-inch mains are required, with all lines interconnected as a network to minimize dead ends.

The plan calls for new 12-inch waterlines extending north in Stafford Road and east in Advance Road to extend the distribution system into Frog Pond East and South, connecting to the existing 12-inch waterlines in Boeckman Road and Advance Road. Additional points of connection will also be made to proposed waterlines planned to be installed in Frog Pond Lane and Brisband Road as part of the Frog Pond West development.

The northernmost neighborhoods in Frog Pond East along SW Kahle Road need to be connected to the City's existing water system with a 12-inch loop that connects to the south side of the BPA easement in two locations, one being a connection at the intersection of Stafford Road and SW Kahle Roads, and the other to the 12-inch waterline in the commercial main street. The loop could be constructed across the BPA easement either in the proposed road extending northeast from Frog Pond Lane, or it could cross the BPA easement further to the east via the proposed pedestrian bridge over the main fork of the Newland Creek. The decision on where to route the loop will depend on what areas are developed first and whether the pedestrian bridge is built. In either scenario the 12-inch mainline along SW Stafford Road and SW Kahle Road will be required.

The WSMP recommended two additional connections to the existing distribution system to reliably serve Frog Pond East and South through buildout. The first is a 12-inch connection to the Canyon Creek Road waterline via a crossing of Boeckman Creek at the west end of Frog Pond Lane, for connection to the Stafford Road waterline in conjunction with development in Frog Pond East.

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The second is a crossing of Meridian Creek with a 12-inch main, south of the Meridian Creek Middle School, installed in conjunction with development of Frog Pond South. Both creek crossings are assumed to be below grade directionally drilled pipelines; however, they may be installed on future pedestrian bridges where under consideration by the City.

Storage System

The WSMP identified an overall water storage deficiency in the City which will be further increased by development in Frog Pond East and South. The WSMP proposed a 3.0-million-gallon West Side Tank and 24-inch transmission main project to provide sufficient storage for the City. The City has this project budgeted in the City's current 5-Year Capital Improvement Program, with design expected to begin in FY2022/23. The project is anticipated to be completed in 2025.

The extent of the storage deficiency and its impact on development of Frog Pond East and South is unknown at this time, since the WSMP is 10 years old and significant development has occurred in the City in that period. Additional analysis may be conducted to determine what, if any, impact any development in Frog Pond East and South prior to implementation of the new water tank would have on the existing water system and its customers.

The water system layout and sizing is primarily dependent on the street network to distribute fire flow to the designated land use types. Given the higher-density scenario using the same land use pattern and street plan, it is estimated that waterline sizes and costs would remain the same as with the preferred water system layout.

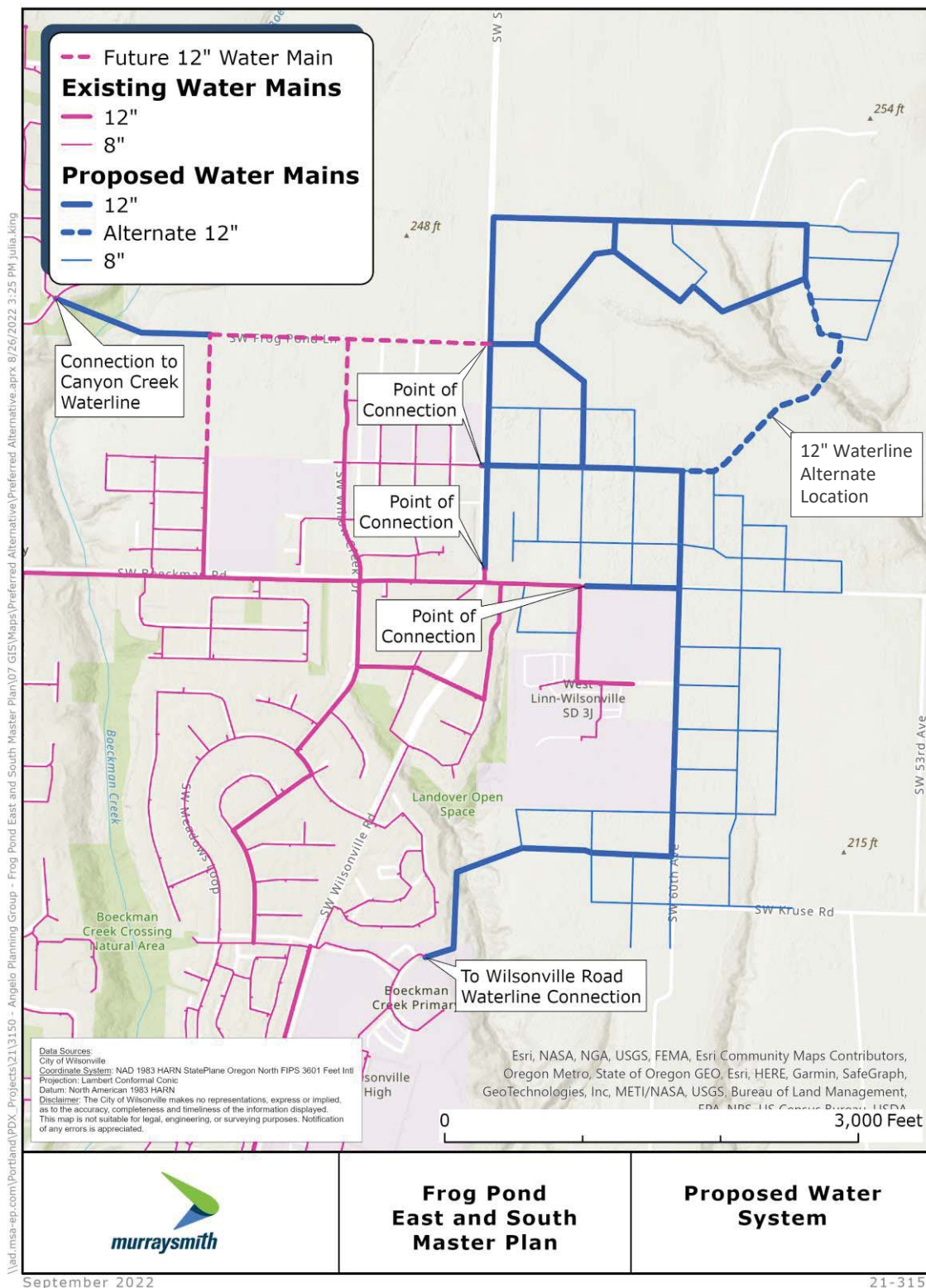
Proposed Wastewater System

The City of Wilsonville will provide sanitary sewer service for the Frog Pond East and South area as an extension of the City's existing collection system. The City's *Wastewater Collection System Master Plan* (WCSMP), adopted in 2014, is the current basis for wastewater system planning within the City. The 2015 FPAP and subsequent studies provide the specific framework for wastewater system planning in the Frog Pond East and South area, along with design criteria from the 2017 Public Works Standards.

Figure 2 shows the proposed preliminary wastewater system layout for the Frog Pond East and South neighborhoods.

The area was divided into five sewer basins, one for each of the four lift stations required and one that flows by gravity out of the Frog Pond area. Basin peak flows were calculated using preliminary land use data provided by MIG and unit flow values determined from the WCSMP. Residences were assumed to have 2.48 people per unit and an average sewer production rate of 67 gallons per person per day. Commercial sectors were assumed to generate 1,000 gallons per acre per day and schools were estimated to generate 25 gallons per day per person. Average dry weather flows were used with a peaking factor of 2 to estimate the peak dry weather flows. Wet weather flows were estimated to have an infiltration and inflow rate of 1,800 gallons per acre per day over the entire basin. Detailed calculations can be found in Appendix A.

Figure 1 – Preliminary Water System Layout



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Each basin was analyzed for both the preferred housing scenario of 1,800 total units, and the higher-density scenario of 2,384 total units. The four lift station basins will each require an 8-inch gravity pipe to convey wastewater to the lift station at an assumed slope of 0.5%, and a 4-inch force main discharge to the downstream basin. These requirements are the same for both housing scenarios. **Table 1** shows the peak wet weather flow for each lift station basin and the required pipe sizes.

Table 1 - Lift Station Basins

Basin	Total Peak Flow for 1,800 Units (cfs)	Total Peak Flow for 1,800 Units (gpm)	Total Peak Flow for 2,384 Units (gpm)	Recommended Lift Station Design Capacity (gpm)	Force Main Size (in)	Gravity Sewer Size (in)
LS1	0.130	58	70	135	4	8
LS2	0.159	71	86	135	4	8
LS3	0.123	55	67	135	4	8
LS4	0.489	220	260	260	4	8

Table 1 shows that the recommended capacity for LS1, LS2 and LS3 lift stations is 135 gpm, which is the minimum size required to meet design criteria for 4-inch sewage force mains. This is the same for both housing scenarios. Capacity of LS4 would increase somewhat, from 220 gpm in the preferred scenario, to 260 gpm in the higher-density scenario. This change is estimated to be relatively insignificant in the overall cost of constructing the wastewater facilities for LS4 basin.

The main trunk traveling north to south on SW Stafford Road conveys sewage from both lift station 1 and 2 and a portion of the gravity basin. This pipe has the capacity to carry both housing density scenarios at an 8-inch size; however, this pipe is identified in the WCSMP as a 12-inch line for future extension to the north.

Extension of the Boeckman Road Trunk Sewer east on Advance Road is needed to convey sewage from both Lift Stations 3 and 4 and a portion of the gravity basin. A 10-inch size is required to provide capacity necessary for both housing density scenarios.

All wastewater from Frog Pond East and South is to be conveyed to the wastewater treatment plant through connection to the existing Boeckman Road Trunk Sewer, which flows west to the existing Boeckman Creek Interceptor Sewer and the Memorial Park Pump Station. The Boeckman Road Trunk Sewer is being upsized to 18-inch diameter as part of improvements to Boeckman Road, including Boeckman Dip Bridge, with completion anticipated for 2024.

The Boeckman Creek Interceptor Sewer is a 12-inch to 18-inch diameter pipe extending from Boeckman Road to the Memorial Park Pump Station. Capacity of the Boeckman Interceptor was determined to be sufficient for full buildout of Frog Pond West but will be insufficient to serve full build-out of Frog Pond East and South. The WCSMP recommends the Boeckman Creek Interceptor

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Sewer be upsized for buildout of Frog Pond East and South. The City is currently planning to upsize the Boeckman Interceptor in conjunction with a regional trail in the creek corridor. Design of the project will begin in 2022, with construction anticipated to be completed in the fall of 2025.

Though the Boeckman Creek Interceptor will not have sufficient capacity for full buildout of Frog Pond East and South, there will be some capacity available for initial development in the area, depending on how much capacity has been taken up by Frog Pond West. A specific amount has not been calculated. With the Frog Pond West area nearing full development, it is recommended the City reevaluate the remaining capacity in the downstream Boeckman Creek system to estimate how many new dwelling units in Frog Pond East and South can be reliably connected before the planned interceptor improvements are complete.

The WCSMP estimated that the sewer line on SW Kahle Road would need to be a 10-inch pipeline; however based on updated loading conditions, calculations show an 8-inch pipe will be adequate to convey the flow from the areas tributary to the Kahle Road sewer line.

Proposed Stormwater System

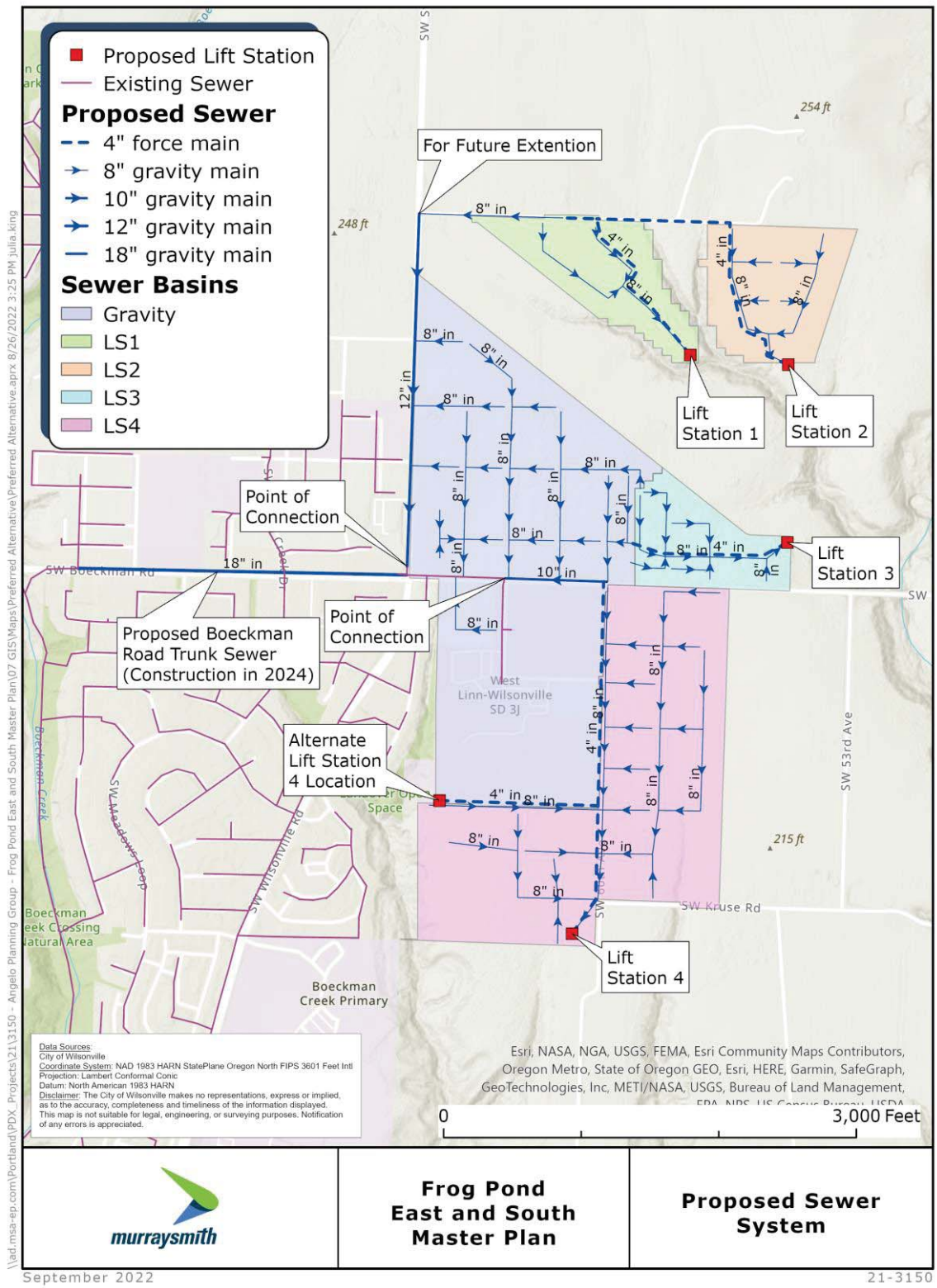
<<To Follow - Stormwater Infrastructure Plan is still in development as of September 6, 2022>>

References

- Angelo Planning Group. (2015). *Frog Pond Area Plan*.
- City of Wilsonville. (2017). *Public Works Standards*.
- Keller Associates. (2012). *Water System Master Plan*.
- Murraysmith. (2014). *Wastewater Collection System Master Plan*.
- Murraysmith. (2021). *Findings of HB 2001 Sensitivity Analysis*.
- URS. (2012). *Stormwater Master Plan*.

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Figure 2 – Preliminary Wastewater System Layout



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Appendix A

Project: 21-3150 Frog Pond Master Plan

Date: 8/26/2022

Author: JK

Description: Frog Pond East and South sewer basin land use and flow calculations for 1,800 total residential units

Assumptions		Gravity Pipe Assumptions		Diameter	Max Flow in Pipe (cfs)
Category	Average Sewer GPD	Slope	Manning's n		
Person	67 gallons/person/day	0.005	0.013	4	0.135
Commercial	1000 gallons/acre/day			6	0.398
School	25 gallons/person/day			8	0.857
I&I	1800 gallons/acre/day			10	1.553

Basin	Total Area (ac)	MF Units	SFA Units	SFD Units	Total Residential Units	Commercial Area (ac)	School Area (ac)	School Students and Employees	Park/Street Area (ac)	Residential Area (ac)
Gravity	105.0	174	308	274	756	4.9	27.1	1305	27.9	45.0
LS1	18.1	0	63	93	155	0.0	0.0	0	0.4	17.7
LS2	20.7	0	86	111	197	0.0	0.0	0	1.0	19.7
LS3	15.4	0	72	84	156	0.0	0.0	0	1.4	14.0
LS4	76.7	48	212	276	536	0.0	0.0	0	25.1	51.6
Totals	235.9	222	740	837	1,800	4.9	27.1	1305	55.9	148.0

Basin	Average Dry Weather Flow (gpm)	Peak Average Dry Weather Flow (gpm)	Peak I&I Flow (gpm)	Total Peak Flow (gpm)	Total Peak Flow (cfs)	Force Main Size (in)	Force Main Velocity	Does Gravity Flow fit in 8in	Does Gravity Flow fit in 10 in
Gravity	96.6	193.3	131.3	324.5	0.723	N/A	N/A	Yes	Yes
LS1	17.9	35.9	22.6	58.5	0.130	4	1.49	Yes	Yes
LS2	22.7	45.4	25.8	71.2	0.159	4	1.82	Yes	Yes
LS3	18.0	36.0	19.2	55.2	0.123	4	1.41	Yes	Yes
LS4	61.8	123.6	95.9	219.5	0.489	4	5.61	Yes	Yes

Trunk	Total Peak Flow (cfs)	Does Gravity Flow fit in 8in	Does Gravity Flow fit in 10in
SW Stafford Road Trunk (cfs)	0.651	Yes	Yes
Boeckman Trunk Extension (cfs)	0.974	Pipe Overcapacity	Yes

Project: 21-3150 Frog Pond Master Plan
 Date: 8/26/2022
 Author: JK
 Description: Frog Pond East and South sewer basin land use and flow calculations for 2,384 total residential units

Flow Assumptions	
Category	Average Sewer GPD
Person	67 gallons/person/day
Commercial	1000 gallons/acre/day
School	25 gallons/person/day
I&I	1800 gallons/acre/day

Pipe Assumptions	
Slope	0.005
Manning's n	0.013

Diameter	Max Flow in Pipe (cfs)
4	0.135
6	0.398
8	0.857
10	1.553

Basin	Residential Units (32% increase)	Commercial Area	School Students and Employees
Gravity	1,001	4.9	1305
LS1	206	0.0	0
LS2	261	0.0	0
LS3	207	0.0	0
LS4	709	0.0	0
Total	2,384	4.9	1305

Basin	Average Dry Weather Flow (gpm)	Peak Average Dry Weather Flow (gpm)	Peak I&I Flow (gpm)	Total Peak Flow (gpm)	Total Peak Flow (cfs)	Force Main Size (in)	Force Main Velocity	Does Gravity Flow fit in 8in	Does Gravity Flow fit in 10in
Gravity	124.9	249.9	131.3	381.1	0.849	N/A	N/A	Yes	Yes
LS1	23.7	47.5	22.6	70.1	0.156	4	1.79	Yes	Yes
LS2	30.1	60.1	25.8	86.0	0.192	4	2.19	Yes	Yes
LS3	23.8	47.7	19.2	66.9	0.149	4	1.71	Yes	Yes
LS4	81.9	163.7	95.9	259.7	0.579	4	6.63	Yes	Yes

Trunk	Total Peak Flow (cfs)	Does Gravity Flow fit in 8in	Does Gravity Flow fit in 10in
SW Stafford Road Trunk (cfs)	0.772	Yes	Yes
Boeckman Trunk Extension (cfs)	1.152	Pipe Overcapacity	Yes

DATE: January 31, 2022
 TO: Dan Pauly, Kim Rybold, City of Wilsonville
 FROM: Becky Hewitt, Kaitlin La Bonte, Ariel Kane ECONorthwest
 SUBJECT: Frog Pond East and South Accessory Dwelling Units Memorandum

Section 1. Introduction

Accessory Dwelling Units (ADUs) offer an opportunity to seamlessly integrate additional, smaller units within neighborhoods while staying with traditional single-family development and financing models. There are many reasons why people may be interested in building or living in ADUs. For residents, ADUs tend to be a more affordable flexible housing option. For homeowners, ADUs provide opportunities to house family members or earn additional income. As ADUs grow in popularity and recognition, many jurisdictions are considering ways to encourage ADU development.

In bringing the Frog Pond East and South areas into the Urban Growth Boundary (UGB), Metro required that the city explore ways to encourage the construction of ADUs in the expansion area. In Frog Pond East and South, the challenges to encouraging ADU development are different from infill development scenarios. Strategies to promote ADU development in an infill context typically focus on facilitating development for homeowners. In a greenfield development context such as Frog Pond, the City's strategies should focus on ways to influence homebuilders' floorplans to encourage building ADUs at the time of construction or encouraging home and lot designs that provide opportunities for ADU additions later.

This memorandum is intended to assist the City of Wilsonville in planning for residential development in Frog Pond East and South in a way that would be supportive of ADU development in the planning area's residential neighborhoods. Using available survey data and stakeholder interviews, this memorandum provides some insight into the likely demand and market for ADUs in the region and describes ways to City could facilitate ADU development as the planning area is built out.

Section 2. Who do ADUs serve?

Who wants ADUs and why?

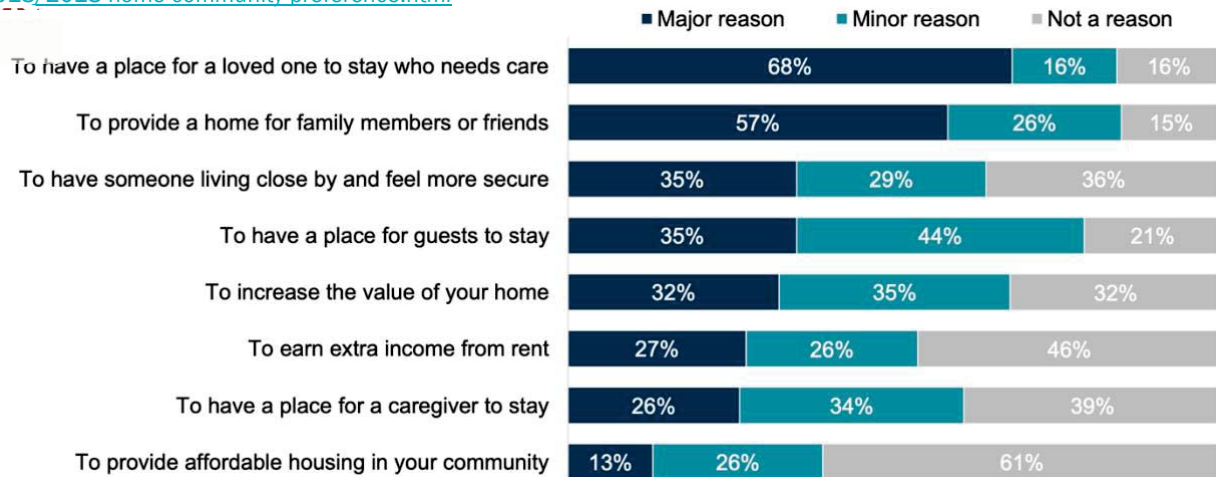
A 2018 American Association of Retired Persons (AARP) Home and Community Preferences Survey¹ found that 33% of adults aged 18 and older who did not have an ADU on their property would consider adding an ADU (27% unsure). As shown in Exhibit 1, of those who would consider adding an ADU, having a place for a loved one to stay who needs care was a major

¹ This survey was conducted by NORC at the University of Chicago with funding from AARP in March and April 2018. 2,287 participants completed the survey, the final total of the national sample was 1,947.

reason for 68% of respondents; providing a home for family members or friends was a major reason for 57%.

Exhibit 1. Major Reasons for Considering Building an ADU

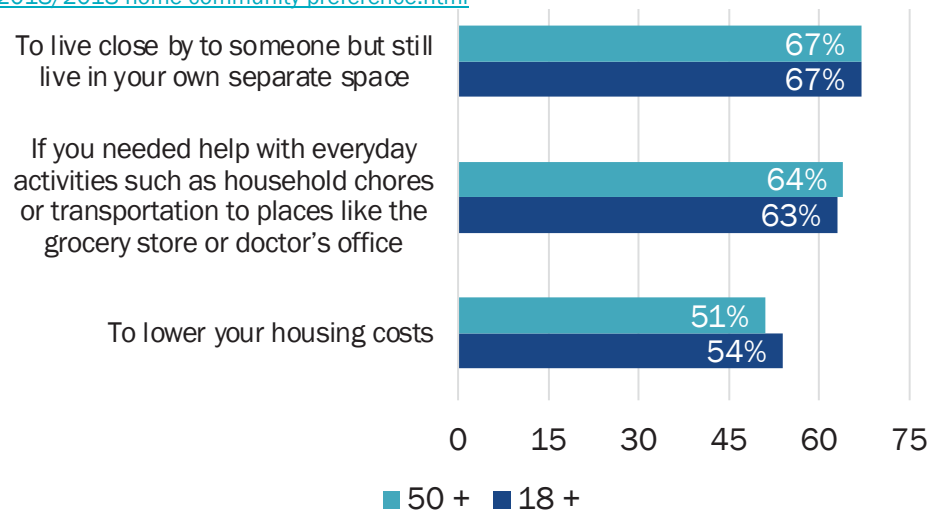
Source: 2018 AARP Home and Community Preferences Survey, www.aarp.org/research/topics/community/info-2018/2018-home-community-preference.html



Out of the adults surveyed, 67% said they would consider living in an ADU to live close to someone but still have their own space, 63% said they would consider it if they needed help with everyday activities, and 54% said they could consider it to lower their housing costs. This is shown in Exhibit 2.

Exhibit 2. Top Three Reasons for Considering Living in an ADU by Age Group

Source: 2018 AARP Home and Community Preferences Survey, www.aarp.org/research/topics/community/info-2018/2018-home-community-preference.html

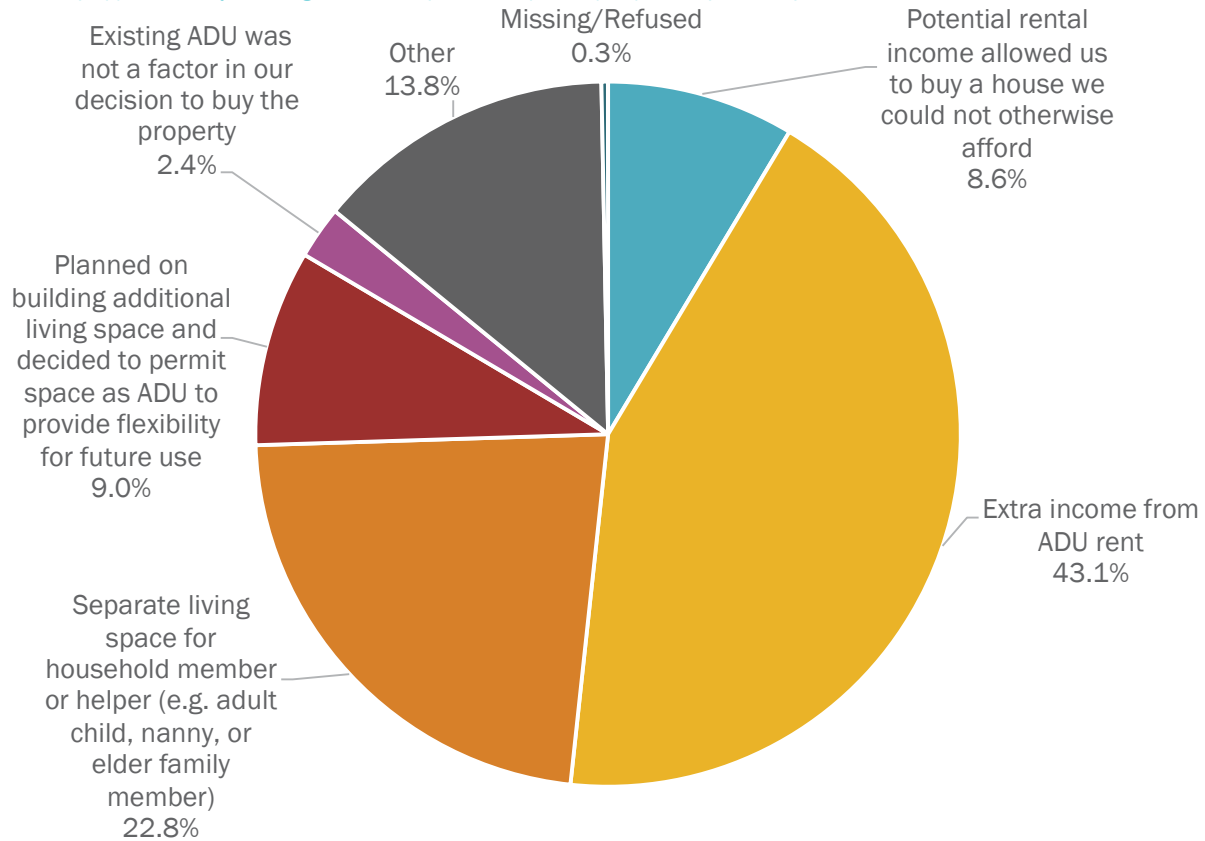


In a 2013 survey of Portland, Eugene, and Ashland homeowners with existing ADUs, 43% of Portland respondents said that the extra income from ADU rent was a primary reason for

building an ADU or for purchasing a property with an existing ADU. Other reasons are shown in Exhibit 3.

Exhibit 3. Portland Homeowners primary reason for building an ADU or purchasing the property with an existing ADU.

Source: Accessory Dwelling Unit Survey for Portland, Eugene, and Ashland, Oregon Final Methodology and Data Report, 2013 <https://accessorydwellings.files.wordpress.com/2013/10/adureportfrev.pdf>



What might an ADU rent for in Frog Pond East and South?

In the 2013 survey of Portland property owners with ADUs, the mean rental income received was between \$811 and \$880 (Exhibit 4). While these rents are now well out of date, the range of rents is worth noting: from as little as \$385 per month, to as much as \$1,800 per month.

Exhibit 4. Portland Rent Received Monthly for ADU, 2013

Source: Accessory Dwelling Unit Survey for Portland, Eugene, and Ashland, Oregon Final Methodology and Data Report, 2013 <https://accessorydwellings.files.wordpress.com/2013/10/adureportfrev.pdf>

	N	Minimum	Maximum	Mean	Std. Deviation
How much rent do you receive monthly for your ADU?	143	\$385	\$1,800	\$880.20	\$239.42
If rent includes utilities, how much is the rent without utilities?	78	\$200	\$1,700	\$811.85	\$248.09

Based on analysis of recent ADU listings in Portland, Milwaukie, Canby, Oregon City, Beaverton and Hillsboro, ADU rents were generally between \$1,050 and \$2,000 per month. Rents varied by structure type, number of bedrooms and unit size, with the average rent overall being \$1,540. Detached ADUs tended to have higher rents, with smaller footprints. Basement ADU rents tended to be lower, at an average of \$1,275 (see Exhibit 5).

Exhibit 5. ADU Rents in Portland Metro Area by Structure and Bedroom

Source: ECONorthwest Analysis of Craigslist, Apartments.com data, 2021

Structure	Bedrooms	Most rent for	Average Rent	Most units are
Attached	Studio	\$1,475	\$1,475	500 SF
	1 Bedroom	\$1,450 - \$1,625	\$1,540	650 - 800 SF
	2 Bedrooms	\$1,595	\$1,595	610 SF
	Overall	\$1,450 - \$1,625	\$1,540	500 - 800 SF
Basement	Studio	\$1,350 - \$1,450	\$1,400	500 - 750 SF
	1 Bedroom	\$1,050 - \$1,250	\$1,150	500 - 1,500 SF
	Overall	\$1,050 - \$1,400	\$1,275	500 - 1,500 SF
Detached	Studio	\$1,450	\$1,450	450 SF
	2 Bedrooms	\$1,500 - \$2,000	\$1,700	750 - 950 SF
	Overall	\$1,450 - \$2,000	\$1,650	500 - 950 SF
Overall	Studio	\$1,350 - \$1,475	\$1,430	500 - 600 SF
	1 Bedroom	\$1,050 - \$1,625	\$1,350	350 - 800 SF
	2 Bedrooms	\$1,500 - \$2,000	\$1,690	600 - 750 SF
	Overall	\$1,050 - \$2,000	\$1,540	500 - 1,000 SF

Overall, while the variability is high due to a small set of observations spread across a wide area in many different forms and ages of homes, this suggests that ADU rents might be similar to rents for newer market-rate apartments.

What might an ADU sell for in Frog Pond East and South?

Some ADUs are sold separately from the main home as condominiums rather than being rented out or managed by the owner of the main home. These sales transactions are difficult to isolate, and there are no known examples in Wilsonville or surrounding areas. Examples of new construction small, detached condominium units in Portland have mostly sold for \$300,000 to

\$400,000—roughly 60-70% of the sale price of the main house on the same lot where both were new construction. Given this pattern and the estimated sale prices for new homes in the Frog Pond area with larger lots generally being between \$600,000 and \$800,000, the price range for ADUs in the Frog Pond area may be similar to that seen in Portland. This is also similar to the pricing for newer two- to three-bedroom condominium units in Wilsonville.

Section 3. Opportunities and Barriers for ADU development

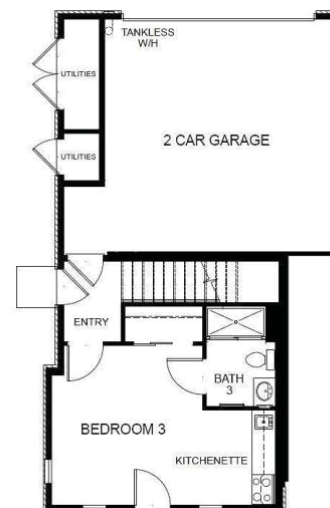
Regulatory Barriers

The City of Wilsonville recently updated its ADU regulations to comply with state and regional requirements. ECONorthwest reviewed the current regulations to identify any requirements that could still create challenges for ADU construction in Frog Pond East and South. The primary code standards identified as potential obstacles included:

- Lot coverage and setback standards in several existing residential zones may limit the ability to build detached ADUs.
- ADUs are not allowed for townhouses (unless those townhouses meet the single-family minimum lot size). Some developers have created floor plans for townhouses with ADUs that can be sold separately and some with a flexible ground-floor space with separate entrance that can either be used as a home office or an ADU. This model is not currently allowed in Wilsonville, but could be appropriate for portions of Frog Pond East and South.

Exhibit 6: Example of townhouse with ADU / ground floor flexible space

Source: Redfin.com



Financial and Other Factors

ECONorthwest interviewed several homebuilders who are likely to develop portions of Frog Pond East and South when master planning is complete. Some indicated interest in building ADUs. They noted several factors that will influence their decision-making about whether or not to include ADUs in their floor plans:

- When building detached ADUs with single-family homes, this can require a larger lot and push the price-point for the home above what most households can afford. (Providing flexibility for ADUs on lot coverage and setback standards could help address this concern to some extent.)
- Being able to sell the ADU separately helps keep the cost down for both units. One developer's model has been to sell all units with a three-year owner occupancy requirement, including the ADUs, to ensure that they are not used as investment properties. (Another Metro requirement for Frog Pond East and South is that the City ensure that any future homeowners associations will not require owner occupancy of homes that have accessory dwelling units. This could preclude this aspect of the model, and may, ironically, discourage building ADUs for some builders.)
- Local fees are an important factor in whether developers will build ADUs. (Wilsonville does not charge SDCs for ADUs.)

Section 4. ADU Strategies

Regulatory strategies:

- Providing greater flexibility on lot coverage and setbacks for detached ADUs could make it easier to add them to a lot with less effect on the size or location of the main home.
- Allowing ADUs with townhouses (regardless of lot size) in areas where higher density is appropriate could expand opportunities to add ADUs.
- Wilsonville already allows land divisions for ADUs to be sold on a separate lot from the main home, which is mostly applicable to detached ADUs, but could be an incentive for homebuilders along with the lack of SDC fees.
- Allowing larger ADUs (the current limit is 800 square feet) could make the existing financial and regulatory incentives stronger, but would also make them even more similar to two-unit cluster housing, which is also allowed.

Financial strategies:

- The primary financial incentive that has been used to encourage ADU production is waiver of SDCs. As noted above, Wilsonville already has this option in place, and has for many years.

- Establishing a set of pre-approved building plans for homes and townhouses with ADUs, or other similar measures to streamline the review process for development, could make some difference to homebuilders. However, with a greenfield development, there are many other review and permitting processes that will tend to take longer than the building permit review, meaning that streamlining one part of the process is likely to have a minimal impact.
- A marketing approach in which the City would help direct media attention to new homes built with ADUs could provide some incentive for builders, who would benefit from the free publicity, though the City would have to approach this carefully to avoid the appearance of bias towards a particular developer.

Section 5. Conclusions and Next Steps

ADUs in Frog Pond East and South could provide additional options for small rental and/or for-sale units at price-points similar to multifamily housing but at a neighborhood scale. This makes them an important part of the mix in this area, particularly if opportunities for multifamily development in the area are limited. Past surveys suggest that people value ADUs for intergenerational households, flexible space for guests or family members, and for rental income that can help them afford their own housing costs. These factors primarily apply when ADUs are owned along with the main home and managed by the homeowner, but this may or may not be the case when ADUs can also be sold as separate units. Subsequent additional outreach will gather additional information about community perspectives and preferences which could also influence the City's approach to ADUs.

Frog Pond East and South's greenfield context means that encouraging ADU construction in Frog Pond East and South will require influencing large professional homebuilders rather than individual homeowners. The City already has many important incentives in place, including exempting ADUs from SDCs and allowing land divisions to split them from the main house. While the City has seen little ADU production, this may be a factor of private restrictions that prohibit ADUs in some areas of Wilsonville. These restrictions are no longer allowed, and will not constrain ADUs in Frog Pond East and South.

Removing subtler regulatory obstacles including lot coverage, setbacks, and allowing ADUs with townhouses could help address some of the considerations that homebuilders noted would affect their interest in developing homes with ADUs. Metro's requirement that the City prevent homeowners' associations from requiring owner occupancy for units with ADUs could inadvertently serve as a deterrent to one model of building homes with ADUs that is intended to prevent the homes from becoming investor properties. The City may want to explore with Metro whether this condition could be modified to allow a temporary restriction to owner occupancy for a certain period after initial construction.

Frog Pond East and South Master Plan

Planning Commission

Work Session September 14, 2022



WILSONVILLE
OREGON

Agenda for Tonight's Work Session

- Infrastructure
 - Transportation
 - Water and Sanitary Sewer
- Housing Variety Policy follow up
- Looking forward and next steps



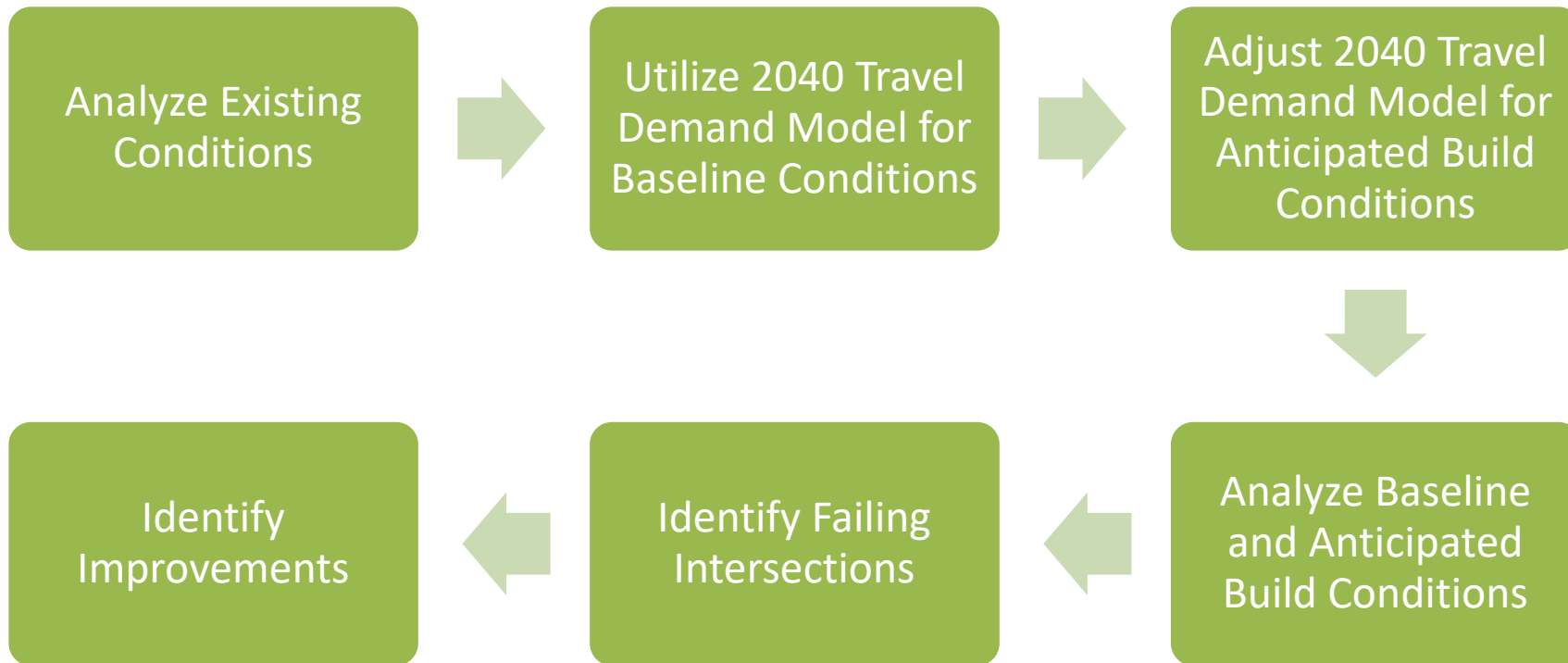
Infrastructure



Infrastructure: Background and Purpose



- Preliminary work during Frog Pond Area Plan
- List of projects for cost estimating
- Sensitivity test for hypothetical higher residential unit count

Transportation Analysis



TRAFFIC OPERATIONS

City Standard = Level of Service (LOS) D

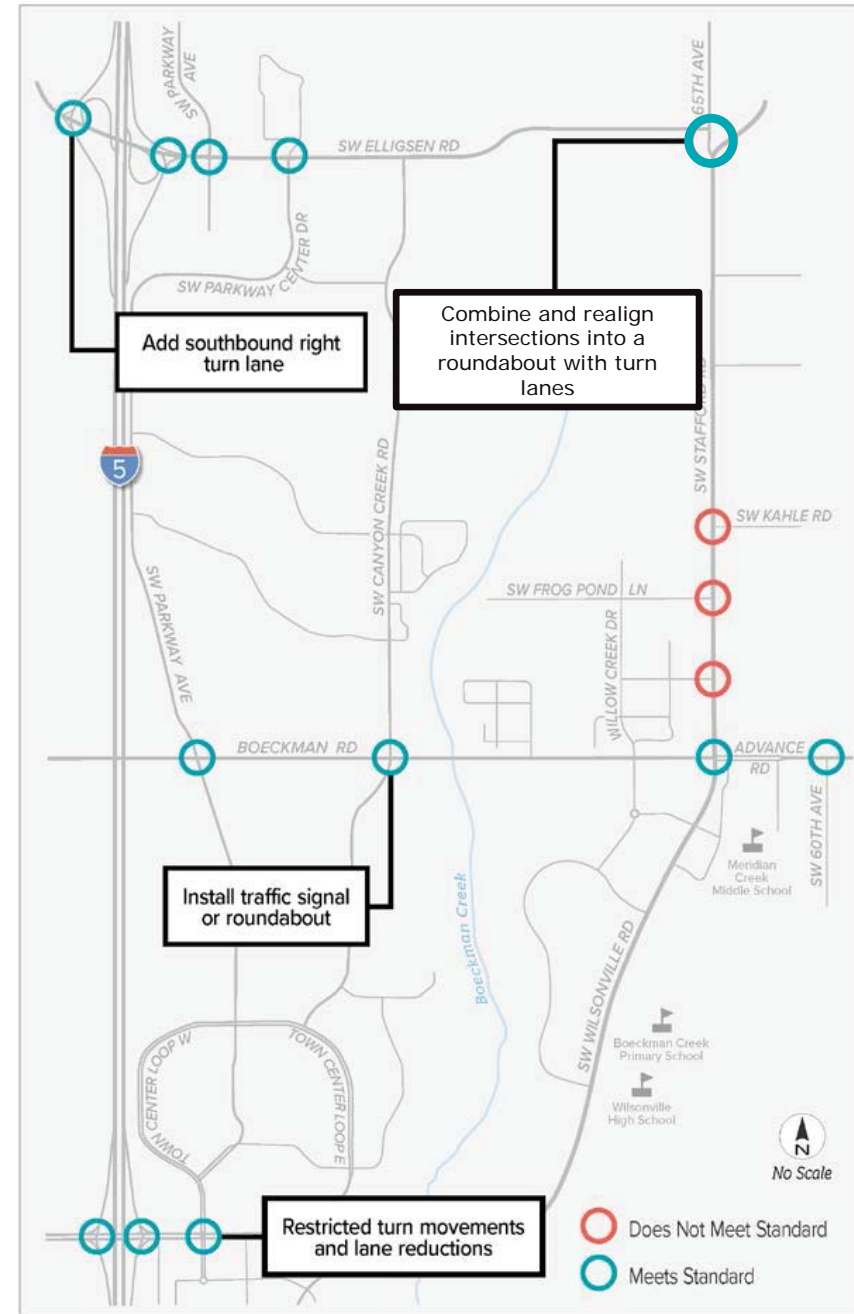
-  Does Not Meet Standard
-  Meets Standard

2022 Existing Conditions

- Stafford Rd/65th Avenue fails to meet City standard as two-way stop

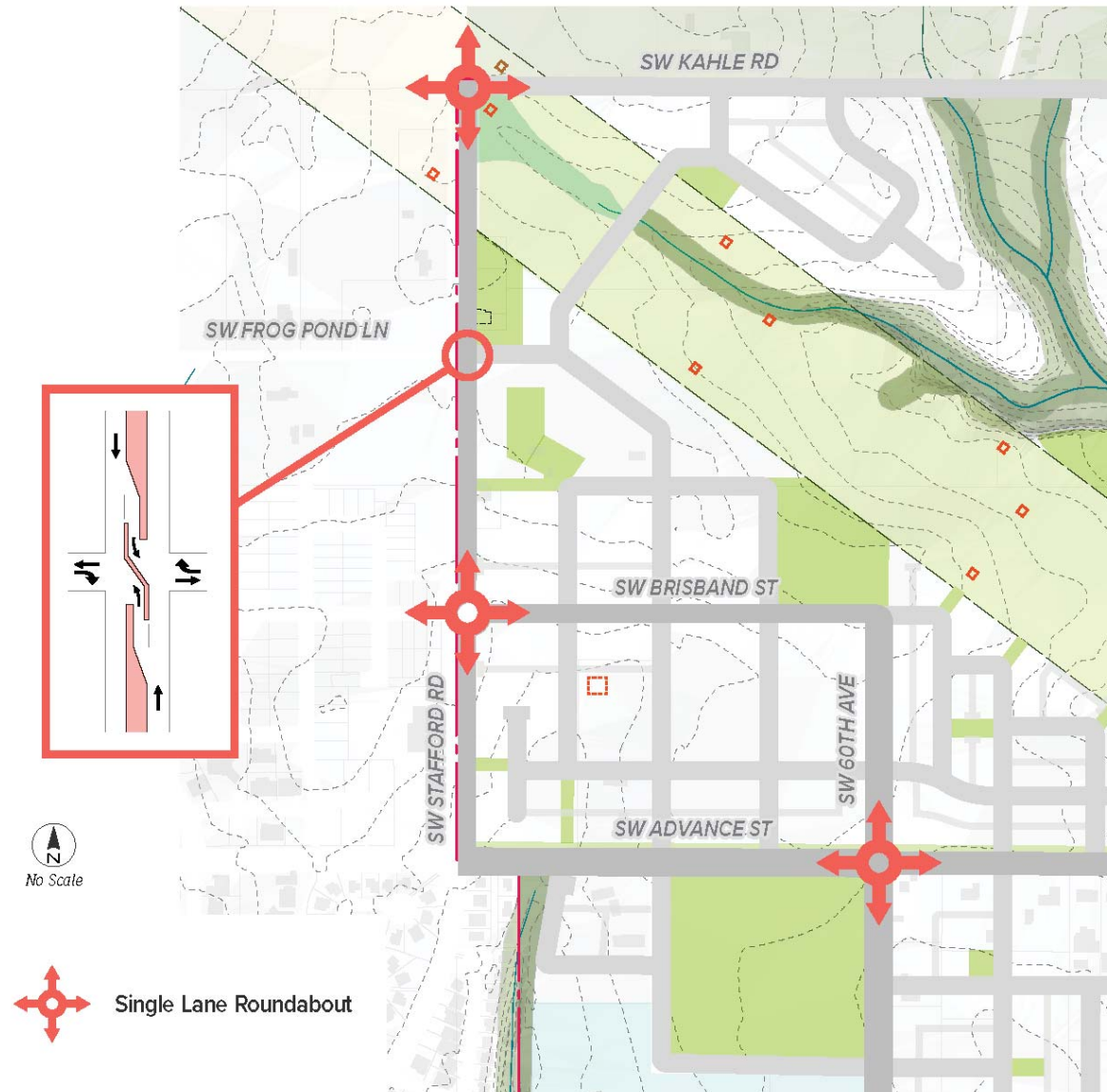
2040 Baseline and Anticipated Build Conditions

- Assume TSP Projects shown
- Standard is not met at the following intersections as two-way stop-controlled with left-turn lanes
 - Kahle Road**
 - Frog Pond Lane**
 - Brisband Street**



INTERSECTION IMPROVEMENTS

- **Stafford Road/Kahle Road:**
Single-lane roundabout
- **Stafford Road/Frog Pond Lane:**
Median with minor street restrictions
- **Stafford Road/Brisband Street:**
Single-lane roundabout
- **Advance Road/SW 60th Avenue:**
Single-lane roundabout for safety and as a transition point between rural and residential areas



SINGLE LANE ROUNDABOUTS

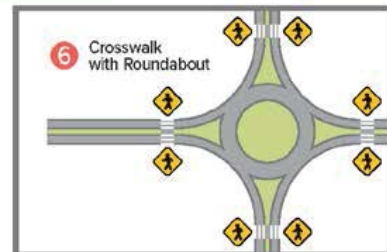
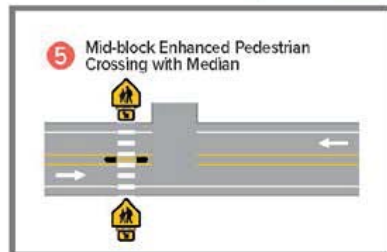
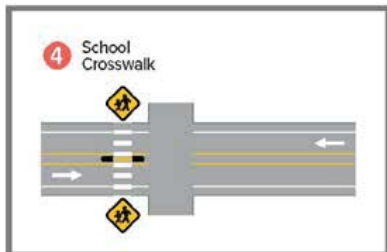
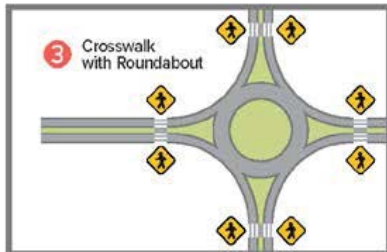
ADVANTAGES

- Reduces delay on minor streets
- Slow traffic speeds
- Reduce fatal and injury crashes by 82%
- Reduce the number of conflict points for vehicle-vehicle conflicts and vehicle-ped/bike conflicts
- Roundabouts at Kahle Road and 60th Avenue serve as clear gateways between rural (higher-speed) and urban (lower-speed) environments

DISADVANTAGES

- Can increase delay on major streets
- More difficult for large trucks and agricultural vehicles to navigate
- Can be more difficult for school-aged pedestrians and bicyclists to cross
- Typically require a larger footprint and may require right-of-way dedication or acquisition

PEDESTRIAN AND BICYCLE TREATMENTS



- 7** SW Stafford Rd path/track/lane
- 8** SW Advance St path/track/lane
- #** Pedestrian Treatments
- Multiuse Path, Cycle Track, or Protected Bike Lanes
- ⚠ Enhanced Crosswalk
- ⚠ Crosswalk ⚠ School Crosswalk



STREET CROSS SECTIONS

STAFFORD ROAD (Draft – from Frog Pond West)



- Widen to three travel lanes
- Include planter strips, sidewalks, and bicycle facilities
- Bicycle facilities could include a multi-use path, two-way cycle track, or protected bicycle lanes.

ADVANCE ROAD (Draft – match to Boeckman)



- Widen to three travel lanes
- Include planter strips, sidewalks, and bicycle facilities (consistent with the Boeckman Road project)
- The Boeckman Road project is currently considering a multi-use path, two-way cycle track, or protected bicycle lanes.

Water

Scope of Analysis

- Distribution
- Storage

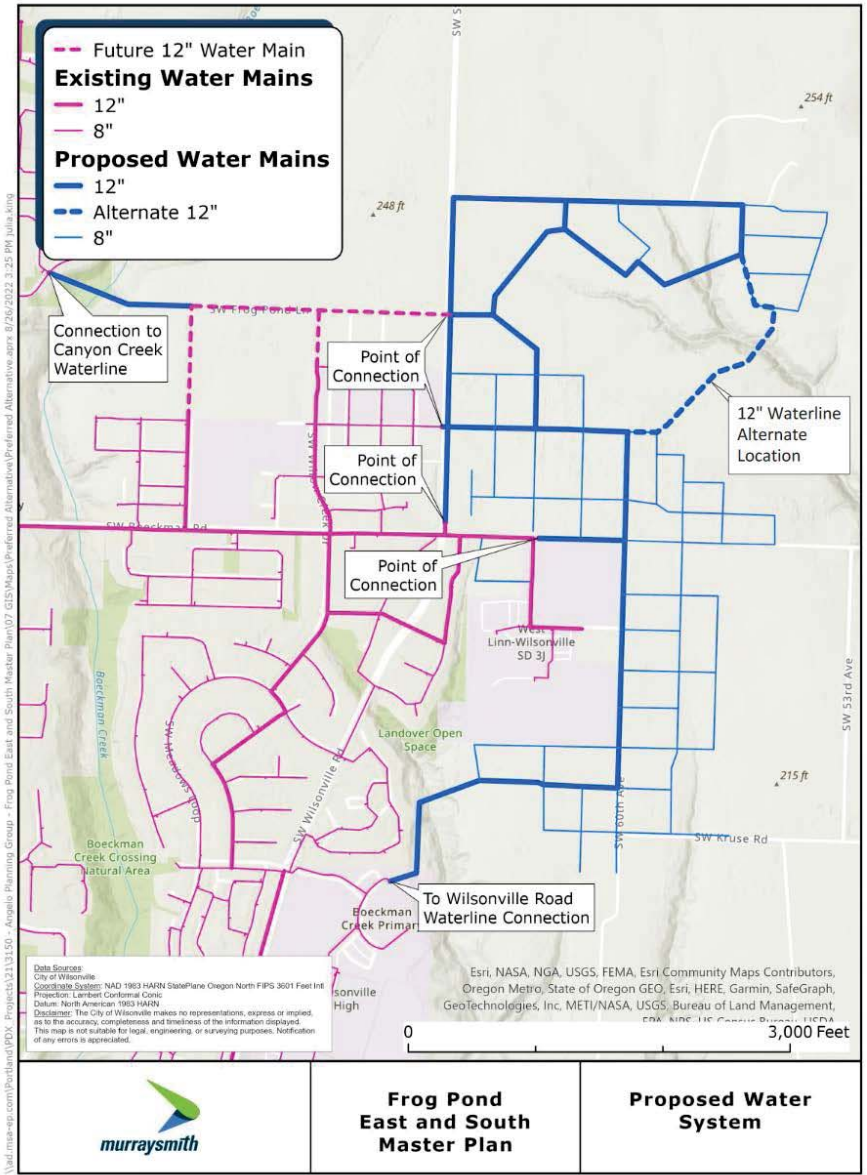
Previous Studies

- Water System Master Plan (2012)
- Frog Pond Area Plan (2015)
- HB 2001 Sensitivity Analysis (2021)

Public Works Standards

- 1,500 gallons per minute to all areas
- Looped/networked system
- Commercial: 12" mains
- Residential: 8" mains

Figure 1 – Preliminary Water System Layout



Water

DISTRIBUTION

12" Backbone

- Extensions on Stafford, Advance Rd
- New backbone on Kahle Rd, SW 60th

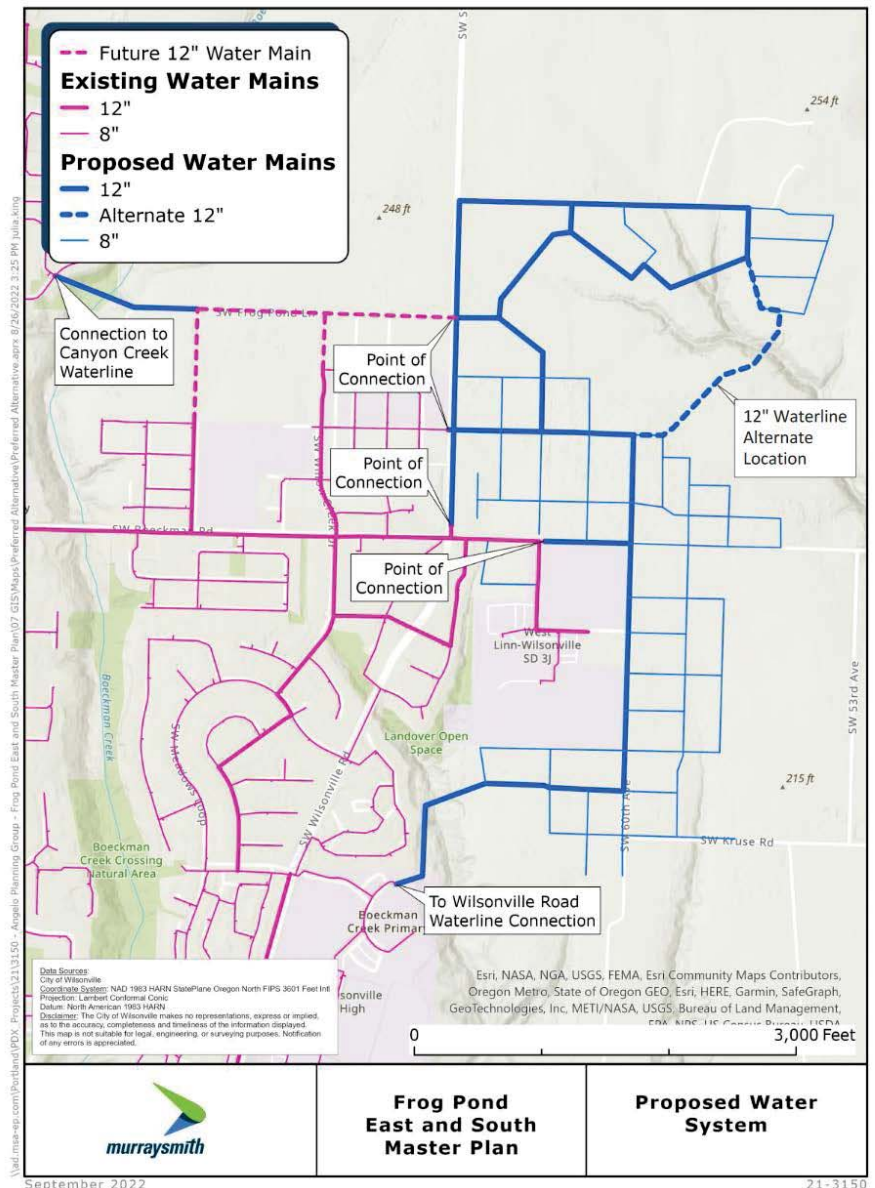
Connections to Existing System

- Boeckman, Stafford
- Frog Pond West
- Boeckman Creek Crossing (FP East)
- Meridian Creek Crossing (FP South)

BPA Easement Crossing

- Loop 12" backbone for FP East
- Alternatives available

Figure 1 – Preliminary Water System Layout



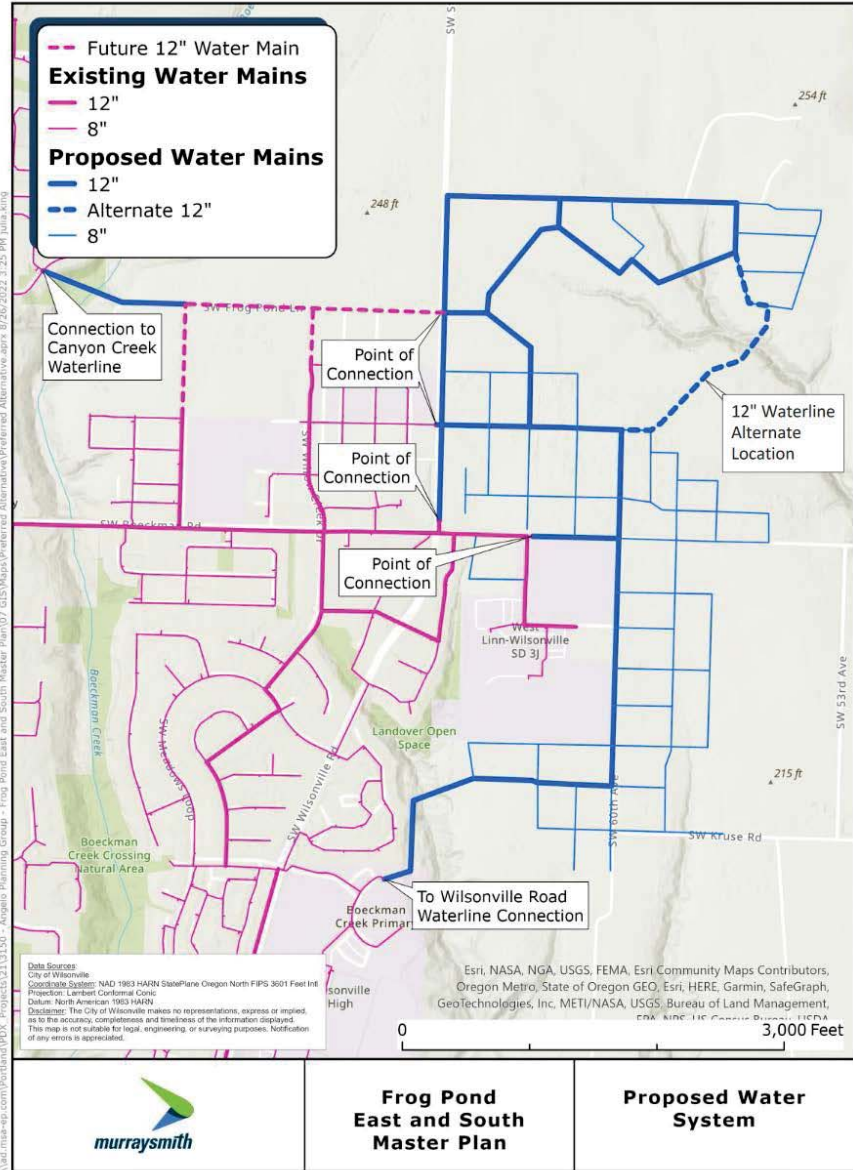
Water

STORAGE

Overall water storage deficiency

- Identified in 2012
- CIP project: 3-MG West Side Tank
- Studies, predesign underway
- Scheduled completion: 2025

Figure 1 – Preliminary Water System Layout



Wastewater

Scope of Analysis

- Collection System
- Conveyance to WWTP

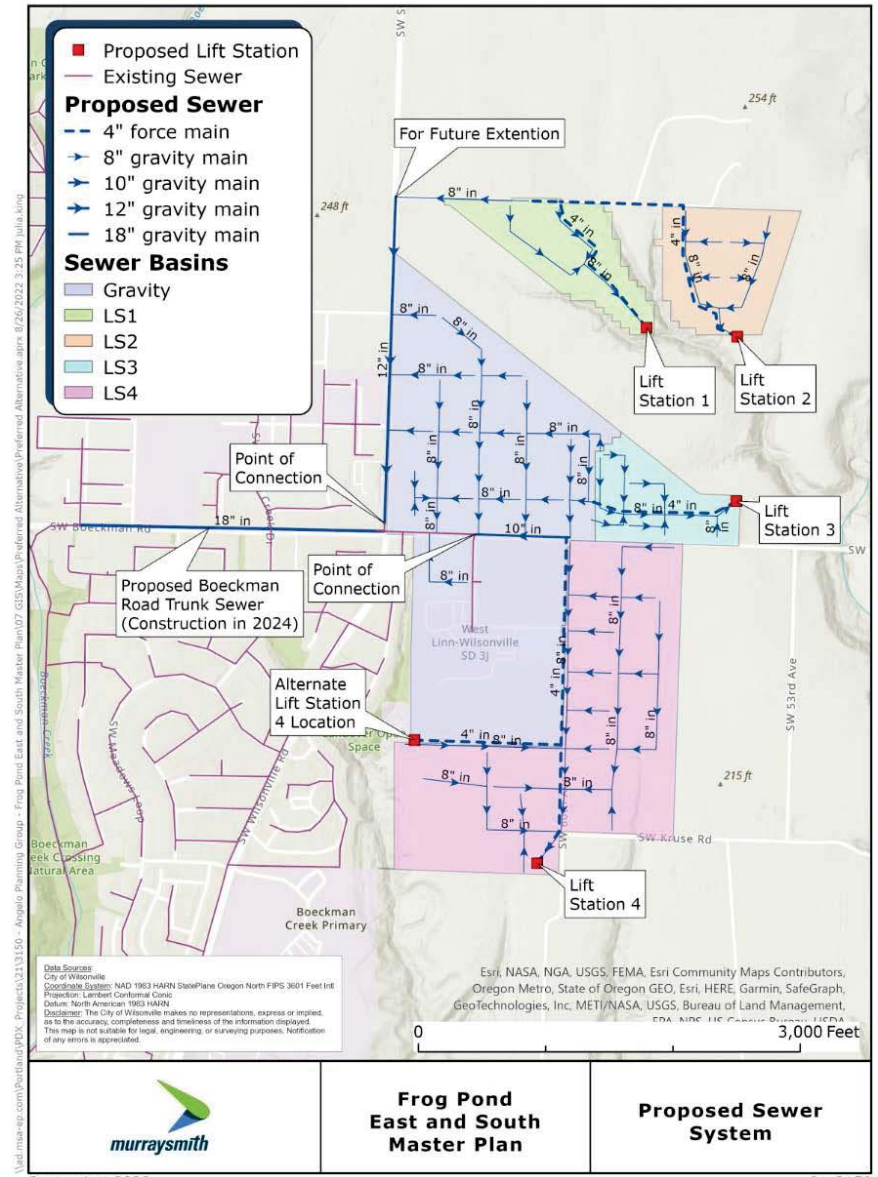
Previous Studies

- Wastewater Collection System Master Plan (2014)
- Frog Pond Area Plan (2015)
- HB 2001 Sensitivity Analysis (2021)

Public Works Standards

- Gravity: 8" minimum
- Lift Stations: DEQ, City standards

Figure 2 – Preliminary Wastewater System Layout



Wastewater

LOCAL SERVICE

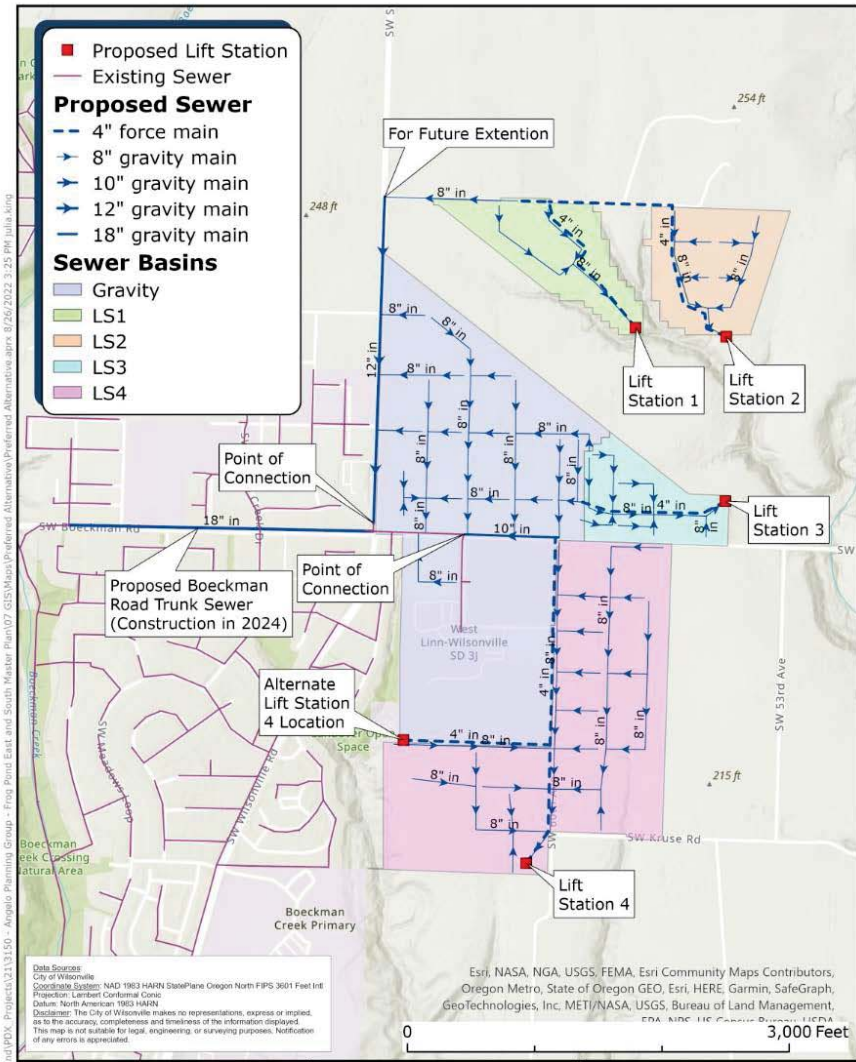
Frog Pond East

- Gravity in Stafford, Advance
- Stafford Rd future extension north
- 3 small lift stations needed
- Kahle Road system

Frog Pond South

- Lift station required
- Alternative locations available

Figure 2 – Preliminary Wastewater System Layout



	<p>Frog Pond East and South Master Plan</p>	<p>Proposed Sewer System</p>
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Wastewater

OFFSITE CIP PROJECTS

Boeckman Road Trunk Sewer

- Upsizing needed for buildout
- Underway in Spring 2022
- Complete in 2024

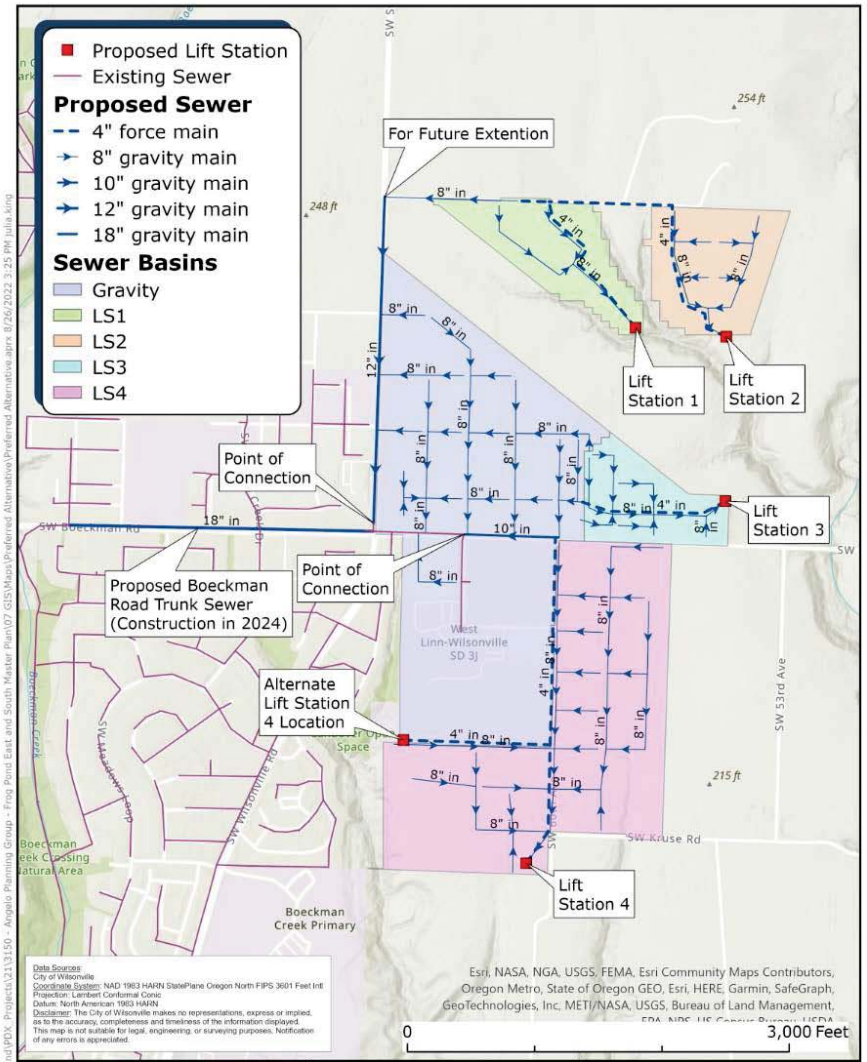
Boeckman Creek Interceptor

- Upsizing needed for buildout
- Underway in Fall 2022
- Combine with regional trail
- Complete in 2025

Memorial Park Pump Station

- Upgrade Completed in 2022

Figure 2 – Preliminary Wastewater System Layout



	<p>Frog Pond East and South Master Plan</p>	<p>Proposed Sewer System</p>
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Infrastructure Questions and Comments



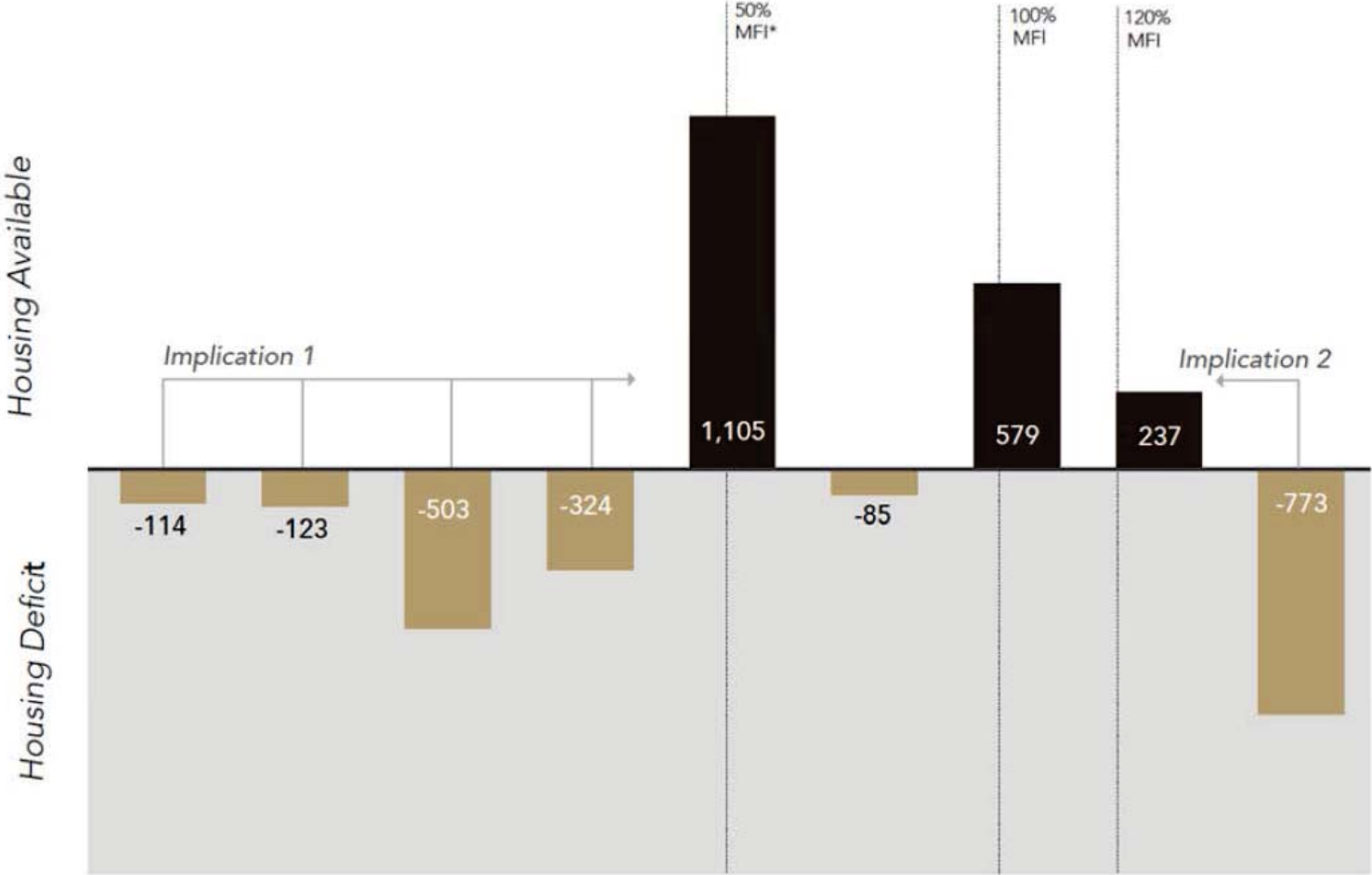
Housing Variety Follow Up



High Income Need Question

Exhibit 9: Affordable Housing Costs and Units by Income Level, Wilsonville, 2018

Source: Clackamas County Regional Housing Needs Analysis, page 281



ADU Cost Question



Next Steps



Upcoming Timeline

- October 12 Work Session
- November Public Hearing on Master Plan
- Infrastructure financing and development code to go into 2023



What's Left for the Master Plan (2022)?

- Housing Variety Policy
- Confirm Infrastructure Recommendations
 - Infrastructure project lists and cost estimates
 - Street and trail cross section designs
 - Bike and pedestrian network refinement
 - Priorities-for parks and open space
- Street tree, lighting, gateway and fencing plan
- Confirm commercial main street goals

***Does the Commission want a special work session in
Addition to regular October 12 meeting?***



- As long as it was timebound, or population or use based, then it was okay. This was the plan for infrastructure when Wilsonville needed it, regardless of what the boundary said.
- If the team low balled it and blew the water quality standards because the City was now discharging raw sewage or polluted wastewater, it would penalize the City, and potentially put a total stop to any new growth, etc. until it was addressed. The City did not want to be in that position, which was why planning was done ahead of time.

The Planning Commission took a brief recess, reconvening at 7:48 pm

4. Frog Pond East and South Master Plan (Pauly)

Dan Pauly, Planning Manager, stated this was the Commission’s eighth work session on the Frog Pond East and South Master Plan. He introduced the project team and began the PowerPoint presentation, noting tonight’s discussion would be around infrastructure, continued discussion on Housing Variety Policy, next steps, and what the finish line looked like at this point.

- He explained the preliminary work done during the 2015 Frog Pond Area Plan provided a foundation for the list of needed infrastructure projects as well as the cost estimates to develop a program for funding them.
- A sensitivity test for a hypothetical higher residential unit count was included in the water and sewer memorandum, and not in the current draft of the transportation memo. During the State administrative rule making for implementation of House Bill 2001, a variety of options was provided that jurisdictions could take, one of which was to plan for 20 units per net acre. How much more expensive would infrastructure be if 20 units per acre were planned versus what the City anticipated would be built during the initial buildout.

Jenna Bogert, Transportation Engineer Consultant, DKS Associates, continued the PowerPoint, highlighting the transportation analysis process and the housing unit and job counts used in the traffic model to identify failing intersections and needed improvements, including for bike and pedestrian facilities. She noted the traffic operations, identified deficiencies, and proposed improvements within the subject area, and described four main intersection improvements, which included roundabouts. (Slide 7) She reviewed the pros and cons of single lane roundabouts, as well as proposed pedestrian and bicycle treatments to address gaps and deficiencies, and the proposed street cross sections on Stafford and Advance Rds.

- **Mr. Pauly** noted the Stafford Rd/65th Avenue intersection was a high-priority project for the County to fix. The team’s scenario assumed that those improvements were built within the 2040 baseline being considered. (Slide 6)
- **Ms. Bogert** added City Staff had been informing the County of the changes and plans for the Frog Pond Area throughout the master planning process.

Commissioner comments regarding the transportation infrastructure was as follows with responses to questions by the project team as noted:

- With the Advance Road and 60th roundabout so close to the school and park, what advanced safety precautions beyond the crosswalks would be taken because school children would be crossing there?
 - **Mr. Pauly** replied the project team talked directly with the School District this week on how to plan it. The District likes the roundabout for bus and traffic circulation, having buses go out that

way rather than being queued at a stop-controlled intersection. It could certainly be a place where extra flashers were installed, spaced out to increase visibility. He believed such improvements were on the designer's radar.

- The crosswalks on Roundabouts 1, 3, and 6 seemed pretty close to the turning portions of the roundabout and concern was expressed about the potential for an accident.
 - **Ms. Bogert** explained typically crosswalks were placed far enough back from the circulating traffic such that a vehicle could be completely out of the roundabout and on the road that they were traveling on without being in the crosswalk. The crosswalk was usually about a car's length or more away from the actual circulating lane of the roundabout, so that drivers feel comfortable stopping for a pedestrian without feeling they would get rear-ended by someone else in the circulating part of the roundabout. Design standards exist for the distances where the crosswalks are placed with safety in mind.
- As shown, the crosswalks looked very close to the roundabout. It was important to make sure cars coming out of the roundabout have enough time and space to stop for pedestrians and also for vehicles behind a car that has stopped for pedestrians to also come to a stop safely.
 - **Ms. Bogert** clarified the concept figures shown were not to scale but were very much concept icons and not great indications of what would necessarily be seen. (Slide 9)
 - She confirmed the roundabout design would be similar to the Boeckman/Kinsman roundabout from a crosswalk perspective with a 1 to 2 car gap after exiting the roundabout and before the crosswalk, which was a standard design.
- Roundabouts were a good traffic calming feature for the higher urban speeds when entering a neighborhood. The roundabout at the far west side of town on Wilsonville Rd could help slow people down who come flying in from that country road.
- What was the difference between Table 4 and Table 5? The volume through the Stafford/Kahle Rd roundabout increased after improvements were made. (Pages 15 and 17, Traffic Analysis)
 - **Ms. Bogert** clarified the volume differences between those two sets were because of the turn restrictions at Frog Pond Lane, which prevented traffic from turning left or going across. The volumes at Brisband and Kahle increased because that traffic had to be rerouted. It was assumed most of that traffic would go north to Kahle or with some down to Brisband.
 - She confirmed vehicles wanting to turn left on Frog Pond Lane were anticipated to go north on Kahle using the local streets and continue north from there.
 - Traffic was expected to come south as people came in from the country. A lot of the growth was in the south bound direction on Stafford Rd.
- The roundabouts were a great entry feature, however, the roundabout at Advance Rd and 60th Ave was not an interface between the rural and urban, because two to three intersections were east of that. What would be done from a traffic calming perspective to address the high speeds on those streets before people get to that roundabout?
 - **Mr. Pauly** replied there would be a median and lane markings, potentially on street parking, so some of those urban things would start to signal a more urban environment; however, there would not be any pedestrian/bicycle conflicts yet. He confirmed there were no crossings on Advanced Rd east of 60th Ave, noting a bicycle and pedestrian crossing would be a consideration at that safe intersection at 60th Ave in the future since there was no real traffic slowing elements before that.

- From a report perspective, it was confusing to have Figures 1 and 2 before Figures 4 and 5. Reordering the report to have Figures 4 and 5 first showing the analysis based on this situation, and then the figures afterward seemed to make more sense.
 - **Ms. Bogert** explained she usually placed the figures at the front because she assumed most people would not read past the first few pages.

Mike Carr, Principal Engineer, Murraysmith, introduced his professional background and presented the proposed water and wastewater systems for East and South Frog Pond via PowerPoint, reviewing the scope of each system analysis, previous studies that provided context and set the criteria for the proposed infrastructure improvements, which he highlighted. The improvements included water distribution and storage projects and wastewater projects within the Master Plan area, as well as offsite wastewater Capital Improvement Program (CIP) projects for conveyance to the Wastewater Treatment Plant. Stormwater projects would be presented at a future date

Commissioner comments regarding the water and wastewater infrastructure was as follows with responses to Commissioner questions by the project team as noted:

- Of the four lift stations proposed, why was Station 4 the only one with an alternate lift station.
 - **Mr. Carr** explained in working through the plan with City Staff, discussion included about phasing and how the projects would get implemented. The entire Frog Pond South Area would drain south, and it all needed to be pumped. Station 4 and its associated force main and gravity sewers need to be built at the very beginning, before almost any development in Frog Pond South. The first choice for the primary station location would be at the very south end of 60th Ave, but it was not clear that development would occur down there to start with due to extensive costs to bring infrastructure there. Typically, these things happen incrementally. Elevation wise, another location was on the school property. This plan gives planners, designers, and developers opportunities to have other discussions, and those were not the only two locations.
 - **Mr. Pauly** added the entire drainage basin to the north was currently under one ownership, so there was no question that when that developer brings in that chunk of land, they could put in that lift station. In Frog Pond South, the parcels were much smaller for the most part, so if some smaller parcels to the north wanted to develop sooner, then some alternatives were needed if the property to the south was a long-term holdout because there was nowhere else for the sewer to go.
- **Mr. Pauly** confirmed the City was coordinating to combine as many infrastructure projects as possible from the Frog Pond improvements, Boeckman Dip project, Boeckman Rd sewer improvements and the school.
- **Mr. Carr** agreed 8-inch water lines could be installed to match the existing lines at Canyon Creek and the Wilsonville Rd neighborhoods, but the City engineer concluded 12-inch lines would provide robust continuity and the cost was almost the same as installing an 8-inch line.

Mr. Pauly continued the PowerPoint addressing questions related to Housing Variety from the last work session about the high income need and ADU costs, all of which was included in the Staff report. The high costs of ADUs reiterated the challenge of market rate affordable home ownership. He then highlighted next steps, noting the upcoming October 12th work session and November public hearing. Certain items, such as infrastructure financing and the details of the Development Code, would be addressed going into 2023. He reviewed what remained to be addressed in the Master Plan by the

Planning Commission in 2022, noting not a lot of discussion or controversy was anticipated because the items were based on prior work or prior precedent. (Slide 23)

- He asked how comfortable the Commission was with where the project was at and its ability to review the entire Master Plan given Metro's December deadline. Feedback was requested about holding a special work session probably in late October or in the next month or so to work through the details and get to a comfort level where the Commission was ready to have a public hearing.
- He explained that Metro's deadline was written as a condition of approval to the ordinance explaining the UGB; however, he was unclear about any enforcement actions. There was also the thought that Metro might be okay with it, but could other organizations sue Metro and the City for not following it. A public hearing to make a Council recommendation would be needed in November for Council to take action by the December deadline.

Following a brief discussion on the time needed to review the remaining Master Plan items and available dates, the Commission consented to hold an additional 3-hour, special work session on October 19th.

INFORMATIONAL

5. City Council Action Minutes (August 1 & 15, 2022) (No staff presentation)
6. 2022 PC Work Program (No staff presentation)

Miranda Bateschell, Planning Director, highlighted upcoming items, including the agenda items for the October 12th meeting, which included a public hearing on the WWTP Master Plan.

The Commission returned to the consideration of the July 13, 2022, meeting minutes at this time.

ADJOURNMENT

Commissioner Willard moved to adjourn the regular meeting of the Wilsonville Planning Commission at 9:09 p.m. Commissioner Gallagher seconded the motion, which passed unanimously.

Respectfully submitted,

By Paula Pinyerd of ABC Transcription Services, LLC. for
Mandi Simmons, Planning Administrative Assistant



CITY COUNCIL
THURSDAY, SEPTEMBER 8, 2022

WORK SESSION

Frog Pond East and South Master Plan (Pauly)



CITY COUNCIL MEETING STAFF REPORT

Meeting Date: September 8, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable Comments: On August 10 Planning Commission held a work session and provided feedback that is integrated into the staff report and attachments.	
Staff Recommendation: Provide input regarding future policies for Frog Pond East and South.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE COUNCIL:

Provide feedback and input on residential policies for Frog Pond East and South. Specifically, provide additional guidance on housing variety policy and input on the design of parks and open spaces, pedestrian facilities, and bicycle facilities.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a Master Plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the urban reserve land known as Frog Pond East and South. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process will also identify water, sewer, stormwater, and transportation infrastructure needs and funding sources.

This will be the City Council's seventh work session on the Frog Pond East and South Master Plan. The previous work sessions and their content were as follows:

Work Session 1-October 2021: Focus on overall project scope and the outreach plan.

Work Session 2-January 2022: Initial feedback on the needs and opportunities for affordable housing and housing variety.

Work Session 3-March 2022: Continuation of the topic of housing needs for more detailed feedback and direction, introduction of the neighborhood commercial evaluation.

Work Session 4-May 2022: Further discussion of the neighborhood commercial center and discussion of the design concepts for development of land use and urban design alternatives.

Work Session 5-June 2022: Provided direction on draft land use alternatives, including mapping the locations of different housing types and forms (grouped into Type 1, Type 2, and Type 3).

Work Session 6-July 2022: Reviewed the draft preferred land use alternative and gave direction on land use policies around housing variety.

During the last work session, Council expressed support for the housing variety policy approach recommended by the project team and the Planning Commission. That approach had two components:

- Component 1: Require a minimum amount of certain target housing types.
- Component 2: Cap the amount of any single housing type that can be within a given area.

This *Work Session 7* will build on the residential variety policy discussion from the last work session. Planning Commission had an extensive discussion during their August work session on different options for what that policy could look like. Council's briefer work session will focus the discussion on how the residential variety policy can support Council's goal of supporting first-time home ownership in Frog Pond East and South.

The project team seeks direction on whether the current policy direction on housing variety hits the mark for Council in regards to zoning that can encourage first-time home ownership. As noted previously in work sessions, zoning to encourage and allow is just one component of the effort to provide affordable ownership opportunities. Other programs and partnerships are needed to meet many of the City's housing goals.

Work Session 7 will also introduce the public realm component of the master plan (parks, streets, greenspaces) and seek Council feedback.

Housing Variety Policy

In May, the City Council discussed design concepts that would guide decisions around land use and housing. A few of the design concepts are relevant and can serve as a guide to this housing variety policy discussion.

- **Housing Variety Throughout:** This concept focuses on mixing and integrating different housing types throughout each sub-district and block rather than having separate areas for separate housing types.
- **Affordable Housing Integration:** Integrate affordable housing "targets", both subsidized housing as well as market-rate housing that is more economically attainable, described in the Affordable Housing Analysis. This includes affordable ownership opportunities, a goal of the City Council.
- **The Use of Sub-districts:** This concept focuses on sub-districts as geographies in which to form neighborhoods within neighborhoods. Each sub-district will have a green focal point and a variety of housing. The housing variety requirements are most likely to be applied at a sub-district level.

As described in the previous work session, the *preferred land use alternative* mapping of Type 1, Type 2, and Type 3 housing provides some housing variety (at a large or "zoomed-out" scale) across the master plan area. The *housing variety policy* provides a more granular (or "zoomed-in") scale of housing variety within each sub-district and housing type (Type 1, Type 2, Type 3).

To refine the two components of the preferred housing variety policy approach, a few key questions are being considered by the project team and Planning Commission. The team seeks Council's input as well, especially in regards to affordable home ownership.

1. What should be the target housing types (policy component 1)?
2. How much of the target housing types should be required (minimum percent)?
3. What should the cap be for development of any single unit type (policy component 2)?

The requirement for certain target housing types (Policy Component 1) is one tool for achieving some affordable housing integration. The project team recommends a criterion that the housing variety policy focus on targeting housing types that provide more affordable ownership opportunities. Requiring housing types that are likely to provide affordable ownership opportunities in all sub-districts of the master plan area, would be a meaningful step in reaching Council's goal of expanding home ownership for lower-income and first-time homebuyers. Based on the Affordable Housing Analysis (Attachment 1), market rate development can support the construction of specific unit types at price points that would likely meet market-rate needs for households with incomes of 80%-120% Median Family Income (MFI)¹. The unit types determined by the analysis include townhouses and condos, and while there is limited data on existing sales of cottages and plexes, they are expected to hit similar price points. While lower in price point than larger or detached products, new development on the edge will typically sell at the top of the price range for that unit type. An example code standard may be: 40% of units in each sub-district shall be either attached middle housing or small cottage units.

Setting a maximum amount of any single type of housing unit (Policy Component 2) helps achieve the desired design concept of providing housing variety throughout the master plan area. Requiring variety also caps the amount of more expensive housing types and thus, provides more opportunity for less expensive units to be produced; that also helps support Council's goal of affordable home ownership. The project team aims to establish a maximum percentage for any single type of housing unit that is low enough to prevent development of a dominant housing type in the master plan area, and each of its sub-districts, while also providing enough flexibility for the market to produce needed housing. An example code standard may be: No more than 50% of land within a sub-district may be designated for development of a single unit type.

The project team has worked with the Planning Commission to develop criteria to evaluate different policy options. The team would appreciate Council's guidance as well, especially in regards to criteria to encourage affordable home ownership. Based on direction from the Commission and Council, the project team will perform additional analysis and bring forward a specific housing variety policy recommendation, for Council's consideration in an upcoming work session. The policy recommendation will include numerical options for the housing variety standards and how they perform relative to the identified criteria.

¹ The stated requirements could also enable affordability below 80%, especially condos, but that other tools and financial subsidy are also needed in order to construct housing available to households with lower incomes. However, as stated, new construction in new urban areas tends to be at the high end of comparative sales of similar unit types.

Public Realm Design

The second part of the work session is to discuss and get the City Council's feedback on design of elements of the public realm (parks, streets, greenspaces, etc.). Attachment 2 includes a variety of draft public realm documents for the City Council's review listed below.

- Significant Tree Inventory Map
- Street Demonstration Plan (two options)
- Bicycle Circulation Concept
- Advance Road Cross-Section Concept
- Park and Open Space Framework

The project team recommends the City Council carefully review Attachment 1 and offer feedback. The City Council is also invited to share their responses to questions outlined in the Public Spaces survey (Attachment 3). The survey was live through August. In addition to the standard online presence, the survey was available at a number of public events: Popsicles in the Park on August 9, joint events with the school district on August 17 and 23, and the Community Block Party on August 25. Staff will be prepared to share the preliminary results of the outreach at the work session, however the data is not available at publication of this staff report.

Attachment 2 also shows the preferred land use alternative, based on prior input from the Council, that the public was asked to respond to. In this alternative the neighborhood park and a portion of the Type 1 housing is re-oriented and located adjacent to the BPA Easement in Frog Pond East based on comments from the last City Council work session. This re-orientation was shared with the Planning Commission in their August work session, which they unanimously supported.

Discussion Questions:

1. How should the City determine target housing variety requirements?
2. What are the Council's thoughts on meeting market-rate ownership needs for households making 80%-120% MFI as one of the key criteria for determining variety requirements?
3. What other criteria would the Council suggest for determining housing variety requirements?
4. What comments does the Council have about the public realm components (Attachment 2)?

EXPECTED RESULTS:

Feedback and direction from the City Council on: developing key residential policies for housing variety in Frog Pond East and South and public realm planning.

TIMELINE:

This is the seventh in a series of work sessions for the City Council. The next work session is planned for October. The Master Plan is scheduled to be completed by December 2022, with some implementation elements extending into early 2023.

CURRENT YEAR BUDGET IMPACTS:

The project is funded by a combination of a \$350,000 Metro grant, an \$81,000 Oregon DLCD grant, and matching City funds in the form of staff time. \$311,000 is budgeted in FY 22/23 to complete the project.

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which lays out a robust public engagement program that will include meaningful and impactful involvement of people who identify with historically marginalized communities.

POTENTIAL IMPACTS OR BENEFIT TO THE COMMUNITY:

Furthering of the City's Equitable Housing Strategic Plan and Council's goal of affordable home ownership, while creating Wilsonville next great neighborhoods.

ALTERNATIVES:

The City Council and City Council can continue to direct changes to the draft plan elements. In addition, the City Council and City Council continues to have a number of options for policy related to housing variety.

ATTACHMENTS:

1. Affordable Housing Analysis (dated January 31, 2022)
2. Public Realm Planning packet showing preferred option along BPA Corridor (dated July 27, 2022)
3. Public Spaces survey (dated July 29, 2022)

DATE: January 31, 2022
TO: Dan Pauly, Kim Rybold, City of Wilsonville
FROM: Becky Hewitt, Kaitlin La Bonte, and Ariel Kane, ECONorthwest
SUBJECT: Frog Pond East and South Affordable Housing Analysis

Section 1. Introduction

Purpose

The Frog Pond East and South areas are important for the City of Wilsonville’s efforts to meet future housing needs and provide equitable housing options for residents. The City’s 2020 Equitable Housing Strategic Plan (EHSP) recognized this, and called for the Frog Pond East and South Master Plan to establish targets for affordability, specifically:

“As part of the master planning requirements for Frog Pond East and South, the City will establish goals or targets for accessibility to services/amenities, unit types, and unit affordability levels. The targets for affordability levels (number of units and depth of affordability for those units) should be reasonably achievable, allowing for sufficient market-rate development to support key infrastructure investments. This approach will provide a methodology and framework that can be applied in other growth areas beyond Frog Pond.”

This memorandum is intended to implement that direction from the EHSP and identify affordable housing targets and strategies to ensure these targets are met.

Key Term: Affordable Housing

This memo addresses “affordable housing”. As used here, we are referring broadly to both market-rate housing that is economically attainable for moderate-income households as well as housing that is subsidized or otherwise supported for lower-income households. Where the memo refers to a specific sub-set of affordable housing it is indicated.

Background and Policy Direction

The EHSP also directs the Frog Pond East and South master planning effort to:

- Integrate affordable housing into the overall master plan, with access to amenities
- Identify specific properties that could help meet affordable housing targets
- Evaluate relationships to the infrastructure funding plan
- Engage affordable housing developers and other stakeholders to refine strategies

These efforts will be part of the planning process for Frog Pond East and South.

Other past policy guidance related to housing targets and mixes for this area are summarized below.

- Metro’s Conditions of Approval for Wilsonville’s 2018 Urban Growth Boundary expansion required the City to:
 - **Plan for at least 1,325 homes in the expansion area.**
 - **Allow townhomes, duplexes, triplexes, and fourplexes** (now referred to as “middle housing”) in all zones that permit single-family housing within the expansion area. (The requirement related to allowing middle housing in zones that allow single-family housing is now also required by the state under House Bill 2001 and the implementing administrative rules.)
- The 2015 Frog Pond Area Plan established direction for housing mix, lot size, and where different housing types would be allowed within the expansion area. The unit distribution options from the Area Plan are shown in Exhibit 11 and Exhibit 12 on page 17. At a high level, the Area Plan sets direction that the East neighborhood should provide for single-family detached housing on small to large lots, as well as townhomes, cottage lots, and duplexes, while the South neighborhood should provide only small- to large-lot detached housing. It also states that neighborhood-scale mixed use with residential above retail in the commercial center could be considered during the Master Plan process. Other types of housing, including apartments, were not identified as part of the final plan for the Frog Pond area. Note, however, that the Area Plan’s direction pre-dates and is no longer consistent with the Metro conditions of approval summarized above or with the requirements of House Bill 2001.

As of the end of 2021, the City of Wilsonville had 11,587 dwelling units with approximately 730 more planned to be built in the near future between Villebois and Frog Pond West. Frog Pond East and South will represent an approximately 10% plus increase in the number of dwellings in Wilsonville. The City also has roughly 450 government-subsidized housing units as of 2018.¹

Section 2. The Housing Spectrum: Meeting a Range of Housing Needs with New Housing

Delivering new housing affordable to a range of incomes requires a range of different approaches, as summarized in Exhibit 1.

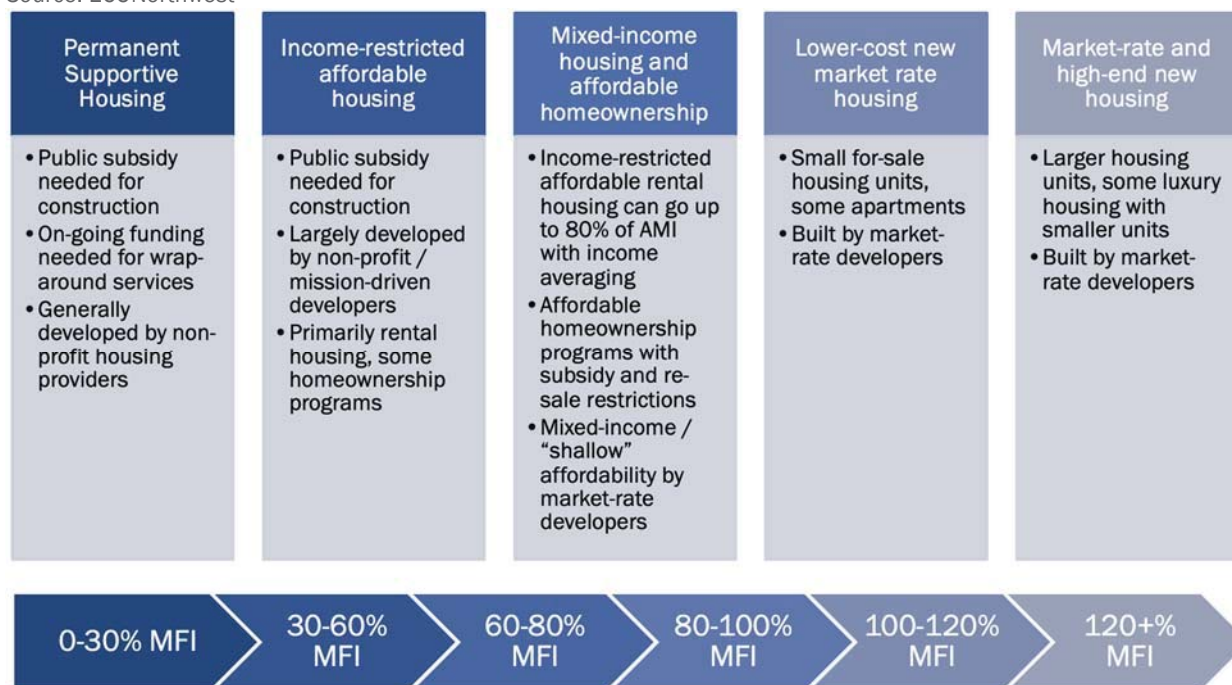
Key Term: Median Family Income

In setting affordability targets and requirements, it is common to express them in terms of a percentage of the Median Family Income (MFI), since this is how eligibility is established for income-restricted affordable housing. MFI is typically set at a regional level. In Wilsonville, the MFI is based on the three-county Portland region. In other words, the MFI for Wilsonville and Clackamas County is the same as that for the region overall. The MFI for a family of four in the Portland region as of 2021 is \$96,700. The U.S. Department of Housing and Urban Development (HUD) considers housing affordable to a given income level if housing costs (including utilities) account for no more than 30% of a household’s income.

¹ Clackamas County Regional Housing Needs Analysis, ECONorthwest, 2018, page 199.

Exhibit 1: Approaches to Delivering New Housing by Income Range

Source: ECONorthwest



Housing for 60% of MFI and below

Meeting the housing needs of households earning less than 60% of MFI nearly always requires public subsidy. Development of income-restricted affordable housing typically relies on funding from the State, region, or County, in addition to any support from the City and other partners.

- **Affordable Rental Housing:** Even within publicly supported housing, most housing for this income range is rental housing. The Low Income Housing Tax Credit (LIHTC) program—the largest funding program in the US for affordable rental housing—largely serves households in the 30-60% of MFI range. While there are some for-profit developers who build income-restricted affordable housing, most is built by non-profits or Public Housing Authorities. Affordable rental housing development in suburban parts of the Portland region typically takes the form of three- to four-story apartments with surface parking.
- **Affordable homeownership:** There are some homeownership support programs (e.g., Habitat for Humanity, some Community Land Trusts, and down-payment assistance programs) that serve households earning as little as 35% of MFI (\$30,000-\$35,000). These programs tend to receive much less state and federal funding in aggregate than affordable rental housing.

To serve households earning less than 30% of MFI often requires additional subsidy beyond that needed to build housing for 60% of MFI due to the lower rents that are required. It also

sometimes requires support to provide wrap-around services that help residents remain in their housing. Sometimes tiny homes or cottage clusters are used for housing at this income level, but apartments are more common.

Housing for 60% to 80% of MFI

Housing for households earning between 60% and 80% of MFI often comes in the form of older housing that has depreciated and become more affordable over time; however, delivering new housing in this affordability range can be challenging due to limited sources of public subsidy and the cost of building new market-rate housing. Options include:

- **Mixed-income and “shallow” affordability by market-rate developers:** Incentive programs and inclusionary zoning requirements can sometimes deliver units affordable to households earning less than 80% of MFI as part of a market-rate development if calibrated to align with market conditions. The affordability tends to be “shallow” in the sense that the private market generally cannot absorb rents or sales prices that are far below market rate without substantial incentives or subsidies. The most common form for mixed-income development by private developers is market-rate apartments that include some income-restricted affordable units.² However, affordability incentives for middle housing (primarily rental) may be able reach this income range in some circumstances.
- **Affordable homeownership:** Some affordable homeownership development targets this income range (e.g., Habitat for Humanity), using a mix of funding sources to subsidize costs. In the Portland region, this typically takes the form of either small detached housing or townhome-style attached housing.
- **Affordable rental housing with income averaging:** Low Income Housing Tax Credits, the largest funding program for affordable rental housing, allows developments to use income averaging to provide housing for households earning up to 80% of MFI as long as the average for the development overall remains at or below 60% of MFI. As noted above, this would typically be in the form of apartments.

Housing for 80% of MFI and above

Households earning between 80% and 120% of MFI can often afford at least some of the existing market-rate housing stock in the community, such as apartments, older homes, or townhouses, though in very tight housing markets their options may be limited. For new construction, some smaller and lower-cost market-rate housing can be affordable in the 80-120% of MFI range, but most larger housing units and high-end small housing units tend to be affordable only to those earning at least 120% of MFI. (The expected pricing for market-rate housing in the Frog Pond East and South areas is described further in Section 4.) There are some local incentives and

² Inclusionary Zoning can only be applied to multifamily housing (buildings with 20 or more units) under current Oregon law.

affordability programs that can support housing affordable at 80% to 100-120% of MFI, though state and federal funding is limited.

Section 3. Opportunities and Constraints for Affordable Housing

There are several considerations and challenges for building affordable housing in the Frog Pond East and South area, including:

- **Infrastructure costs:** While vacant land at the urban fringe tends to cost less than land in already developed areas, this is largely because the cost of building the infrastructure needed to serve urban development is factored into land value and land sales prices. This project will: identify the infrastructure needed to support the East and South Neighborhoods; prepare a funding plan for that infrastructure; and consider the relationship between the need to fund infrastructure and the ability to deliver affordable housing.
- **Site control / property ownerships:** Acquiring property in a competitive market can be a substantial challenge for affordable housing developers. The City does not currently own any land within the Frog Pond East and South areas. The only City-owned land is land designated for a future park. The ability to secure land could be one of the biggest challenges for delivering affordable housing in the area.
- **Past policy guidance on housing types:** The final Frog Pond Area Plan did not include apartments as part of the housing mix for Frog Pond East and South. This limits the potential housing options in several ways:
 - As noted above, most affordable rental housing, which is the primary housing that serves households earning less than 60% of MFI, is built as apartments. The Area Plan notes potential for housing above commercial space, but while some affordable housing includes community spaces on the ground floor, there are financing challenges associated with building affordable housing as true mixed-use development with ground-floor commercial space. If apartments are not allowed in the area, this will significantly constrain the options and sources of funding for building affordable housing and limit the number of income-restricted affordable units that can realistically be developed in the area.
 - Market-rate multifamily housing (apartments or condominiums) can also provide housing affordable to households earning roughly 80% to 100% of MFI. Building apartments or condominiums as part of a mixed-use building increases costs and can make development infeasible or require higher rents or sales prices to justify the additional expense.
- **Challenges for affordable and low-cost homeownership options:** Income-restricted affordable homeownership models can work within a small detached or townhouse-style development, but there is limited state and federal funding for affordable homeownership programs, which means a relatively small number of subsidized

affordable homeownership units could realistically be built in the area. Other methods of providing lower-cost homeownership options without a subsidy, such as condominiums and co-op housing, face legal and financing challenges that make them difficult for many private developers to build. Addressing these legal and financing issues would require action at the state level and is beyond the City's control. However, there are developers working in the region who are willing to build condominiums despite the challenges, some of whom may pursue development within Frog Pond East and South.

The opportunity for Frog Pond East and South is that the City is in a position to address many of these challenges in ways that can influence the outcome. At a minimum, in the short term, the City can set land use regulations that allow for a broader range of housing types so that there are more options for market-rate and subsidized affordable housing development now and into the future. The City can establish requirements associated with annexation, which could allow for more specific agreements between the City and property owners seeking to annex. The City can also establish an infrastructure funding plan that limits the infrastructure cost burden on any income-restricted affordable housing built in the area. If financial resources allow, the City can negotiate with property owners to acquire suitable land for affordable housing that can then be transferred at little or no cost to affordable housing developers, or provide funding to support affordable homeownership development by a local Community Land Trust or a provider like Habitat for Humanity. These and other strategies to help deliver affordable housing in this area are addressed further beginning on page 21.

Section 4. Expected Pricing of Market-Rate Housing

For-Sale Housing: Market Sale Prices for Single-Family Homes, Townhouses, and Condominiums

Data from recent home transactions³ for relatively newer housing⁴ in Wilsonville and surrounding areas provides an indicator of likely pricing for new housing in Frog Pond East and South. The estimated range of home prices by housing type and unit size is shown in Exhibit 2. The estimated income needed to afford these purchase prices, given standard lending assumptions,⁵ is shown as a percentage of the MFI for a four-person household⁶ in Exhibit 3. The relevant data is summarized in table form in Exhibit 4.

³ Sales transaction data is from Redfin for sales between October 2020 and October 2021.

⁴ Data includes detached homes and townhouses built since 2010 as well as condominiums built since 2006 (to provide a larger sample size since there are few recently-built condominiums).

⁵ Assumes 20% down payment, a 30-year fixed-rate mortgage at 3.5% interest, with estimates for property taxes and homeowners' insurance. Estimated homeowners' association fees are factored into total monthly housing costs based on averages for similar housing from recent sales transactions.

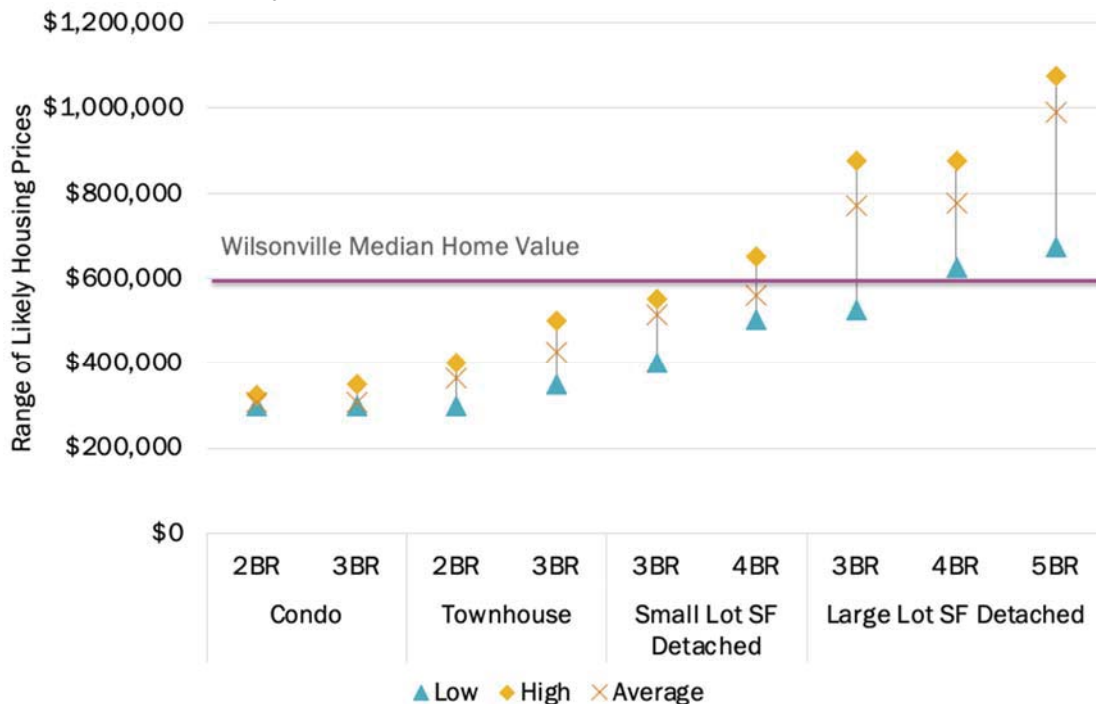
⁶ In setting maximum allowed rents by unit size / bedroom count, HUD uses an assumed household size and multiplier relative to the MFI for a family of four. However, to allow for comparison to the income distributions, which are not adjusted for household size, we use the MFI for a four-person family throughout.

Given the recent escalation in home prices, new construction coming to market is likely to sell closer to the top end of the range seen among recent transactions for newer housing. Housing prices will likely continue to escalate over the coming years (though not to the extent seen in the past year), increasing the expected home values over time. However, the comparison between prices of new homes and the median price of existing homes or between new homes and regional average incomes are more likely to remain roughly consistent going forward. Based on these trends, we estimate the following ranges for affordability of new for-sale housing in Frog Pond East and South:

- New large-lot detached housing in Wilsonville will likely be affordable only to households earning more than 120% of MFI, and more expensive than most existing homes.⁷
- New small lot detached homes (on less than 4,500 SF lots) may sell for close to the median value of existing homes and are likely to be affordable mostly to households earning between 100% and 130% of MFI.
- New condominiums and townhouses will almost certainly sell for less than the median value of existing homes in Wilsonville and are likely to be affordable to households earning between roughly 70% and 100% of MFI depending on unit size.

Exhibit 2. Typical Sales Prices for Recently Built Housing by Housing Type, Wilsonville and Surrounding Area

Source: ECONorthwest Analysis of Redfin Data, October 2021



⁷ The median value of existing homes in Wilsonville is around \$600,000, affordable to homeowners at 122% of the area MFI for a family of four, or an annual income of \$118,220.

Exhibit 3. Housing Affordability as a Percent of Median Family Income* by Housing Type for Recently Built Housing, Wilsonville and Surrounding Area

Source: ECONorthwest Analysis of Redfin Data, October 2021

* Median family income from HUD for Clackamas County for a four-person household

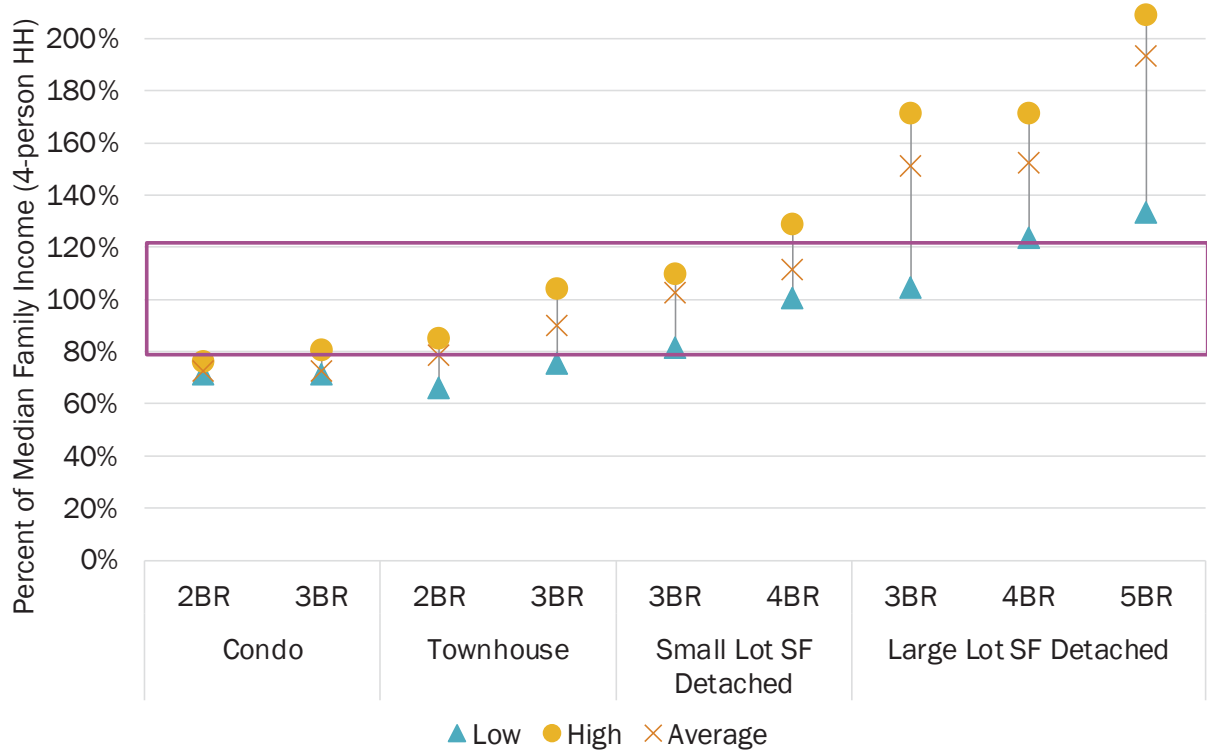


Exhibit 4: Sales Price, Income Required, and Income as a Percent of MFI for Newer Housing in and near Wilsonville, by Housing Type, 2021

Source: ECONorthwest Analysis of Redfin Data, October 2021

	Condo		Townhouse		Small Lot SF Detached		Large Lot SF Detached		
	2BR	3BR	2BR	3BR	3BR	4BR	3BR	4BR	5BR
Low Sales Price									
Sales Price	\$300,000	\$300,000	\$300,000	\$350,000	\$402,500	\$502,500	\$525,000	\$625,000	\$675,000
Annual income needed to afford mortgage	\$69,110	\$69,110	\$64,110	\$73,290	\$78,940	\$97,310	\$101,440	\$119,810	\$128,990
Annual income needed as a percent of MFI*	71%	71%	66%	76%	82%	101%	105%	124%	133%
High Sales Price									
Sales Price	\$325,000	\$350,000	\$400,000	\$500,000	\$552,500	\$652,500	\$875,000	\$875,000	\$1,075,000
Annual income needed to afford mortgage	\$73,700	\$78,290	\$82,480	\$100,850	\$106,490	\$124,860	\$165,730	\$165,730	\$202,470
Annual income needed as a percent of MFI*	76%	81%	85%	104%	110%	129%	171%	171%	209%
Average Sales Price									
Sales Price	\$307,700	\$307,400	\$365,300	\$426,700	\$513,800	\$560,000	\$769,900	\$775,800	\$990,600
Annual income needed to afford mortgage	\$70,520	\$70,470	\$76,110	\$87,390	\$99,380	\$107,870	\$146,420	\$147,510	\$186,970
Annual income needed as a percent of MFI*	73%	73%	79%	90%	103%	112%	151%	153%	193%

*As compared to 100% MFI for a four-person household in Clackamas County. Orange indicates less affordability; blue indicates greater affordability.

Rental Housing: Market-Rate Apartments

Looking at the range of rents and unit sizes for apartments built in Wilsonville since 2010, there is a wide range of unit sizes and rents, as shown in Exhibit 5.

Exhibit 5: Wilsonville Apartment Unit Sizes, Mix, and Rents, Developments Built Since 2010

Source: ECONorthwest analysis of CoStar data, November 2021

Unit Type	Most rent for	Average rent is	Most units are	% of Units
Studios	\$1,123	\$1,123	544 SF	4%
1 bedroom	\$1,277-\$1,667	\$1,599	1,275 - 1,630 SF	28%
2 bedrooms	\$1,651-\$1,902	\$1,778	1,020 - 1,110 SF	57%
3 bedrooms	\$2,154-\$2,263	\$2,203	2,150- 2,265 SF	5%
4 bedrooms	\$2,664-\$3,284	\$2,871	2,664 - 3,284 SF	5%

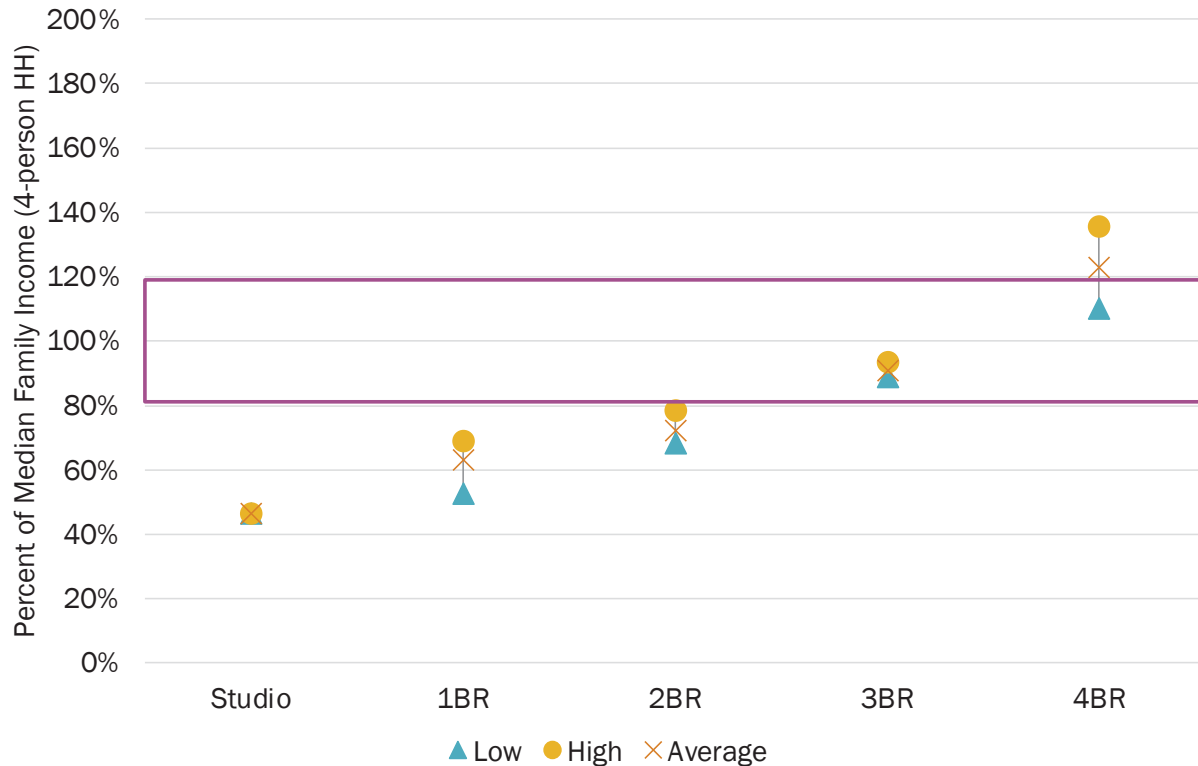
Converting these rents to the percent of MFI needed to afford them⁸ shows that even at the top end, apartment units in newer buildings are generally affordable at or below 80% of MFI for a four-person household, and often around 80% of MFI, as shown in Exhibit 6. Very small studio units may be even more affordable, while very large four-bedroom units may be less affordable, but the bulk of units in newer apartments in Wilsonville would be considered affordable for households earning between 65% and 90% of MFI. New apartments would typically be expected to rent for near the upper end of this range (roughly 80% to 90% of MFI), assuming they have good access to amenities.

⁸ In setting maximum allowed rents by unit size / bedroom count, HUD uses an assumed household size and multiplier relative to the MFI for a family of four. However, to allow for comparison to the income distributions, which are not adjusted for household size, we use the MFI for a four-person family throughout even though it is not realistic to expect a four-person family to occupy a studio apartment.

Exhibit 6: Wilsonville Apartment Rent Affordability as a Percent of Median Family Income* by Unit Size, Developments Built Since 2010

Source: ECONorthwest Analysis of CoStar Data, November 2021

* Median family income from HUD for Clackamas County for a four-person household



Section 5. Affordable Housing Targets

The City does not control housing pricing and affordability directly, but there are many factors that the City does control that affect how much housing is likely to be produced within different affordability levels. Setting reasonably achievable affordable housing targets for the Frog Pond East and South neighborhoods is intended to guide the City's strategies and policies for this area so that the resulting neighborhoods offer housing options for households at a range of income levels.

Reference Points

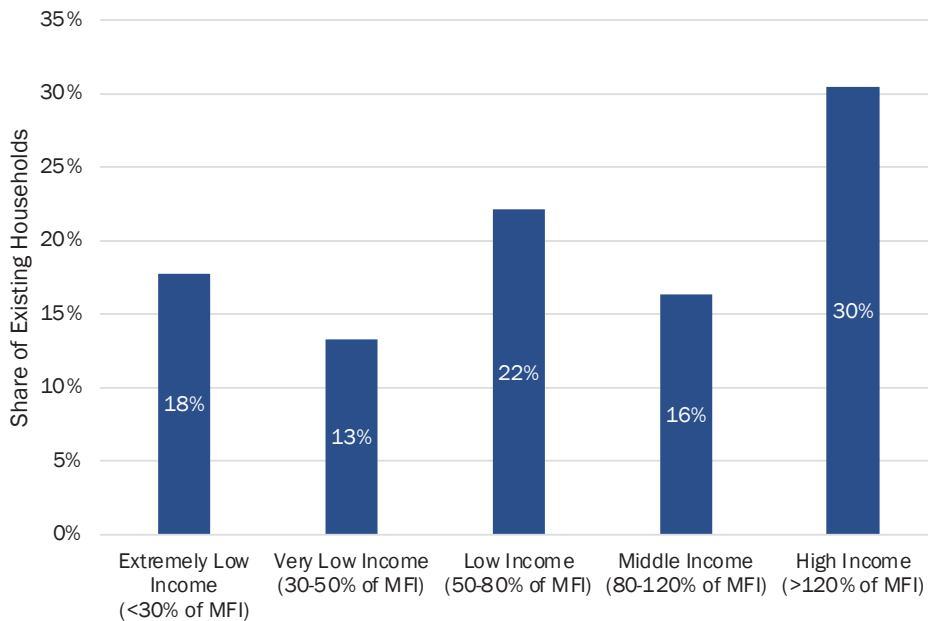
In setting an appropriate and achievable affordable housing target, it is helpful to consider multiple reference points that inform the distribution of housing that may be needed and that may be possible. This section outlines several reference points for housing distribution by affordability level: current income distribution in Wilsonville, current regional income distribution, existing housing gaps at the City and County scale, and the distribution expected based on prior plan policy direction and existing affordable housing tools. These reference points are intended to inform establishing achievable affordable housing targets for Frog Pond East and South, which will ultimately be determined by City Council.

City of Wilsonville Income Distribution

This reference point offers one way of understanding what it would look like for this area to contribute proportionately to meeting overall housing needs for the city. However, this approach does not consider the specific types of housing needs that may best be met in the new growth area versus other areas of the city, and it does not account for changing demographic needs or needs that are not currently met in the city. The current distribution of Wilsonville households based on how their household income compares to the MFI for Clackamas County for a four-person household is shown in Exhibit 7.

Exhibit 7. Wilsonville Households by Percentage of MFI, 2021

Source: American Community Survey, 2019, 5-year estimates

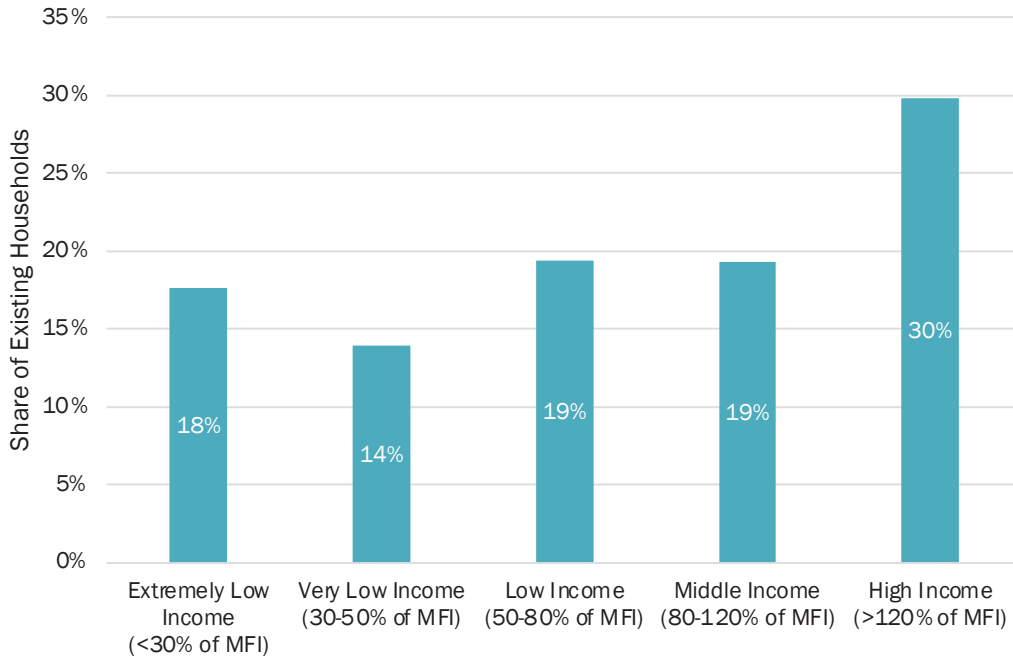


Regional Income Distribution

Looking at overall regional income distribution can be useful to highlight housing affordability levels and incomes that may be under-represented in Wilsonville compared to the region as a whole. It provides a sense of what mix of housing affordability levels would best meet the needs of people living in the region as a whole. The current distribution of households by income level in the three-county Portland region is shown in Exhibit 8. In the region overall, the share of middle-income residents is somewhat higher than in the city of Wilsonville, while the share of low-income residents is somewhat lower. The share of extremely low income and very low-income residents is similar in the City and in the region overall.

Exhibit 8. Portland Region Households by Percentage of MFI, 2021

Source: American Community Survey, 2019, 5-year estimates

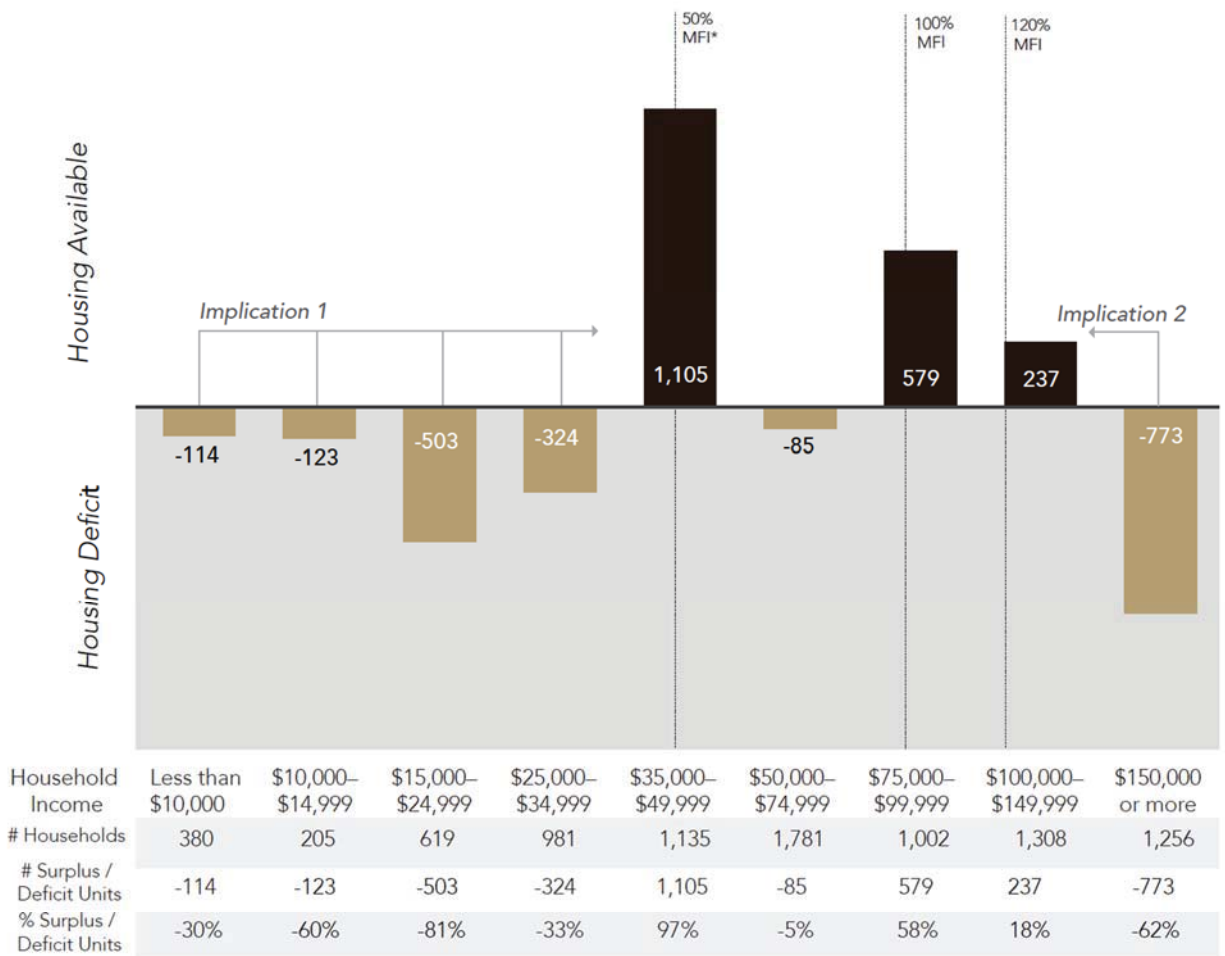


Current City and County Housing Gaps

Based on the most recent Housing Needs Analysis for the City of Wilsonville (which was done as part of a county-wide Housing Needs Analysis in 2018), there is a deficit of housing units for households earning less than \$35,000 per year, but also a deficit of high-amenity housing for households earning more than \$150,000 per year.

Exhibit 9: Affordable Housing Costs and Units by Income Level, Wilsonville, 2018

Source: Clackamas County Regional Housing Needs Analysis, page 281



*Median Family Income for a family of four

Implication 1

Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

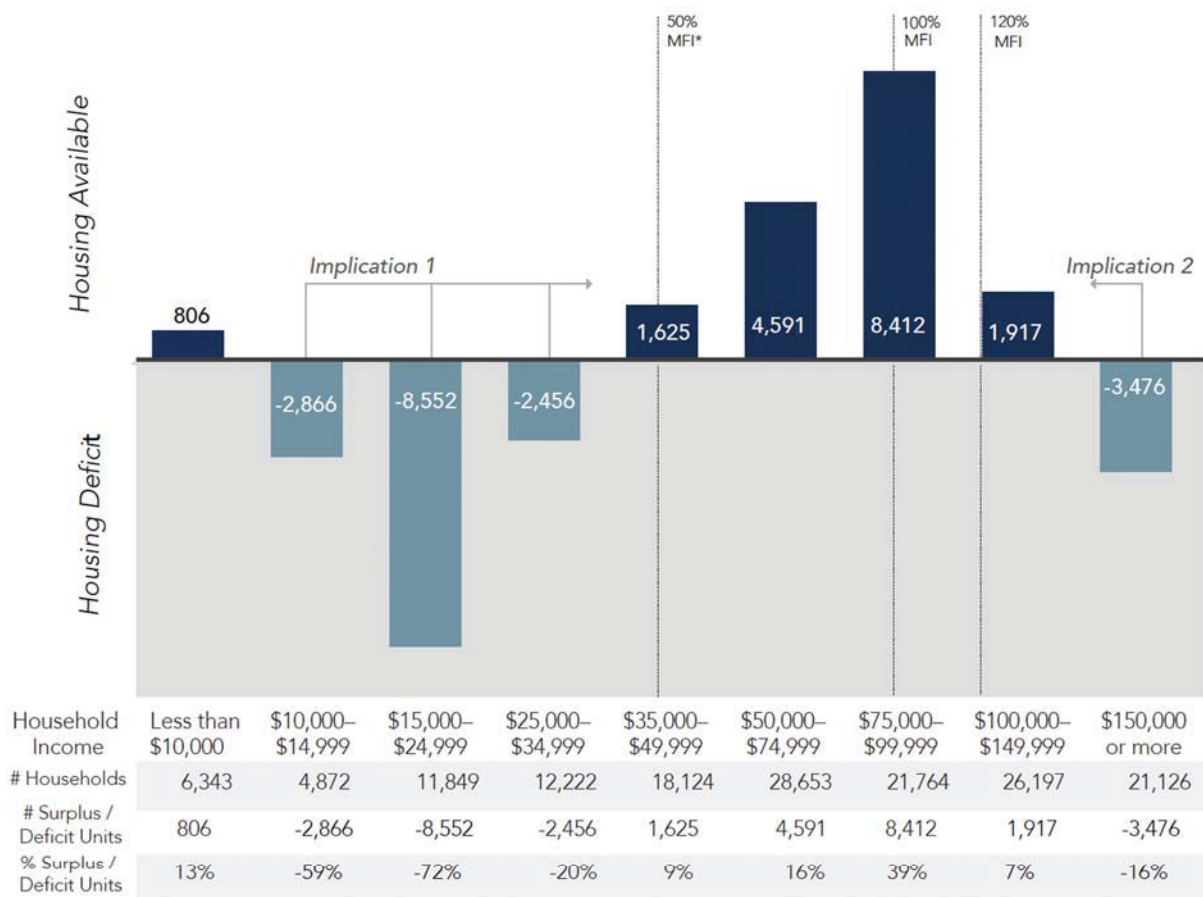
Implication 2

Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

The overall housing gaps for Clackamas County also show a deficit of housing for households earning less than \$35,000 per year and high-amenity housing for households earning \$150,000 or more.

Exhibit 10: Affordable Housing Costs and Units by Income Level, Clackamas County Overall, 2017

Source: Clackamas County Regional Housing Needs Analysis, page 74



*Median Family Income for a family of four

Implication 1

Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

Implication 2

Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

This reference point suggests a focus on expanding housing supply at the top and bottom of the income spectrum. Providing high-amenity housing for higher-income households can reduce upward pressure on prices for older homes that could be remodeled, while providing housing affordable to lower-income households can reduce cost-burdening and allow households more resources to meet their other needs and remain more stable in their housing.

Prior Area Plan Policy Direction & Existing Affordable Housing Tools

This reference point anticipates the outcomes that would be most likely for this area if the City maintains the policy direction from the Area Plan and does not implement any additional strategies to support affordable housing in this area. It provides a reference point for a policy baseline to see how much intervention may be required to achieve the City's equitable housing

goals in this area. The distribution of housing units by type / density established in the Frog Pond Area Plan is summarized in Exhibit 11 and Exhibit 12. As described in the Area Plan:

At the time of adoption there were two general proposals regarding residential land use in the East and South Neighborhoods. The first proposal was the Planning Commission-recommended option (Option G), with the condition to re-examine the R2.5 densities and commercial site location at a future date of master planning. The second proposal was that there should be a minimum lot size of 4,000 square feet. The Council considered these proposals carefully, along with all of the rationale, implications and issues. Working from the premises that: (1) both points of view should be honored and represented in the Plan; (2) many years will pass before final decisions need to be made; and (3) the range of housing choices and price ranges should increase in the future when these neighborhoods are developed – the Council struck a balance. The balance was to include both options in the Plan with a commitment to revisit the densities and commercial site in the future as part of master planning. An additional idea was added to consider, during Master Planning, neighborhood scale mixed use, where residential would be allowed over the retail in the commercial center.⁹

The primary difference for purposes of this document is that Option G included an allowance for attached / cottage single-family, with lots between 2,000 and 3,000 square feet. Neither option included an allowance for multifamily housing. As noted above, the City must provide for at least 1,325 units in this area (Option H would provide only 1,258) and must allow attached / cottage single-family and other middle housing types in any zone that allows single-family housing.¹⁰ Thus, ECONorthwest used Option G as a starting point for this scenario, since it aligns better with recent requirements.

⁹ Frog Pond Area Plan, A Concept Plan for Three New Neighborhoods in East Wilsonville, 2015, page 24.

¹⁰ While Option G did not assume that middle housing would be allowed throughout the East and South neighborhoods, the total percentage of middle housing and small lot detached housing, at roughly one third of all housing units, remains a reasonable estimate of the amount of middle housing and small-lot detached housing that the market might deliver in this area after accounting for HB 2001.

Exhibit 11. Land Use Metrics and Capacity "Option G"

Source: Frog Pond Area Plan, A Concept Plan for Three New Neighborhoods in East Wilsonville, 2015

Residential Designation	Average Lot Size (SF)	Max Units/ac net	East Neighborhood Units	South Neighborhood Units	East+ South Units	% of East + South Units
Future R-8 Single Family (7,000 - 9,000 SF)	8,000	5.40	120	28	148	11%
Future R-6 Single Family (5,000 - 7,000 SF)	6,000	7.30	125	162	287	22%
Future R-4 Single Family (3,000 - 5,000 SF)	4,000	10.90	165	286	451	34%
Future R-2.5 (2,000 - 3,000 SF)	2,500	17.40	436		436	33%
Total Units			846	476	1,322	100%

Exhibit 12. Land Use Metrics and Capacity ("Option H" - No R2.5 in East Neighborhood)

Source: Frog Pond Area Plan, A Concept Plan for Three New Neighborhoods in East Wilsonville, 2015

Residential Designation	Average Lot Size (SF)	Max Units/ac net	East Neighborhood Units	South Neighborhood Units	East+ South Units	% of East + South Units
Future R-8 Single Family (7,000 - 9,000 SF)	8,000	5.40	120	28	148	13%
Future R-6 Single Family (5,000 - 7,000 SF)	6,000	7.30	125	162	287	25%
Future R-4 Single Family (3,000 - 5,000 SF)	4,000	10.90	437	286	723	62%
Future R-2.5 (2,000 - 3,000 SF)	2,500	17.40				0%
Total Units			682	476	1,158	100%

To translate this housing mix into an expected distribution by income level, ECONorthwest used the expected pricing of market-rate housing by housing type summarized in Section 4:

- The Future R-2.5 units are assumed to be primarily middle housing similar to townhouses based on the density and housing types described for this zone. Given estimated pricing, these units would generally be affordable to households between 80% and 120% of MFI.
- Small-lot detached housing ranges slightly above and below 120% of MFI. Half of the R-4 housing units are assumed to be affordable at 80-120% of MFI, while the other half are assumed to be affordable to households at 120% or more of MFI.
- Medium- to large-lot single-family is affordable only above 120% of MFI. All of the R-6 and R-8 units plus half of the R-4 units are assumed to be affordable to households earning 120% or more of MFI.

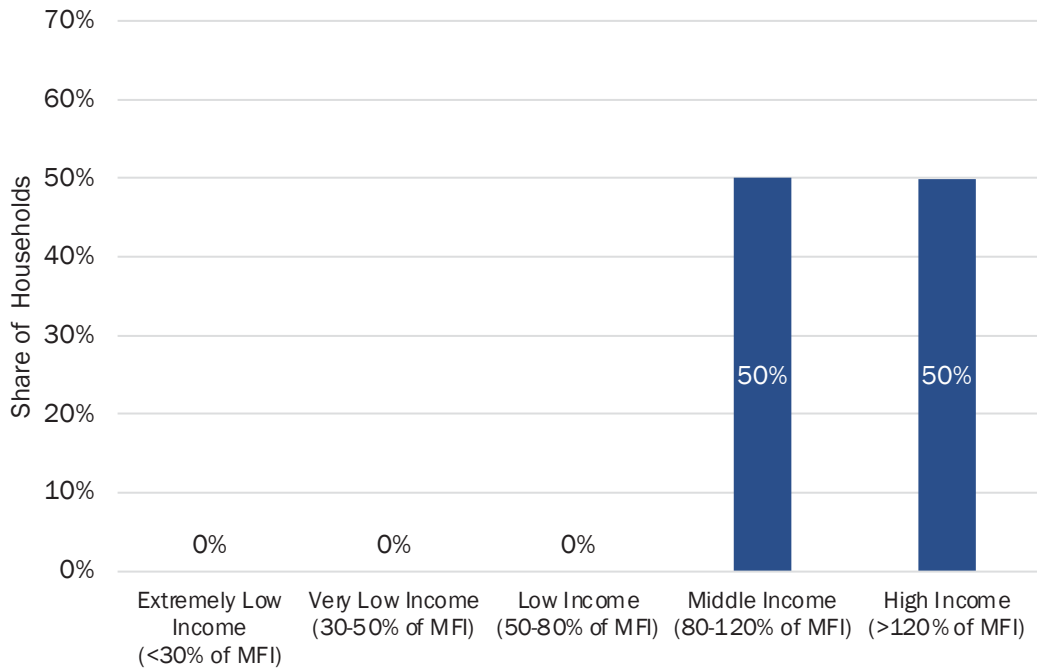
Because Option G did not include multifamily housing in the land use metrics, this reference point assumes that no regulated affordable rental housing or market-rate multifamily are built

in the area. While some affordable homeownership housing is possible under existing policy guidance, the City has no existing programs in place to support this, so the assumption is that this would not occur without additional support. These factors mean that the current policy guidance and existing programs would be unlikely to deliver housing to serve households earning less than 80% of MFI.

The expected distribution of housing by income level under existing policy is shown in Exhibit 13.

Exhibit 13: Expected Distribution of Housing by Affordability Level Under Existing Policy

Source: ECONorthwest calculations based on Frog Pond Area Plan Option G and market pricing



Proposed Affordable Housing Targets

The proposed affordable housing targets are intended to provide achievable goals for this area if the City addresses the constraints noted previously and implements a set of feasible strategies to support affordable housing. The types of strategies needed to meet these proposed targets are described in Section 6.

Given the context and the scale of the area, the City could target the following for publicly supported, income-restricted affordable housing development:

- One affordable multifamily rental development serving households earning up to 60% of MFI, or an average 60% of MFI, with income averaging that offers some units for households earning up to 80% of MFI. This would likely be between 120 and 180 units and roughly 30 units per acre based on typical development of this type, requiring four to six acres of land.

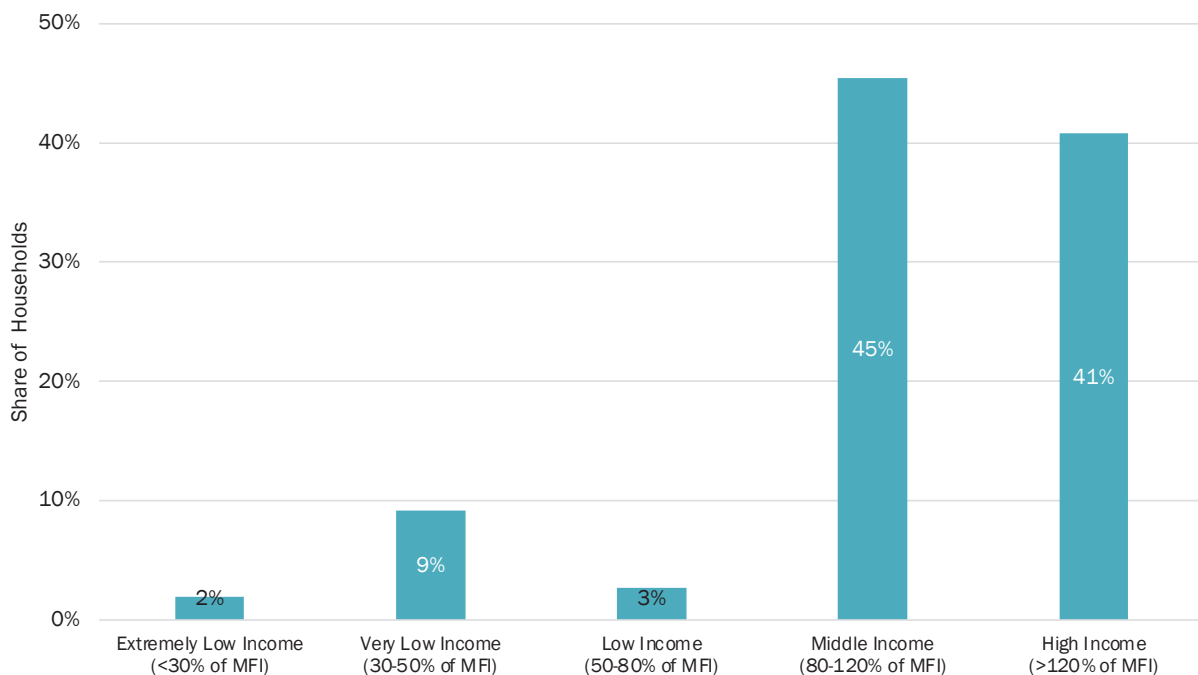
- One small cottage/tiny home/courtyard development for households earning less than 30% of MFI, low-income seniors, veterans, or people with disabilities. This could be between 5 and 50 units and might require between a quarter of an acre and two acres, depending on scale and design.
- One to two townhome or cottage cluster affordable homeownership developments for households earning 35% to 80% of MFI (e.g., Habitat for Humanity or Proud Ground). This could be between 10 and 40 units and might require between one and two acres, depending on scale and design.

In addition to these goals for income-restricted affordable housing, the City can target providing a mix of housing within the market rate development that offers roughly half of units that are likely to be affordable to households earning less than 120% of MFI. This could mean a similar mix of housing types as identified in Option G in the Area Plan (even if the locations for middle housing are no longer restricted), resulting in a roughly even split between housing for households earning 80% to 120% of MFI and households earning more than 120% of MFI for the market-rate for-sale housing. Allowing opportunities for some market-rate apartment development without ground floor commercial space to further expand the range of housing options for households earning less than 100% of MFI.

Error! Reference source not found. provides an illustrative example of the approximate distribution of housing by income level based on the ranges of units above and rough estimates of the amount of market-rate housing that could be built if the land above were dedicated to affordable housing. These estimates are preliminary and may be refined through the planning process.

Exhibit 14: Approximate Distribution of Housing by Income Level for Affordable Housing Target

Source: ECONorthwest

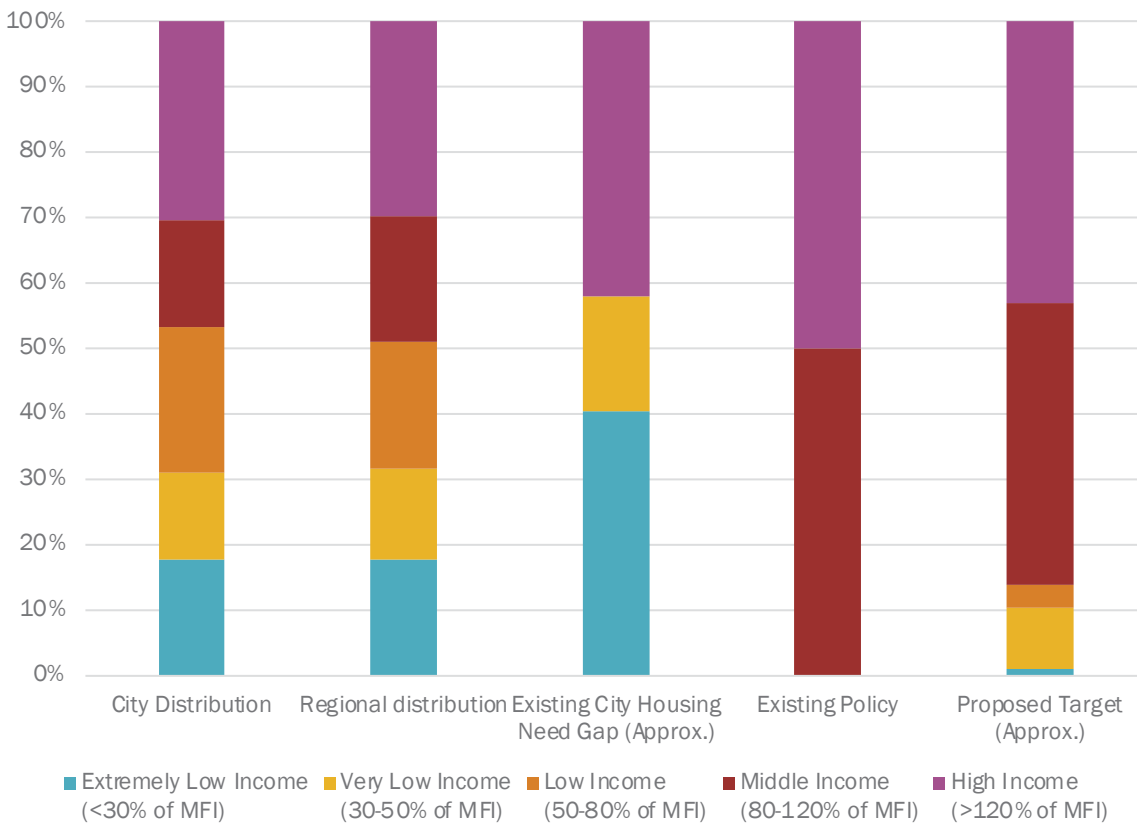


Comparison to Reference Points and Implications

Error! Reference source not found. summarizes the unit counts that would result from applying the distribution for each scenario to the 1,325 housing units required by Metro. (As noted previously, the total unit count may vary between the scenarios or be refined through the process of establishing land use scenarios—these unit counts are illustrative only at this stage.) Exhibit 15 illustrates the comparison between the scenarios in terms of the income distribution in each.

Exhibit 15: Distribution of Housing by Income Level for Housing Target Compared to Reference Points, Frog Pond East and South

Source: ECONorthwest



Implications:

- To reach the affordable housing policy directives from the Equitable Housing Strategic Plan with development in Frog Pond East and South the City will need to allow a full range of housing types and make investments to support affordable housing development.
- Even if the City does make changes to policy and takes action to dedicate funding to support affordable housing, the share of affordable housing is likely to fall short of meeting a proportionate share of overall housing needs at the City or regional level during initial build-out.

- Adding to housing supply across a range of affordability levels in Frog Pond East and South will help meet housing needs overall and would be a one step forward in a larger series of housing-related initiatives by the City, even if it does not match the overall distribution or address all the existing gaps for affordable housing.
- Middle housing and condominiums can offer homeownership opportunities to middle income households without public subsidy, making land use regulations and infrastructure funding decisions that affect the feasibility of multi-family and middle housing an important consideration for affordability.

Section 6. Affordable Housing Strategies

The City can support development of affordable and mixed-income housing in a number of ways. The EHSP lays out a range of strategies to advance the City’s equitable housing goals. The City will also be required to adopt a Housing Production Strategy (HPS) soon under recent changes to state rules, and will need to identify and prioritize strategies to support housing production across a range of housing needs. This section outlines the strategies that are likely to have the greatest impact for Frog Pond East and South, building on those in the EHSP.

- **Zone for All Housing Types:** Enable a full range of housing types in Frog Pond East and South, including multifamily, to expand first time homebuyer opportunities and to make it possible to build affordable rental housing using common sources of funding. Align zoning for multifamily with areas that are suitable for affordable housing. Flexibility needs to be in place to take advantage of affordable housing opportunities both now and during the longer-term build out of Frog Pond East and South.
- **Acquire Land for Affordable Housing:** Attempt to find willing sellers for suitable properties for affordable housing within Frog Pond East and/or South, to ensure an opportunity to build affordable housing in the area. This would likely require funding, particularly if the City intends to offer the land for affordable housing development for little or no cost to make affordable housing development more viable. However, the City could consider asking the current owner to ground lease the property to the City and have the development pay for it in future, or seek an option on a property rather than acquiring it outright. It would also require staff time to manage the property owner negotiations and (if successful), the land disposition process (e.g., a Request for Proposals for development). With private developers also seeking to secure land or options to purchase property, the sooner the City acts, the better its chances. The City should prioritize sites that meet the following criteria:
 - Close proximity to existing transit (e.g., the stop at Meridian Creek Middle School), or near an area that has a high probability of future transit service upon development.
 - Close proximity to parks, schools, future commercial areas, and other amenities.

- Sites that are between four and six acres of buildable land if targeting affordable rental housing; smaller sites (e.g., half-acre to two acres) for homeownership housing.
- Sites without major development constraints or especially costly infrastructure needs. Sites should not be in the floodplain.
- **Partner with a Community Land Trust:** A community land trust (CLT) such as Proud Ground could help deliver affordable homeownership housing in Frog Pond East and South. If the City is unable to secure land for affordable housing, it could explore other ways to support a CLT in building affordable homes, such as direct subsidy (e.g., using Metro Bond money), SDC waivers, or tax abatements (see further discussion below).
- **Waive, Reduce, or Defer SDCs for Affordable Units:** The cost of SDCs and other infrastructure costs for greenfield development can become prohibitive for affordable housing. Options to reduce SDC cost impacts on affordable housing will be addressed as part of the infrastructure funding plan for Frog Pond East and South to ensure that overall infrastructure needs can be met. Waiving SDCs entirely for income-restricted affordable housing has the greatest impact, but reductions and deferral can also help reduce the funding gap for affordable housing. This requires engagement with other infrastructure providers.
- **Incentivize Smaller and Lower-Cost Middle Housing:** Middle housing will be allowed broadly in Frog Pond East and South, and some developers have expressed interest in middle housing development in the area. Because middle housing generally offers lower price-points than single-family detached housing, it offers middle-income housing options and potential for lower-cost homeownership. There are several incentives that could be effective tools to support middle housing development that is affordable to middle-income households:
 - The Multiple Unit Property Tax Exemption (MUPTE) is a flexible program that can be used to incent multiple-unit rental housing with particular features or at particular price points by offering qualifying developments a partial property tax exemption for 10 years. The City could offer MUPTE for middle housing rental developments with small units that are more likely to be affordable. (The City could also choose to offer MUPTE only in exchange for income and rent restrictions, but would need to be able to monitor compliance with these restrictions over the 10-year abatement period.) This program requires support from overlapping taxing districts.
 - The Homebuyer Opportunity Limited Tax Exemption (HOLTE) program allows cities to offer a 10-year partial property tax exemption on for-sale properties valued at no more than 120% of the median sales price that meet any additional city-imposed income and owner-occupancy requirements. Portland has paired it with an SDC exemption to incentivize new moderately-priced for-sale housing. This program requires support from overlapping taxing districts.
 - SDCs that scale with unit size can also incentivize smaller, lower-cost middle housing units by right-sizing fees to the impacts of different housing types and sizes.

This will be considered through the infrastructure funding plan and requires engagement with other infrastructure providers.

- The City could consider allowing small “multiplex” development (e.g., 6-12 units) on sites that would allow a fourplex under new middle housing rules, if the units are under a certain size limit so that the overall volume of the building is still similar to a fourplex.
- **Reduce Multifamily Parking Requirements:** If the City adopts zoning for Frog Pond East and South that allows multifamily development in portions of the area, it should also evaluate reducing parking requirements for multifamily. (This could be done citywide or applied only within the Frog Pond East and South areas.) Currently, at least one space per unit is required, even for units less than 500 sq. ft.; most units require 1.25 to 1.75 spaces per unit. If parking requirements exceed what is needed to serve affordable housing, this adds cost to build spaces that do not generate revenue and reduces the number of units that fit on site. If land and funding are available for affordable housing, reducing parking requirements can ensure that it can be built efficiently and optimize the amount of housing on the site.
- **Incentivize Housing with Accessible or Visitable Units:** With substantial new housing construction coming for Frog Pond East and South, the City can encourage units designed to be accessible or visitable to better meet the needs of individuals with mobility limitations in the community. The City can apply some of the same incentives noted above to apply to accessible or visitable units, such as tax abatements, SDC reductions, or allowances to build additional units.

Section 7. Conclusions and Next Steps

If the City does not take further action to support affordable housing and does not change course from prior policy direction on housing types for Frog Pond East and South, there will be few opportunities for affordable housing and little chance that it will get built. If the City allows a full range of housing types and implements additional affordable housing strategies, particularly related to proactive land acquisition, the chances for affordable housing increase substantially. Financial and regulatory incentives could also encourage developers to build smaller, lower-cost housing units with or without income restrictions, or to build units that are accessible or visitable for residents with mobility limitations. These strategies align with those outlined in the EHSP and provide input to a future HPS.

While meeting a proportionate share of citywide or regional housing needs by income may not be possible for greenfield development, there are important opportunities for affordable homeownership and expanding housing options across a range of incomes and housing needs. The proposed housing targets include a mix of market-rate housing at typical price-points and a few affordable housing developments of various scales and forms. These targets are intended to be achievable with implementation of the recommended housing strategies. This area can play an important role in a broader citywide effort to provide needed housing. Additional work will

be needed to meet housing needs in other parts of the City that cannot feasibly be met in this greenfield area.

Next steps within this process include identifying specific properties that could help meet affordable housing targets; evaluating relationships to the infrastructure funding plan of potential SDC reductions or waivers; engaging affordable housing developers and other stakeholders to refine strategies; and subsequent work to learn more about community perspectives/preferences, which could lead to refinements in the targets and strategies laid out in this document.

FROG POND EAST & SOUTH MASTER PLAN

PUBLIC REALM PLANNING MEMO

TO: City Council

FROM: Project Team

DATE: August 2, 2022 updated August 16, 2022

This memo describes an important part of the Frog Pond East and South Master Plan: public realm planning. **The public realm is the combination of all public spaces—including streets, alleys, parks, plazas, and other publicly-accessible areas—that define the experience of living in or visiting a city or neighborhood.** A well-designed and cohesive public realm will be an essential part of the success and livability of this new area of Wilsonville. The Master Plan will provide guidance about how the public realm can be designed to work together with existing site qualities and future development to create healthy, connected, sustainable, and beautiful neighborhoods for diverse families to thrive.

The design of the public realm in Frog Pond East and South will achieve several key elements.

- **Places for gathering and civic life for a diverse community.** The public realm should support a broad range of social activities, including opportunities to gather formally and informally. Meeting places like neighborhood commercial areas, parks, schools, and even sidewalks can be designed to provide space for varied social and cultural activities.
- **Community design that celebrates and enhances neighborhood character.** Streets and trails should be laid out to emphasize views of natural features of the site like forested creek corridors, parks, or destination points. Unique and historical elements like

the Frog Pond Grange should be integrated thoughtfully into overall neighborhood design. For example, the Grange site could provide collocated gathering space, green space, and visibility and direct access to the trails and open space of the BPA corridor. Additionally, more detailed elements of the public realm like lighting, street trees, and signage should be cohesive with the existing fabric of Wilsonville, particularly the adjacent Frog Pond West area.

- **Integrated parks and green spaces.** Parks and green spaces are a vital part of creating healthy, active, and livable neighborhoods. Parks and smaller open spaces within neighborhoods should be centrally located and visible and accessible to all. In addition to a 10-acre community park and a 2.5 to 3-acre neighborhood park, each walkable sub-district should include its own “green focal point”, which could be a pocket park, tot lot, community garden, plaza, or other gathering place.
- **Preserved and restored natural resources.** Existing natural resources, including trees, wetlands, and creek corridors, should be preserved and restored within and around new development. Streets, parks, and public spaces provide opportunities to protect existing trees. Additionally, incorporating stormwater planters and green infrastructure can preserve watershed health by cleaning and slowing runoff.

ELEMENTS OF THE PUBLIC REALM



Places for **gathering and civic life** for a **diverse community**



Community design that **celebrates and enhances neighborhood character**



Integrated **parks and green spaces**



Preserved and restored **natural resources**



Convenient, safe, and low-stress transportation options



- **Convenient, safe, and low-stress transportation options.** A connected network of streets and trails should prioritize the safety and comfort of the most vulnerable road users. Streets should be designed to encourage and prioritize walking, biking, rolling, transit, and other low-carbon modes of travel. Street and block layout should make it easy for residents to access schools, parks, and neighborhood services without a car.

The draft exhibits on the following pages are a starting point to illustrate the intent for key elements of the public realm for Frog Pond East and South. These draft materials will be refined and further illustrations will be prepared as part of a final memo that provides guidance toward creating a cohesive public realm.

The final public realm recommendations will address the following categories:

- Tree Preservation Strategy
- Street and Trail Demonstration Plans and Cross Sections
- Park and Open Space Framework
- Public Street Design Elements (including recommendations for lighting, street trees, etc.)

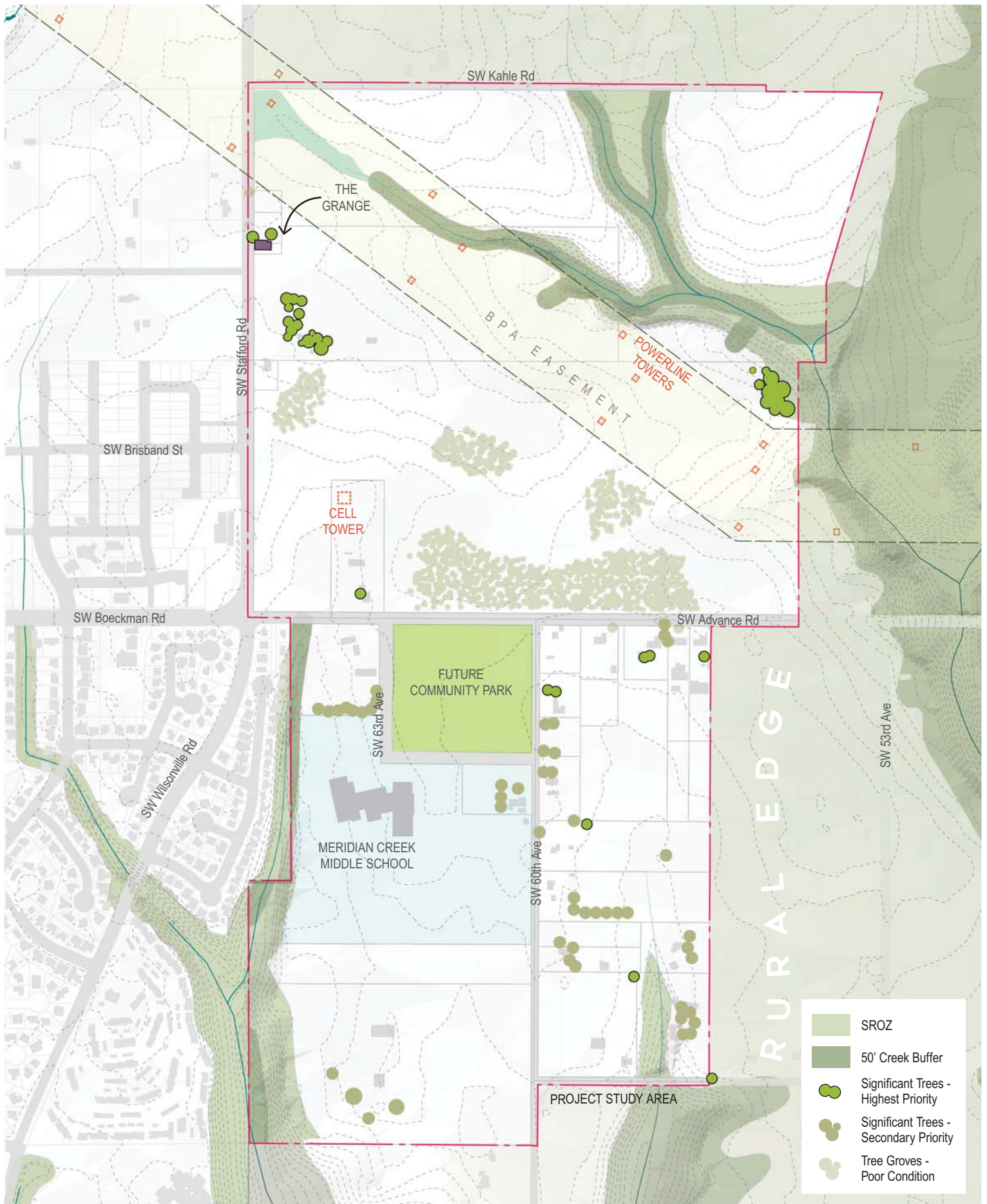
The following pages contain these draft exhibits:

- **Significant Tree Inventory Map (p. 3-5).** This map represents the latest inventory¹ of significant trees in the planning area to inform preservation strategies. Precedent images illustrate potential approaches to tree preservation.
- **Street Demonstration Plans (p. 6-9).** These two options illustrate potential layouts of streets, blocks, and multi-use paths that would achieve the intent of providing connected, convenient, safe, and low-stress transportation options. These plans also explore different approaches to frontage on SW Stafford Road: front doors facing the street or backs of homes facing the street. Each demonstration plan also shows different options for the number and location of pedestrian crossings on SW Advance Road. Options for crossings and intersection treatments are currently under study.
- **Bicycle Circulation Concepts (p.10-11).** These maps explore a potential hierarchy for bike circulation and how it could connect with multi-use paths in each street demonstration plan option. These studies are preliminary and subject to determining intersection types that will prioritize safe routes to schools.

- **Advance Road Cross-Section (p.12).** This draft cross section of SW Advance Road illustrates a concept of a walkable streetscape and the potential benefit of laying out blocks so that homes face the community park across the street. This concept is under study and will be refined, and similar cross-sections will be prepared to study other key streets in the area.
- **Park and Open Space Framework (p.13-14).** The map illustrates the intent to provide “green focal points” in central locations to each sub-district of the planning area, ensuring that each neighborhood has a small destination or gathering place that gives it character. These green focal points are flexible in location, but the map indicates general areas that are central to each sub-district. Examples of types and uses of smaller neighborhood destinations are provided to support the map.

1. Tree inventory completed on January 26, 2022 by Morgan Holen Associates, followed by additional inventory of trees by AKS and Morgan Holen Associates in April 2022.







TREE INVENTORY MAP - AERIAL
DRAFT 8.02.2022





1



2



3

1. An existing mature tree on SW Brisband Street in Frog Pond West was preserved within the design of a street corner.

2. A mature white oak tree was preserved within parking lot landscaping for Wilsonville High School.

3. Private development can preserve significant trees within central open spaces or green spaces.

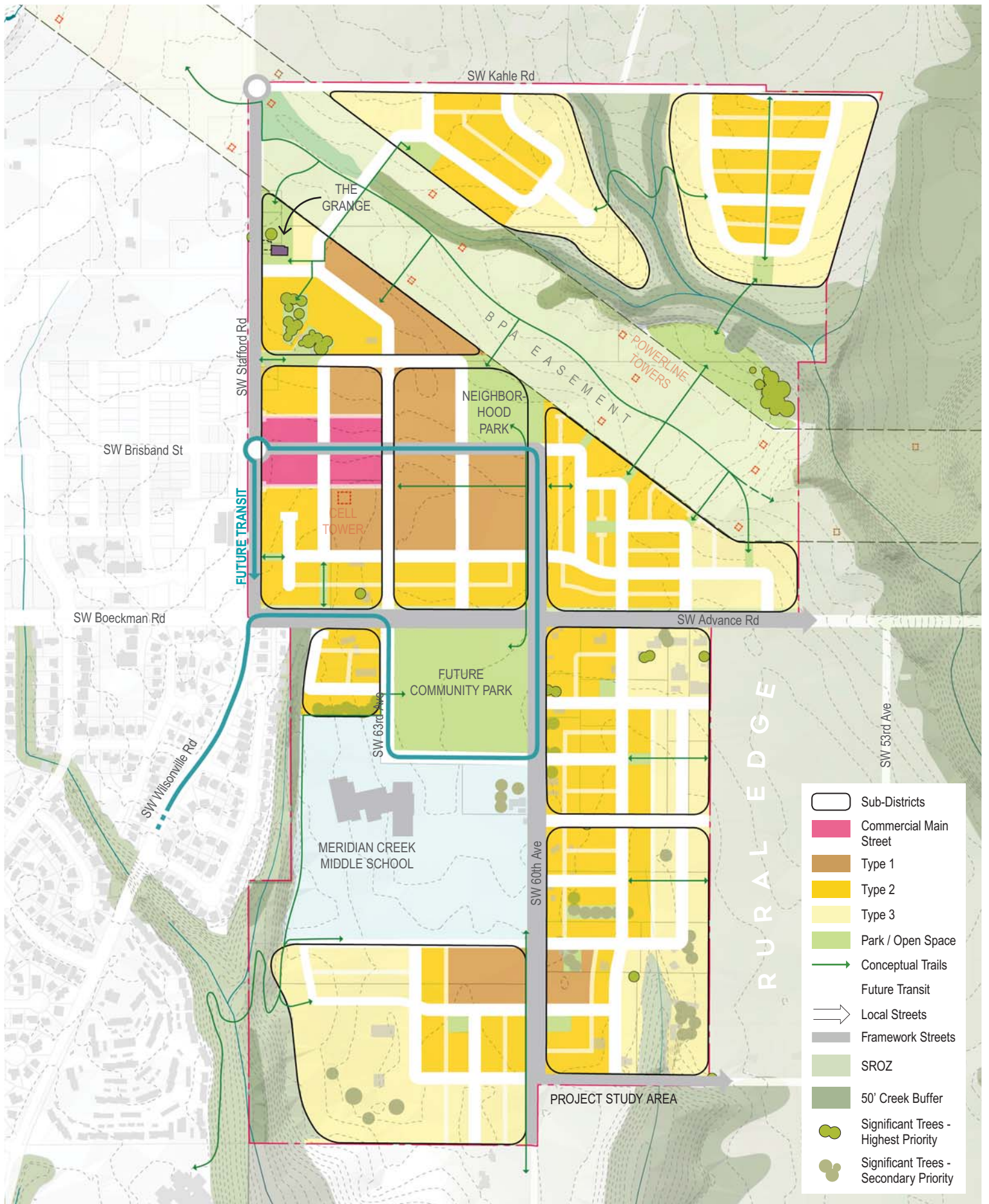
While tree preservation will ultimately be implemented during the design and construction of public and private development, the Master Plan identifies opportunities for preservation of significant trees in public open spaces, street rights-of-way, and within private development sites. Wilsonville’s existing natural resource preservation policy and tree protection code provide a supporting framework for tree preservation in this area.

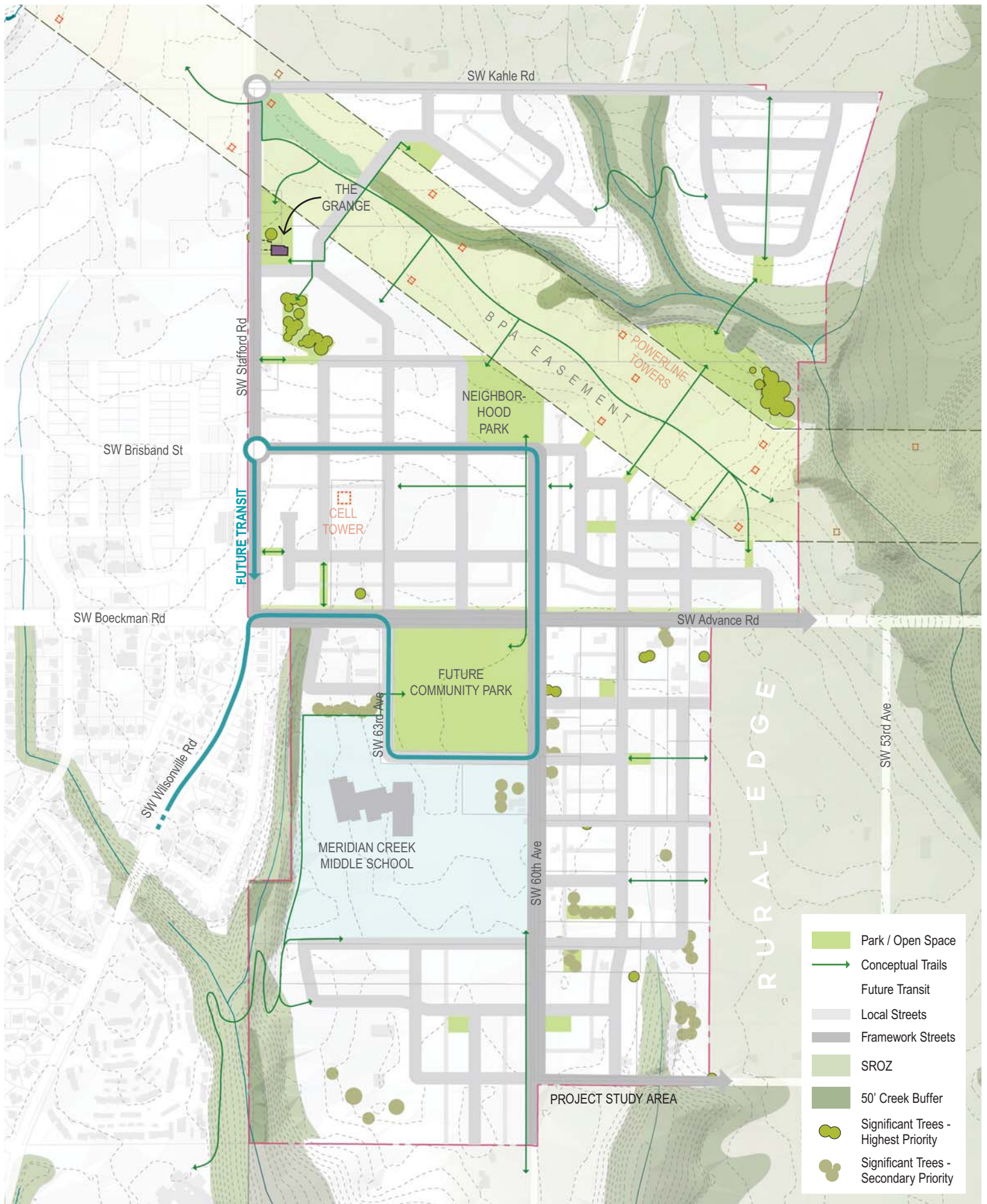
The Master Plan’s tree inventory map identifies trees that are highest priority to preserve, meaning that these should be preserved within infrastructure, development, or green space to the greatest extent possible. Preservation of these trees may be achieved through development standards. Trees noted as secondary priority should be preserved if

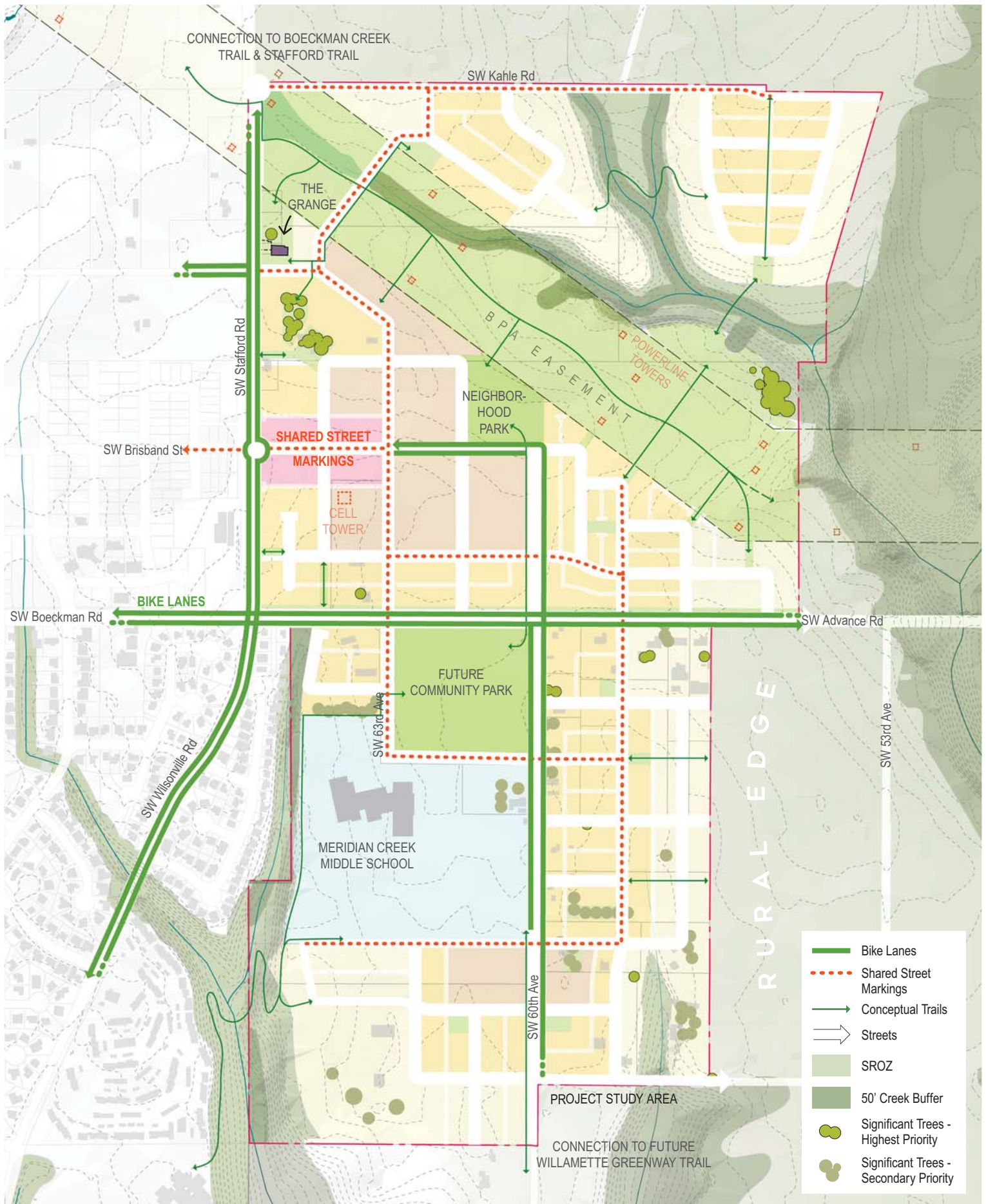
possible, especially if they are healthy and growing within an area that is a suitable location for green space or infrastructure that can accommodate preserved trees.

Public infrastructure and private development can preserve trees through thoughtful design and layout of streets and blocks, as seen on SW Willow Creek Drive and SW Brisband Street in Frog Pond West, or by locating green space strategically to preserve significant trees. Site design for individual buildings or homes can also incorporate tree preservation.

The tree inventory identified potentially significant trees and groves based on species, size, and general condition, and some trees may need closer examination to verify their significance.





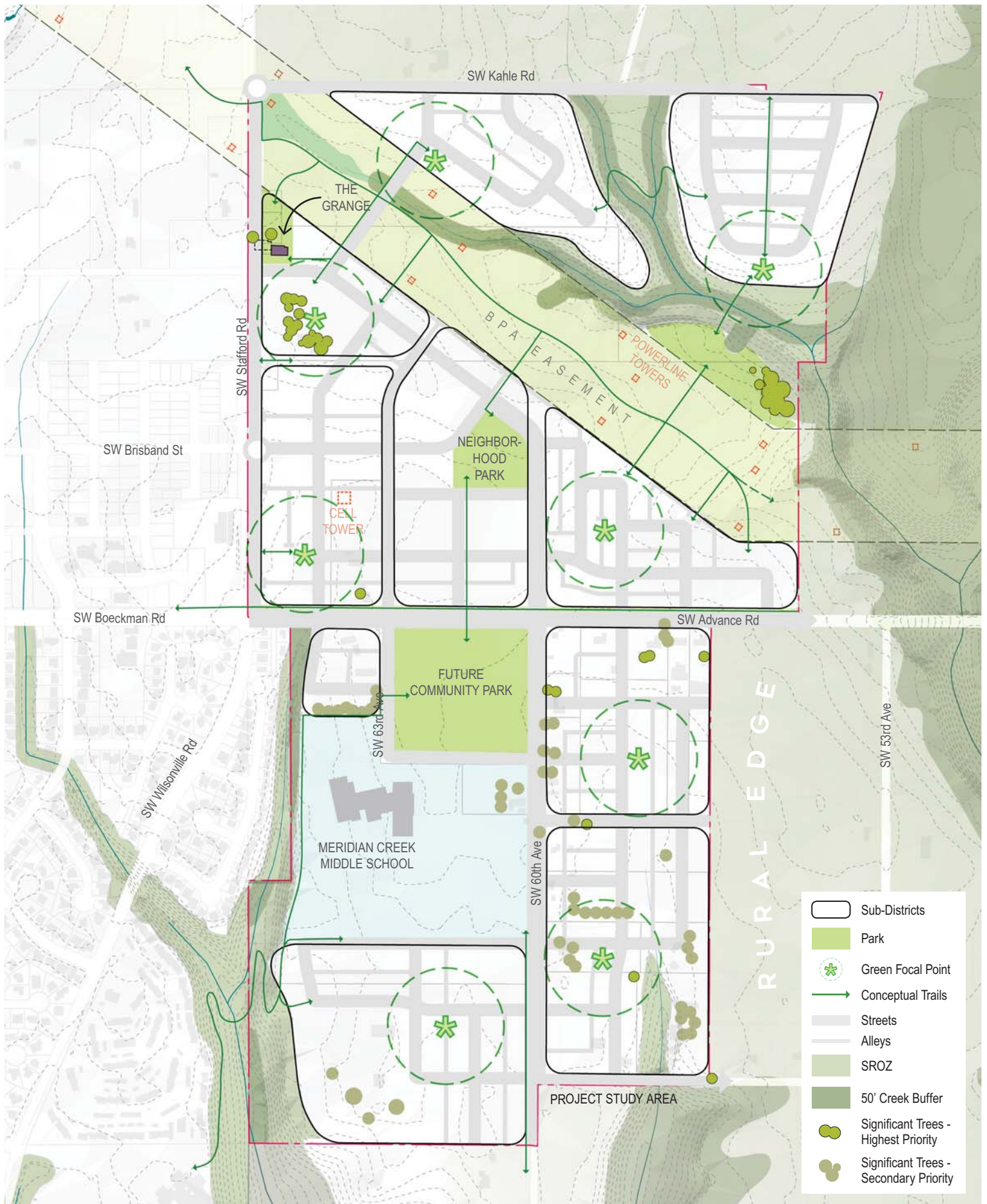




This cross-section shows a draft concept for SW Advance Road, a Collector road, where it passes the future community park. It includes generous sidewalks, buffered bike lanes, wide planter strips that ensure tree health, and a planted median to create a comfortable and inviting environment for pedestrians. Planted areas in the right-of-way also offer opportunities for capturing and infiltrating stormwater.

Future development on the north side of the street, across from the future community park, should be laid out so that front doors face the park. This, combined with homes fronting the park on its east and west sides, will create a sense of community and integration of the park within the neighborhood.

This concept for SW Advance Road would create a continuous streetscape with SW Boeckman Road where it continues west of SW Stafford Road. Existing high-voltage power poles on the north side of the street can be incorporated within a wide planter strip.





In addition to the planned Community Park in Frog Pond South and the Neighborhood Park in Frog Pond East, several “green focal points” are identified in central locations within each walkable sub-district of the planning area. These are flexible in location and size but are intended to serve as central neighborhood destinations or gathering places that contribute to neighborhood character and identity. In addition to being centrally located, these focal points should be fronted by homes and provide clear and inviting access for public use.

Many different kinds of uses and activities are envisioned for these green focal points. Examples include community garden plots, small playgrounds or splash pads, nature play areas, pocket parks or plazas, and central green courtyards within housing developments. These smaller open spaces can also provide opportunities to preserve mature and significant trees.

Frog Pond East and South Master Plan

Let's Talk, Wilsonville!

Public Space Design

Parks and Open Spaces

The first series of questions seek your input on parks and open spaces to guide the design of parks and open spaces in Frog Pond East and South.

What are your favorite **large amenities or areas** (i.e. sports fields, trails, shelters for large gatherings, natural areas, etc.) in Wilsonville's City parks? What do you like about these amenities or areas?

What are your favorite **small to medium amenities or areas** (i.e. benches, sitting areas, picnic covers, playgrounds, etc.) in Wilsonville's City parks? What do you like about these amenities or areas?

Is there an area or feature of in one or more of Wilsonville's City parks you avoid? If so, where? Please explain why.

What is the most important things that should be considered in designing a City park in Frog Pond East and South?

Frog Pond East and South Master Plan

Let's Talk, Wilsonville!

Please rank the following in order of important for inclusion in neighborhood parks and green spaces

(Rank each option)

- _____ Playground structure
- _____ Benches
- _____ Open grass areas
- _____ Trees and shade
- _____ Covered area for gatherings
- _____ Trails for walking/biking
- _____ Community Garden
- _____ Pet Exercise Area

What other amenities not includes in Question 5 are important to include in neighborhood parks and greenspaces?

Sidewalks and Pedestrian Street Crossings

The next few questions ask about sidewalks for pedestrian use along streets as well as pedestrian crossings of streets.

What makes a street crossing or sidewalk comfortable for you?

Not including parks, what is your favorite neighborhood or area to walk in Wilsonville? What do you enjoy about the neighborhood or area?

Frog Pond East and South Master Plan

Let's Talk, Wilsonville!

Is there a certain neighborhood or area you avoid walking in Wilsonville? If yes, please explain why.

What are the most important things that should be considered in designing new sidewalks and pedestrian street crossings in Frog Pond East and South?

Bicycle Amenities and Infrastructure

These next few questions relate to paths and streets designed for bicycling.

How often do you ride a bicycle in Wilsonville?

(Choose any 1 options)

- Never
- A few times a year or less
- At least once a month on average
- Multiple times a month
- Daily or multiple times a week

If you ride a bicycle in Wilsonville, where is your favorite place to ride? What do you enjoy about it?

What are the most important things that should be considered in designing bicycle lanes and paths in Frog Pond East and South?

Frog Pond East and South Master Plan

Let's Talk, Wilsonville!

How comfortable and safe do you feel riding a bicycle on the following paths or streets?

Questions	Very comfortable and safe	Somewhat comfortable and safe	Not sure	Somewhat uncomfortable and unsafe	Very uncomfortable and unsafe
Dedicated bike and pedestrian path that is not along a street					
Low traffic neighborhood street without bike lanes or markings					
Moderate traffic neighborhood street marked for shared bicycle/vehicle use					
Bike lane along major street road with no barrier or buffer					
Bike lane along major street or road with added painted buffer					
Bike lane along major street or road with physical separation such as with a landscape strip or curb					

Frog Pond East and South Master Plan

City Council

Work Session September 8, 2022



Agenda for Tonight's Work Session

- The Public Realm
 - Tree Preservation
 - Streets, Pedestrian and Bicycle Facilities
 - Parks and Open Spaces
- Housing Variety Policy
and First Time Home Ownership



PUBLIC REALM DESIGN



Places for **gathering and civic life** for a **diverse community**



Preserved and restored natural resources



Community design that **celebrates and enhances neighborhood character**



Convenient, safe, and low-stress transportation options



Integrated **parks and green spaces**

POTENTIALLY SIGNIFICANT TREES

- Based on recent Arborist report
- Some areas of high value trees
- Other areas of low value groves



POTENTIALLY SIGNIFICANT TREES

- Based on recent Arborist report
- Some areas of high value trees
- Other areas of low value groves



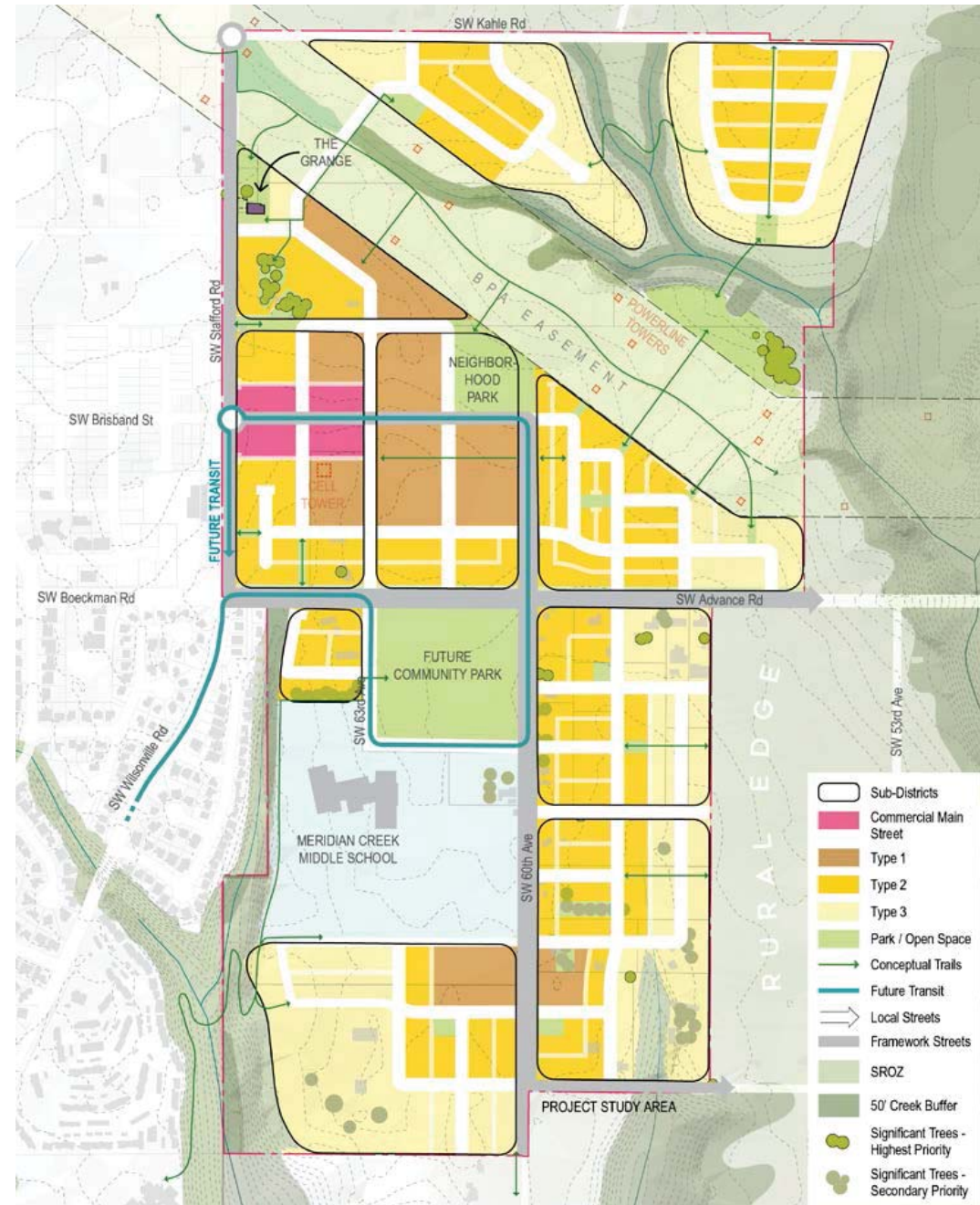
TREE PRESERVATION EXAMPLES



1. *An existing mature tree on SW Brisband Street in Frog Pond West was preserved within the design of a street corner.*
2. *A mature white oak tree was preserved within parking lot landscaping for Wilsonville High School.*
3. *Private development can preserve significant trees within central open spaces or green spaces.*

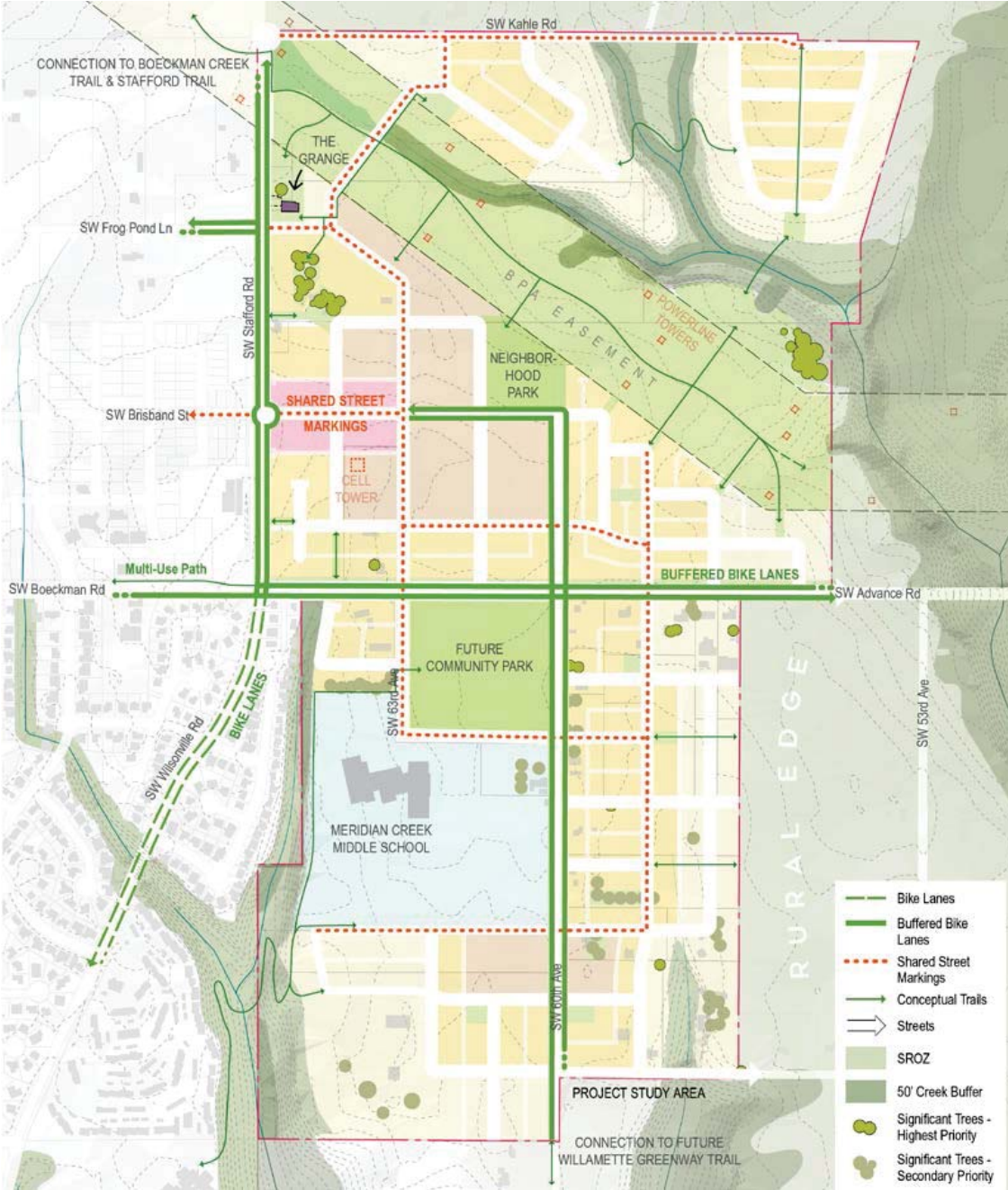
STREET & BLOCK DEMONSTRATION PLAN

- Preferred Brisband St. to 60th Ave. connection and neighborhood park location
- Frog Pond Ln. as local street
- Example of local street layout



BIKE AND PEDESTRIAN CIRCULATION

- Bike lanes
- Shared streets
- Trail connections



ADVANCE ROAD CROSS-SECTION

- Collector designation
- Bicycle/Pedestrian focus
- Front doors facing community park



PARK & OPEN SPACE FRAMEWORK

- Neighborhood Park & Community Park
- “Green Focal Points”



NEIGHBORHOOD "GREEN FOCAL POINTS"



Housing Variety Policy and First Time Home Ownership



Design Concepts (discussed in May)

- **Housing Variety Throughout**
- **Affordable Housing Integration**
- **Subdistricts**

Commission and Council Supported Approach to Housing Variety Policy

- **Component 1:** Require a minimum amount of certain target housing types.
- **Component 2:** Cap the amount of any single housing type that can be within a given area.



Target Housing Types for Affordable Ownership

Units that can serve market rate affordability (80%-120% of the Area Median Income)

- Townhouses
- Duplexes, Triplexes, Quadplexes
- Condos
- ADU's
- Cottages



City Council Meeting Action Minutes
September 8, 2022

City Council members present included:

Mayor Fitzgerald
Council President Akervall
Councilor Lehan - Excused
Councilor West - Excused
Councilor Linville

Cindy Luxhoj, Associate Planner
Kelsey Lewis, Grants & Programs Manager
Robert Wurpes, Chief of Police
Zachary Keirse, School Resource Officer
Mark Ottenad, Public/Government Affairs Director
Delora Kerber, Public Works Director
Chris Neamtzu, Community Development Director
Ryan Adams, Assistant City Attorney
Kimberly Rybold, Senior Planner
Zoe Mombert, Assistant to the City Manager
Dwight Brashear, Transit Director
Martin Montalvo, Public Works Ops. Manager

Staff present included:

Bryan Cosgrove, City Manager
Amanda Guile-Hinman, City Attorney
Kimberly Veliz, City Recorder
Jeanna Troha, Assistant City Manager
Dan Pauly, Planning Manager

AGENDA ITEM	ACTIONS
WORK SESSION	START: 5:05 p.m.
A. Frog Pond East and South Master Plan	Staff sought feedback on residential policies for Frog Pond East and South.
B. Transit Master Plan Update and Community Engagement Plan	Staff and consultants introduced the public engagement strategy for the Transit Master Plan (TMP) update.
C. City of Wilsonville Flag Policy	City Council reviewed a draft of the City Flag Policy and provide any feedback to staff.
REGULAR MEETING	
<u>Mayor's Business</u>	
A. Oregon Highway Plan (OHP) Tolling Policy Amendment	Council directed staff to include language requesting clear standards for public engagement in a comment letter to Oregon Transportation Commission on the proposed OHP Toll Amendment. Approved 3-0.
B. Upcoming Meetings	Upcoming meetings were announced by the Mayor as well as the regional meetings she attended on behalf of the City.
<u>Communications</u>	
A. School Resource Officer Vehicle Design	The Police Chief introduced the School Resource Officer (SRO). The SRO then shared details of work with Wilsonville High School students to create an SRO vehicle to make it

<p>B. Employer Support of the Guard and Reserve (ESGR) Military Reservist Appreciation Award</p> <p>C. ODOT Update on Oregon Highway Plan (OHP) Toll Amendment and Regional Mobility Pricing Project (RMPP)</p>	<p>more identifiable to the student community and demonstrate school pride.</p> <p>The City received recognition from Employer Support of the Guard and Reserve (ESGR), a division of the U. S. Department of Defense, for the City of Wilsonville’s support of employees who serve in the National Guard or Military Reserves.</p> <p>The Oregon Department of Transportation (ODOT) shared details of the Regional Mobility Pricing Project and the I-205 Toll Project.</p>
<p><u>Consent Agenda</u></p> <p>A. Resolution No. 2995 A Resolution Of The City Of Wilsonville Authorizing The City Manager To Execute An Amendment To The Professional Services Contract With Leland Consulting Group, Inc. For The Wilsonville Transit Center TOD Study.</p> <p>B. Minutes of the August 15, 2022 City Council Meeting.</p>	<p>The Consent Agenda was approved 3-0.</p>
<p><u>New Business</u></p> <p>A. None.</p>	
<p><u>Continuing Business</u></p> <p>A. None.</p>	
<p><u>Public Hearing</u></p> <p>A. Ordinance No. 866 An Ordinance Of The City Of Wilsonville Annexing Approximately 11.17 Acres Of Property Located South Of SW Frog Pond Lane At 7480 And 7500 SW Frog Pond Lane For Development Of A 19-Lot Residential Subdivision.</p> <p>B. Ordinance No. 867 An Ordinance Of The City Of Wilsonville Approving A Zone Map Amendment From The Clackamas County Rural Residential Farm Forest 5-Acre (RRFF-5) Zone To The Residential Neighborhood (RN) Zone On Approximately 10.94 Acres Located South Of SW Frog Pond Lane At 7480 And 7500 SW Frog Pond Lane For Development Of A 19-Lot Residential Subdivision.</p>	<p>After a public hearing was conducted, Ordinance No. 866 was approved on first reading by a vote of 3-0.</p> <p>After a public hearing was conducted, Ordinance No. 867 was approved on first reading by a vote of 3-0.</p>

<u>City Manager's Business</u>	Reminded Council that a replacement for the Tourism Promotion Committee would be needed, as Councilor Lehan would soon be terming out of office.
<u>Legal Business</u>	The City Attorney announced she would be attending the next City Council meeting remotely as she would be out of office attending the ICMA conference.
ADJOURN	8:44 p.m.



PLANNING COMMISSION

WEDNESDAY, AUGUST 10, 2022

WORK SESSION

3. Frog Pond East and South Master Plan (Pauly) (45 minutes)



**PLANNING COMMISSION WORK SESSION
STAFF REPORT**

Meeting Date: August 10, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable Comments: N/A	
Staff Recommendation: Provide requested input regarding Frog Pond East and South.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE PLANNING COMMISSION:

Provide feedback and input on residential policies for Frog Pond East and South. Specifically, provide additional guidance on housing variety policy and input on the design of parks and open spaces, pedestrian facilities, and bicycle facilities.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a Master Plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the urban reserve land known as Frog Pond East and South. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process will also identify water, sewer, stormwater, and transportation infrastructure needs and funding sources.

This will be the Planning Commission's seventh work session on the Frog Pond East and South Master Plan. The previous work sessions and their content were as follows:

Work Session 1-October 2021: Focus on overall project scope and the outreach plan.

Work Session 2-December 2021: Initial feedback on the needs and opportunities for affordable housing and housing variety.

Work Session 3-February 2022: Continuation of the topic of housing needs for more detailed feedback and direction, introduction of the neighborhood commercial evaluation.

Work Session 4-April 2022: Further discussion of the neighborhood commercial center and discussion of the design concepts for development of land use and urban design alternatives.

Work Session 5-June 2022: Review and direction on draft land use alternatives, including mapping the locations of different housing design types and forms (grouped into Type 1, Type 2, and Type 3).

Work Session 6-July 2022: Review of draft preferred land use alternative and direction on land use policies around housing variety. Following this last Planning Commission work session, City Council also held a work session on the preferred land use alternative and policies around housing variety. During their work session, Council expressed support for the housing variety policy approach recommended by the project team and the Planning Commission. That approach has two components:

- Component 1: Require a minimum amount of certain target housing types.
- Component 2: Cap the amount of any single housing type that can be within a given area.

This *Work Session 7* will build on the land use policy discussion from the last work session. The project team seeks direction on the criteria for evaluating different policy approaches. The criteria and performance objectives will help the team recommend one or more housing variety policy options, with specific target and cap rate requirements for housing types, for the Commission's consideration at a future meeting. *Work Session 7* will also introduce the public realm component of the master plan (parks, streets, greenspaces) and seek Commission feedback.

Housing Variety Policy

As described in the previous work session, the *preferred land use alternative* provides housing variety (at a large or "zoomed-out" scale) across the master plan area. The *housing variety policy* provides a more granular (or "zoomed-in") scale of housing variety across blocks and within district subareas of the larger master plan area.

To refine the two components of the preferred housing variety policy approach, a few key questions need to be answered:

1. What should be the target housing types for policy component 1?
2. How much of the target housing types to require?
3. What should the cap be for development for a single unit type for policy component 2,?

To reach answers to these questions, this work session seeks to confirm the criteria the project team should use to evaluate different policy options. Based on direction from the Commission and Council, the project team will perform additional analysis and bring forward specific numerical options for the housing variety policy, and how they perform relative to the identified criteria, for consideration by the Commission in an upcoming work session.

In February, the Planning Commission discussed design concepts to guide decisions around land use, many of which focused on housing. These design concepts helped guide both the land use alternative as well as the general policy direction on housing variety supported by Planning Commission. The project team recommends these also guide the discussion on refining the housing variety policy. The design concepts most relevant to the questions above are:

- **Housing Variety Throughout:** This concept focuses on mixing and integrating different housing types throughout each subdistrict and block rather than having separate areas for separate housing types.
- **Affordable Housing Integration:** Integrate affordable housing "targets", both subsidized housing as well as market-rate housing that is more economically attainable, described in the Affordable Housing Analysis.
- **The Use of Subdistricts:** This concept focuses on subdistricts as geographies in which to form neighborhoods within neighborhoods. Each subdistrict will have a green focal point and a variety of housing. The housing variety requirements are most likely to be applied at a subdistrict level.

The requirement for certain target housing types (policy component 1), is focused on this design concept for affordable housing integration. The project team recommends criteria relevant to and requiring unit types identified in the Affordable Housing Analysis (Attachment

1). These housing types can help meet market-rate needs for households with incomes of 80%-120% Median Family Income (MFI), particularly first time homebuyers. 80%-120% MFI is the affordable price point the Affordable Housing Analysis found can be supported by market rate development. To also be consistent with the Affordable Housing Analysis, the team recommends the Commission consider a housing variety policy that would align the required amount of target unit types with the target mix described in the Affordable Housing Analysis to best support the 80%-120% MFI market segment. The project team would like Planning Commission's feedback on these potential criteria options as well as any additional criteria that will help determine the target unit types to require and the amount to require. Criteria could include other community needs beyond affordability, such as accessible single-floor living.

The maximum uniformity of any single unit type (policy component 2), is key to achieving the first design concept of providing housing variety throughout the master plan area. By encouraging variety, more economically attainable market-rate unit types are also expected to also be produced, supporting the design concept of affordable housing integration. The project team requests the Commission recommend a maximum single unit type percentage that is low enough to prevent development of a dominant housing unit type anywhere in the master plan area, or criteria that would help determine that percentage, while also considering market dynamics and housing need. The project team also recommends the Commission consider a percentage cap that limits development of housing types typically only affordable to households with incomes above 120% MFI consistent with the target (limit of approximately 40%) in the Affordable Housing Analysis. The project team is interested in additional criteria the Planning Commission would suggest to determine final recommendations for a percentage cap of any single housing type.

Public Realm Design

The second part of the work session is to discuss and get the Planning Commission's feedback on design of elements of the public realm (parks, streets, greenspaces, etc.). Attachment 2 includes a variety of draft public realm documents for the Planning Commission's review listed below. These reflect two different options for the area along the BPA easement in Frog Pond East.

- Significant Tree Inventory Map
- Street Demonstration Plan (two options)
- Bicycle Circulation Concept
- Advance Road Cross-Section Concept
- Park and Open Space Framework

The project team recommends the Planning Commission carefully review Attachment 2 and offer feedback. The Planning Commission is also invited to share their responses to questions outlined in the Public Spaces survey (Attachment 3). The survey is currently live and will be available on Let's Talk Wilsonville! through the end of August. In addition, to the standards

online presence the survey will be available to stake at upcoming outreach events, Popsicles in the Park on August 9th and Block Party on August 25th.

Discussion Questions:

1. How should the City determine target housing variety requirements? What are the Commissions' thoughts on meeting market-rate needs for households making 80%-120% MFI as one of the criteria for determining variety requirements? What other criteria would the Commission suggest?
2. What comments does the Commission have about the public realm components (Attachment 2) in general?
3. What comments do the Commission have about Options 1 and 2 of the plans focused on the area in East adjacent to the BPA Easement?

EXPECTED RESULTS:

Feedback and direction from the Planning Commission on: developing key residential policies for housing variety in Frog Pond East and South, and public realm planning.

TIMELINE:

This is the seventh in a series of work sessions for the Planning Commission. The next work session is planned for August. The Master Plan is scheduled to be completed by December 2022, with some implementation elements extending into early 2023.

CURRENT YEAR BUDGET IMPACTS:

The project is funded by a combination of a \$350,000 Metro grant, an \$81,000 Oregon DLCD grant, and matching City funds in the form of staff time. \$311,000 is budgeted in FY 22/23 to complete the project.

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which lays out a robust public engagement program that will include meaningful and impactful involvement of people who identify with historically marginalized communities.

POTENTIAL IMPACTS OR BENEFIT TO THE COMMUNITY:

Furthering of the City's Equitable Housing Strategic Plan and Council's goal of affordable home ownership, while creating Wilsonville next great neighborhoods.

ALTERNATIVES:

The Planning Commission and City Council can continue to direct changes to the draft plan elements. In addition, the Planning Commission and City Council continues to have a number of options for policy related to housing variety.

ATTACHMENTS:

1. Affordable Housing Analysis (dated January 31, 2022)
2. Public Realm Planning packet (dated July 27, 2022)
3. Public Spaces survey (dated July 29, 2022)

DATE: January 31, 2022
TO: Dan Pauly, Kim Rybold, City of Wilsonville
FROM: Becky Hewitt, Kaitlin La Bonte, and Ariel Kane, ECONorthwest
SUBJECT: Frog Pond East and South Affordable Housing Analysis

Section 1. Introduction

Purpose

The Frog Pond East and South areas are important for the City of Wilsonville’s efforts to meet future housing needs and provide equitable housing options for residents. The City’s 2020 Equitable Housing Strategic Plan (EHSP) recognized this, and called for the Frog Pond East and South Master Plan to establish targets for affordability, specifically:

“As part of the master planning requirements for Frog Pond East and South, the City will establish goals or targets for accessibility to services/amenities, unit types, and unit affordability levels. The targets for affordability levels (number of units and depth of affordability for those units) should be reasonably achievable, allowing for sufficient market-rate development to support key infrastructure investments. This approach will provide a methodology and framework that can be applied in other growth areas beyond Frog Pond.”

This memorandum is intended to implement that direction from the EHSP and identify affordable housing targets and strategies to ensure these targets are met.

Key Term: Affordable Housing

This memo addresses “affordable housing”. As used here, we are referring broadly to both market-rate housing that is economically attainable for moderate-income households as well as housing that is subsidized or otherwise supported for lower-income households. Where the memo refers to a specific sub-set of affordable housing it is indicated.

Background and Policy Direction

The EHSP also directs the Frog Pond East and South master planning effort to:

- Integrate affordable housing into the overall master plan, with access to amenities
- Identify specific properties that could help meet affordable housing targets
- Evaluate relationships to the infrastructure funding plan
- Engage affordable housing developers and other stakeholders to refine strategies

These efforts will be part of the planning process for Frog Pond East and South.

Other past policy guidance related to housing targets and mixes for this area are summarized below.

- Metro’s Conditions of Approval for Wilsonville’s 2018 Urban Growth Boundary expansion required the City to:
 - **Plan for at least 1,325 homes in the expansion area.**
 - **Allow townhomes, duplexes, triplexes, and fourplexes** (now referred to as “middle housing”) in all zones that permit single-family housing within the expansion area. (The requirement related to allowing middle housing in zones that allow single-family housing is now also required by the state under House Bill 2001 and the implementing administrative rules.)
- The 2015 Frog Pond Area Plan established direction for housing mix, lot size, and where different housing types would be allowed within the expansion area. The unit distribution options from the Area Plan are shown in Exhibit 11 and Exhibit 12 on page 17. At a high level, the Area Plan sets direction that the East neighborhood should provide for single-family detached housing on small to large lots, as well as townhomes, cottage lots, and duplexes, while the South neighborhood should provide only small- to large-lot detached housing. It also states that neighborhood-scale mixed use with residential above retail in the commercial center could be considered during the Master Plan process. Other types of housing, including apartments, were not identified as part of the final plan for the Frog Pond area. Note, however, that the Area Plan’s direction pre-dates and is no longer consistent with the Metro conditions of approval summarized above or with the requirements of House Bill 2001.

As of the end of 2021, the City of Wilsonville had 11,587 dwelling units with approximately 730 more planned to be built in the near future between Villebois and Frog Pond West. Frog Pond East and South will represent an approximately 10% plus increase in the number of dwellings in Wilsonville. The City also has roughly 450 government-subsidized housing units as of 2018.¹

Section 2. The Housing Spectrum: Meeting a Range of Housing Needs with New Housing

Delivering new housing affordable to a range of incomes requires a range of different approaches, as summarized in Exhibit 1.

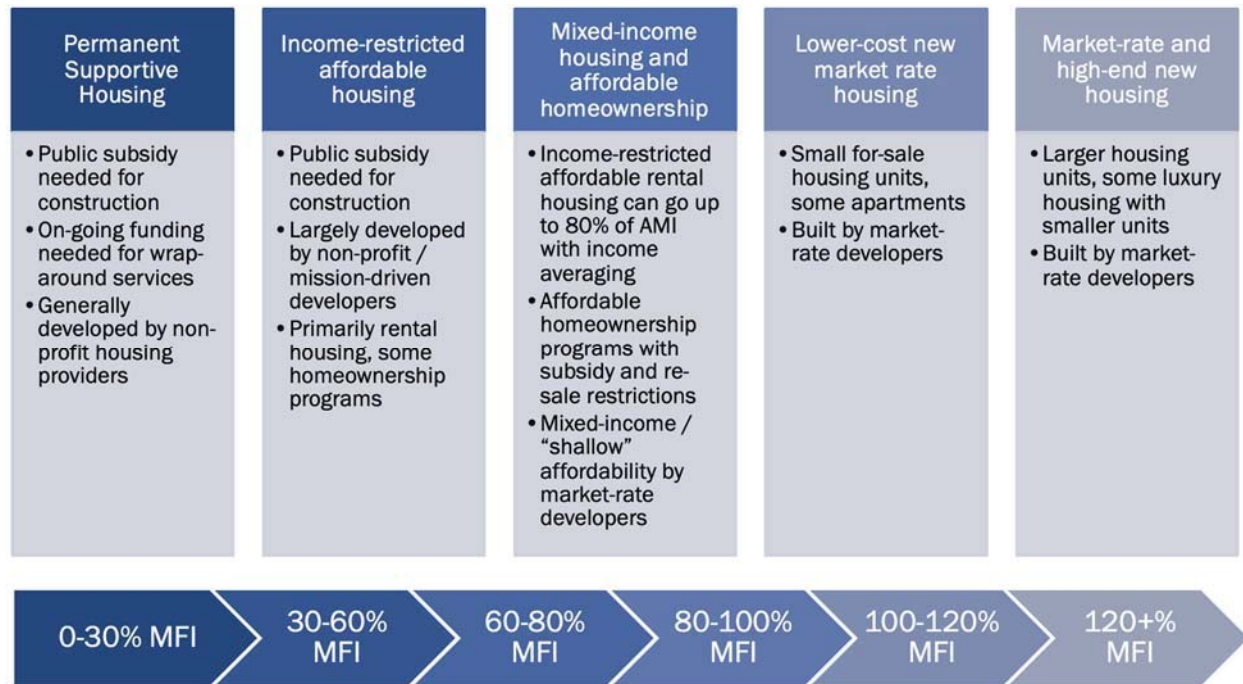
Key Term: Median Family Income

In setting affordability targets and requirements, it is common to express them in terms of a percentage of the Median Family Income (MFI), since this is how eligibility is established for income-restricted affordable housing. MFI is typically set at a regional level. In Wilsonville, the MFI is based on the three-county Portland region. In other words, the MFI for Wilsonville and Clackamas County is the same as that for the region overall. The MFI for a family of four in the Portland region as of 2021 is \$96,700. The U.S. Department of Housing and Urban Development (HUD) considers housing affordable to a given income level if housing costs (including utilities) account for no more than 30% of a household’s income.

¹ Clackamas County Regional Housing Needs Analysis, ECONorthwest, 2018, page 199.

Exhibit 1: Approaches to Delivering New Housing by Income Range

Source: ECONorthwest



Housing for 60% of MFI and below

Meeting the housing needs of households earning less than 60% of MFI nearly always requires public subsidy. Development of income-restricted affordable housing typically relies on funding from the State, region, or County, in addition to any support from the City and other partners.

- Affordable Rental Housing:** Even within publicly supported housing, most housing for this income range is rental housing. The Low Income Housing Tax Credit (LIHTC) program—the largest funding program in the US for affordable rental housing—largely serves households in the 30-60% of MFI range. While there are some for-profit developers who build income-restricted affordable housing, most is built by non-profits or Public Housing Authorities. Affordable rental housing development in suburban parts of the Portland region typically takes the form of three- to four-story apartments with surface parking.
- Affordable homeownership:** There are some homeownership support programs (e.g., Habitat for Humanity, some Community Land Trusts, and down-payment assistance programs) that serve households earning as little as 35% of MFI (\$30,000-\$35,000). These programs tend to receive much less state and federal funding in aggregate than affordable rental housing.

To serve households earning less than 30% of MFI often requires additional subsidy beyond that needed to build housing for 60% of MFI due to the lower rents that are required. It also

sometimes requires support to provide wrap-around services that help residents remain in their housing. Sometimes tiny homes or cottage clusters are used for housing at this income level, but apartments are more common.

Housing for 60% to 80% of MFI

Housing for households earning between 60% and 80% of MFI often comes in the form of older housing that has depreciated and become more affordable over time; however, delivering new housing in this affordability range can be challenging due to limited sources of public subsidy and the cost of building new market-rate housing. Options include:

- **Mixed-income and “shallow” affordability by market-rate developers:** Incentive programs and inclusionary zoning requirements can sometimes deliver units affordable to households earning less than 80% of MFI as part of a market-rate development if calibrated to align with market conditions. The affordability tends to be “shallow” in the sense that the private market generally cannot absorb rents or sales prices that are far below market rate without substantial incentives or subsidies. The most common form for mixed-income development by private developers is market-rate apartments that include some income-restricted affordable units.² However, affordability incentives for middle housing (primarily rental) may be able reach this income range in some circumstances.
- **Affordable homeownership:** Some affordable homeownership development targets this income range (e.g., Habitat for Humanity), using a mix of funding sources to subsidize costs. In the Portland region, this typically takes the form of either small detached housing or townhome-style attached housing.
- **Affordable rental housing with income averaging:** Low Income Housing Tax Credits, the largest funding program for affordable rental housing, allows developments to use income averaging to provide housing for households earning up to 80% of MFI as long as the average for the development overall remains at or below 60% of MFI. As noted above, this would typically be in the form of apartments.

Housing for 80% of MFI and above

Households earning between 80% and 120% of MFI can often afford at least some of the existing market-rate housing stock in the community, such as apartments, older homes, or townhouses, though in very tight housing markets their options may be limited. For new construction, some smaller and lower-cost market-rate housing can be affordable in the 80-120% of MFI range, but most larger housing units and high-end small housing units tend to be affordable only to those earning at least 120% of MFI. (The expected pricing for market-rate housing in the Frog Pond East and South areas is described further in Section 4.) There are some local incentives and

² Inclusionary Zoning can only be applied to multifamily housing (buildings with 20 or more units) under current Oregon law.

affordability programs that can support housing affordable at 80% to 100-120% of MFI, though state and federal funding is limited.

Section 3. Opportunities and Constraints for Affordable Housing

There are several considerations and challenges for building affordable housing in the Frog Pond East and South area, including:

- **Infrastructure costs:** While vacant land at the urban fringe tends to cost less than land in already developed areas, this is largely because the cost of building the infrastructure needed to serve urban development is factored into land value and land sales prices. This project will: identify the infrastructure needed to support the East and South Neighborhoods; prepare a funding plan for that infrastructure; and consider the relationship between the need to fund infrastructure and the ability to deliver affordable housing.
- **Site control / property ownerships:** Acquiring property in a competitive market can be a substantial challenge for affordable housing developers. The City does not currently own any land within the Frog Pond East and South areas. The only City-owned land is land designated for a future park. The ability to secure land could be one of the biggest challenges for delivering affordable housing in the area.
- **Past policy guidance on housing types:** The final Frog Pond Area Plan did not include apartments as part of the housing mix for Frog Pond East and South. This limits the potential housing options in several ways:
 - As noted above, most affordable rental housing, which is the primary housing that serves households earning less than 60% of MFI, is built as apartments. The Area Plan notes potential for housing above commercial space, but while some affordable housing includes community spaces on the ground floor, there are financing challenges associated with building affordable housing as true mixed-use development with ground-floor commercial space. If apartments are not allowed in the area, this will significantly constrain the options and sources of funding for building affordable housing and limit the number of income-restricted affordable units that can realistically be developed in the area.
 - Market-rate multifamily housing (apartments or condominiums) can also provide housing affordable to households earning roughly 80% to 100% of MFI. Building apartments or condominiums as part of a mixed-use building increases costs and can make development infeasible or require higher rents or sales prices to justify the additional expense.
- **Challenges for affordable and low-cost homeownership options:** Income-restricted affordable homeownership models can work within a small detached or townhouse-style development, but there is limited state and federal funding for affordable homeownership programs, which means a relatively small number of subsidized

affordable homeownership units could realistically be built in the area. Other methods of providing lower-cost homeownership options without a subsidy, such as condominiums and co-op housing, face legal and financing challenges that make them difficult for many private developers to build. Addressing these legal and financing issues would require action at the state level and is beyond the City's control. However, there are developers working in the region who are willing to build condominiums despite the challenges, some of whom may pursue development within Frog Pond East and South.

The opportunity for Frog Pond East and South is that the City is in a position to address many of these challenges in ways that can influence the outcome. At a minimum, in the short term, the City can set land use regulations that allow for a broader range of housing types so that there are more options for market-rate and subsidized affordable housing development now and into the future. The City can establish requirements associated with annexation, which could allow for more specific agreements between the City and property owners seeking to annex. The City can also establish an infrastructure funding plan that limits the infrastructure cost burden on any income-restricted affordable housing built in the area. If financial resources allow, the City can negotiate with property owners to acquire suitable land for affordable housing that can then be transferred at little or no cost to affordable housing developers, or provide funding to support affordable homeownership development by a local Community Land Trust or a provider like Habitat for Humanity. These and other strategies to help deliver affordable housing in this area are addressed further beginning on page 21.

Section 4. Expected Pricing of Market-Rate Housing

For-Sale Housing: Market Sale Prices for Single-Family Homes, Townhouses, and Condominiums

Data from recent home transactions³ for relatively newer housing⁴ in Wilsonville and surrounding areas provides an indicator of likely pricing for new housing in Frog Pond East and South. The estimated range of home prices by housing type and unit size is shown in Exhibit 2. The estimated income needed to afford these purchase prices, given standard lending assumptions,⁵ is shown as a percentage of the MFI for a four-person household⁶ in Exhibit 3. The relevant data is summarized in table form in Exhibit 4.

³ Sales transaction data is from Redfin for sales between October 2020 and October 2021.

⁴ Data includes detached homes and townhouses built since 2010 as well as condominiums built since 2006 (to provide a larger sample size since there are few recently-built condominiums).

⁵ Assumes 20% down payment, a 30-year fixed-rate mortgage at 3.5% interest, with estimates for property taxes and homeowners' insurance. Estimated homeowners' association fees are factored into total monthly housing costs based on averages for similar housing from recent sales transactions.

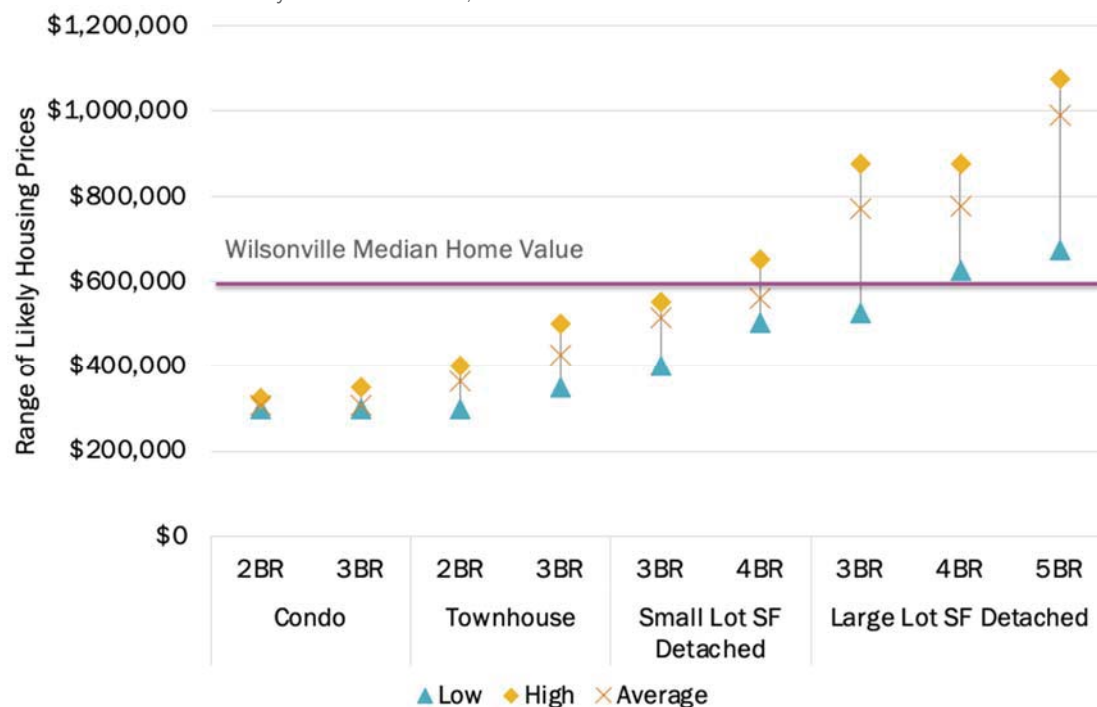
⁶ In setting maximum allowed rents by unit size / bedroom count, HUD uses an assumed household size and multiplier relative to the MFI for a family of four. However, to allow for comparison to the income distributions, which are not adjusted for household size, we use the MFI for a four-person family throughout.

Given the recent escalation in home prices, new construction coming to market is likely to sell closer to the top end of the range seen among recent transactions for newer housing. Housing prices will likely continue to escalate over the coming years (though not to the extent seen in the past year), increasing the expected home values over time. However, the comparison between prices of new homes and the median price of existing homes or between new homes and regional average incomes are more likely to remain roughly consistent going forward. Based on these trends, we estimate the following ranges for affordability of new for-sale housing in Frog Pond East and South:

- New large-lot detached housing in Wilsonville will likely be affordable only to households earning more than 120% of MFI, and more expensive than most existing homes.⁷
- New small lot detached homes (on less than 4,500 SF lots) may sell for close to the median value of existing homes and are likely to be affordable mostly to households earning between 100% and 130% of MFI.
- New condominiums and townhouses will almost certainly sell for less than the median value of existing homes in Wilsonville and are likely to be affordable to households earning between roughly 70% and 100% of MFI depending on unit size.

Exhibit 2. Typical Sales Prices for Recently Built Housing by Housing Type, Wilsonville and Surrounding Area

Source: ECONorthwest Analysis of Redfin Data, October 2021



⁷ The median value of existing homes in Wilsonville is around \$600,000, affordable to homeowners at 122% of the area MFI for a family of four, or an annual income of \$118,220.

Exhibit 3. Housing Affordability as a Percent of Median Family Income* by Housing Type for Recently Built Housing, Wilsonville and Surrounding Area

Source: ECONorthwest Analysis of Redfin Data, October 2021

* Median family income from HUD for Clackamas County for a four-person household

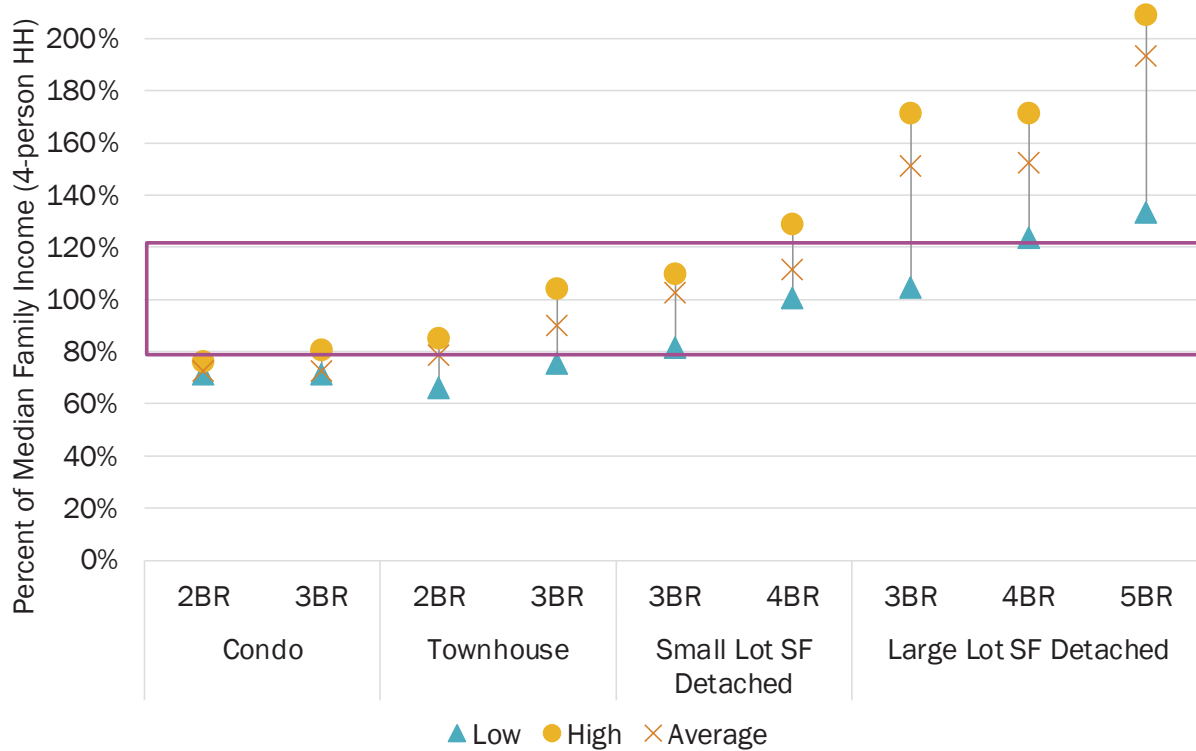


Exhibit 4: Sales Price, Income Required, and Income as a Percent of MFI for Newer Housing in and near Wilsonville, by Housing Type, 2021
 Source: ECONorthwest Analysis of Redfin Data, October 2021

	Condo		Townhouse		Small Lot SF Detached		Large Lot SF Detached		
	2BR	3BR	2BR	3BR	3BR	4BR	3BR	4BR	5BR
Low Sales Price									
Sales Price	\$300,000	\$300,000	\$300,000	\$350,000	\$402,500	\$502,500	\$525,000	\$625,000	\$675,000
Annual income needed to afford mortgage	\$69,110	\$69,110	\$64,110	\$73,290	\$78,940	\$97,310	\$101,440	\$119,810	\$128,990
Annual income needed as a percent of MFI*	71%	71%	66%	76%	82%	101%	105%	124%	133%
High Sales Price									
Sales Price	\$325,000	\$350,000	\$400,000	\$500,000	\$552,500	\$652,500	\$875,000	\$875,000	\$1,075,000
Annual income needed to afford mortgage	\$73,700	\$78,290	\$82,480	\$100,850	\$106,490	\$124,860	\$165,730	\$165,730	\$202,470
Annual income needed as a percent of MFI*	76%	81%	85%	104%	110%	129%	171%	171%	209%
Average Sales Price									
Sales Price	\$307,700	\$307,400	\$365,300	\$426,700	\$513,800	\$560,000	\$769,900	\$775,800	\$990,600
Annual income needed to afford mortgage	\$70,520	\$70,470	\$76,110	\$87,390	\$99,380	\$107,870	\$146,420	\$147,510	\$186,970
Annual income needed as a percent of MFI*	73%	73%	79%	90%	103%	112%	151%	153%	193%

*As compared to 100% MFI for a four-person household in Clackamas County. Orange indicates less affordability; blue indicates greater affordability.

Rental Housing: Market-Rate Apartments

Looking at the range of rents and unit sizes for apartments built in Wilsonville since 2010, there is a wide range of unit sizes and rents, as shown in Exhibit 5.

Exhibit 5: Wilsonville Apartment Unit Sizes, Mix, and Rents, Developments Built Since 2010

Source: ECONorthwest analysis of CoStar data, November 2021

Unit Type	Most rent for	Average rent is	Most units are	% of Units
Studios	\$1,123	\$1,123	544 SF	4%
1 bedroom	\$1,277-\$1,667	\$1,599	1,275 - 1,630 SF	28%
2 bedrooms	\$1,651-\$1,902	\$1,778	1,020 - 1,110 SF	57%
3 bedrooms	\$2,154-\$2,263	\$2,203	2,150- 2,265 SF	5%
4 bedrooms	\$2,664-\$3,284	\$2,871	2,664 - 3,284 SF	5%

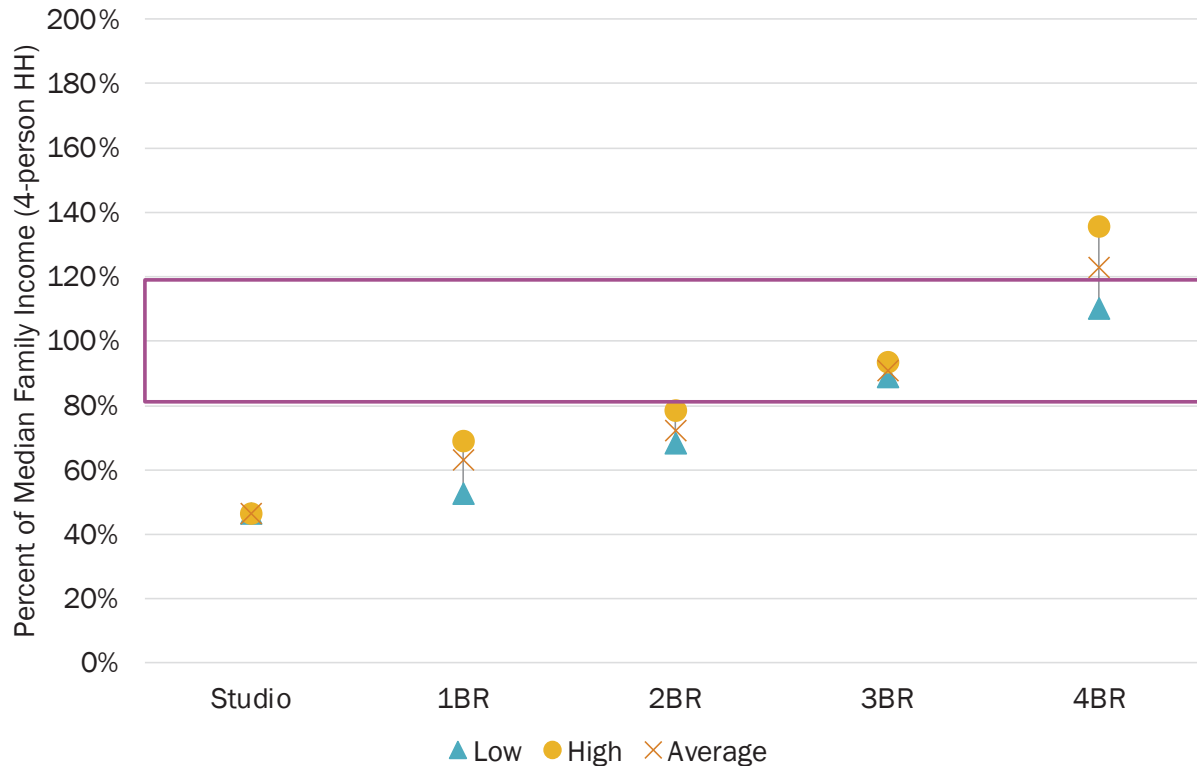
Converting these rents to the percent of MFI needed to afford them⁸ shows that even at the top end, apartment units in newer buildings are generally affordable at or below 80% of MFI for a four-person household, and often around 80% of MFI, as shown in Exhibit 6. Very small studio units may be even more affordable, while very large four-bedroom units may be less affordable, but the bulk of units in newer apartments in Wilsonville would be considered affordable for households earning between 65% and 90% of MFI. New apartments would typically be expected to rent for near the upper end of this range (roughly 80% to 90% of MFI), assuming they have good access to amenities.

⁸ In setting maximum allowed rents by unit size / bedroom count, HUD uses an assumed household size and multiplier relative to the MFI for a family of four. However, to allow for comparison to the income distributions, which are not adjusted for household size, we use the MFI for a four-person family throughout even though it is not realistic to expect a four-person family to occupy a studio apartment.

Exhibit 6: Wilsonville Apartment Rent Affordability as a Percent of Median Family Income* by Unit Size, Developments Built Since 2010

Source: ECONorthwest Analysis of CoStar Data, November 2021

* Median family income from HUD for Clackamas County for a four-person household



Section 5. Affordable Housing Targets

The City does not control housing pricing and affordability directly, but there are many factors that the City does control that affect how much housing is likely to be produced within different affordability levels. Setting reasonably achievable affordable housing targets for the Frog Pond East and South neighborhoods is intended to guide the City's strategies and policies for this area so that the resulting neighborhoods offer housing options for households at a range of income levels.

Reference Points

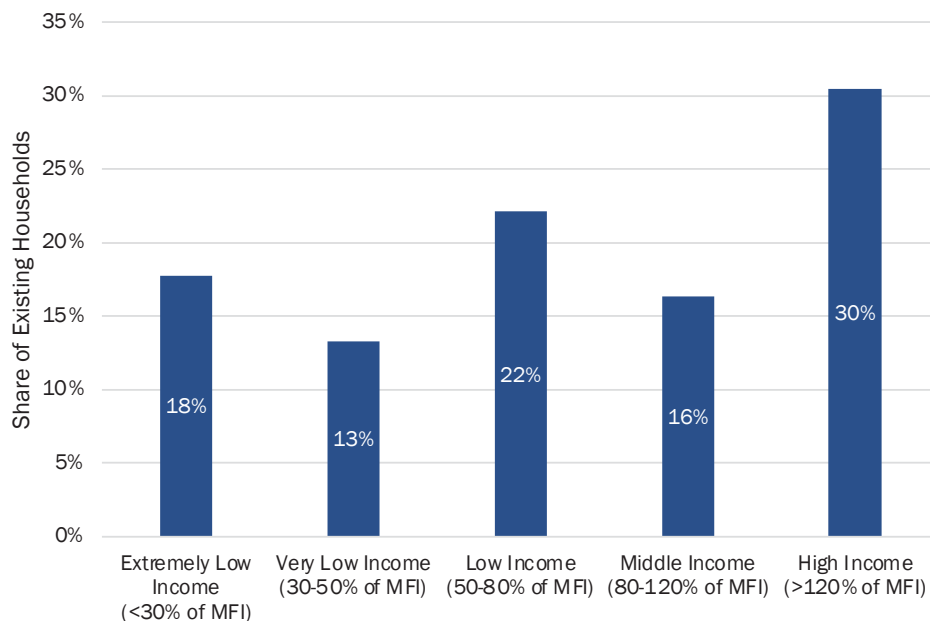
In setting an appropriate and achievable affordable housing target, it is helpful to consider multiple reference points that inform the distribution of housing that may be needed and that may be possible. This section outlines several reference points for housing distribution by affordability level: current income distribution in Wilsonville, current regional income distribution, existing housing gaps at the City and County scale, and the distribution expected based on prior plan policy direction and existing affordable housing tools. These reference points are intended to inform establishing achievable affordable housing targets for Frog Pond East and South, which will ultimately be determined by City Council.

City of Wilsonville Income Distribution

This reference point offers one way of understanding what it would look like for this area to contribute proportionately to meeting overall housing needs for the city. However, this approach does not consider the specific types of housing needs that may best be met in the new growth area versus other areas of the city, and it does not account for changing demographic needs or needs that are not currently met in the city. The current distribution of Wilsonville households based on how their household income compares to the MFI for Clackamas County for a four-person household is shown in Exhibit 7.

Exhibit 7. Wilsonville Households by Percentage of MFI, 2021

Source: American Community Survey, 2019, 5-year estimates

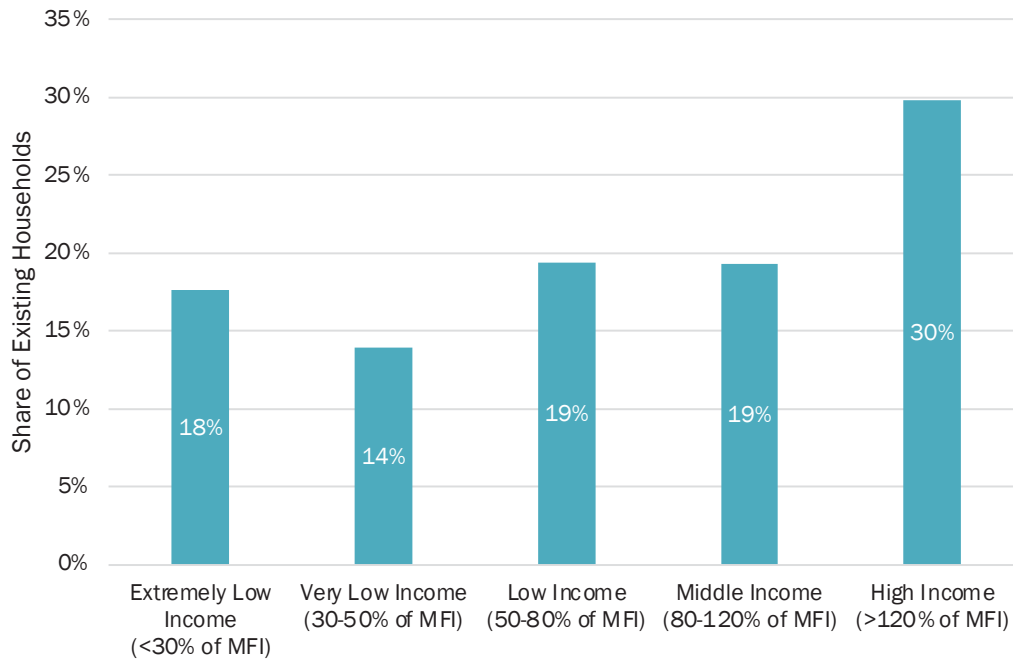


Regional Income Distribution

Looking at overall regional income distribution can be useful to highlight housing affordability levels and incomes that may be under-represented in Wilsonville compared to the region as a whole. It provides a sense of what mix of housing affordability levels would best meet the needs of people living in the region as a whole. The current distribution of households by income level in the three-county Portland region is shown in Exhibit 8. In the region overall, the share of middle-income residents is somewhat higher than in the city of Wilsonville, while the share of low-income residents is somewhat lower. The share of extremely low income and very low-income residents is similar in the City and in the region overall.

Exhibit 8. Portland Region Households by Percentage of MFI, 2021

Source: American Community Survey, 2019, 5-year estimates

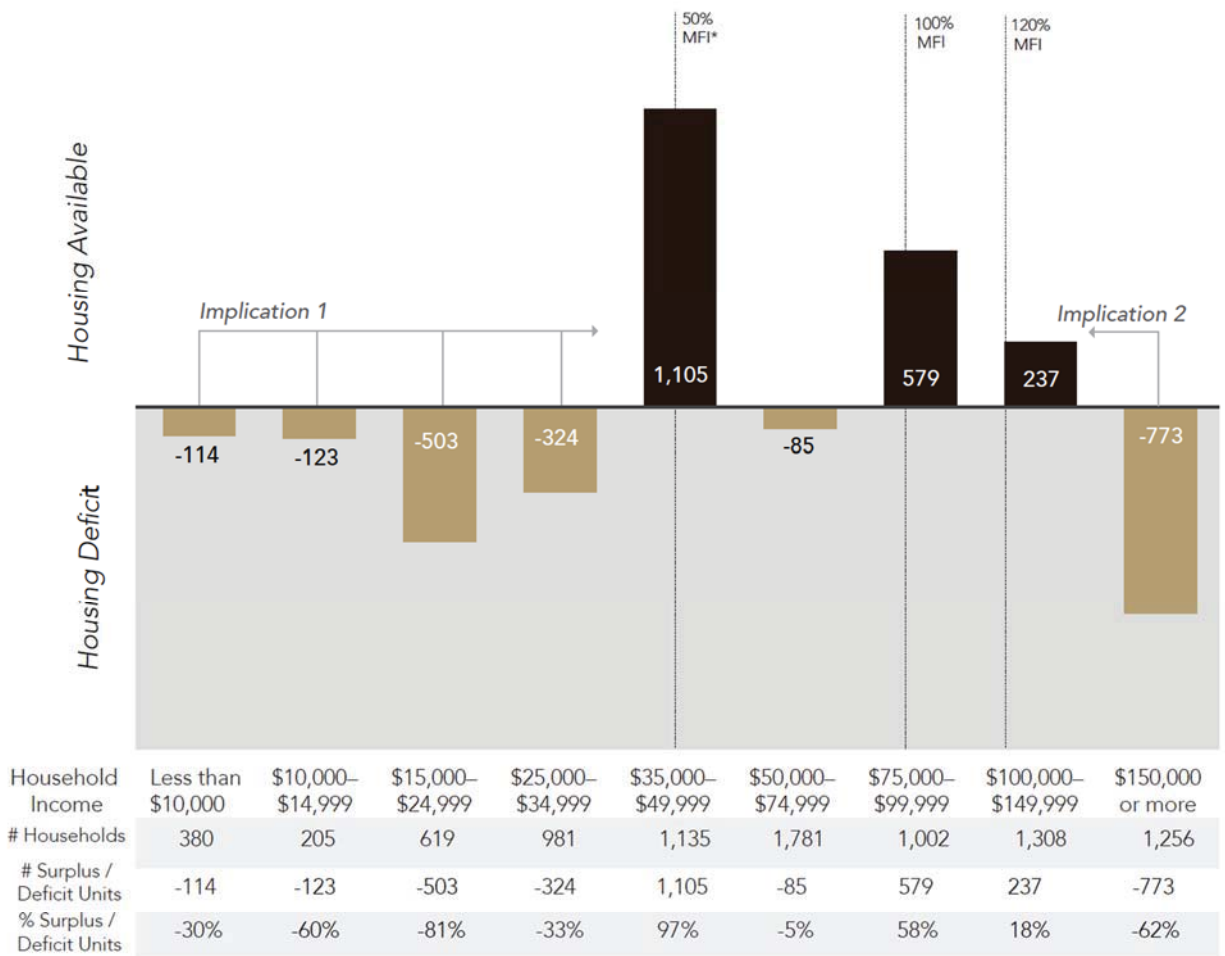


Current City and County Housing Gaps

Based on the most recent Housing Needs Analysis for the City of Wilsonville (which was done as part of a county-wide Housing Needs Analysis in 2018), there is a deficit of housing units for households earning less than \$35,000 per year, but also a deficit of high-amenity housing for households earning more than \$150,000 per year.

Exhibit 9: Affordable Housing Costs and Units by Income Level, Wilsonville, 2018

Source: Clackamas County Regional Housing Needs Analysis, page 281



*Median Family Income for a family of four

Implication 1

Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

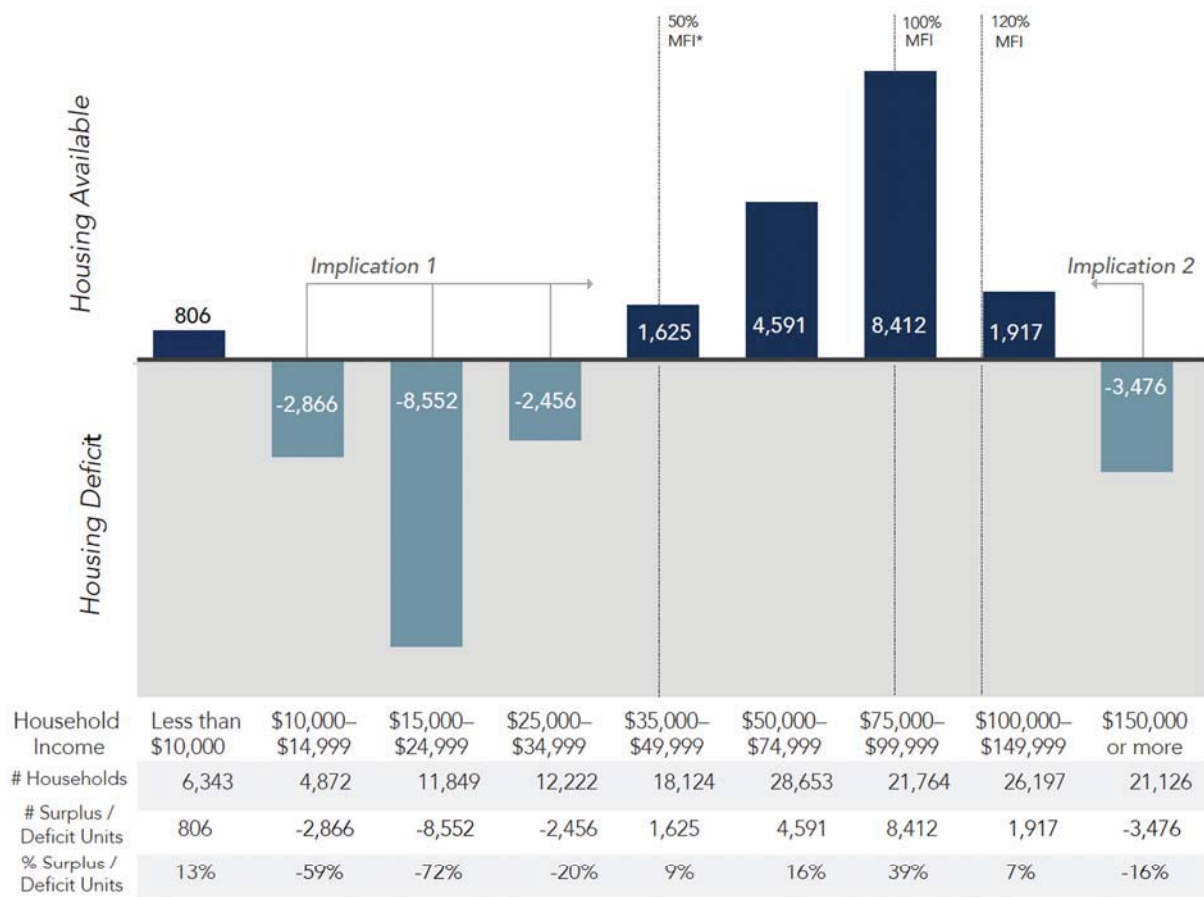
Implication 2

Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

The overall housing gaps for Clackamas County also show a deficit of housing for households earning less than \$35,000 per year and high-amenity housing for households earning \$150,000 or more.

Exhibit 10: Affordable Housing Costs and Units by Income Level, Clackamas County Overall, 2017

Source: Clackamas County Regional Housing Needs Analysis, page 74



*Median Family Income for a family of four

Implication 1

Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

Implication 2

Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

This reference point suggests a focus on expanding housing supply at the top and bottom of the income spectrum. Providing high-amenity housing for higher-income households can reduce upward pressure on prices for older homes that could be remodeled, while providing housing affordable to lower-income households can reduce cost-burdening and allow households more resources to meet their other needs and remain more stable in their housing.

Prior Area Plan Policy Direction & Existing Affordable Housing Tools

This reference point anticipates the outcomes that would be most likely for this area if the City maintains the policy direction from the Area Plan and does not implement any additional strategies to support affordable housing in this area. It provides a reference point for a policy baseline to see how much intervention may be required to achieve the City's equitable housing

goals in this area. The distribution of housing units by type / density established in the Frog Pond Area Plan is summarized in Exhibit 11 and Exhibit 12. As described in the Area Plan:

At the time of adoption there were two general proposals regarding residential land use in the East and South Neighborhoods. The first proposal was the Planning Commission-recommended option (Option G), with the condition to re-examine the R2.5 densities and commercial site location at a future date of master planning. The second proposal was that there should be a minimum lot size of 4,000 square feet. The Council considered these proposals carefully, along with all of the rationale, implications and issues. Working from the premises that: (1) both points of view should be honored and represented in the Plan; (2) many years will pass before final decisions need to be made; and (3) the range of housing choices and price ranges should increase in the future when these neighborhoods are developed – the Council struck a balance. The balance was to include both options in the Plan with a commitment to revisit the densities and commercial site in the future as part of master planning. An additional idea was added to consider, during Master Planning, neighborhood scale mixed use, where residential would be allowed over the retail in the commercial center.⁹

The primary difference for purposes of this document is that Option G included an allowance for attached / cottage single-family, with lots between 2,000 and 3,000 square feet. Neither option included an allowance for multifamily housing. As noted above, the City must provide for at least 1,325 units in this area (Option H would provide only 1,258) and must allow attached / cottage single-family and other middle housing types in any zone that allows single-family housing.¹⁰ Thus, ECONorthwest used Option G as a starting point for this scenario, since it aligns better with recent requirements.

⁹ Frog Pond Area Plan, A Concept Plan for Three New Neighborhoods in East Wilsonville, 2015, page 24.

¹⁰ While Option G did not assume that middle housing would be allowed throughout the East and South neighborhoods, the total percentage of middle housing and small lot detached housing, at roughly one third of all housing units, remains a reasonable estimate of the amount of middle housing and small-lot detached housing that the market might deliver in this area after accounting for HB 2001.

Exhibit 11. Land Use Metrics and Capacity "Option G"

Source: Frog Pond Area Plan, A Concept Plan for Three New Neighborhoods in East Wilsonville, 2015

Residential Designation	Average Lot Size (SF)	Max Units/ac net	East Neighborhood Units	South Neighborhood Units	East+ South Units	% of East + South Units
Future R-8 Single Family (7,000 - 9,000 SF)	8,000	5.40	120	28	148	11%
Future R-6 Single Family (5,000 - 7,000 SF)	6,000	7.30	125	162	287	22%
Future R-4 Single Family (3,000 - 5,000 SF)	4,000	10.90	165	286	451	34%
Future R-2.5 (2,000 - 3,000 SF)	2,500	17.40	436		436	33%
Total Units			846	476	1,322	100%

Exhibit 12. Land Use Metrics and Capacity ("Option H" - No R2.5 in East Neighborhood)

Source: Frog Pond Area Plan, A Concept Plan for Three New Neighborhoods in East Wilsonville, 2015

Residential Designation	Average Lot Size (SF)	Max Units/ac net	East Neighborhood Units	South Neighborhood Units	East+ South Units	% of East + South Units
Future R-8 Single Family (7,000 - 9,000 SF)	8,000	5.40	120	28	148	13%
Future R-6 Single Family (5,000 - 7,000 SF)	6,000	7.30	125	162	287	25%
Future R-4 Single Family (3,000 - 5,000 SF)	4,000	10.90	437	286	723	62%
Future R-2.5 (2,000 - 3,000 SF)	2,500	17.40				0%
Total Units			682	476	1,158	100%

To translate this housing mix into an expected distribution by income level, ECONorthwest used the expected pricing of market-rate housing by housing type summarized in Section 4:

- The Future R-2.5 units are assumed to be primarily middle housing similar to townhouses based on the density and housing types described for this zone. Given estimated pricing, these units would generally be affordable to households between 80% and 120% of MFI.
- Small-lot detached housing ranges slightly above and below 120% of MFI. Half of the R-4 housing units are assumed to be affordable at 80-120% of MFI, while the other half are assumed to be affordable to households at 120% or more of MFI.
- Medium- to large-lot single-family is affordable only above 120% of MFI. All of the R-6 and R-8 units plus half of the R-4 units are assumed to be affordable to households earning 120% or more of MFI.

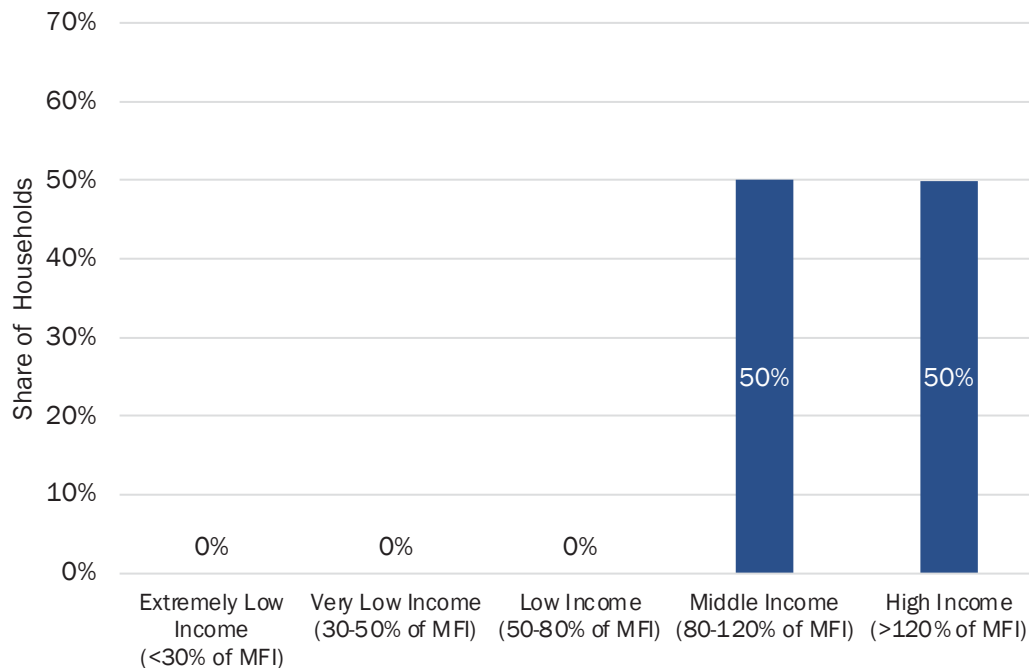
Because Option G did not include multifamily housing in the land use metrics, this reference point assumes that no regulated affordable rental housing or market-rate multifamily are built

in the area. While some affordable homeownership housing is possible under existing policy guidance, the City has no existing programs in place to support this, so the assumption is that this would not occur without additional support. These factors mean that the current policy guidance and existing programs would be unlikely to deliver housing to serve households earning less than 80% of MFI.

The expected distribution of housing by income level under existing policy is shown in Exhibit 13.

Exhibit 13: Expected Distribution of Housing by Affordability Level Under Existing Policy

Source: ECONorthwest calculations based on Frog Pond Area Plan Option G and market pricing



Proposed Affordable Housing Targets

The proposed affordable housing targets are intended to provide achievable goals for this area if the City addresses the constraints noted previously and implements a set of feasible strategies to support affordable housing. The types of strategies needed to meet these proposed targets are described in Section 6.

Given the context and the scale of the area, the City could target the following for publicly supported, income-restricted affordable housing development:

- One affordable multifamily rental development serving households earning up to 60% of MFI, or an average 60% of MFI, with income averaging that offers some units for households earning up to 80% of MFI. This would likely be between 120 and 180 units and roughly 30 units per acre based on typical development of this type, requiring four to six acres of land.

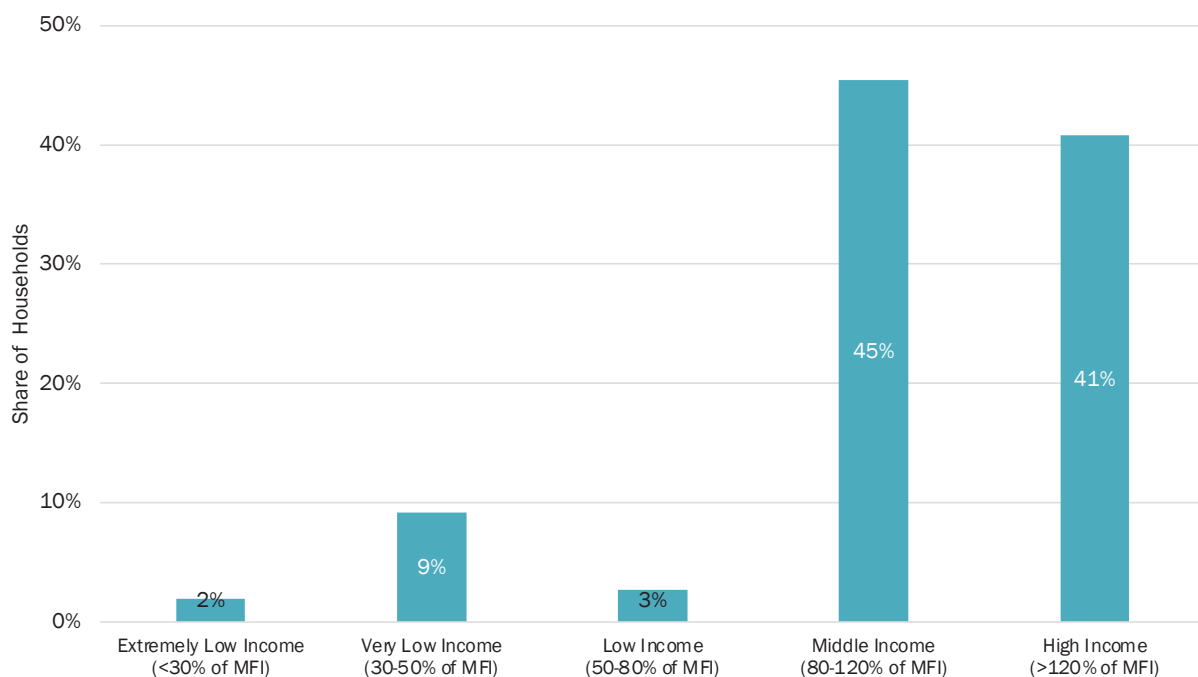
- One small cottage/tiny home/courtyard development for households earning less than 30% of MFI, low-income seniors, veterans, or people with disabilities. This could be between 5 and 50 units and might require between a quarter of an acre and two acres, depending on scale and design.
- One to two townhome or cottage cluster affordable homeownership developments for households earning 35% to 80% of MFI (e.g., Habitat for Humanity or Proud Ground). This could be between 10 and 40 units and might require between one and two acres, depending on scale and design.

In addition to these goals for income-restricted affordable housing, the City can target providing a mix of housing within the market rate development that offers roughly half of units that are likely to be affordable to households earning less than 120% of MFI. This could mean a similar mix of housing types as identified in Option G in the Area Plan (even if the locations for middle housing are no longer restricted), resulting in a roughly even split between housing for households earning 80% to 120% of MFI and households earning more than 120% of MFI for the market-rate for-sale housing. Allowing opportunities for some market-rate apartment development without ground floor commercial space to further expand the range of housing options for households earning less than 100% of MFI.

Error! Reference source not found. provides an illustrative example of the approximate distribution of housing by income level based on the ranges of units above and rough estimates of the amount of market-rate housing that could be built if the land above were dedicated to affordable housing. These estimates are preliminary and may be refined through the planning process.

Exhibit 14: Approximate Distribution of Housing by Income Level for Affordable Housing Target

Source: ECONorthwest

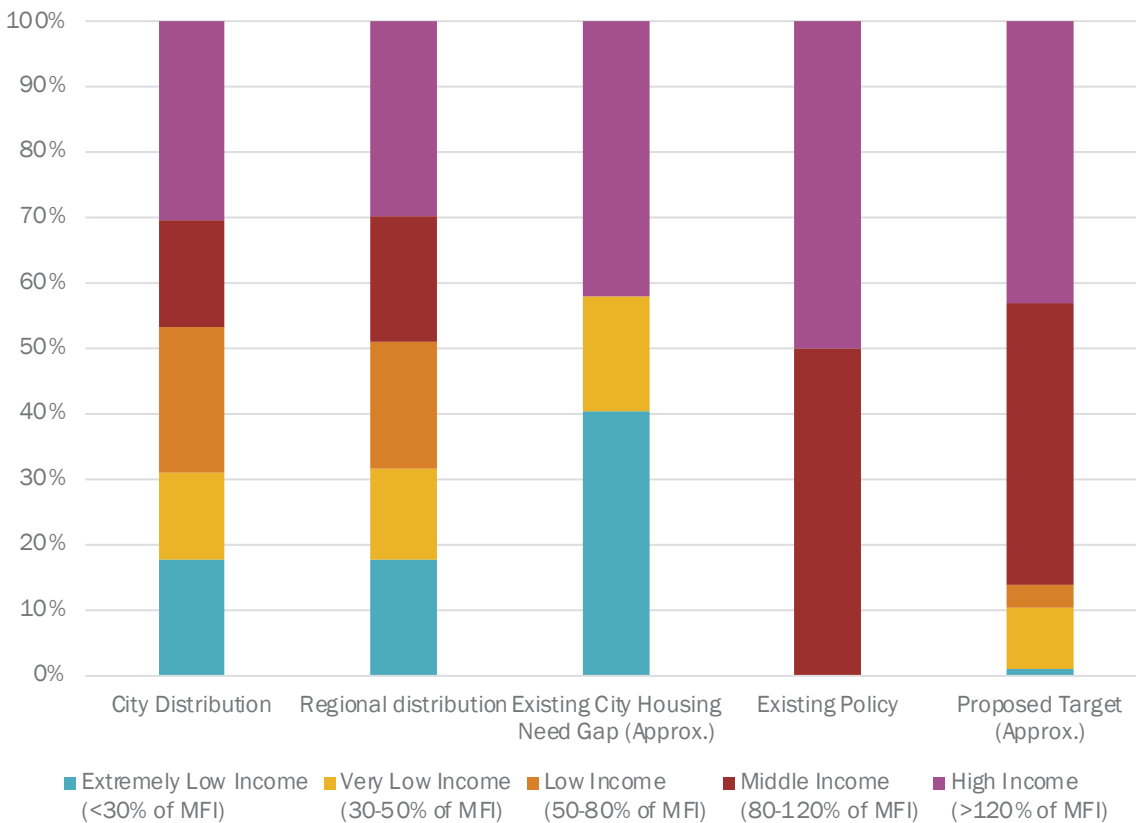


Comparison to Reference Points and Implications

Error! Reference source not found. summarizes the unit counts that would result from applying the distribution for each scenario to the 1,325 housing units required by Metro. (As noted previously, the total unit count may vary between the scenarios or be refined through the process of establishing land use scenarios—these unit counts are illustrative only at this stage.) Exhibit 15 illustrates the comparison between the scenarios in terms of the income distribution in each.

Exhibit 15: Distribution of Housing by Income Level for Housing Target Compared to Reference Points, Frog Pond East and South

Source: ECONorthwest



Implications:

- To reach the affordable housing policy directives from the Equitable Housing Strategic Plan with development in Frog Pond East and South the City will need to allow a full range of housing types and make investments to support affordable housing development.
- Even if the City does make changes to policy and takes action to dedicate funding to support affordable housing, the share of affordable housing is likely to fall short of meeting a proportionate share of overall housing needs at the City or regional level during initial build-out.

- Adding to housing supply across a range of affordability levels in Frog Pond East and South will help meet housing needs overall and would be a one step forward in a larger series of housing-related initiatives by the City, even if it does not match the overall distribution or address all the existing gaps for affordable housing.
- Middle housing and condominiums can offer homeownership opportunities to middle income households without public subsidy, making land use regulations and infrastructure funding decisions that affect the feasibility of multi-family and middle housing an important consideration for affordability.

Section 6. Affordable Housing Strategies

The City can support development of affordable and mixed-income housing in a number of ways. The EHSP lays out a range of strategies to advance the City's equitable housing goals. The City will also be required to adopt a Housing Production Strategy (HPS) soon under recent changes to state rules, and will need to identify and prioritize strategies to support housing production across a range of housing needs. This section outlines the strategies that are likely to have the greatest impact for Frog Pond East and South, building on those in the EHSP.

- **Zone for All Housing Types:** Enable a full range of housing types in Frog Pond East and South, including multifamily, to expand first time homebuyer opportunities and to make it possible to build affordable rental housing using common sources of funding. Align zoning for multifamily with areas that are suitable for affordable housing. Flexibility needs to be in place to take advantage of affordable housing opportunities both now and during the longer-term build out of Frog Pond East and South.
- **Acquire Land for Affordable Housing:** Attempt to find willing sellers for suitable properties for affordable housing within Frog Pond East and/or South, to ensure an opportunity to build affordable housing in the area. This would likely require funding, particularly if the City intends to offer the land for affordable housing development for little or no cost to make affordable housing development more viable. However, the City could consider asking the current owner to ground lease the property to the City and have the development pay for it in future, or seek an option on a property rather than acquiring it outright. It would also require staff time to manage the property owner negotiations and (if successful), the land disposition process (e.g., a Request for Proposals for development). With private developers also seeking to secure land or options to purchase property, the sooner the City acts, the better its chances. The City should prioritize sites that meet the following criteria:
 - Close proximity to existing transit (e.g., the stop at Meridian Creek Middle School), or near an area that has a high probability of future transit service upon development.
 - Close proximity to parks, schools, future commercial areas, and other amenities.

- Sites that are between four and six acres of buildable land if targeting affordable rental housing; smaller sites (e.g., half-acre to two acres) for homeownership housing.
- Sites without major development constraints or especially costly infrastructure needs. Sites should not be in the floodplain.
- **Partner with a Community Land Trust:** A community land trust (CLT) such as Proud Ground could help deliver affordable homeownership housing in Frog Pond East and South. If the City is unable to secure land for affordable housing, it could explore other ways to support a CLT in building affordable homes, such as direct subsidy (e.g., using Metro Bond money), SDC waivers, or tax abatements (see further discussion below).
- **Waive, Reduce, or Defer SDCs for Affordable Units:** The cost of SDCs and other infrastructure costs for greenfield development can become prohibitive for affordable housing. Options to reduce SDC cost impacts on affordable housing will be addressed as part of the infrastructure funding plan for Frog Pond East and South to ensure that overall infrastructure needs can be met. Waiving SDCs entirely for income-restricted affordable housing has the greatest impact, but reductions and deferral can also help reduce the funding gap for affordable housing. This requires engagement with other infrastructure providers.
- **Incentivize Smaller and Lower-Cost Middle Housing:** Middle housing will be allowed broadly in Frog Pond East and South, and some developers have expressed interest in middle housing development in the area. Because middle housing generally offers lower price-points than single-family detached housing, it offers middle-income housing options and potential for lower-cost homeownership. There are several incentives that could be effective tools to support middle housing development that is affordable to middle-income households:
 - The Multiple Unit Property Tax Exemption (MUPTE) is a flexible program that can be used to incent multiple-unit rental housing with particular features or at particular price points by offering qualifying developments a partial property tax exemption for 10 years. The City could offer MUPTE for middle housing rental developments with small units that are more likely to be affordable. (The City could also choose to offer MUPTE only in exchange for income and rent restrictions, but would need to be able to monitor compliance with these restrictions over the 10-year abatement period.) This program requires support from overlapping taxing districts.
 - The Homebuyer Opportunity Limited Tax Exemption (HOLTE) program allows cities to offer a 10-year partial property tax exemption on for-sale properties valued at no more than 120% of the median sales price that meet any additional city-imposed income and owner-occupancy requirements. Portland has paired it with an SDC exemption to incentivize new moderately-priced for-sale housing. This program requires support from overlapping taxing districts.
 - SDCs that scale with unit size can also incentivize smaller, lower-cost middle housing units by right-sizing fees to the impacts of different housing types and sizes.

This will be considered through the infrastructure funding plan and requires engagement with other infrastructure providers.

- The City could consider allowing small “multiplex” development (e.g., 6-12 units) on sites that would allow a fourplex under new middle housing rules, if the units are under a certain size limit so that the overall volume of the building is still similar to a fourplex.
- **Reduce Multifamily Parking Requirements:** If the City adopts zoning for Frog Pond East and South that allows multifamily development in portions of the area, it should also evaluate reducing parking requirements for multifamily. (This could be done citywide or applied only within the Frog Pond East and South areas.) Currently, at least one space per unit is required, even for units less than 500 sq. ft.; most units require 1.25 to 1.75 spaces per unit. If parking requirements exceed what is needed to serve affordable housing, this adds cost to build spaces that do not generate revenue and reduces the number of units that fit on site. If land and funding are available for affordable housing, reducing parking requirements can ensure that it can be built efficiently and optimize the amount of housing on the site.
- **Incentivize Housing with Accessible or Visitable Units:** With substantial new housing construction coming for Frog Pond East and South, the City can encourage units designed to be accessible or visitable to better meet the needs of individuals with mobility limitations in the community. The City can apply some of the same incentives noted above to apply to accessible or visitable units, such as tax abatements, SDC reductions, or allowances to build additional units.

Section 7. Conclusions and Next Steps

If the City does not take further action to support affordable housing and does not change course from prior policy direction on housing types for Frog Pond East and South, there will be few opportunities for affordable housing and little chance that it will get built. If the City allows a full range of housing types and implements additional affordable housing strategies, particularly related to proactive land acquisition, the chances for affordable housing increase substantially. Financial and regulatory incentives could also encourage developers to build smaller, lower-cost housing units with or without income restrictions, or to build units that are accessible or visitable for residents with mobility limitations. These strategies align with those outlined in the EHSP and provide input to a future HPS.

While meeting a proportionate share of citywide or regional housing needs by income may not be possible for greenfield development, there are important opportunities for affordable homeownership and expanding housing options across a range of incomes and housing needs. The proposed housing targets include a mix of market-rate housing at typical price-points and a few affordable housing developments of various scales and forms. These targets are intended to be achievable with implementation of the recommended housing strategies. This area can play an important role in a broader citywide effort to provide needed housing. Additional work will

be needed to meet housing needs in other parts of the City that cannot feasibly be met in this greenfield area.

Next steps within this process include identifying specific properties that could help meet affordable housing targets; evaluating relationships to the infrastructure funding plan of potential SDC reductions or waivers; engaging affordable housing developers and other stakeholders to refine strategies; and subsequent work to learn more about community perspectives/preferences, which could lead to refinements in the targets and strategies laid out in this document.

FROG POND EAST & SOUTH MASTER PLAN

PUBLIC REALM PLANNING MEMO

TO: Planning Commission

FROM: Project Team

DATE: August 2, 2022

This memo describes an important part of the Frog Pond East and South Master Plan: public realm planning. **The public realm is the combination of all public spaces—including streets, alleys, parks, plazas, and other publicly-accessible areas—that define the experience of living in or visiting a city or neighborhood.** A well-designed and cohesive public realm will be an essential part of the success and livability of this new area of Wilsonville. The Master Plan will provide guidance about how the public realm can be designed to work together with existing site qualities and future development to create healthy, connected, sustainable, and beautiful neighborhoods for diverse families to thrive.

The design of the public realm in Frog Pond East and South will achieve several key elements.

- **Places for gathering and civic life for a diverse community.** The public realm should support a broad range of social activities, including opportunities to gather formally and informally. Meeting places like neighborhood commercial areas, parks, schools, and even sidewalks can be designed to provide space for varied social and cultural activities.
- **Community design that celebrates and enhances neighborhood character.** Streets and trails should be laid out to emphasize views of natural features of the site like forested creek corridors, parks, or destination points. Unique and historical elements like

the Frog Pond Grange should be integrated thoughtfully into overall neighborhood design. For example, the Grange site could provide collocated gathering space, green space, and visibility and direct access to the trails and open space of the BPA corridor. Additionally, more detailed elements of the public realm like lighting, street trees, and signage should be cohesive with the existing fabric of Wilsonville, particularly the adjacent Frog Pond West area.

- **Integrated parks and green spaces.** Parks and green spaces are a vital part of creating healthy, active, and livable neighborhoods. Parks and smaller open spaces within neighborhoods should be centrally located and visible and accessible to all. In addition to a 10-acre community park and a 2.5 to 3-acre neighborhood park, each walkable sub-district should include its own “green focal point”, which could be a pocket park, tot lot, community garden, plaza, or other gathering place.
- **Preserved and restored natural resources.** Existing natural resources, including trees, wetlands, and creek corridors, should be preserved and restored within and around new development. Streets, parks, and public spaces provide opportunities to protect existing trees. Additionally, incorporating stormwater planters and green infrastructure can preserve watershed health by cleaning and slowing runoff.

ELEMENTS OF THE PUBLIC REALM



Places for **gathering and civic life** for a **diverse community**



Community design that **celebrates and enhances neighborhood character**



Integrated **parks and green spaces**



Preserved and restored **natural resources**



Convenient, safe, and low-stress transportation options



- **Convenient, safe, and low-stress transportation options.** A connected network of streets and trails should prioritize the safety and comfort of the most vulnerable road users. Streets should be designed to encourage and prioritize walking, biking, rolling, transit, and other low-carbon modes of travel. Street and block layout should make it easy for residents to access schools, parks, and neighborhood services without a car.

The draft exhibits on the following pages are a starting point to illustrate the intent for key elements of the public realm for Frog Pond East and South. These draft materials will be refined and further illustrations will be prepared as part of a final memo that provides guidance toward creating a cohesive public realm.

The final public realm recommendations will address the following categories:

- Tree Preservation Strategy
- Street and Trail Demonstration Plans and Cross Sections
- Park and Open Space Framework
- Public Street Design Elements (including recommendations for lighting, street trees, etc.)

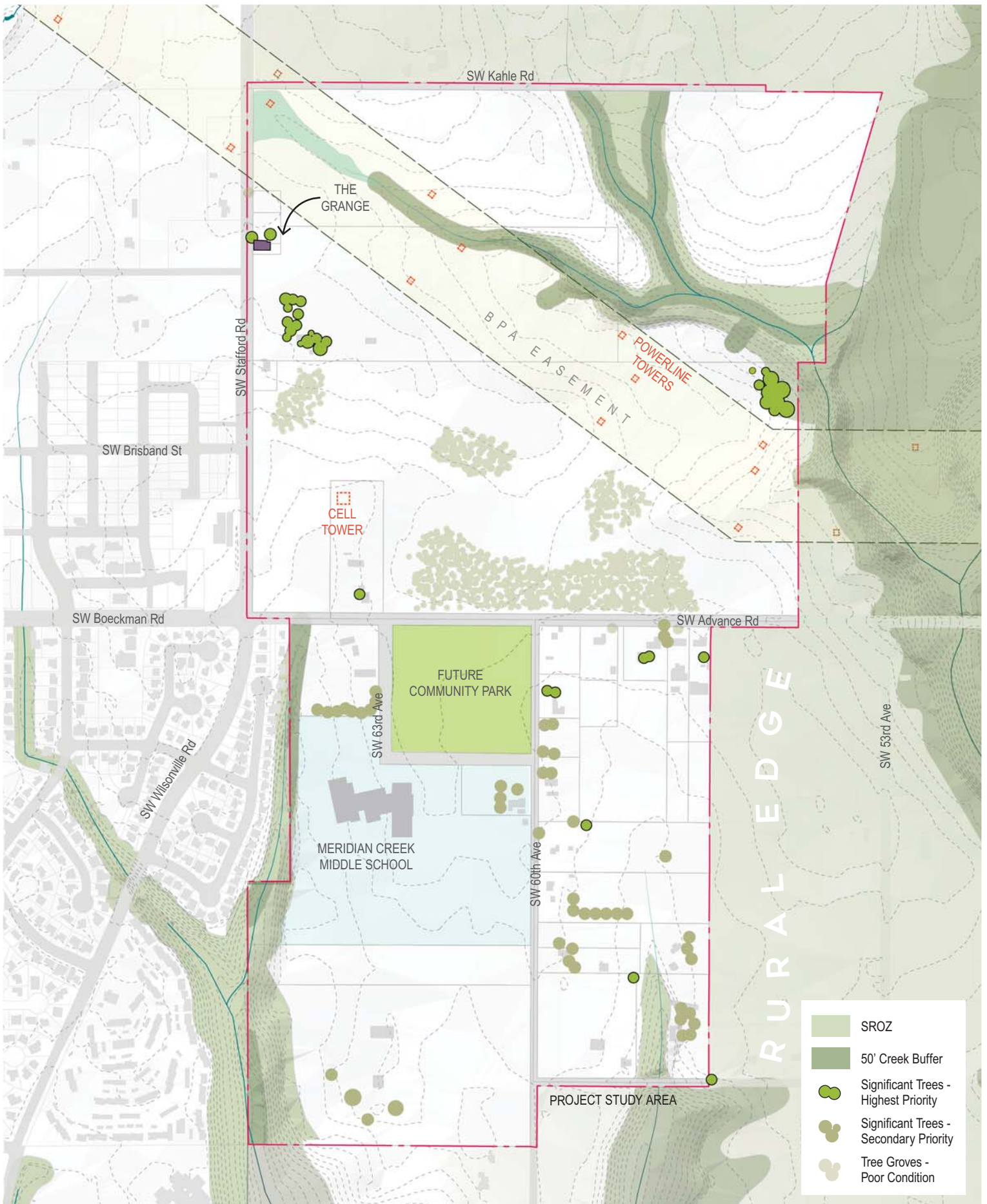
The following pages contain these draft exhibits:

- **Significant Tree Inventory Map (p. 3-5).** This map represents the latest inventory¹ of significant trees in the planning area to inform preservation strategies. Precedent images illustrate potential approaches to tree preservation.
- **Street Demonstration Plans (p. 6-9).** These two options illustrate potential layouts of streets, blocks, and multi-use paths that would achieve the intent of providing connected, convenient, safe, and low-stress transportation options. These plans also explore different approaches to frontage on SW Stafford Road: front doors facing the street or backs of homes facing the street. Each demonstration plan also shows different options for the number and location of pedestrian crossings on SW Advance Road. Options for crossings and intersection treatments are currently under study.
- **Bicycle Circulation Concepts (p.10-11).** These maps explore a potential hierarchy for bike circulation and how it could connect with multi-use paths in each street demonstration plan option. These studies are preliminary and subject to determining intersection types that will prioritize safe routes to schools.

- **Advance Road Cross-Section (p.12).** This draft cross section of SW Advance Road illustrates a concept of a walkable streetscape and the potential benefit of laying out blocks so that homes face the community park across the street. This concept is under study and will be refined, and similar cross-sections will be prepared to study other key streets in the area.
- **Park and Open Space Framework (p.13-14).** The map illustrates the intent to provide “green focal points” in central locations to each sub-district of the planning area, ensuring that each neighborhood has a small destination or gathering place that gives it character. These green focal points are flexible in location, but the map indicates general areas that are central to each sub-district. Examples of types and uses of smaller neighborhood destinations are provided to support the map.

1. Tree inventory completed on January 26, 2022 by Morgan Holen Associates, followed by additional inventory of trees by AKS and Morgan Holen Associates in April 2022.









1



2



3

1. An existing mature tree on SW Brisband Street in Frog Pond West was preserved within the design of a street corner.

2. A mature white oak tree was preserved within parking lot landscaping for Wilsonville High School.

3. Private development can preserve significant trees within central open spaces or green spaces.

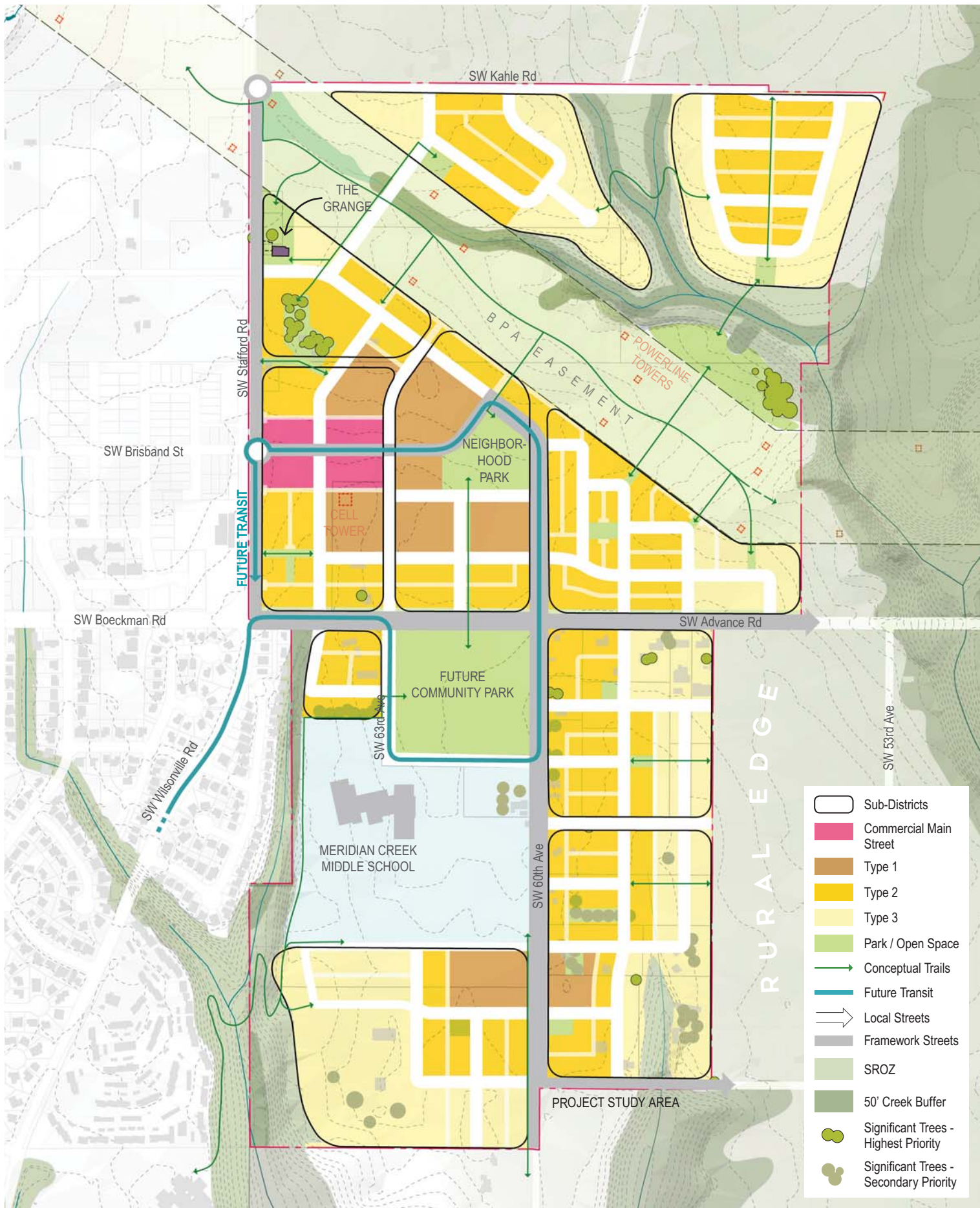
While tree preservation will ultimately be implemented during the design and construction of public and private development, the Master Plan identifies opportunities for preservation of significant trees in public open spaces, street rights-of-way, and within private development sites. Wilsonville's existing natural resource preservation policy and tree protection code provide a supporting framework for tree preservation in this area.

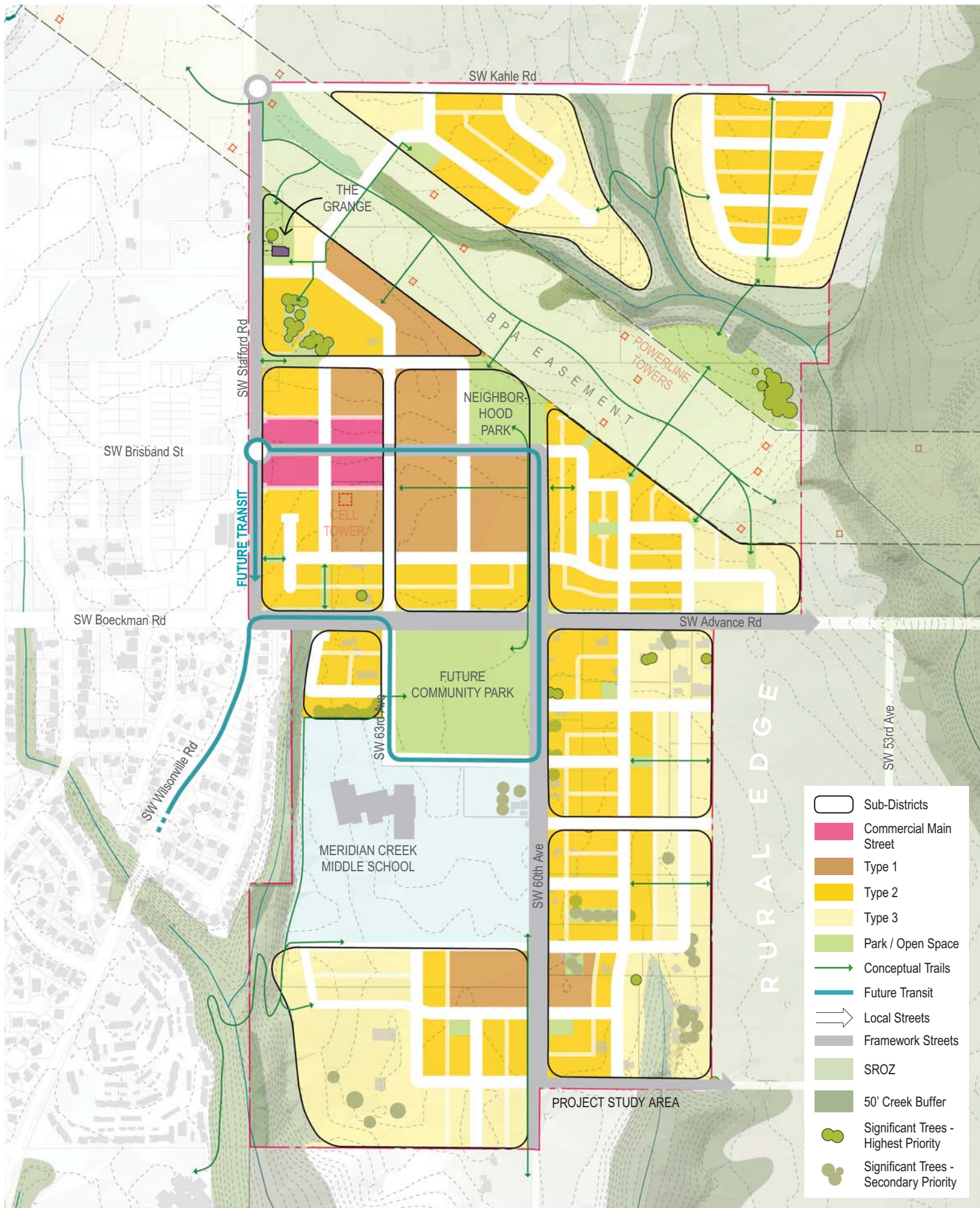
The Master Plan's tree inventory map identifies trees that are highest priority to preserve, meaning that these should be preserved within infrastructure, development, or green space to the greatest extent possible. Preservation of these trees may be achieved through development standards. Trees noted as secondary priority should be preserved if

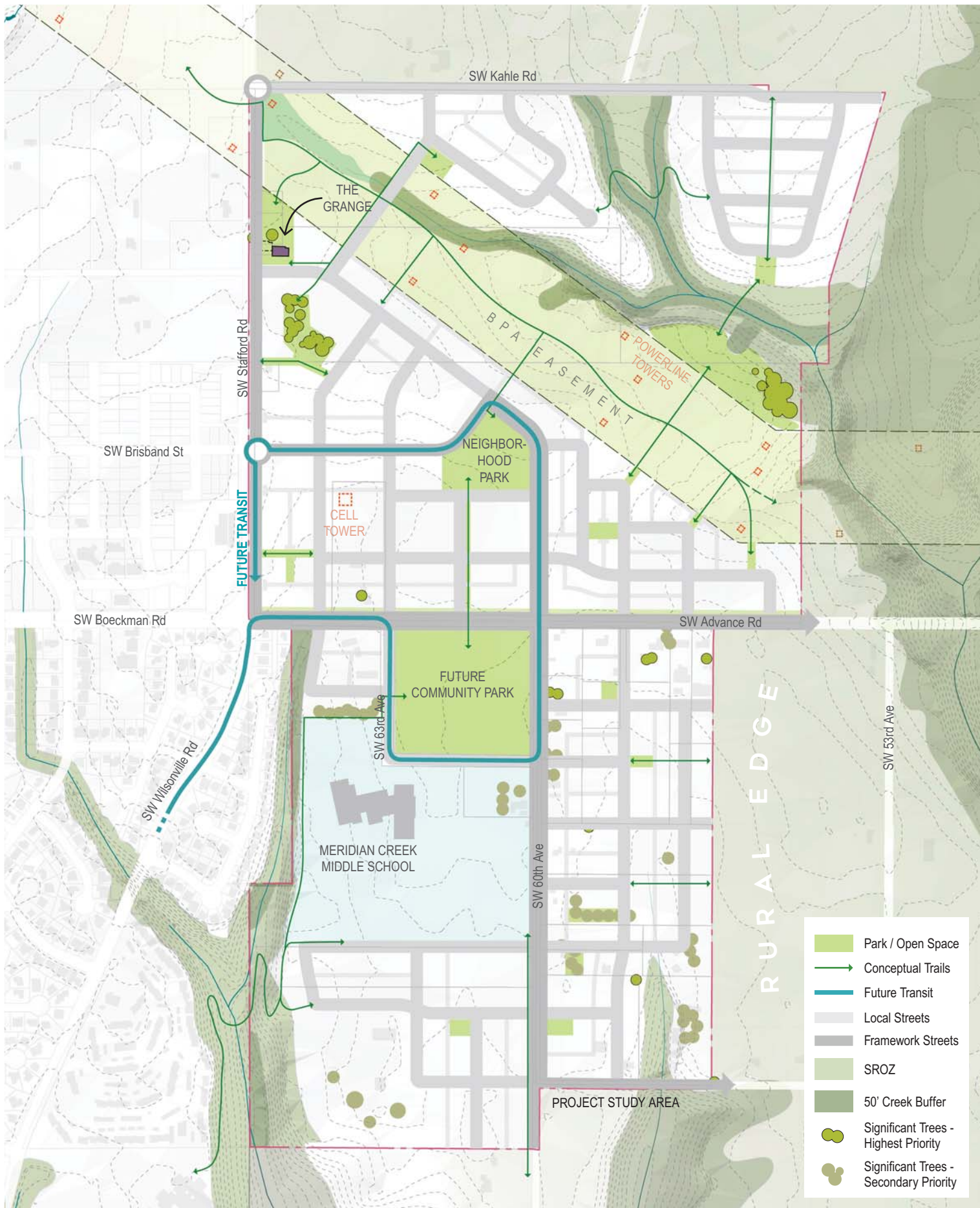
possible, especially if they are healthy and growing within an area that is a suitable location for green space or infrastructure that can accommodate preserved trees.

Public infrastructure and private development can preserve trees through thoughtful design and layout of streets and blocks, as seen on SW Willow Creek Drive and SW Brisband Street in Frog Pond West, or by locating green space strategically to preserve significant trees. Site design for individual buildings or homes can also incorporate tree preservation.

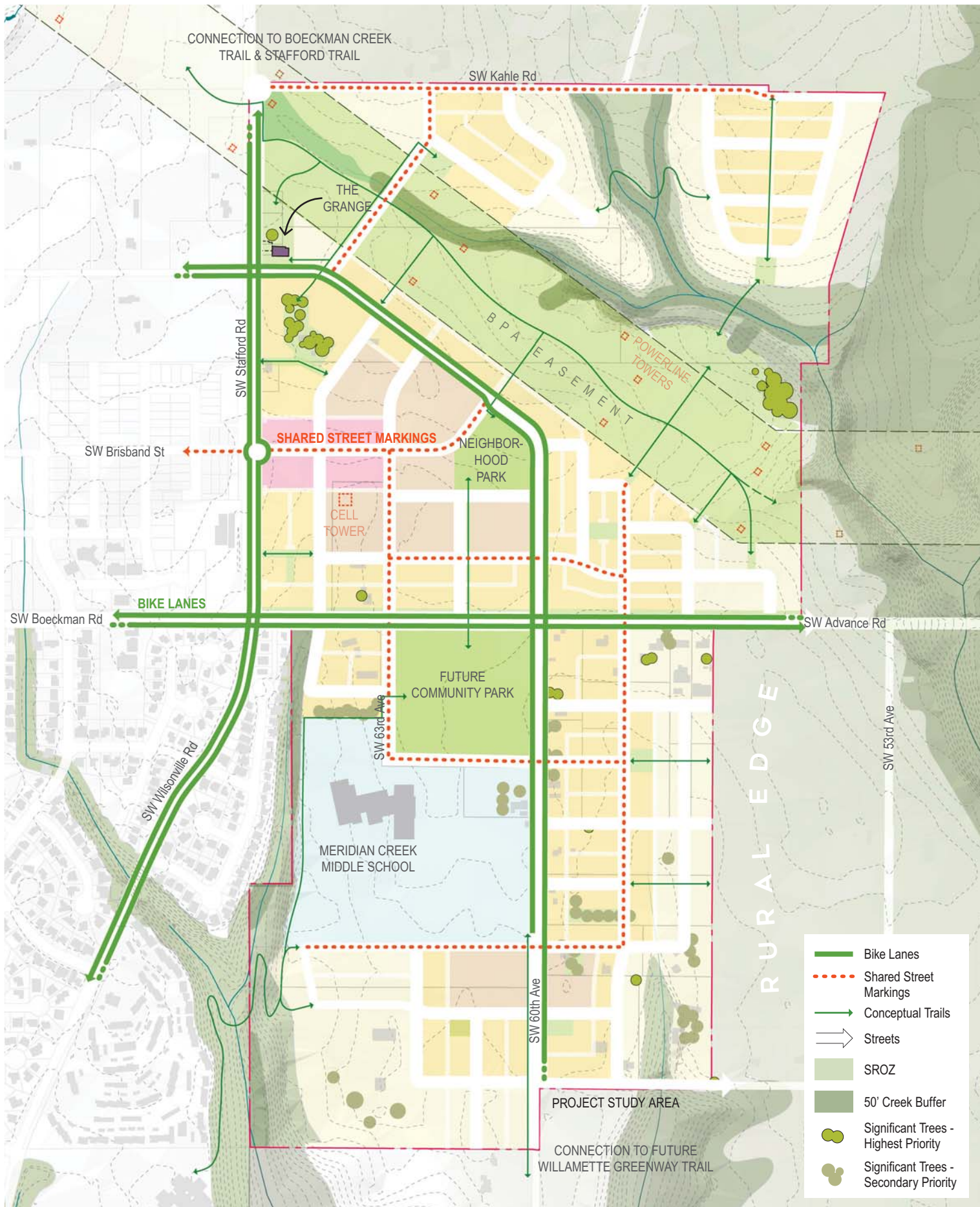
The tree inventory identified potentially significant trees and groves based on species, size, and general condition, and some trees may need closer examination to verify their significance.











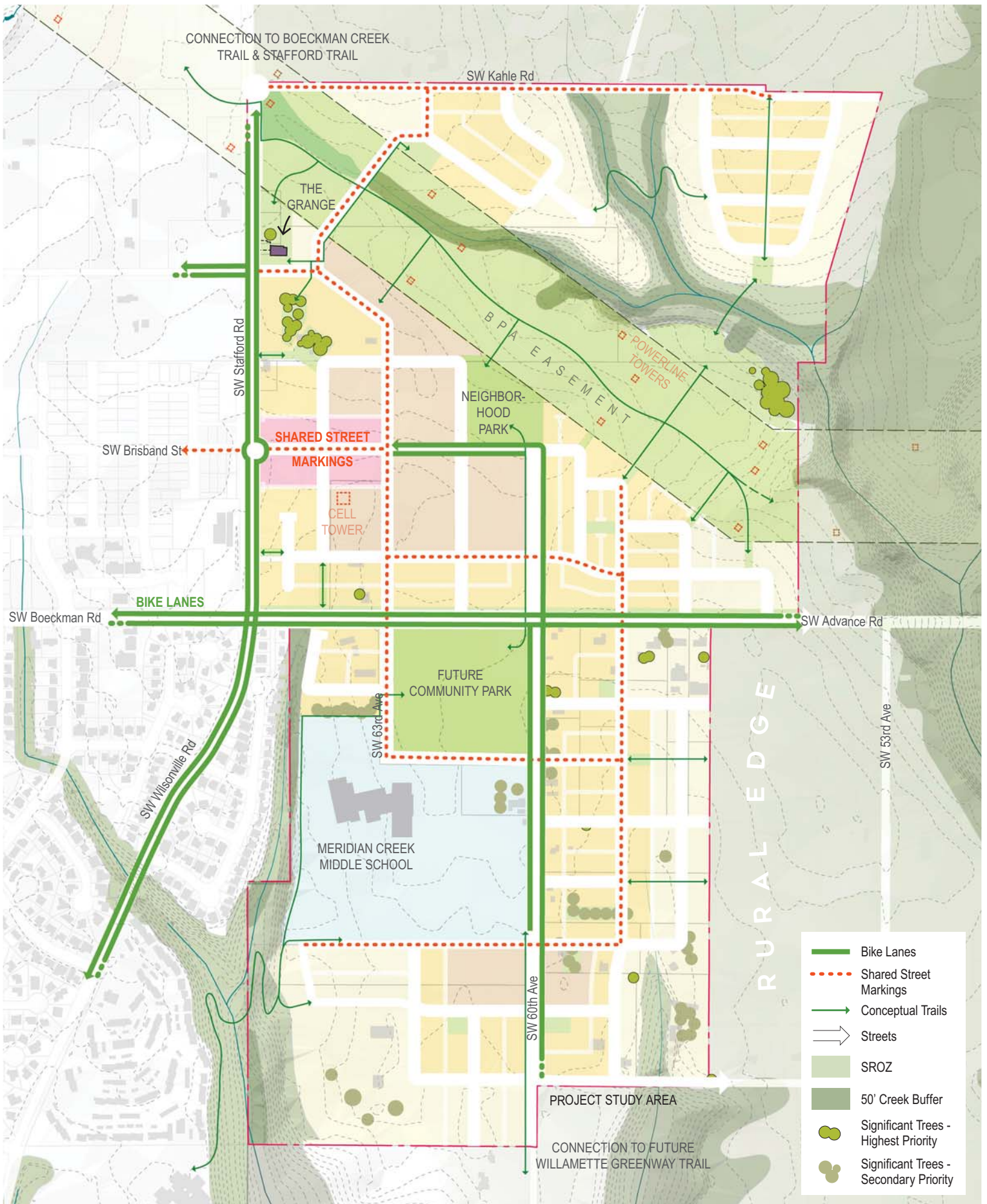


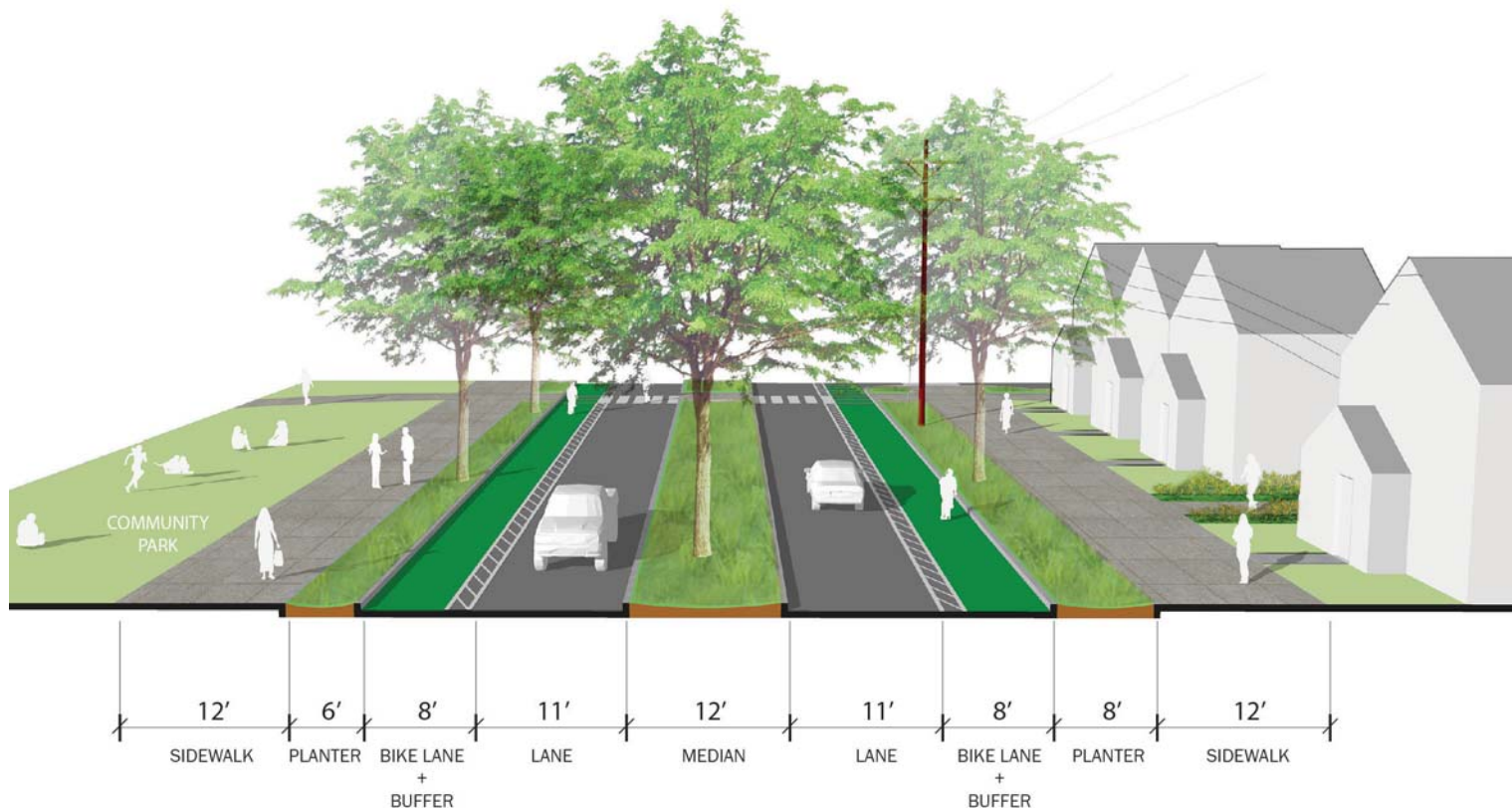






-  Bike Lanes
-  Shared Street Markings
-  Conceptual Trails
-  Streets
-  SROZ
-  50' Creek Buffer
-  Significant Trees - Highest Priority
-  Significant Trees - Secondary Priority

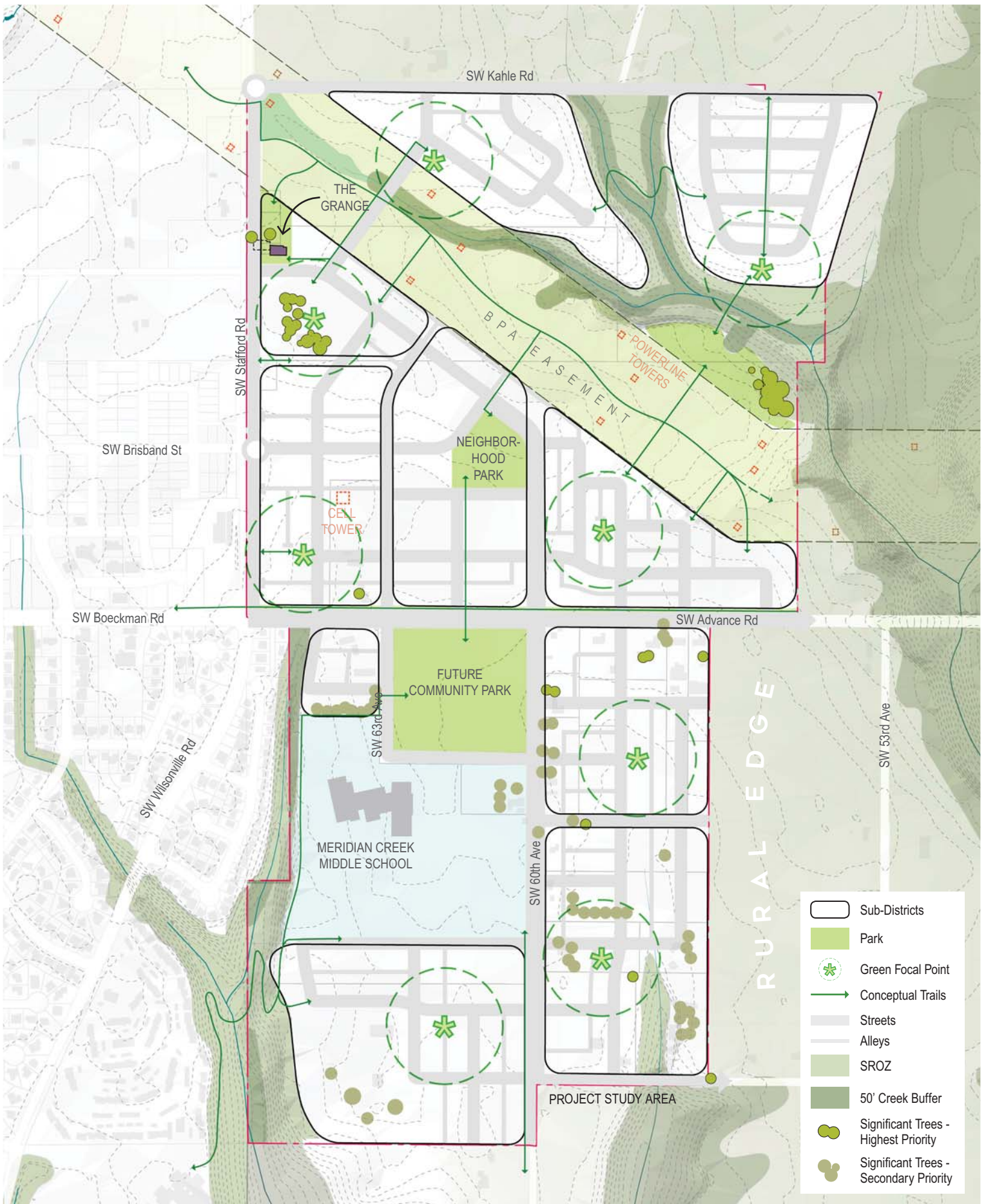




This cross-section shows a draft concept for SW Advance Road, a Collector road, where it passes the future community park. It includes generous sidewalks, buffered bike lanes, wide planter strips that ensure tree health, and a planted median to create a comfortable and inviting environment for pedestrians. Planted areas in the right-of-way also offer opportunities for capturing and infiltrating stormwater.

Future development on the north side of the street, across from the future community park, should be laid out so that front doors face the park. This, combined with homes fronting the park on its east and west sides, will create a sense of community and integration of the park within the neighborhood.

This concept for SW Advance Road would create a continuous streetscape with SW Boeckman Road where it continues west of SW Stafford Road. Existing high-voltage power poles on the north side of the street can be incorporated within a wide planter strip.





In addition to the planned Community Park in Frog Pond South and the Neighborhood Park in Frog Pond East, several “green focal points” are identified in central locations within each walkable sub-district of the planning area. These are flexible in location and size but are intended to serve as central neighborhood destinations or gathering places that contribute to neighborhood character and identity. In addition to being centrally located, these focal points should be fronted by homes and provide clear and inviting access for public use.

Many different kinds of uses and activities are envisioned for these green focal points. Examples include community garden plots, small playgrounds or splash pads, nature play areas, pocket parks or plazas, and central green courtyards within housing developments. These smaller open spaces can also provide opportunities to preserve mature and significant trees.

Frog Pond East and South Master Plan

Let's Talk, Wilsonville!

Public Space Design

Parks and Open Spaces

The first series of questions seek your input on parks and open spaces to guide the design of parks and open spaces in Frog Pond East and South.

What are your favorite **large amenities or areas** (i.e. sports fields, trails, shelters for large gatherings, natural areas, etc.) in Wilsonville's City parks? What do you like about these amenities or areas?

What are your favorite **small to medium amenities or areas** (i.e. benches, sitting areas, picnic covers, playgrounds, etc.) in Wilsonville's City parks? What do you like about these amenities or areas?

Is there an area or feature of in one or more of Wilsonville's City parks you avoid? If so, where? Please explain why.

What is the most important things that should be considered in designing a City park in Frog Pond East and South?

Frog Pond East and South Master Plan

Let's Talk, Wilsonville!

Please rank the following in order of important for inclusion in neighborhood parks and green spaces

(Rank each option)

- Playground structure
- Benches
- Open grass areas
- Trees and shade
- Covered area for gatherings
- Trails for walking/biking
- Community Garden
- Pet Exercise Area

What other amenities not includes in Question 5 are important to include in neighborhood parks and greenspaces?

Sidewalks and Pedestrian Street Crossings

The next few questions ask about sidewalks for pedestrian use along streets as well as pedestrian crossings of streets.

What makes a street crossing or sidewalk comfortable for you?

Not including parks, what is your favorite neighborhood or area to walk in Wilsonville? What do you enjoy about the neighborhood or area?

Frog Pond East and South Master Plan

Let's Talk, Wilsonville!

Is there a certain neighborhood or area you avoid walking in Wilsonville? If yes, please explain why.

What are the most important things that should be considered in designing new sidewalks and pedestrian street crossings in Frog Pond East and South?

Bicycle Amenities and Infrastructure

These next few questions relate to paths and streets designed for bicycling.

How often do you ride a bicycle in Wilsonville?

(Choose any 1 options)

- Never
- A few times a year or less
- At least once a month on average
- Multiple times a month
- Daily or multiple times a week

If you ride a bicycle in Wilsonville, where is your favorite place to ride? What do you enjoy about it?

What are the most important things that should be considered in designing bicycle lanes and paths in Frog Pond East and South?

Frog Pond East and South Master Plan

Let's Talk, Wilsonville!

How comfortable and safe do you feel riding a bicycle on the following paths or streets?

Questions	Very comfortable and safe	Somewhat comfortable and safe	Not sure	Somewhat uncomfortable and unsafe	Very uncomfortable and unsafe
Dedicated bike and pedestrian path that is not along a street					
Low traffic neighborhood street without bike lanes or markings					
Moderate traffic neighborhood street marked for shared bicycle/vehicle use					
Bike lane along major street road with no barrier or buffer					
Bike lane along major street or road with added painted buffer					
Bike lane along major street or road with physical separation such as with a landscape strip or curb					

Frog Pond East and South Master Plan

Planning Commission
Work Session August 10, 2022



Agenda for Tonight's Work Session

- Residential Policies for Housing Variety
- The Public Realm
 - Parks and Open Spaces
 - Pedestrian and Bicycle Facilities
- Outreach efforts



Housing Variety Policy



Design Concepts (discussed in Feb)

- **Housing Variety Throughout:** mixing and integrating different housing types throughout each subdistrict and block.
- **Affordable Housing Integration:** Integrate affordable housing “targets”, both subsidized housing as well as market-rate housing that is more economically attainable,
- **Subdistricts:** Each subdistrict will have a green focal point and a variety of housing. The housing variety requirements are most likely to be applied at a subdistrict level.



Scale of Variety



Large/Broad Scale
Zoomed Out



Granular Scale
Zoomed In



Commission and Council Supported Approach to Housing Variety Policy

- **Component 1:** Require a minimum amount of certain target housing types.
- **Component 2:** Cap the amount of any single housing type that can be within a given area.



Criteria for Component 1: Target Housing Types

- Key Questions to Answer:
 - What are the target housing types?
 - How much to require?



Criteria for Component 1: Target Housing Types

- Ideas for target housing types
 - Units that can serve market rate affordability (80%-120% of the Area Median Income)
 - ADU's/cottages
 - Accessible living options
- What to require versus incentivize?



Criteria for Component 2: Cap for Housing Variety

- To prevent too many expensive homes or to require variety generally?
 - Single unit dwelling max?
 - Apply generally, i.e. townhouses?



Public Realm Design



PUBLIC REALM DESIGN



Places for **gathering and civic life** for a **diverse community**



Integrated **parks and green spaces**



Community design that **celebrates and enhances neighborhood character**



Preserved and restored natural resources



Integrated **parks and green spaces**



Convenient, safe, and low-stress transportation options

PUBLIC REALM DESIGN

Drafts to be refined and expanded into final public realm deliverable:

- Significant Tree Inventory Map
- Street Demonstration Plans (two options)
- Bicycle Circulation Concept
- Advance Road Cross-Section Concept
- Park and Open Space Framework



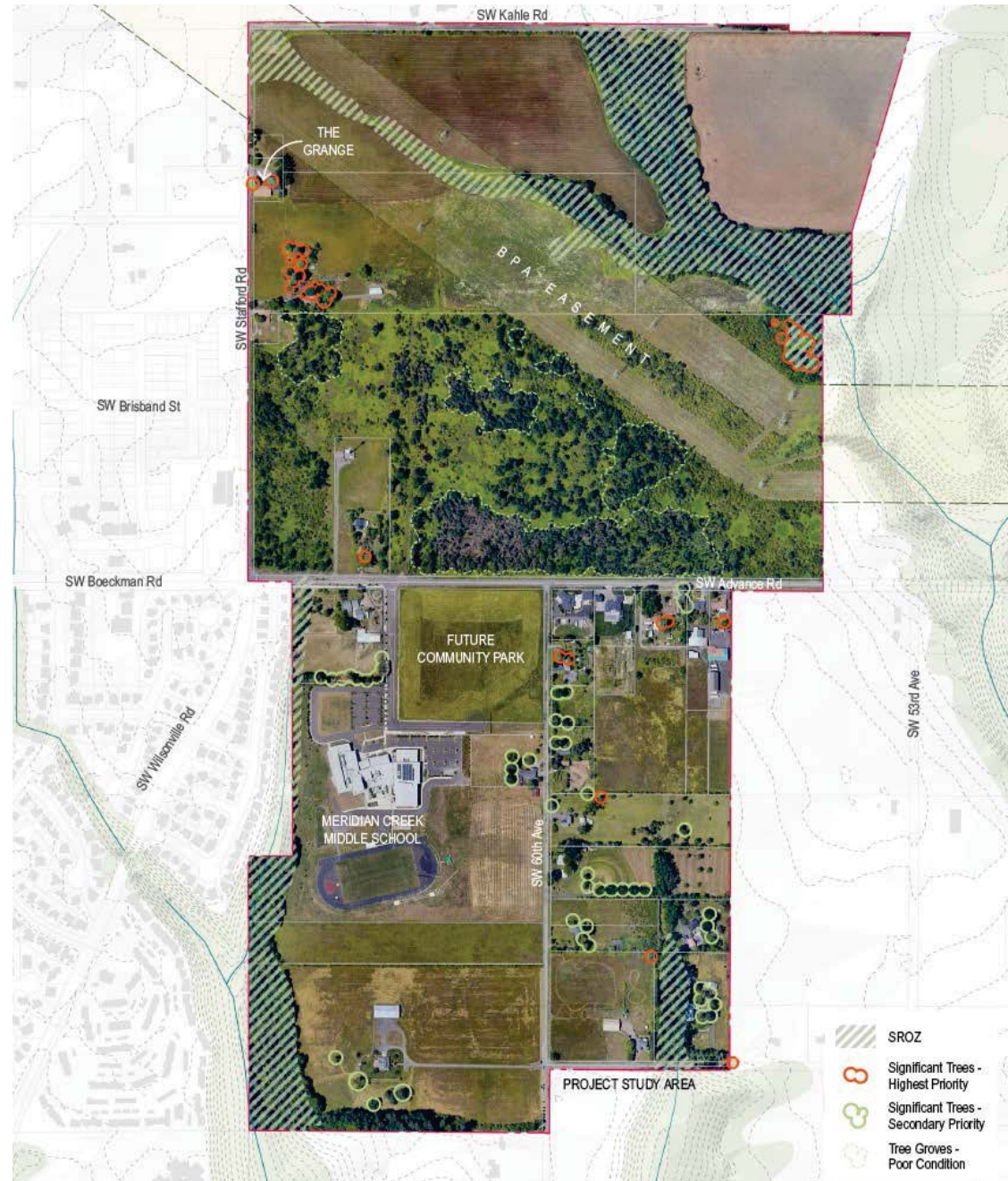
TREE INVENTORY MAP

- Based on recent Arborist report
- Some areas of high value trees
- Other areas of low value groves



TREE INVENTORY MAP

- Based on recent Arborist report
- Some areas of high value trees
- Other areas of low value groves



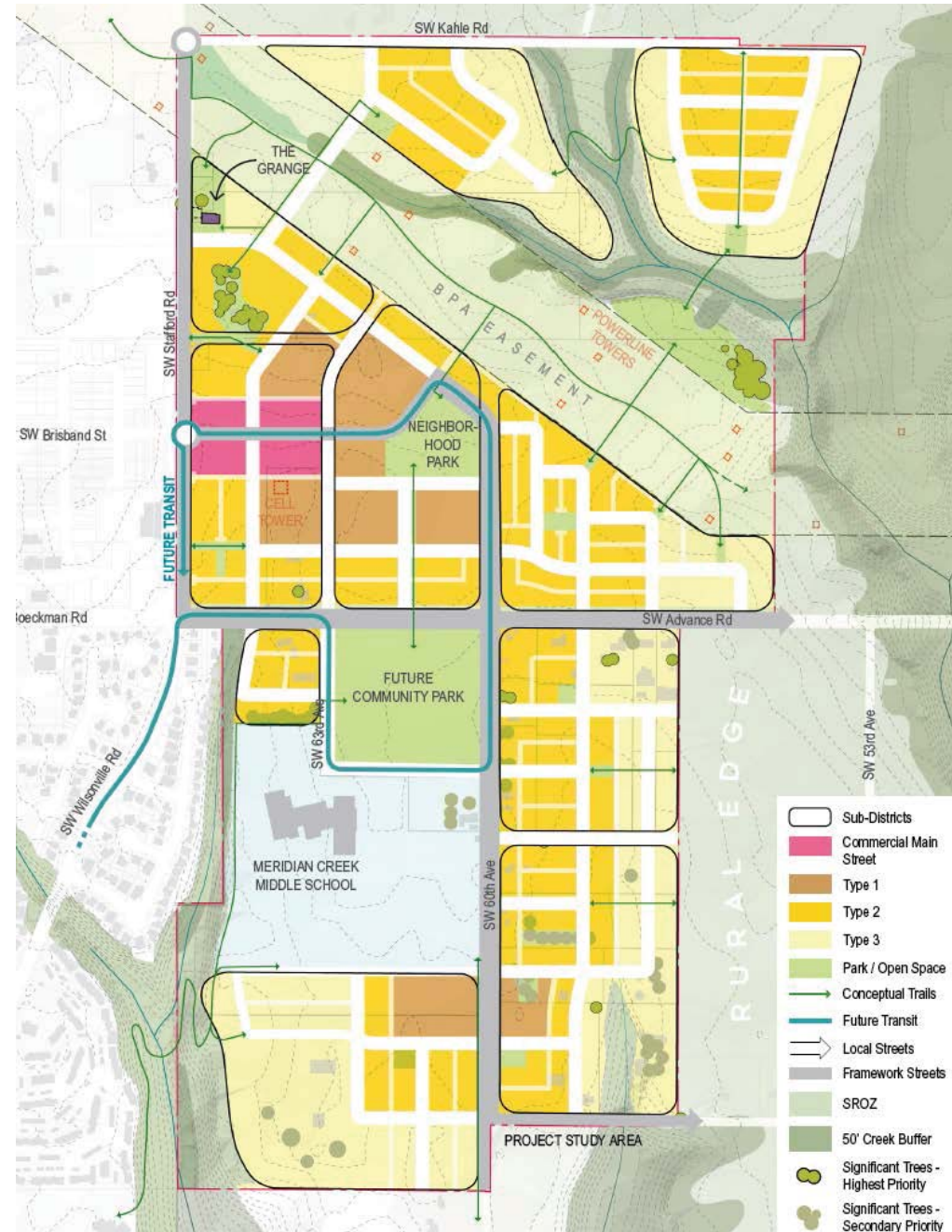
TREE PRESERVATION EXAMPLES



1. *An existing mature tree on SW Brisband Street in Frog Pond West was preserved within the design of a street corner.*
2. *A mature white oak tree was preserved within parking lot landscaping for Wilsonville High School.*
3. *Private development can preserve significant trees within central open spaces or green spaces.*

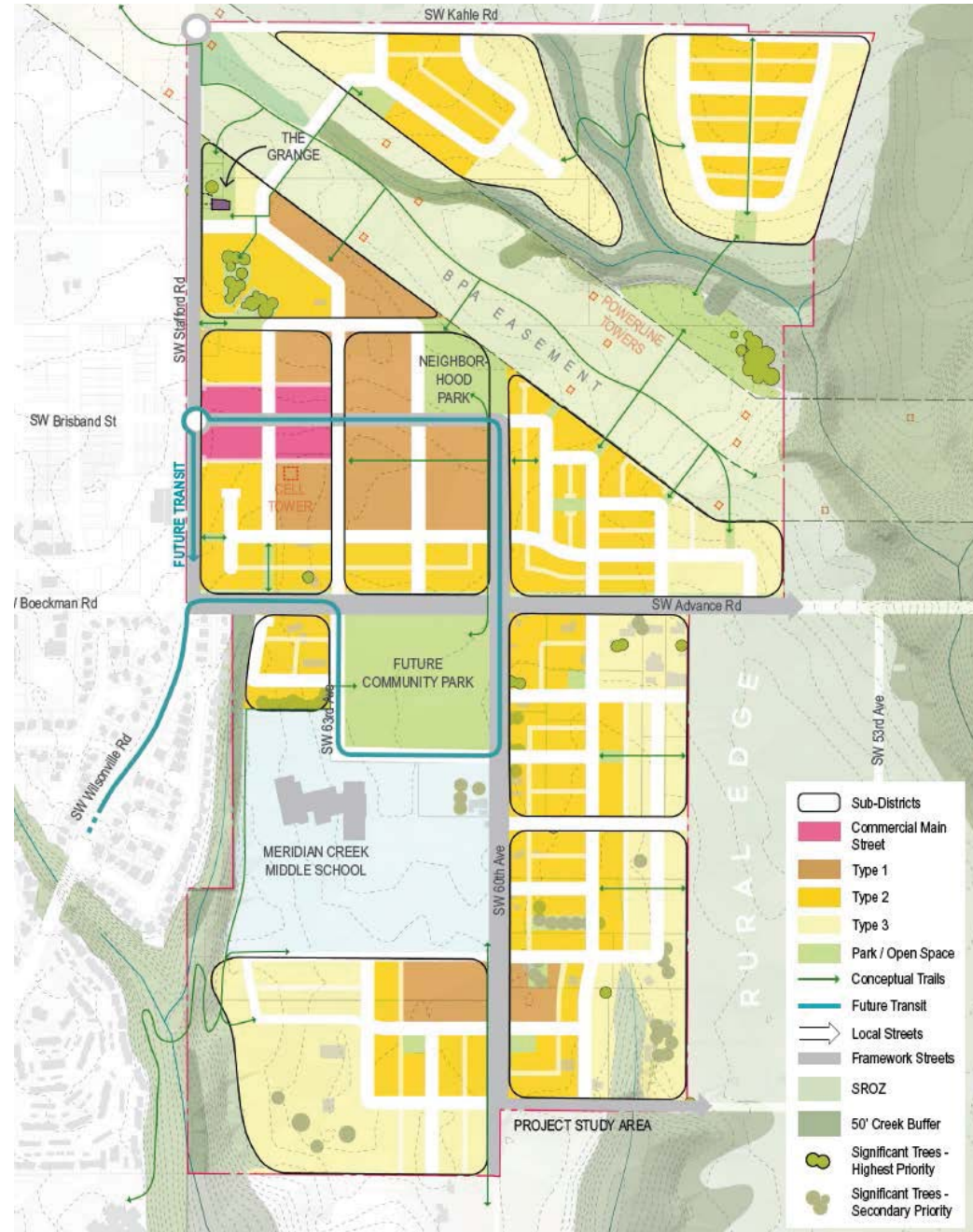
STREET & BLOCK DEMONSTRATION: OPTION 1

- Differences in Frog Pond Lane connection and neighborhood park location
- Examples of local street connections

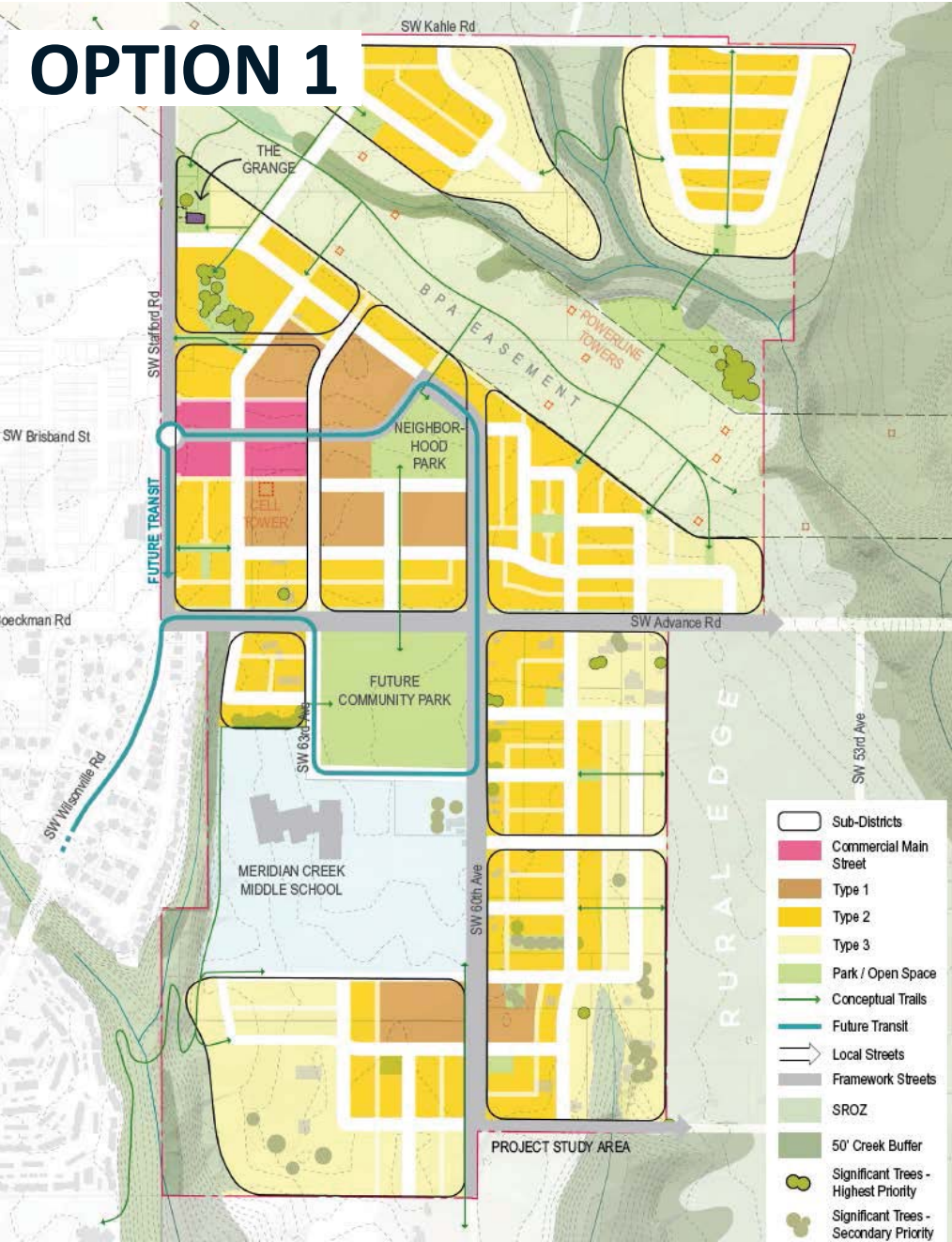


STREET & BLOCK DEMONSTRATION: OPTION 2

- Differences in Frog Pond Lane connection and neighborhood park location
- Examples of local street connections

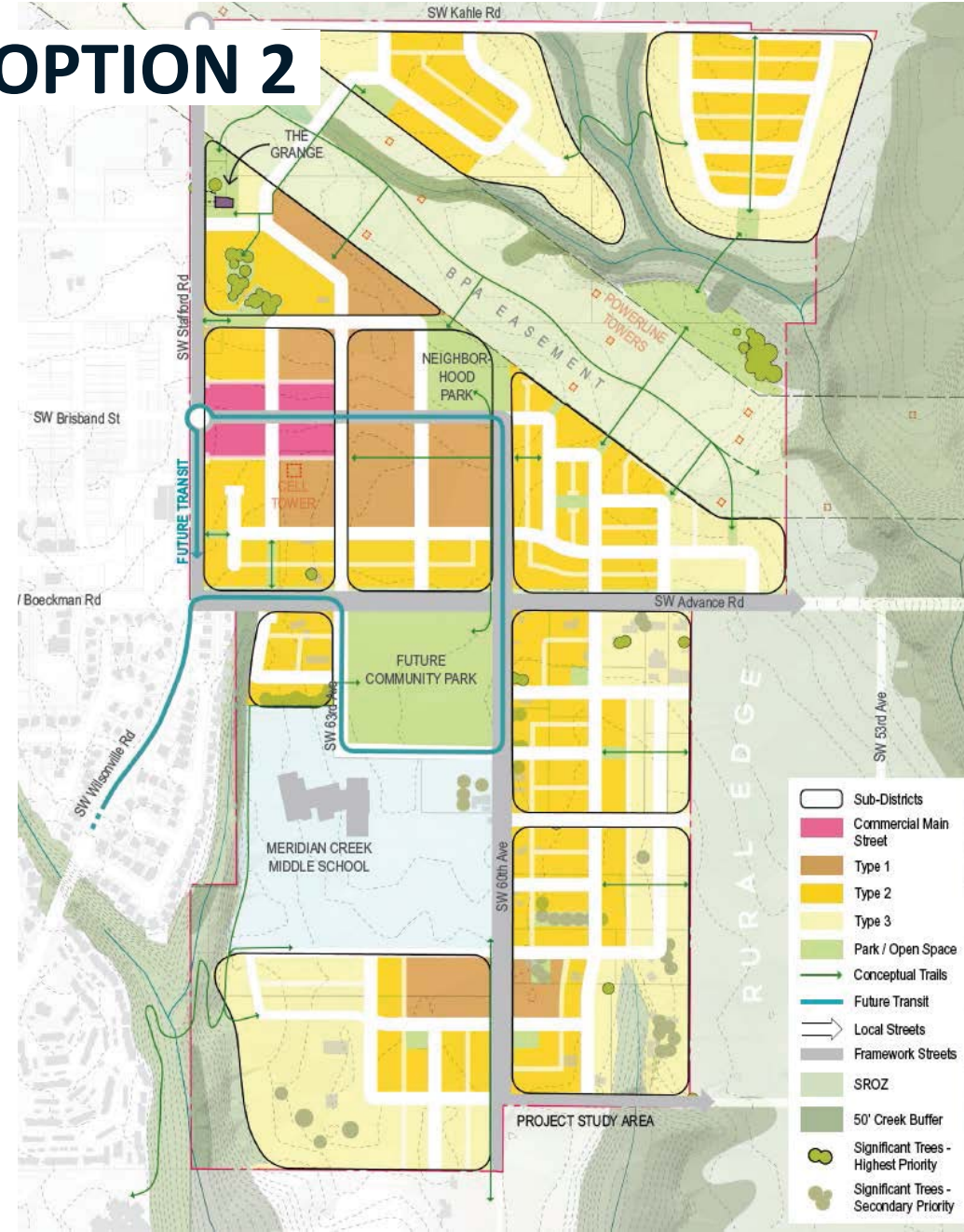


OPTION 1



- Sub-Districts
- Commercial Main Street
- Type 1
- Type 2
- Type 3
- Park / Open Space
- Conceptual Trails
- Future Transit
- Local Streets
- Framework Streets
- SROZ
- 50' Creek Buffer
- Significant Trees - Highest Priority
- Significant Trees - Secondary Priority

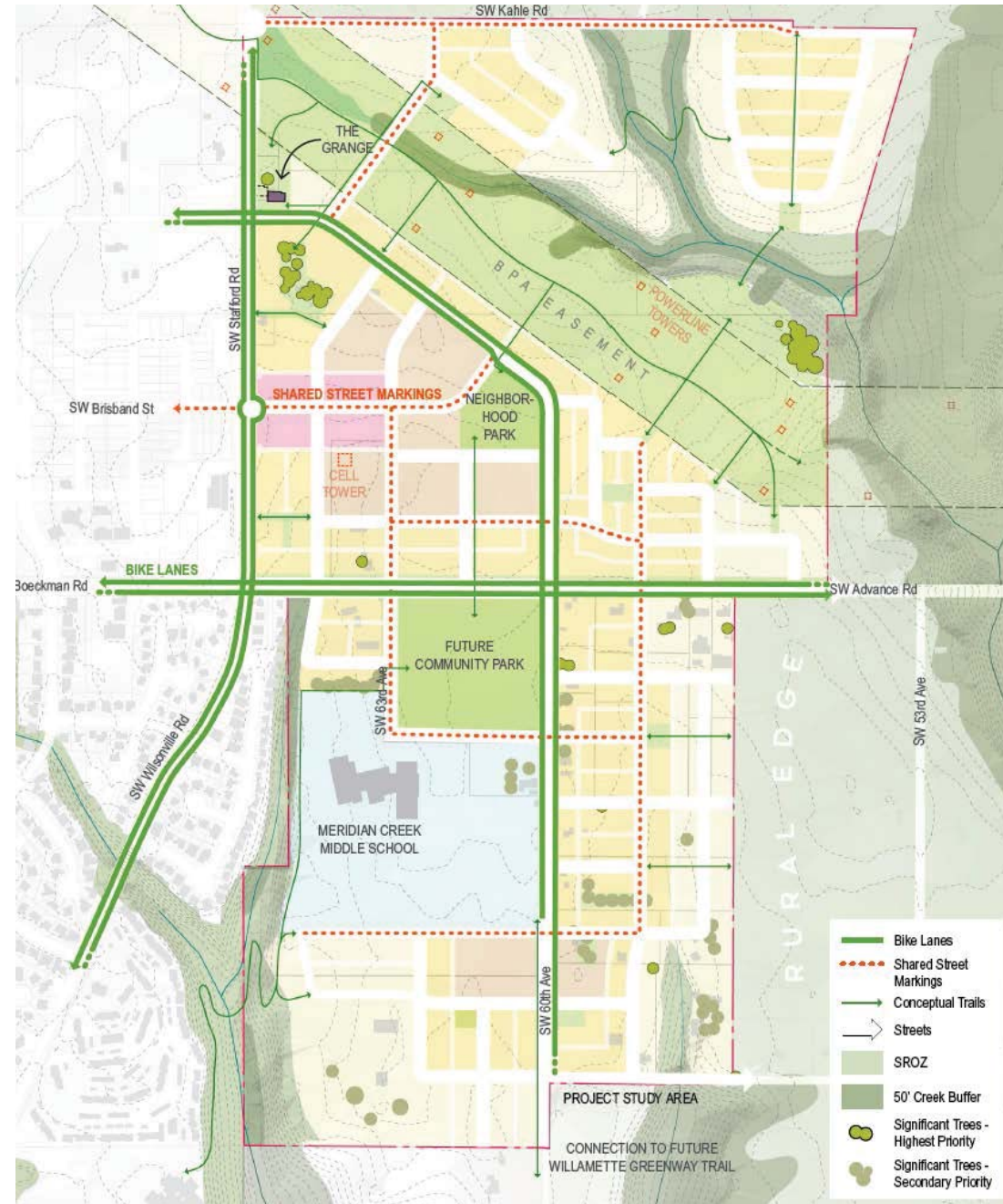
OPTION 2



- Sub-Districts
- Commercial Main Street
- Type 1
- Type 2
- Type 3
- Park / Open Space
- Conceptual Trails
- Future Transit
- Local Streets
- Framework Streets
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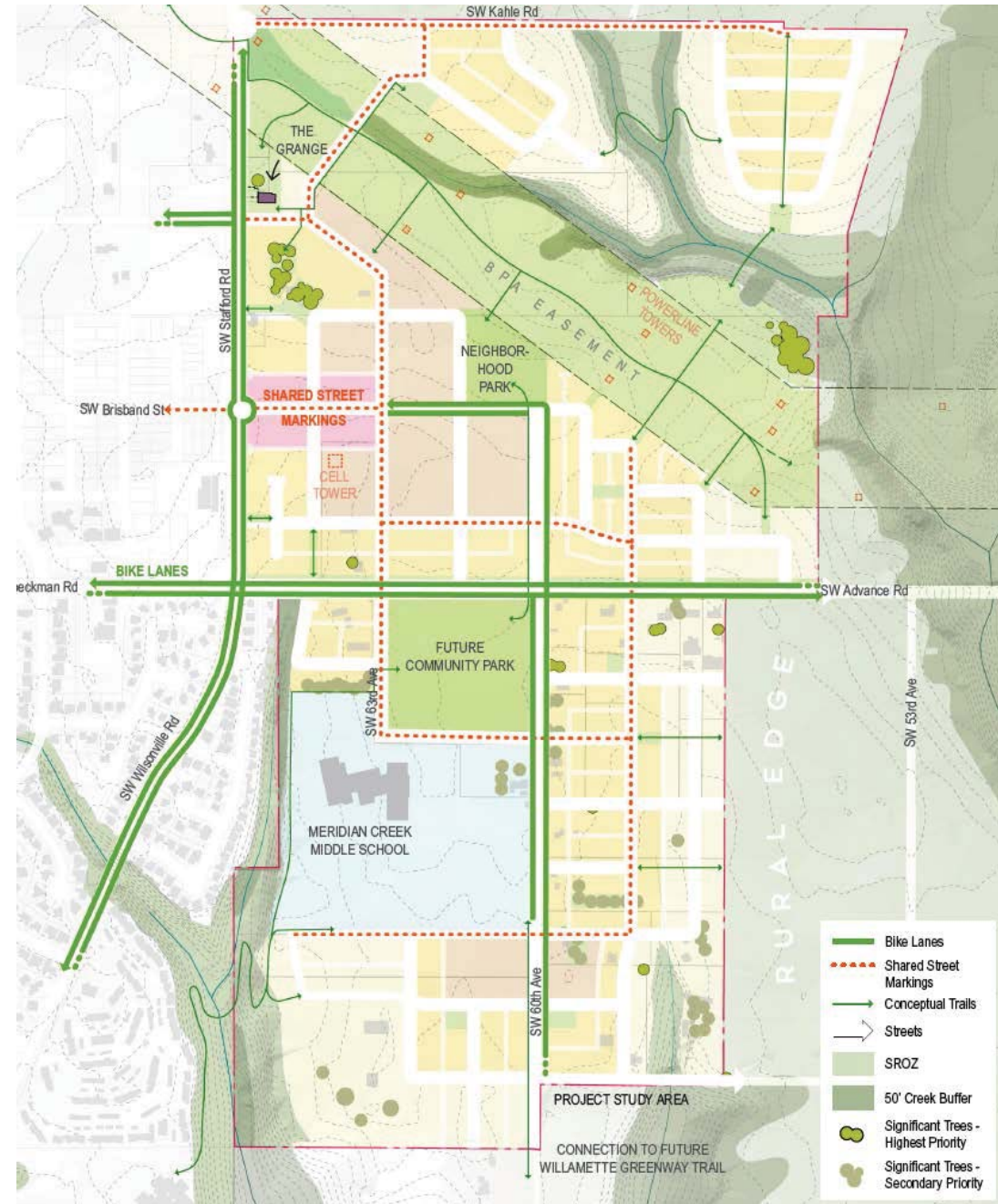
BIKE AND PEDESTRIAN CIRCULATION: OPTION 1

- Bike lanes
- Shared streets
- Trail connections

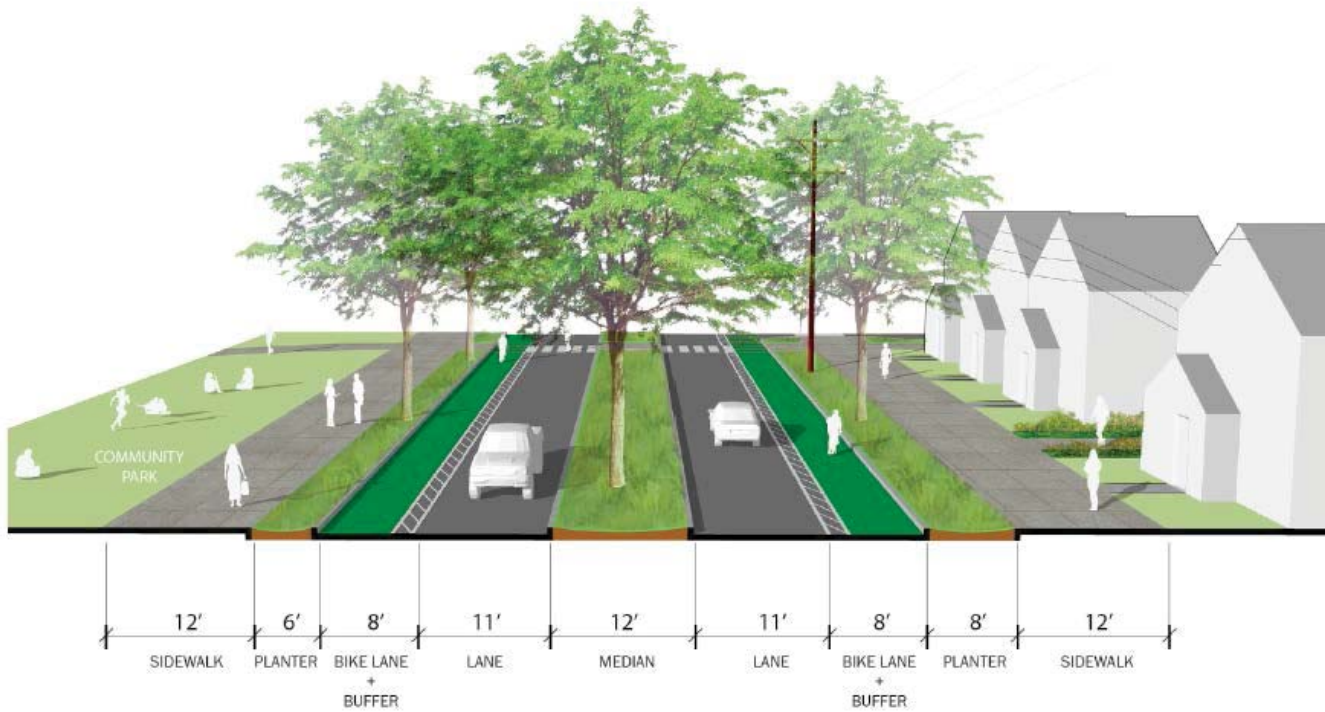


BIKE AND PEDESTRIAN CIRCULATION: OPTION 2

- Bike lanes
- Shared streets
- Trail connections



ADVANCE ROAD CROSS-SECTION



- Collector designation
- Bicycle/Pedestrian focus
- Front doors facing community park

PARK & OPEN SPACE FRAMEWORK

- Neighborhood Park & Community Park
- “Green Focal Points”





Summary of Engagement Activities



Engagement Activities



Public Space Survey through August



Popsicles in the Park – August 9th



Block Party August 25th



Focus Group for Spanish Speakers – September 10

Discussion Questions

1. How should the City determine target housing variety requirements? What are the Commissions' thoughts on meeting market-rate needs for households making 80%-120% MFI as one of the criteria for determining variety requirements? What other criteria would the Commission suggest?
2. What comments does the Commission have about the public realm components (Attachment 2) in general?
3. What comments do the Commission have about Options 1 and 2 of the plans focused on the area in East adjacent to the BPA Easement?



- **Ms. Martin** noted a few survey questions asked how often the respondent had taken SMART over the last year, and if they had not ridden or had never used SMART, they were asked for their reasons and allowed to choose as many as applied. Those results would be interesting and could help the consultants do some follow-up. Those non-users were not the stakeholders usually thought of, but they were the people SMART was trying to convince to use transit.
- **Ms. Martin** clarified the survey had been translated into Spanish, and she believed the page could be translated via Google, which the team would research.
- Understanding the goal would better inform what stakeholders to suggest. If the goal was to achieve an X increase in ridership that would involve a different set of stakeholders. If the goal was to maintain the existing ridership base, then that was a different set of stakeholders. Knowing what was trying to be achieved would make it easier to develop a list of stakeholders.
 - **Ms. Martin** believed the existing summary included a list of goals for the TMP.
 - **Ms. Poyourow** noted the stakeholder workshop would address questions of priority and policy for the future TMP. Stakeholders were not just people who might themselves want to ride the bus, but also people whose opinions should be considered about how Wilsonville grows, how transit changes in Wilsonville, and what would be most important as the City developed its transit system over the next five years. The stakeholders were people with lots of different perspectives on the city, the life and growth of the city, as well as people interested in transit. The existing stakeholder list included a very specific portion of the community, so homeowners would be a good addition to the stakeholder group.

3. Frog Pond East and South Master Plan (Pauly)

Dan Pauly, Planning Manager, presented the updates to the Frog Pond East and South Master Plan via PowerPoint, providing information requested from the Commission, which included a brief overview of Villebois' housing mix, highlighting the design concepts discussed in February, and presenting the residential polices for housing variety. Staff sought input on several elements related to the criteria for Components 1 and 2, which involved target housing types and a cap on single housing types, respectively.

- Component 1. (Slides 7-8) Staff had some initial ideas about target housing types and the criteria to use. (Slide 8) He noted defining the mix of uses would not define any specific price point, but would look at the mix that would give the best opportunity to serve different market segments.
 - Targeting housing types identified in the Affordable Housing Analysis would serve the market rate segment of 80 to 120 percent of the Area Median Income (AMI).
 - Other ideas included accessory dwelling units (ADU) and cottages. ADUs could help with affordability as well as meet certain demographic segments of the market not otherwise served by larger homes.
 - Accessible living options were another idea, particularly smaller, accessible, single-floor options; however, these options would further analysis by the project team.
- As discussed during July's work session, some housing varieties would not likely be built by the market through incentive so a requirement would make more sense. However, the City may be able to incentivize some housing types, such as ADUs.
- Staff sought feedback on identifying the target housing types, how much of each housing type should be required and what to require versus incentivize.

The Commissioner comments and feedback regarding Component 1 Criteria was as follows with responses to Commissioner questions as noted:

- Different housing products could be placed within all three housing types, so with the 80% to 120% AMI goal and knowing Frog Pond West was built out with larger houses, East and South would need a mix of townhouses, condos, and smaller, detached single family homes.
 - Commissioner Karr suggested Type 1 could be a mixture of 4-unit townhouses, multi-story condos, and detached single-family with 20 percent minimums and 30 percent maximums of each type. Type 2 could be a mix of three-unit townhouses and detached single-family homes, both with 30 percent minimums and 50 percent maximums, for a kind of 50/50 split. Type 3 could be four- and two-unit townhouses mixed at 50 percent and detached single-family homes at 50 percent. He agreed to email Mr. Pauly those numbers, which could be passed on to the other Commissioners.
- **Mr. Pauly** confirmed that a zoning scheme could be developed that offered a minimum requirement of a housing type and incentives for exceeding the minimum percentage.
- The City should do everything possible to have a standard minimum and then incentivize, which would work with other design preferences. Although how to provide a target mix for a balanced approach was unclear at this time, providing housing types with no numbers was a problem. It was important that the City not paint itself into a corner and make it impossible to meet not only incentives but the market situation. Thus far, the Commission had worked on the premise of keeping flexibility while also including minimum targets to avoid missing the opportunities for achieving the upward mobility and housing mix desired. The markets analysis was very helpful but coming up with a design and policy that allowed flexibility for Staff and those rendering approval to find the best and most doable mix at the time was difficult. Having draft policy language to frame the issue would enable Commissioners to give provide better feedback.
 - **Mr. Pauly** noted Staff could explore ways to update the regulated mix in a couple years after the City completed the Housing Needs Analysis and had a new production strategy.
 - Hopefully, that was not needed. The hope was to have aspirational language that tells decision makers, whenever decisions were made, what the target vision is and allow them to hone that to the conditions and opportunities at the time. Maybe that was not doable, and something would need to be set up now, and then revisited in two to three years.
- The City was looking at market affordability of 80 to 120 percent. Was there a reason 60 to 80 percent was not considered?
 - **Mr. Pauly** replied 60 to 80 percent would not be delivered by market rate housing and would need to be some sort of subsidized-type project which, in terms of types, would still be allowed but would be separate from the Master Plan. Language would likely exempt subsidized, affordable housing from any variety requirements. If funding came into place, partnerships were made, and an affordable developer built something, that would be outside this Master Plan. The City could not require a certain amount of 60 to 80 percent, and it was likely no products could be developed at that price point without being subsidized somehow.
 - Information was available in the Affordable Housing Analysis, but tiny homes would likely be in the 80 to 120 percent category. While tiny homes would meet a different kind of market need demographic than other products, they would still be fairly expensive due to the fixed cost of building the infrastructure and installing kitchen and bathroom fixtures.

- He confirmed cottages referred to cottage clusters (Slide 8) and confirmed Staff would double check to see if the cost of cottages or tiny homes could meet the below 80 percent market segment, and if so, the City may want to include them in the target housing types.
- Staff was encouraged to look into the affordability of tiny homes and cottages more closely, and Commissioner Woods offered to send more information if needed. For affordability purposes and considering first-time homeowners, the City should seriously consider tiny homes while ensuring the tiny homes fit with the models in the particular subareas.
- The City should consider a certain percentage of accessible, one-level homes that could meet the needs of seniors or those looking to move from a two-story to a one-story home.
- As far as requiring versus incentivizing, incentivizing was preferred. Certainly, the City did need to require a certain percentage, but determining those percentages was a struggle given all the other variables being discussed. Perhaps **Commissioner Karr's** information would help.
- It was important for the City to pay attention to the extreme changes happening in the country, the climate, and in the world, and serving the needs of the future population rather than the known quantity in the present. Concern was expressed about the City making decisions about percentages of housing types based on what was known right now, when the question was what kind of community would Wilsonville be 20 years from now? What kind of population was the City trying to attract? What kind of businesses? Would the City be able to provide housing to the population working in those businesses?
 - That was why flexibility was needed.
- Regarding comments about the affordability of cottages and tiny houses, the City's focus in Frog Pond was as it should be. The Commission had already discussed that a greenfield development could not effectively produce affordability. The graphs on Page 20 of Attachment 1 indicated where the housing shortfall was in the city, which was drastic, as well as the closing housing target the City could meet for the Frog Pond neighborhood, which was on the edge of the city. The Planning Commission had discussed how having public funding available for housing would make things different, at least in other parts of the city, so the City could have housing availability for lower percentages of median income. Had City Council discussed that topic or was the Council still where it was three years ago prior to the housing strategy? Was the City getting any closer to at least looking down the road at the potential of having housing services?
 - **Mr. Pauly** confirmed that was in process, but there was certainly more work to do. Council was looking at the TOD transit project to provide some immediate affordable housing. Matt Lorenzen recently worked on the vertical housing tax credit which could be used both in Town Center and Villebois, and potentially even in the Frog Pond commercial area, if the developer wanted to do vertical mixed use. In addition, the Urban Renewal Task force recently had a meeting about exploring how urban renewal could come into play and considered a system similar to the Wilsonville Investment Now (WIN) Program, where spot-specific additions were made to the Urban Renewal District in order to take advantage of help from tax increment financing to assist with affordable housing. All these options were being proactively looked at right now, and there was a lot more to do. City Council realized affordability was an ongoing conversation but was interested in the topic.
- Staff's comments were helpful. The timeline for any discussions to start creating options for affordable housing was probably about the same as the development of the Frog Pond neighborhood. Since those conversations were happening at the same time, Frog Pond did not have to be the last, best chance for the City to get everything it needed in affordability taken care

of, which would not be doable anyway as the analysis showed. The need to be flexible was critical, so the City did not lose out on opportunity because it was too rigid and not creative enough, or too lenient and avoided keeping the accountability to get as much affordability as possible.

- Regarding affordable housing, the City was in a conundrum with a green field in Frog Pond. The stats on Page 14 of the Affordable Housing Analysis showed the City's greatest need currently was very expensive housing and really inexpensive housing, which was not at all what the City was aiming for with Frog Pond. The only way the City would get to the lower end was through "infill-subsidized," taking existing market rate housing and subsidize based on a person, rather than subsidizing an entire building, like a HUD building. The City was missing the mark with its target of serving the 80 to 120 percent bracket in Frog Pond because the largest demand shown was in the 150 percent or more bracket. Basically, the city's largest housing need was at the top end and at the bottom end of the income scale. If Frog Pond was built out for the 80 to 120 percent target, people would buy the houses, however, how long the houses would stay in that target range was questionable; house values would inflate quickly.
 - **Mr. Pauly** clarified the tables on Page 14 were an extrapolation of existing population and reflected a gap for the 120 percent because that was not a strong part of the city's existing product mix and population.
- Wouldn't Exhibit 15 identify the City's housing need gap? The center portion of the chart showed the existing housing needs, and the only three needs were very high income, very low income, and extremely low income, which matched Exhibit 9 on Page 14.
 - If the needs were broken up differently, like middle income from 80 to 100 percent and then 100 to 120 percent, then that product mix might show up from 100 to 120 percent AMI.
 - **Mr. Pauly** replied he would follow up on that at the next work session.
 - It was a question of who the housing was being built for. Was housing being built for people in the 80 to 120 percent MFI who had not yet moved to the area or for people already in Wilsonville who wanted 120 percent MFI and above?
 - Exhibit 9 indicated there was a huge shortfall above 120 percent, which was probably above 150 percent AMI. If the city did not have housing for those people, they might buy a less affordable house or move out of Wilsonville to an area with houses that fit their lifestyle. Villebois was a well designed, built, and looking community. If that was what the City was shooting for and those housing types fit the 80 to 120 percent AMI, then that should be the City's goal. Right now, there was a huge shortfall in the less than 30 percent AMI, and the City had to figure out how to make housing available for that portion of the population, though perhaps not within Frog Pond.
 - Housing being built in Frog Pond West was all at 120 percent AMI and above.
 - In Exhibit 15, did the city distribution include Frog Pond West, both what had been built and what was planned to be built?
 - **Mr. Pauly** replied ECONorthwest was not present as Staff had not anticipated such detailed questions about the data, but they could be invited to the next work session.
 - Including Frog Pond West in the city distribution shown in Exhibit 15 on Page 20 of the attachment or page 49 of the PDF was one thing, but if not, it seemed to indicate the City had built some of the 120 percent and above, which changed the existing housing need, as well as the potential requirements for what the City needed to build in Frog Pond East and South. The answer was important to ensure the City was using all the data available. Currently, the proposed target showed the need for lots of high and middle income, and very little of the

other things the City needed. While it was not possible to solve the existing need gap for extremely low income in Frog Pond East and South on its own that did not mean the Commission should not try to do something meaningful to make progress. Having nothing or very little meant the existing gap would get larger. Defining targets for housing types was difficult without being able to see that picture more clearly.

- Staff had indicated that certain target housing types did not include low, very low, or extremely low-income housing, because that would require subsidies and some other support from the City. But if the City cared about affordable housing, why not identify targets for those housing types as well, even if that meant land did not get built on? If the City really cared about solving those problems, then maybe it had to wait for the money policies to be in place to support that type of development. The City did not have to build in Frog Pond East and South right now but was choosing to do so.
 - **Mr. Pauly** said the types of housing below 80 percent AMI would be similar to the 80 to 120 percent but subsidized. The regulations being discussed were about products rather than actual price points. State law had fairly specific limitations regarding what the City could do with inclusionary zoning in terms of requiring a certain income need be met and that was not being addressed directly in the discussion. The question was what product mix would be most likely to meet identified needs at market rate.
 - Hopefully, some projects came in with funding from different sources to make the houses more affordable, however the City could not require and guarantee that through zoning tools. Other tools beyond zoning were needed to accomplish that.
 - The idea was the City should have that right product mix to help facilitate the lower price points, even though the City could not force a price point on its own. The City should help provide the opportunity for smaller condos, smaller townhouses, and smaller detached houses.
 - **Mr. Pauly** agreed that made sense. He confirmed the Commission wanted Staff to further investigate whether ADUs, cottages, and other living options would be able to meet the needs at below 80 percent AMI at market rate and how those types could be facilitated.
 - Updating Exhibits 2 through 4 to break out cottages and ADUs was also suggested. Currently, the smallest type shown was two-bedroom condos. Perhaps adding those two product types would give the Commission and the rest of the City, a better feel for what those price points could be and whether cottages and ADUs could be included as targets for specific housing types.
- Two or three statements had been made which were all true at the same time. The target housing type was going to be targeted towards a certain AMI, which was fine. Affordability was not all a zoning issue, which was correct as well. However, during the discussion, a willingness or encouragement from some of the Commissioners, and perhaps all of the Commission, was to encourage the City to move faster in providing incentive tools to make affordable units available in the Frog Pond neighborhood, even if not through zoning. The City could come up with a policy or scheme that allowed the City to buy certain units and make those units available as affordable housing. The City should also act to ensure the units remained affordable in the future, as opposed to gentrifying. Staff should keep in mind Commissioner comments about encouraging and making affordability available more quickly.
- The City needed to identify what it was trying to accomplish in Frog Pond and make sure it did not move away from that. Given the 80 to 120 percent AMI, the City should keep its objectives for the neighborhood in line with affordable housing.

- There was no discussion regarding creating a visionary partnership between the kind of people the City was trying to create housing for and the kind of community it hoped to create as Wilsonville grew. What kind of industry and business was the City trying to attract? There should be some sort of partnership on that side because the businesses brought into the city would require employees and management who wanted to live in Wilsonville. If there was a clear idea of the community the City was building for in the future, it would help the City anticipate the kind of people who wanted to come live and buy in Wilsonville, so they could work in their own community and not have to commute.

Mr. Pauly continued the PowerPoint presentation, describing the purpose of a cap on housing variety and requesting some guidance on the criteria for Component 2. Was the cap about limiting too many expensive or detached single-family homes or was it about making sure there was variety throughout the neighborhood, even if that meant fewer, less expensive units?

The Commissioner comments and feedback regarding Component 2 Criteria was as follows with responses to Commissioner questions as noted:

- Further development of the minimum and maximum types would prevent a predominance of any one housing type. The struggle would be to make it affordable, and cottages seem to be the best answer for making housing affordable, which meant there would be fewer single-family dwellings. It was neither good or bad, but variety could be controlled through minimums and maximums by type.
 - **Mr. Pauly** noted Component 2 generally regarded a maximum of any one type of in a given area. Did the City want to focus that cap on single-unit dwellings or apply the cap generally, including to market-rate housing that may be more affordable?
 - The City would want to include minimums and maximums across types because that would result in something similar to Villebois, which included townhouse buildings with one to five units, each with a different look and feel so there did not seem to be an overwhelming number of townhouses because the buildings were not similar in structure, color, and shape. The Village Center seemed to have a large number of multi housing units and townhouses with more and more single family on the edges.
 - Having minimums and maximums were a good approach, but balance of housing varieties was needed to ensure the neighborhood did not look like townhouses predominantly in a particular area and but looked like a homogenous community across the board.
 - Once the minimums were settled, the maximums would balance out more, but more information was needed.
- Some of the neighborhood design was based on the transect concept where the neighborhood center would have higher density. Similar to Villebois Village Center, more density would be in the village center. That density concentration was not an imbalance, but a concept that high density housing was placed near activity centers. The Commission had discussed balance overall in the neighborhood and that typically, affordable units were put in the most undesirable part of the neighborhood, out of the way and out of sight. The Commission decided early on that it did not want that and talked about Raj Chetty's research on how neighborhoods help lower income children develop a different outlook as a result of being cohorts of higher income children in the neighborhood. Mixing the affordability element with the type was the other aspect of balancing the neighborhood out and not having one type predominate in one area. The Commission had

discussions regarding those issues over the past several months and had agreements in those conversations.

- Requiring variety generally was important to ensure a cohesive neighborhood. Defining what the percentages should be throughout the neighborhood would help ensure the City would get what it was looking for in terms of the general look and feel. It could not be only X amount in a specific district, but the central area would be denser, and it would be spread out from there, but as long as the City had those percentages set up appropriately, it would be fine.

Miranda Bateschell, Planning Director, thanked the Planning Commissioners for a great conversation, noting she did not envy their position. A lot was discussed about Villebois tonight, and she wanted to point out why the City was in a more difficult position currently. With Villebois, the City could geographically determine what housing types were going to go where with precision and created a transect of density and could set aside specific parcels for townhomes, for example. During the development of Villebois, there were times when the development community came to the City and said this was too challenging and asked to build single-family homes. The City said no and eventually the townhomes it wanted were eventually built on the set aside parcels. The townhomes inevitably offered a different price point than the single-family detached. Currently, the City had to comply with House Bill 2001, which was good in some ways because the bill required additional variety. However, the legislation did not allow the City to provide the same type of precision or known development pattern in a specific area. Before the City could designate certain areas for cottage housing, townhomes, or other specific product, but that type of precision or flexibility was no longer available. The City was now in a position of allowing many more housing types to be built on any given parcel, which made it more difficult to know whether the developer would choose a single-family home, townhouse, cottage cluster or ADU. The State rules were the reason the City was discussing minimum and maximum percentages. Whether the City landed on something precise or something that provided more flexibility with more of a range was an important factor in the City determining how to confirm the same type of variety without the same tool. She acknowledged it was a difficult exercise, but Staff appreciated the dialogue and questions. Staff would also appreciate knowing about anything the Planning Commissioners thought would help them better answer the questions and direct the City towards an answer.

Chair Heberlein appreciated the Planning Director's helpful comments, noting the Commissioners pointed questions and comments were not reflective of any displeasure on anything. The Commissioners just wanted to be sure they got it right. The problem could be solved if the City was able to come up with a creative way to buy the land; then it could replicate what was done in Villebois.

Mr. Pauly echoed the Planning Director's appreciation for the Planning Commission's discussion, which had been very helpful and provided good feedback. A lot of hard mental work had occurred in the last hour.

Saumya Kini and Joe Dills of MIG | APG, continued the PowerPoint presentation, describing the Public Realm and the key guiding principles used in its design, as well as the draft Public Realm materials included in the packet that would be refined and expanded upon based on the Commission's feedback. (Slides 11-23)

- Two street and block demonstration options were presented to meet the intent of providing a safe and low-stress accessible network of transportation options. Each option showed differences in the connection between Frog Pond Lane and 60th Ave, the location of the neighborhood park, pedestrian crossings across Advance Rd, and how homes fronted on Stafford Rd. (Slide 18)
 - **Mr. Pauly** added the movement of the neighborhood park and Type 1 up to be adjacent to the BPA easement reflected in Option 2 grew out of City Council comments about better utilizing the BPA easement, perhaps as an extension of the neighborhood park. Staff had messages into BPA to explore what options could be used on the easement, including parking.

All Commissioners preferred Street and Block Demonstration Option 2. Key additional comments and feedback regarding Options 1 and 2 were as follows (Slide 18):

- While having the main street flow into the park in Option 1 was nice, moving the park to flow into the easement, as shown in Option 2, made more sense. Not having houses face the busy Stafford Rd was preferred because a child could run out the door into the street, as opposed to running out into the back yard. Homebuyers might look elsewhere if the homes faced Stafford Rd.
- Moving the neighborhood park adjacent to the easement would give the City a lot more bang for its buck and the park fit well in that location. Moving Type 1 to abut the BPA easement was preferred and there were no issues with the other areas in Option 2.
- Connecting the park to the easement provided a gateway for the easement into the neighborhood, instead of turning one's back onto the easement like Option 1. Option 2, especially with Type 1 housing looking over the easement for a good portion, would make the easement a more defensible, owned space as part of the neighborhood. With Option 1, it was uncertain how the neighborhood would 'own' the easement.
 - Having a more boulevard-like design for one of the streets was preferred to connect the neighborhood park and easement with the future community park instead of a trail, which was envisioned as lines on a paved street.
 - With another park being planned, there should be some kind of connection between the two, and an open boulevard was preferred.
 - A well-designed wide, green sidewalk on one side of the street connecting the neighborhood park to the future community park through the downtown area or higher density residential area would create an even better, organic connection of the natural areas at the core of the neighborhood.
 - In Option 2, having no Type 1 housing in and around open space in the middle neighborhood area was good.
- Having the park next to and encroaching upon the BPA easement was a good use of additional real estate from the easement.
- The Type 1 intersection and connectivity with the easement and neighborhood park was a top feature of Option 2.
 - Given the neighborhood park's location in relation to the BPA easement, maybe the park's size could be reduced because the BPA easement space could be utilized, especially if the City was trying to maximize buildable space to reduce overall development costs.
 - An alternative was to steal a bit of space from the neighborhood park to create a linear park from the Grange through the high-value trees down to the commercial main street to have a connection between those two areas. Reducing the size of the neighborhood park while still

maintaining the connection to the BPA easement would enable a connection from the Grange to the commercial main street and make the treed area a bit more functional.

Two options were presented for the bike and pedestrian circulation in the Master Plan. Each option included differences in shared street versus bike lane use, trail connections, and bike lane connections between Frog Pond Lane and 60th Ave. (Slides 19-20)

- A cross-section concept for Advance Rd as it passed by the community park was also presented as one option for consideration where a collector cross-section and right-of-way would include generous 12-ft sidewalks, a planted median, bike lanes and incorporate existing power poles into a planter strip on the north side. Houses would front onto the community park to create a sense of integration of the park and eyes on the park as the street redeveloped. (Slide 21)

Key comments and feedback regarding the street cross-section, Bike and Pedestrian Circulation Options, and Park and Open Space Framework were as follows (Slides 19-23):

- **Mr. Pauly** understood the green connection between the community park and neighborhood park along what would be an extension of 60th Ave north of Advance Rd was probably a good candidate for the cross-section concept, as well as Brisband St.
- Overall, the Commissioners liked the options presented.
- If 60th Ave worked best to have a wider sidewalk, as proposed on Advance Rd, and provide a connector between the community park and neighborhood park that was fine. Having a connection to the downtown was good, too.
 - Would the green area close to the commercial area that had been suggested as linear park fit in any kind of a green space trail? It was an opportunity that would otherwise be missed. A green focal point was shown on the Park and Open Space Framework (Slide 22) but not necessarily any connection between the green area and the commercial area.
- The wider street going into Brisbane St was a good option.
- The Advance Rd concept was great and opened up the whole feel for a neighborhood.
- The presented options provided a lot of trail connections and bike paths. The Advanced Rd cross-section would tie East and South together nicely, even though there was a main artery between them.
- The Advance Rd cross-section showed the area at the proposed community park, but what did it look like another 750 ft farther down in the rural area and not in the City of Wilsonville? Would the same cross-section be used clear to the end and then dead end into nothing?
 - **Mr. Pauly** replied the north side of Advance Rd would continue to have the wide treatment shown in the concept. Beyond 60th Ave were homes unlikely to redevelop so the southside of the road would likely not continue at that point but have a curb. There was likely an opportunity to bring the trail up to make a strong connection through the neighborhood into the BPA easement, so the trail would not dead end into the Boeckman Dip but curve up into the BPA trail.
- Having a more emphasized tie in as far as bicycle circulation in the BPA easement would be good. Bike riders could go from Advance Rd through the BPA easement and then down, bypassing the entire section of neighborhood unless that was their destination. Having intentional access to the BPA easement and connections to those major streets at Stafford and Advance Rd would be key feature, as well as the tie-ins from the BPA easement to the neighborhood park going into the commercial center.

- Frog Pond East had trail connections to most all of the green focal points in the Parks and Open Space Framework, but there were no trail connections in Frog Pond South. Should those connections be considered? The trail in the lower-left quadrant below Meridian School should connect with the trail to Boeckman Creek School. Were there other trail connections between South and the future community park? (Slide 22)
- The green focal point at the northeast section north of the BPA easement seemed out of balance in terms of the center of that general neighborhood area. In fact, both green focal points shown north of the BPA easement could be more centrally located rather than being so close to the BPA easement.

Mr. Pauly briefly summarized the engagement activities being used to obtain feedback on the Master Plan, noting the City's survey work currently focused on the public realm. The survey text was in the meeting packet and Commissioners were encouraged to take the survey or provide comments on the topics of the survey. The City was working with the School District on holding an open house on August 23rd regarding the design of Frog Pond School. City Staffs were also working internally across the Planning, Parks, and Engineering Departments on the Frog Pond West Park and Boeckman Corridor Project.

Mr. Dills confirmed the project team had a nice set of summertime outreaches going on.

Chair Heberlein thanked everyone for all the time and effort being put into the project.

INFORMATIONAL

4. City Council Action Minutes (July 18, 2022) (No staff presentation)
5. 2022 PC Work Program (No staff presentation)

Daniel Pauly, Planning Manager, stated the Wastewater Treatment Plant Master Plan was moved out a month to address some concerns, including the demographic issues discussed in the last work session. Otherwise, the work program was looking as planned.

ADJOURNMENT

Chair Heberlein adjourned the regular meeting of the Wilsonville Planning Commission at 8:07 p.m.

Respectfully submitted,

By Paula Pinyerd of ABC Transcription Services, LLC. for
Mandi Simmons, Planning Administrative Assistant



CITY COUNCIL
MONDAY, JULY 18, 2022

WORK SESSION

Frog Pond East and South Master Plan (Pauly)



CITY COUNCIL MEETING STAFF REPORT

Meeting Date: July 18, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development, Planning Division	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input checked="" type="checkbox"/> None Forwarded <input type="checkbox"/> Not Applicable	
		Comments: During a July 13 work session, Planning Commission provided input that will be provided to the Council at the work session.	
Staff Recommendation: Provide requested input regarding residential policies for Frog Pond East and South.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE COUNCIL:

Provide feedback and input on residential policies for Frog Pond East and South. Specifically, provide guidance on variety of unit types to encourage and/or require. The policy discussion will also clarify what the different mapped colors (design types) mean on the draft preferred

land use alternative (Attachment 1). The design types and policies, after further refinement in the coming months, will control the development of Frog Pond East and South.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a Master Plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the urban reserve land known as Frog Pond East and South. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process will also identify water, sewer, stormwater, and transportation infrastructure needs and funding sources.

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To better define the different design types, it is also helpful to understand what they have in common and what is different.

Commonalities between design types:

- Variety of unit types allowed within each design type

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Differences:

The following table highlights the main differences between housing design types. See Attachment 2 for photos that help illustrate the differences.

The dimensions below are preliminary and subject to change.

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Typical front setbacks from street	Buildings typically close to the street	Further back than Type 1, but still fairly close to street unless front facing garage	20 feet with front vehicle access, similar to Type 2 with rear access
Typical lot size for individual residential structure	Less than 3,000 square feet for smaller structures containing single units. Larger for multi-unit structures	3,000-5,000 square feet	5,000-10,000 square feet
Example residential structures (see also Attachment 2)	Many in Villebois including: 5–6-unit townhouse buildings, detached homes closely spaced on approx. 2,500 square foot lots, condo buildings, apartment buildings	Alley-loaded single-family/townhomes in Villebois, Morgan Farm in Frog Pond West	Single-family detached lots in Frog Pond West and Grande Pointe in Villebois, two-story townhouse buildings in Villebois and Frog Pond West.

Housing variety policy options

With an understanding of what each housing design type means and how much variety is allowed within each, the team desires Council direction on regulating variety within each of the three design types and to what extent.

The following are key points the project team recommends the Council consider during their review and discussion:

- Variety requirements regulate types of units rather than specific price points
- This type of regulation can help ensure that middle housing is built, which is supportive of House Bill 2001 and Wilsonville’s implementation of it
- Without variety requirements each development is likely to produce one or two different unit types
- Reasonable flexibility is important: too granular or detailed of regulations make implementation difficult and can unintentionally prevent development of needed housing the market is otherwise willing and able to deliver.
- Unit variety is better regulated by unit type groupings or “buckets” rather than by individual stand-alone unit types.¹
- Regulations must be clear and objective, but a discretionary path may be made available as an option to developers.

¹ For example, townhouses, plexes, and stacked-flat apartments/condos may be grouped in a bucket as they can be built in similar sized structures. A similar bucket approach was used in Villebois that helped implement urban design and architectural variety policies while still allowing reasonable flexibility to the development community.

The project team offers the following draft policy options for the Council to consider. Other policies can be explored per Council direction.

1. Encourage But Not Require Variety: This policy option would encourage and allow variety, but not regulate. Developers would determine variety (or lack thereof) based on their preference and market conditions.
2. Minimum of Certain Housing Types: This policy option would require a certain amount of target unit types per subdistrict or block. Examples of potential targeted unit types to require:
 - a. Attached middle housing (townhouses, plexes)
 - b. Single-level units: in smaller homes (i.e., less than 1,200 sf livable floor area, this would include cottage clusters, ADUs [including those integrated into the ground floor of taller townhouse buildings], and in elevator-served multi-story buildings with single-level units.)
3. Maximum of Certain Housing Types: This policy option would require each subdistrict or block to have no more than a certain percent of one type of unit.
4. Maximum and Minimum of Certain Housing Types: This policy option would combine the requirement elements of policy option 2 and 3 to have no more than a certain percent of one type and ensure a certain amount of target unit types.

The project team recommends Option 4 as a feasible policy that will best help the City meet its goals around housing variety while still allowing a reasonable level of flexibility for developers. The size and scale of subdistricts is also an important implementing criterion, following this principle: the greater the number of potential units, the more variety that should be required.

Discussion Questions:

1. What additional questions, if any, does the City Council have about the three housing design types?
2. Which policy option would the City Council like the project team to pursue regarding housing variety in Frog Pond East and South? *Should the City require a certain mix of housing?*
3. What additional questions about housing variety policy would you like the project team to be prepared to answer for future work sessions?

EXPECTED RESULTS:

Feedback and direction from the Council on developing key residential policies for housing design types and unit variety in Frog Pond East and South.

TIMELINE:

This is the sixth in a series of work sessions for the City Council. The next work session is

planned for September. The Master Plan is scheduled to be completed by December 2022, with some implementation elements extending into early 2023.

CURRENT YEAR BUDGET IMPACTS:

The project is funded by a combination of a \$350,000 Metro grant, an \$81,000 Oregon DLCD grant, and matching City funds in the form of staff time. \$311,000 is budgeted in FY 22/23 to complete the project.

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which lays out a robust public engagement program that will include meaningful and impactful involvement of people who identify with historically marginalized communities.

POTENTIAL IMPACTS OR BENEFIT TO THE COMMUNITY:

Furthering of the City's Equitable Housing Strategic Plan and Council's goal of affordable home ownership, while creating Wilsonville next great neighborhoods.

ALTERNATIVES:

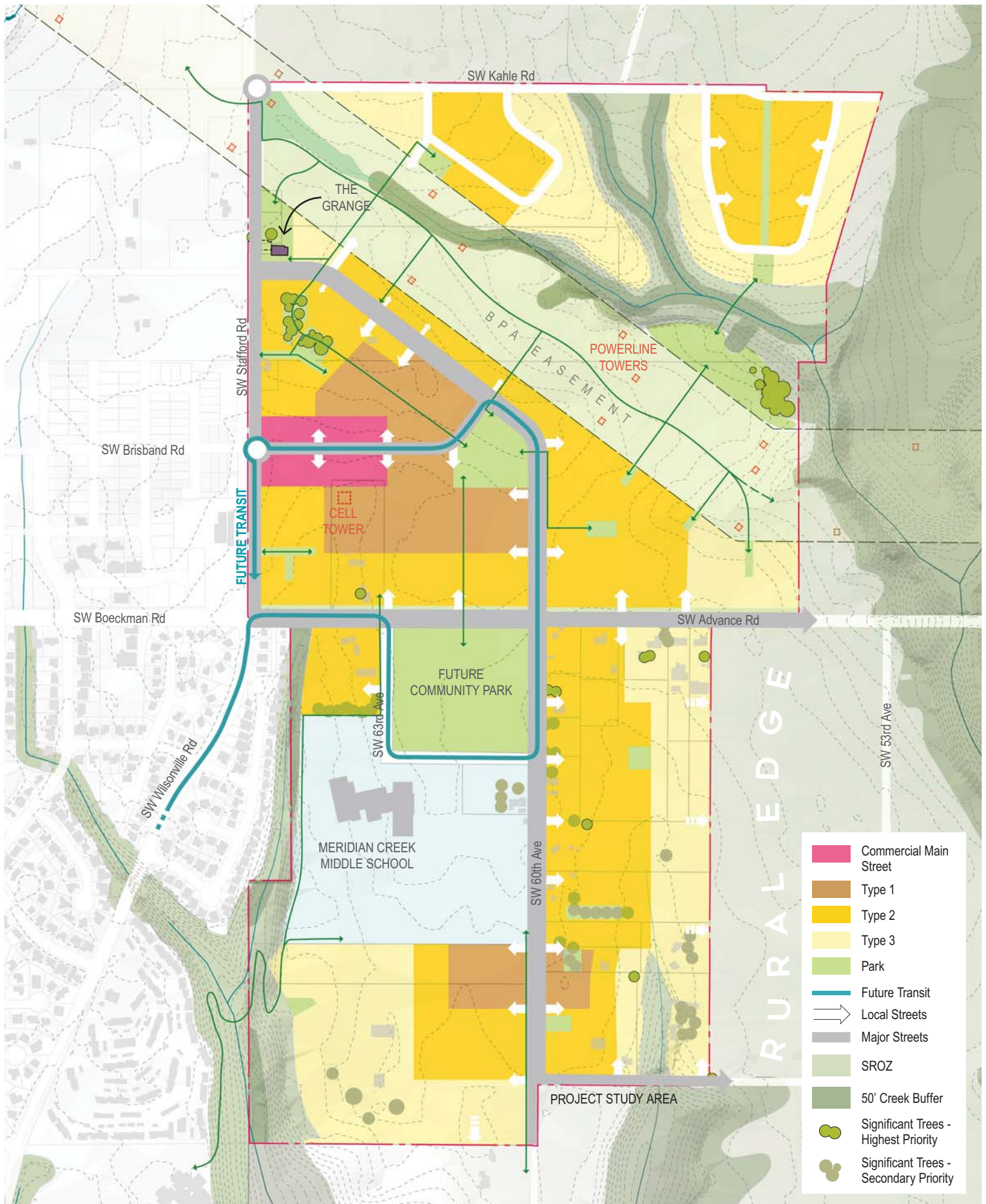
The City Council can continue to direct changes to the draft preferred land use alternative. In addition, the City Council continues to have a number of options for policy related to housing variety.

CITY MANAGER COMMENT:

N/A

ATTACHMENTS:

1. Draft Preferred Land Use Alternative for Frog Pond East and South (dated July 5, 2022)
2. Example Photos of the Three Housing Design Types proposed (dated July 5, 2022)



Examples of Design Types Proposed for Frog Pond East and South

From Villebois and Frog Pond West

Type 1

Design Type

Example Residential Structures from
Villebois



Type 1
4-Unit Townhouse Building



Type 1
3-unit Townhouse Buildings



Type 1
5-Unit Townhouse Building



Type 1

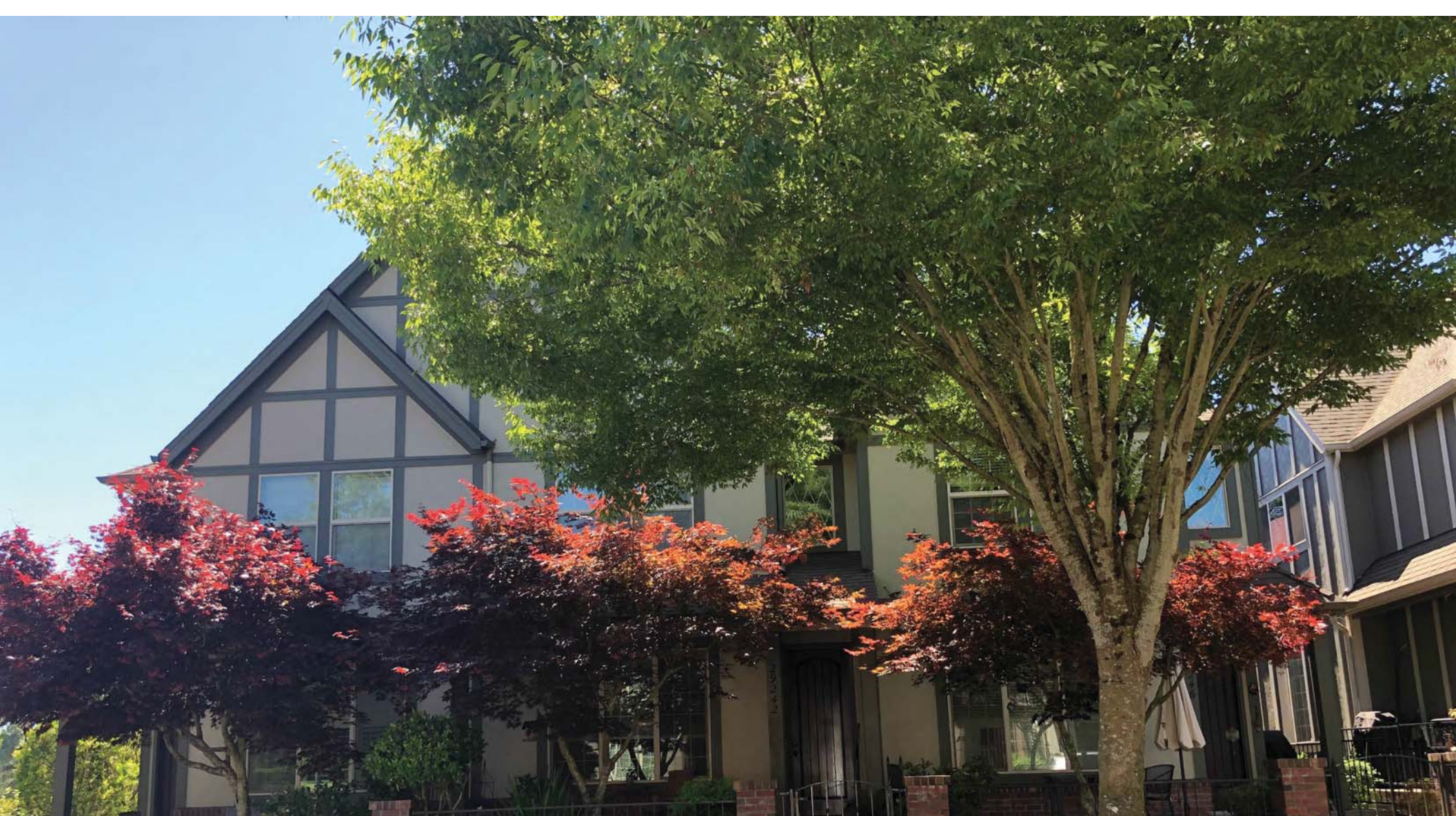
Multi-story condo building with single-level units



Type 1
Detached single-family

Type 2 Design Type

Example Residential Structures from
Villebois and Frog Pond West



Type 2

3-Unit Townhouse Building

Example of wider building on shallow lots



Type 2
Detached Single-family



Type 2
Detached Single-family



Type 2
Detached Single-family



Type 2
Detached Single-family

Type 3

Design Type

Example Residential Structures from
Villebois and Frog Pond West



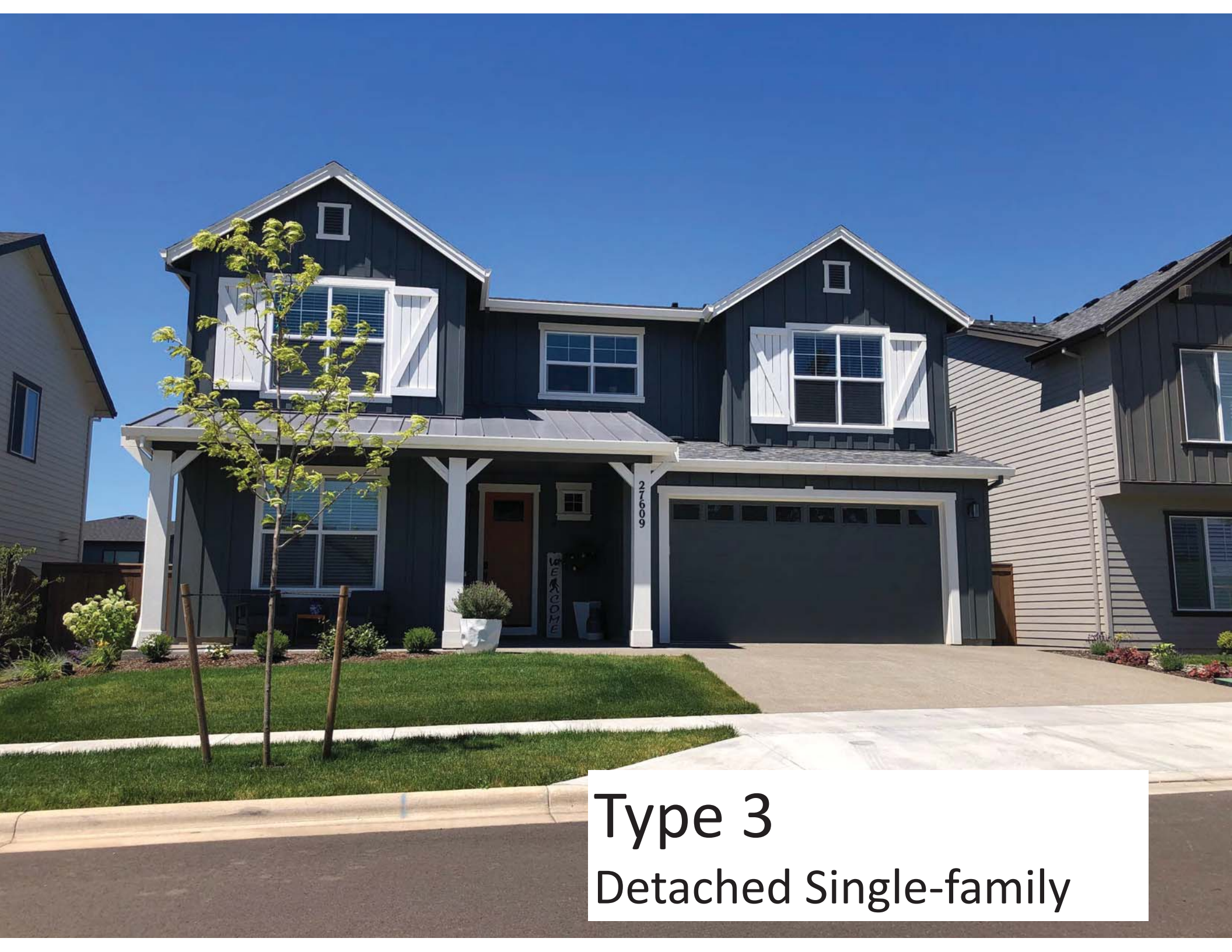
Type 3
4-Unit Townhouse Building



Type 3
2-unit Townhouse Building



Type 3
2-Unit Townhouse Building



Type 3
Detached Single-family



Type 3
Detached Single-family

Frog Pond East and South Master Plan

City Council

Work Session July 18, 2022



Agenda for Tonight's Work Session

- Review Housing Design Types
- Housing Variety Policy Options
- Draft Master Plan Preferred Alternative



Housing Related Design Concepts

- Housing variety throughout
- Affordable housing integration
- Transect in urban form



Variety and Transect Scales



Large/Broad Scale
Zoomed Out



Granular Scale
Zoomed In



The 3 Housing Design Types



How Design Types are the Same

- Variety in unit types
- Limited isolation of unit types
- Consistent building bulk and setbacks within a design type
- Housing organized around focal points



How Design Types are Different

- Bulk of buildings (height and façade length)
- Setbacks
- Lot size (or land area per structure)
- Vehicle access and off-street parking locations



Examples of Design Types Proposed for Frog Pond East and South

From Villebois and Frog Pond West



Type 1 Design Type

Example Residential Structures
from Villebois



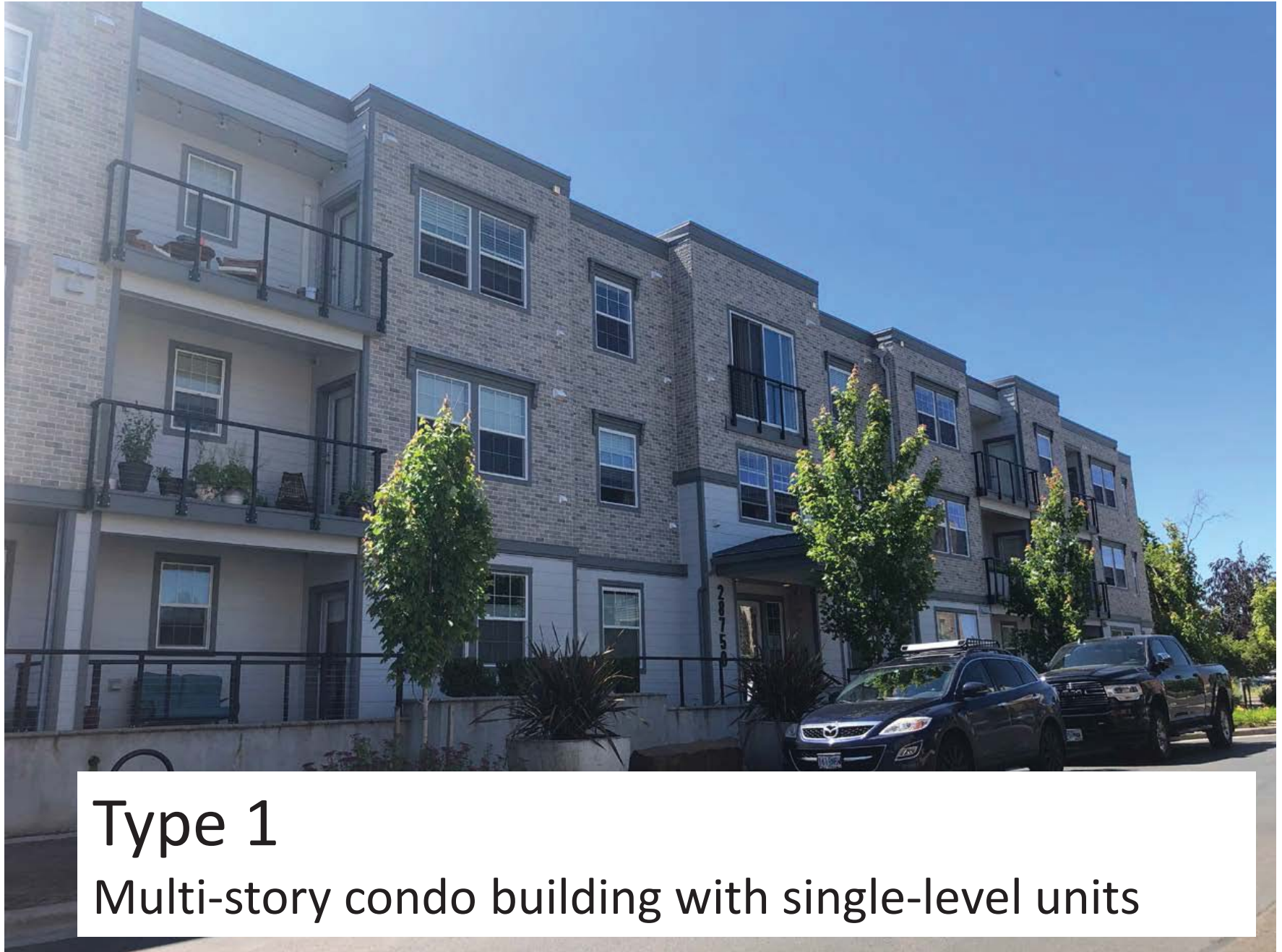


Type 1

3-unit Townhouse Buildings



Type 1
5-Unit Townhouse Building



Type 1

Multi-story condo building with single-level units

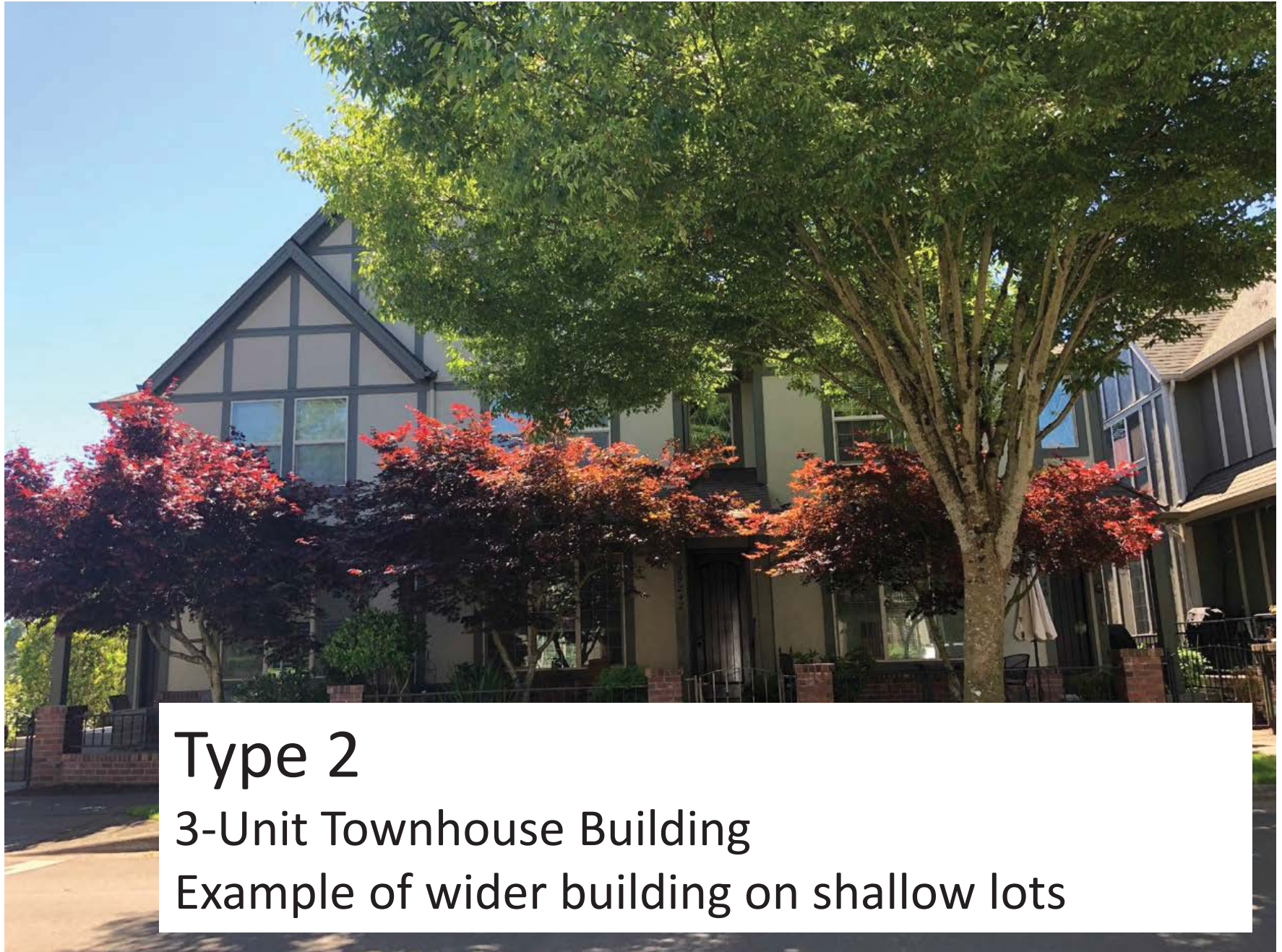


Type 1
Detached single-family

Type 2 Design Type

Example Residential Structures
from Villebois and Frog Pond
West





Type 2

3-Unit Townhouse Building

Example of wider building on shallow lots



Type 2
Detached Single-family



Type 2
Detached Single-family



Type 2
Detached Single-family

Type 3 Design Type

Example Residential Structures
from Villebois and Frog Pond
West





Type 3
4-Unit Townhouse Building



Type 3
2-unit Townhouse Building



Type 3
Detached Single-family

Housing Variety Policy Options



Key Points to Consider

- Policies and code will regulate unit type not price point
- Variety requirements help ensure middle housing implementation
- Likely limited variety without requirements



Key Points to Consider continued

- Reasonable flexibility is important
- Variety best regulated in “buckets”
- Regulations must be clear and objective



Draft Policy Options for Housing Variety

1. Encourage Only
2. Minimum of Target Housing Types
3. Maximum of Individual Housing Type
4. **Combine 2 and 3 (recommended)**



Discussion Questions

1. What additional questions or ideas, if any, does the City Council have about the three housing design types?
2. Does the City Council support staff and Planning Commission's recommendation to pursue Policy Option 4? If not, which policy option would the Council support pursuing regarding housing variety in Frog Pond East and South? *Should the City require a certain mix of housing?*
3. What additional questions about housing variety policy would you like the project team to be prepared to answer for future work sessions?



Draft Preferred Land Use Alternative



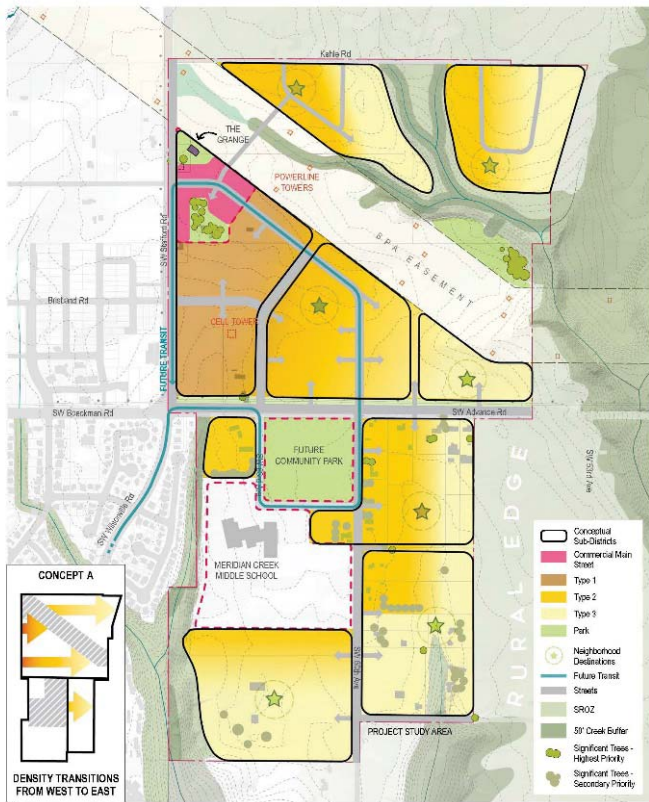
Mix Assumptions for Transportation/Infrastructure Planning

- "Reasonable Max Development" for planning purposes
- Not policy decision on mix
- Percent of units, not percent of land area

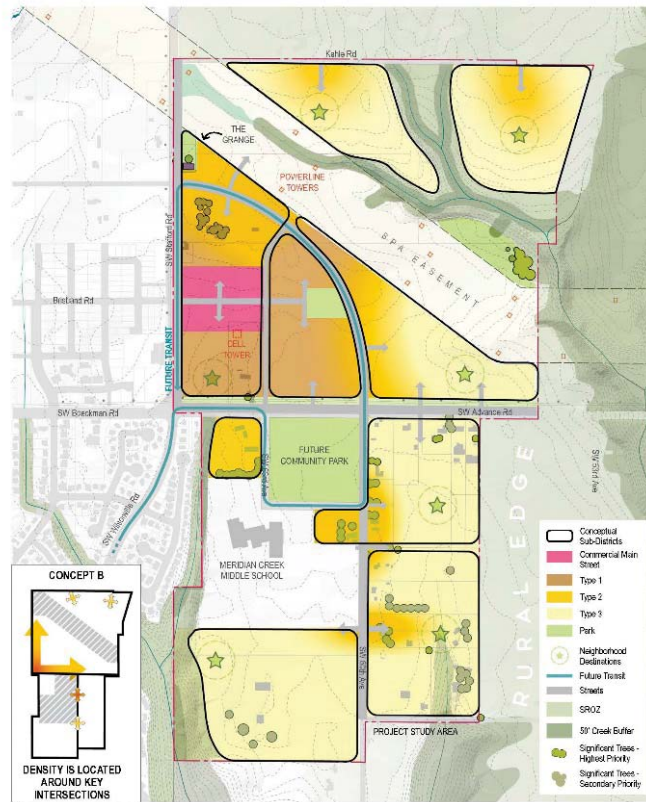
Mix	Multi-unit	Attached/Middle	Single Detached
Type 1	50%	30%	20%
Type 2	0%	50%	50%
Type 3	0%	30%	70%



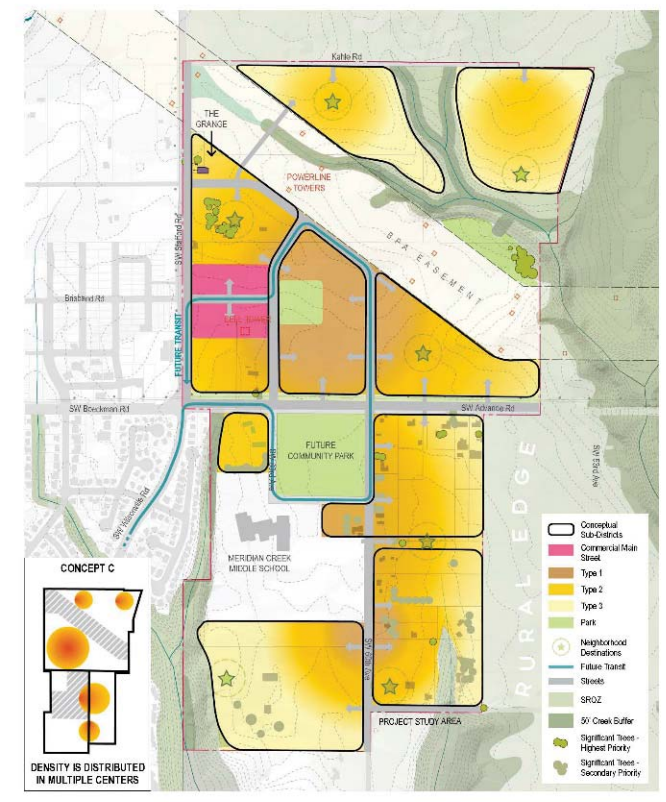
Prior Draft Alternatives



EAST & SOUTH **ALTERNATIVE A: SUB-DISTRICTS**



EAST & SOUTH **ALTERNATIVE B: SUB-DISTRICTS**

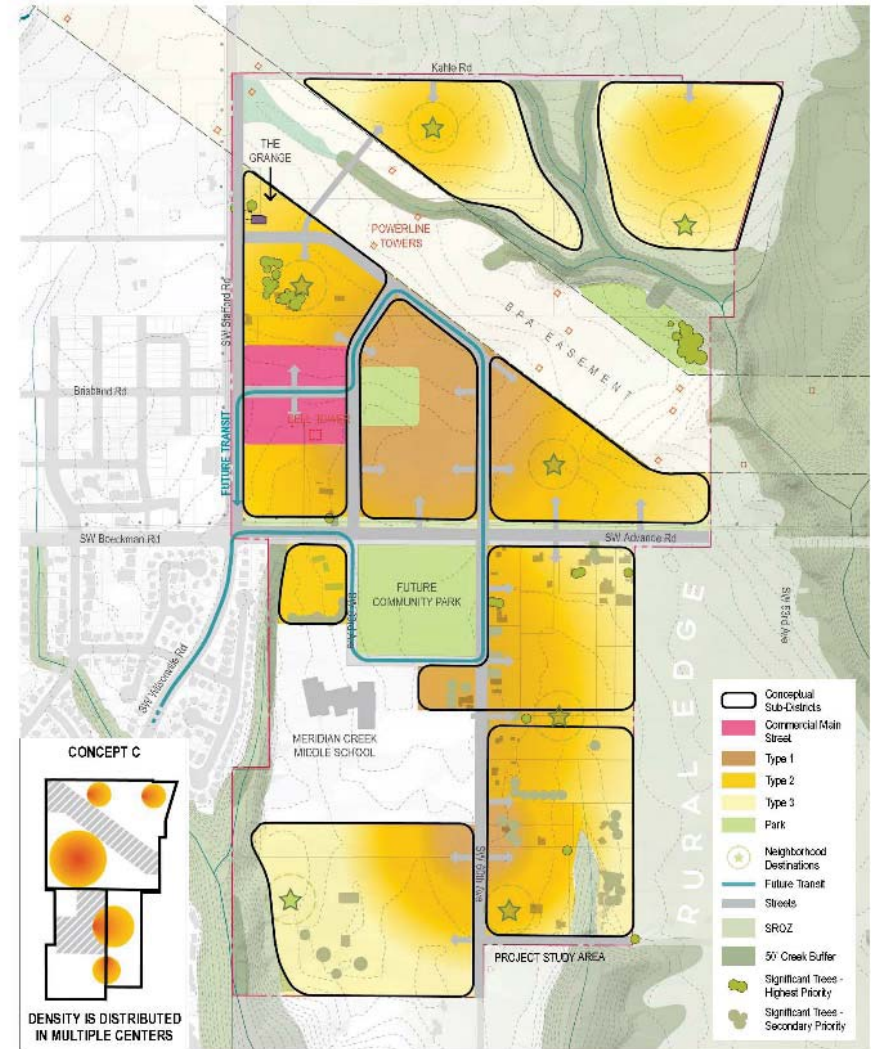


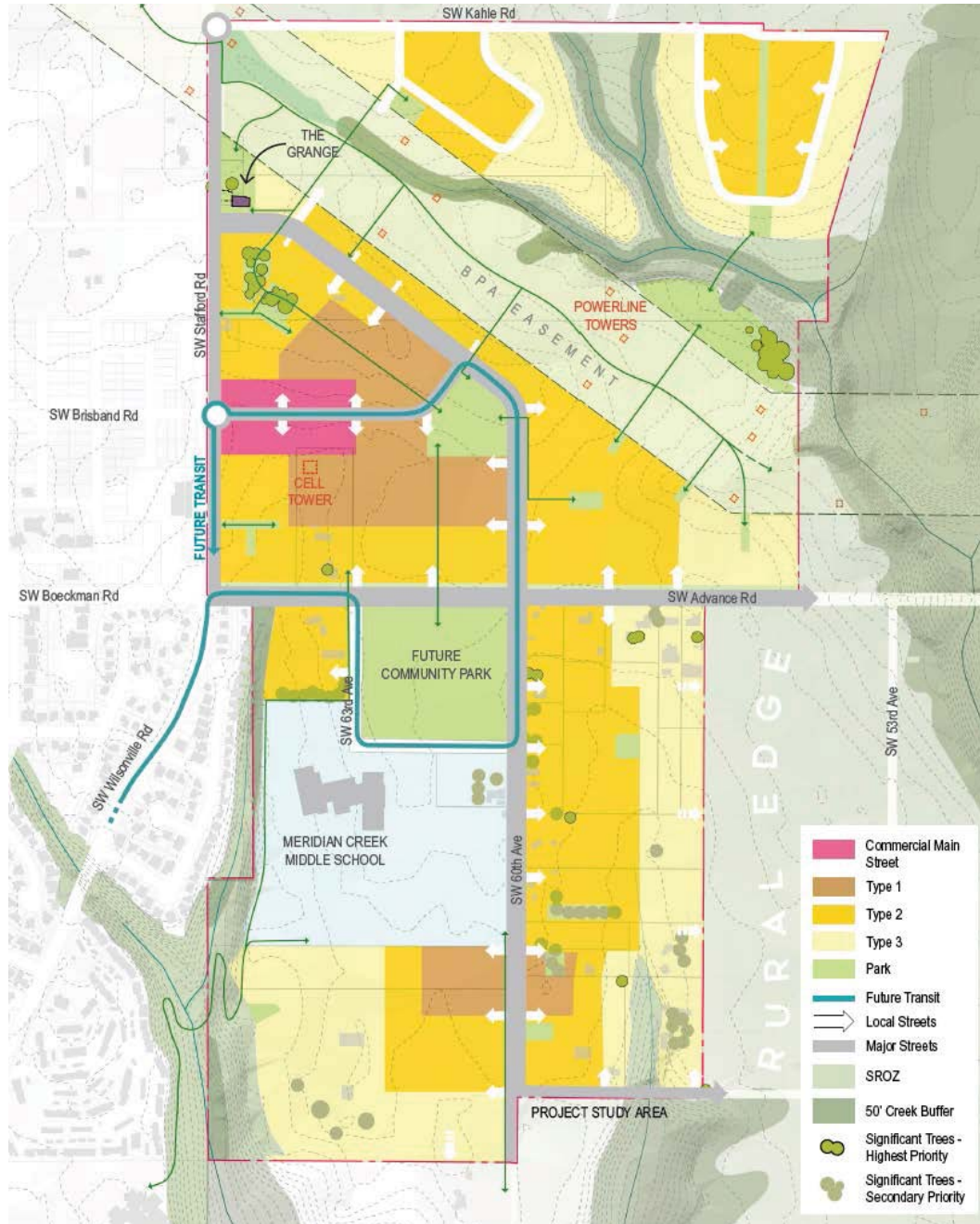
EAST & SOUTH **ALTERNATIVE C: SUB-DISTRICTS**



Planning Commission Direction

- South of Advance as shown in Alternative C
- North of Advance similar to Alternative C with the following question:
 - Should density be focused along Stafford or more central?
- Alternative C best supports:
 - Equitable Housing Strategic Plan
 - Affordable Housing Analysis target
 - Variety throughout

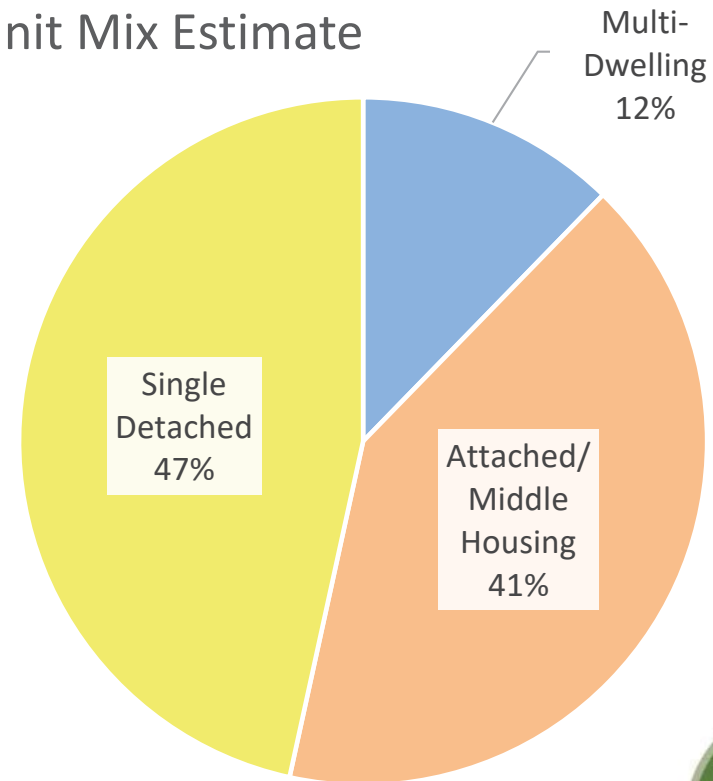




Housing Capacity Estimate

- **East Neighborhood:**
~1,100 units
- **South Neighborhood:**
~500 units
- **Overall:** ~1,600 units
- **Transportation Analysis:**
13% higher in all categories (1,800 total units)

Unit Mix Estimate



City Council Meeting Action Minutes
July 18, 2022

City Council members present included:

Mayor Fitzgerald
Council President Akervall – Excused
Councilor Lehan
Councilor West
Councilor Linville

Kimberly Veliz, City Recorder
Jeanna Troha, Assistant City Manager
Bill Evans, Communications & Marketing Manager
Delora Kerber, Public Works Director
Matt Lorenzen, Economic Development Manager
Chris Neamtzu, Community Development Director
Dan Pauly, Planning Manager
Zoe Mombert, Assistant to the City Manager

Staff present included:

Bryan Cosgrove, City Manager
Amanda Guile-Hinman, City Attorney

AGENDA ITEM	ACTIONS
WORK SESSION	
	START: 5:04 p.m.
A. Construction Excise Tax (CET) for Affordable Housing	Council directed staff to continue studying the pros and cons of the City establishing a Construction Excise Tax.
B. Frog Pond East and South Master Plan	Staff shared an update on the status of the Frog Pond East and South Master Plan. Council then provided direction on their desired mix of housing types.
REGULAR MEETING	
<u>Mayor’s Business</u>	
A. Civics Academy Graduation	Street signs were awarded to the graduates of the Civics Academy, Class of 2022.
B. Appointment of City Manager Pro Tem	Council appointed Assistant City Manager Jeanna Troha as City Manager Pro Tem for the period July 19, 2022 through July 23, 2022 and then again, August 1, 2022 through August 14, 2022. Furthermore, Council appointed City Attorney Amanda Guile-Hinman as City Manager Pro Tem for the period July 24, 2022 through July 31, 2022. Passed 4-0.
C. Upcoming Meetings	Upcoming meetings were announced by the Mayor as well as the regional meetings she attended on behalf of the City.

<p><u>Communications</u></p> <p>A. City of Wilsonville Receipt of the Bronze Walk Friendly Communities Designation.</p>	<p>Staff shared news of the City of Wilsonville’s designation as a Walk Friendly City by the University of North Carolina Highway Safety Research Center.</p>
<p><u>Consent Agenda</u></p> <p>A. <u>Resolution No. 2987</u> A Resolution of the City of Wilsonville Authorizing the City Manager to Execute the Tri-County Metropolitan Transportation District of Oregon (TriMet) Subrecipient Agreement</p> <p>B. Minutes of the June 20, 2022 City Council Meeting.</p>	<p>The Consent Agenda was approved 4-0.</p>
<p><u>New Business</u></p> <p>A. <u>Resolution No. 2979</u> A Resolution Of The City Council Adopting The Diversity, Equity And Inclusion (DEI) Committee Strategic Plan.</p>	<p>Resolution No. 2979 was adopted 4-0.</p>
<p><u>Continuing Business</u></p> <p>A. None.</p>	
<p><u>Public Hearing</u></p> <p>A. None.</p>	
<p><u>City Manager’s Business</u></p>	<p>The City Manager provided an update on the recruitment of the Arts and Culture Program Coordinator and Behavioral Health position.</p> <p>Council was then informed staff would push out information on tolling via the City’s website, and social media platforms.</p>
<p><u>Legal Business</u></p>	<p>No report.</p>
<p>ADJOURN</p>	<p>8:33 p.m.</p>



PLANNING COMMISSION

WEDNESDAY, JULY 13, 2022

WORK SESSION

3. Frog Pond East and South Master Plan (Pauly) (30 minutes)



**PLANNING COMMISSION WORK SESSION
STAFF REPORT**

Meeting Date: July 13, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable Comments: N/A	
Staff Recommendation: Provide requested input regarding residential policies for Frog Pond East and South.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE PLANNING COMMISSION:

Provide feedback and input on residential policies for Frog Pond East and South. Specifically, provide guidance on variety of unit types to encourage and/or require. The policy discussion will also clarify what the different mapped colors (design types) mean on the draft preferred land use alternative (Attachment 1). The design types and policies, after further refinement in the coming months, will control the development of Frog Pond East and South.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a Master Plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

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Typical front setbacks from street	Buildings typically close to the street	Further back than Type 1, but still fairly close to street unless front facing garage	20 feet with front vehicle access, similar to Type 2 with rear access

Typical lot size for individual residential structure	Less than 3,000 square feet for smaller structures containing single units. Larger for multi-unit structures	3,000-5,000 square feet	5,000-10,000 square feet
Example residential structures (see also Attachment 2)	Many in Villebois including: 5–6-unit townhouse buildings, detached homes closely spaced on approx. 2,500 square foot lots, condo buildings, apartment buildings	Alley-loaded single-family/townhomes in Villebois, Morgan Farm in Frog Pond West	Single-family detached lots in Frog Pond West and Grande Pointe in Villebois, two-story townhouse buildings in Villebois and Frog Pond West.

Housing variety policy options

With an understanding of what each housing design type means and how much variety is allowed within each, the team desires Planning Commission direction on regulating variety within each of the three design types and to what extent.

The following are key points the project team recommends the Planning Commission consider during their review and discussion:

- Variety requirements regulate types of units rather than specific price points
- This type of regulation can help ensure that middle housing is built, which is supportive of House Bill 2001 and Wilsonville’s implementation of it
- Without variety requirements each development is likely to produce one or two different unit types
- Reasonable flexibility is important: too granular or detailed of regulations make implementation difficult and can unintentionally prevent development of needed housing the market is otherwise willing and able to deliver.
- Unit variety is better regulated by unit type groupings or “buckets” rather than by individual stand-alone unit types.¹
- Regulations must be clear and objective, but a discretionary path may be made available as an option to developers.

¹ For example, townhouses, plexes, and stacked-flat apartments/condos may be grouped in a bucket as they can be built in similar sized structures. A similar bucket approach was used in Villebois that helped implement urban design and architectural variety policies while still allowing reasonable flexibility to the development community.

The project team offers the following draft policy options for the Planning Commission to consider. Other policies can be explored per the Planning Commission and City Council direction.

1. Encourage But Not Require Variety: This policy option would encourage and allow variety, but not regulate. Developers would determine variety (or lack thereof) based on their preference and market conditions.
2. Minimum of Certain Housing Types: This policy option would require a certain amount of target unit types per subdistrict or block. Examples of potential targeted unit types to require:
 - a. Attached middle housing (townhouses, plexes)
 - b. Single-level units: in smaller homes (i.e., less than 1,200 sf livable floor area, this would include cottage clusters, ADUs [including those integrated into the ground floor of taller townhouse buildings]), and in elevator-served multi-story buildings with single-level units.
3. Maximum of Certain Housing Types: This policy option would require each subdistrict or block to have no more than a certain percent of one type of unit.
4. Maximum and Minimum of Certain Housing Types: This policy option would combine the requirement elements of policy option 2 and 3 to have no more than a certain percent of one type and ensure a certain amount of target unit types.

The project team recommends Option 4 as a feasible policy that will best help the City meet its goals around housing variety while still allowing a reasonable level of flexibility for developers. The size and scale of subdistricts is also an important implementing criterion, following this principle: the greater the number of potential units, the more variety that should be required.

Discussion Questions:

1. What additional questions, if any, does the Planning Commission have about the three housing design types?
2. Which policy option would the Planning Commission like the project team to pursue regarding housing variety in Frog Pond East and South? *Should the City require a certain mix of housing?*
3. What additional questions about housing variety policy would you like the project team to be prepared to answer for future work sessions?

EXPECTED RESULTS:

Feedback and direction from the Planning Commission on developing key residential policies for housing design types and unit variety in Frog Pond East and South.

TIMELINE:

This is the sixth in a series of work sessions for the Planning Commission. The next work session

is planned for August. The Master Plan is scheduled to be completed by December 2022, with some implementation elements extending into early 2023.

CURRENT YEAR BUDGET IMPACTS:

The project is funded by a combination of a \$350,000 Metro grant, an \$81,000 Oregon DLCD grant, and matching City funds in the form of staff time. \$311,000 is budgeted in FY 22/23 to complete the project.

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which lays out a robust public engagement program that will include meaningful and impactful involvement of people who identify with historically marginalized communities.

POTENTIAL IMPACTS OR BENEFIT TO THE COMMUNITY:

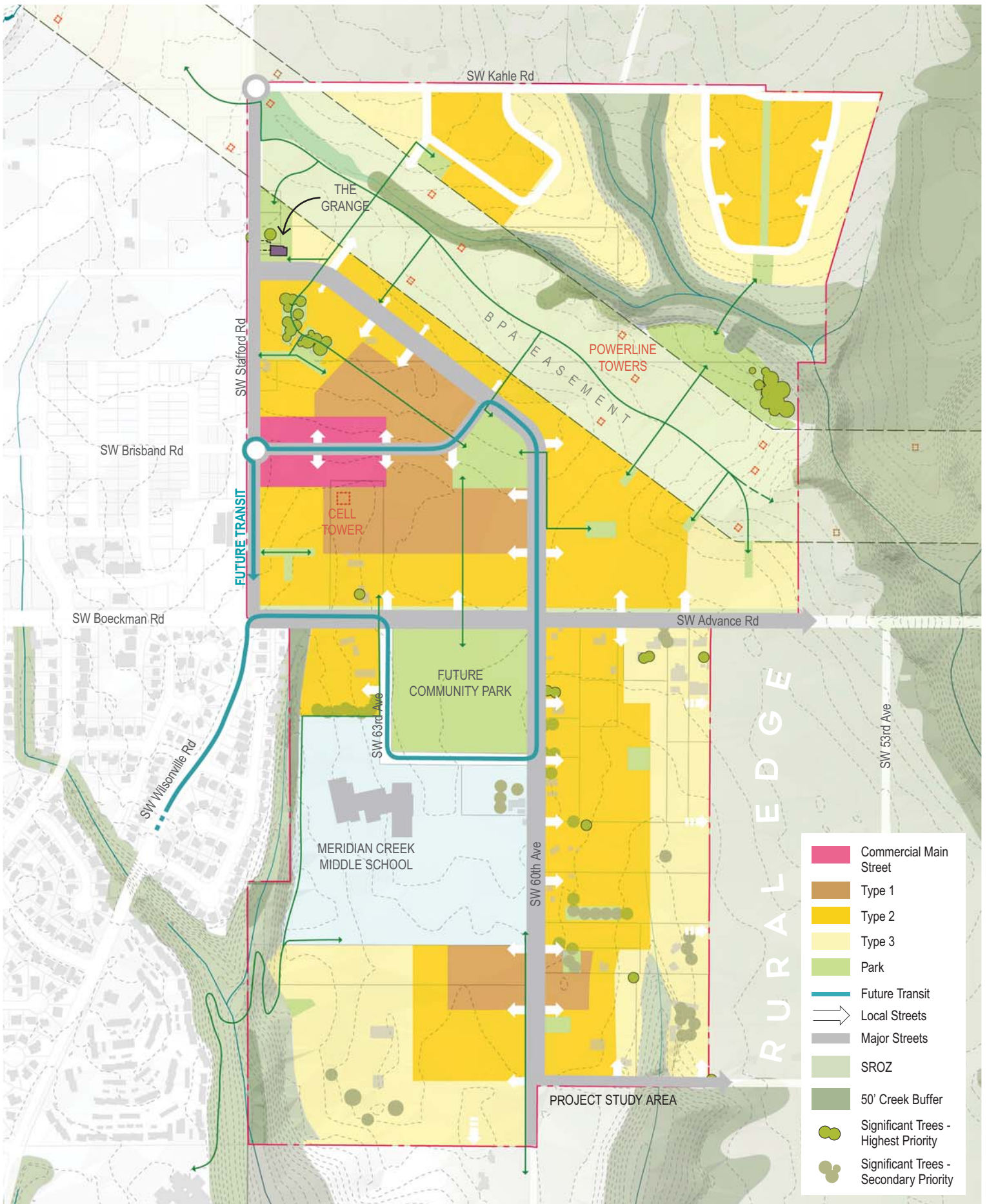
Furthering of the City's Equitable Housing Strategic Plan and Council's goal of affordable home ownership, while creating Wilsonville next great neighborhoods.

ALTERNATIVES:

The Planning Commission and City Council can continue to direct changes to the draft preferred land use alternative. In addition, the Planning Commission and City Council continues to have a number of options for policy related to housing variety.

ATTACHMENTS:

1. Draft Preferred Land Use Alternative for Frog Pond East and South (dated July 5, 2022)
2. Example Photos of the Three Housing Design Types proposed (dated July 5, 2022)



Examples of Design Types Proposed for Frog Pond East and South

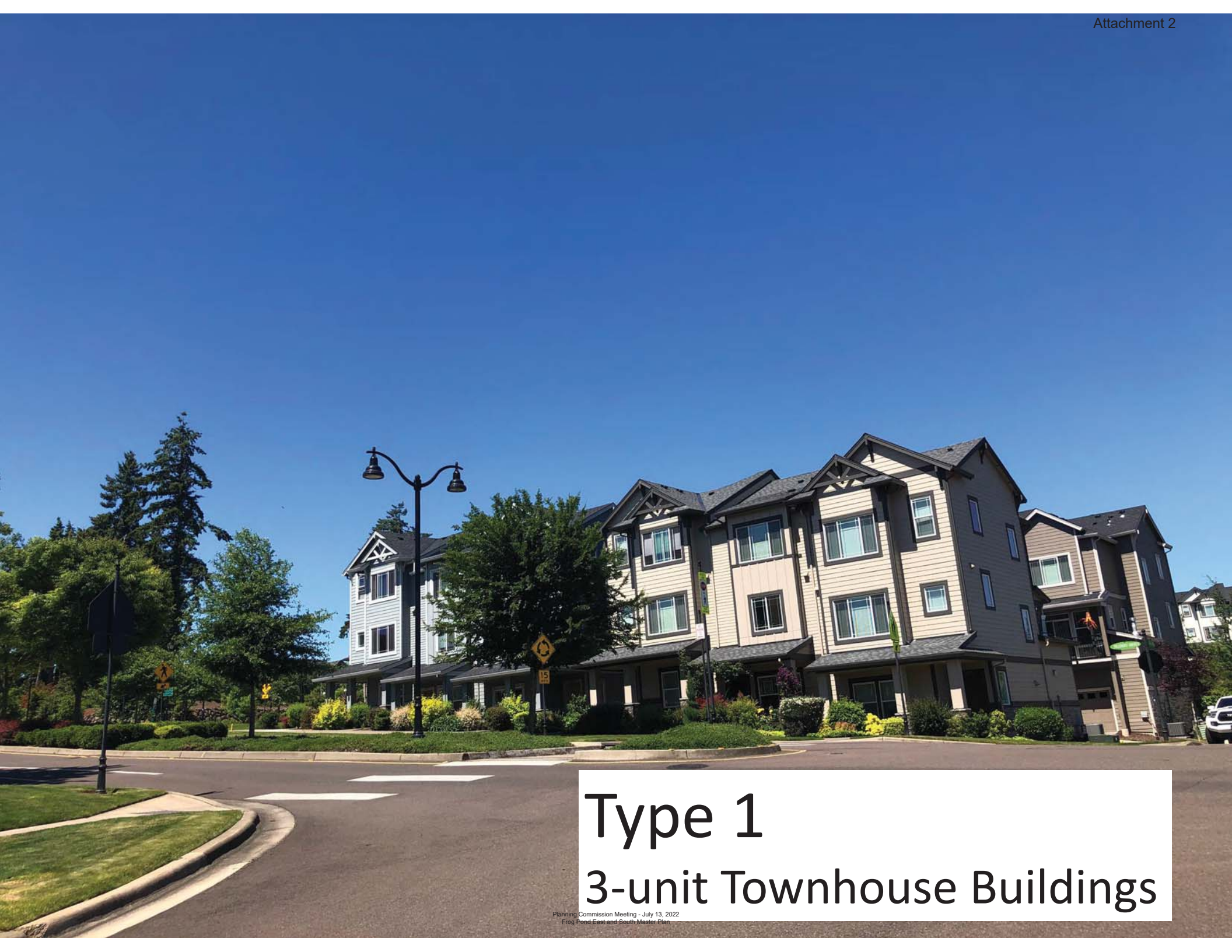
From Villebois and Frog Pond West

Type 1 Design Type

Example Residential Structures from
Villebois



Type 1 4-Unit Townhouse Building



Type 1 3-unit Townhouse Buildings



Type 1 5-Unit Townhouse Building



Type 1

Multi-story condo building with single-level units

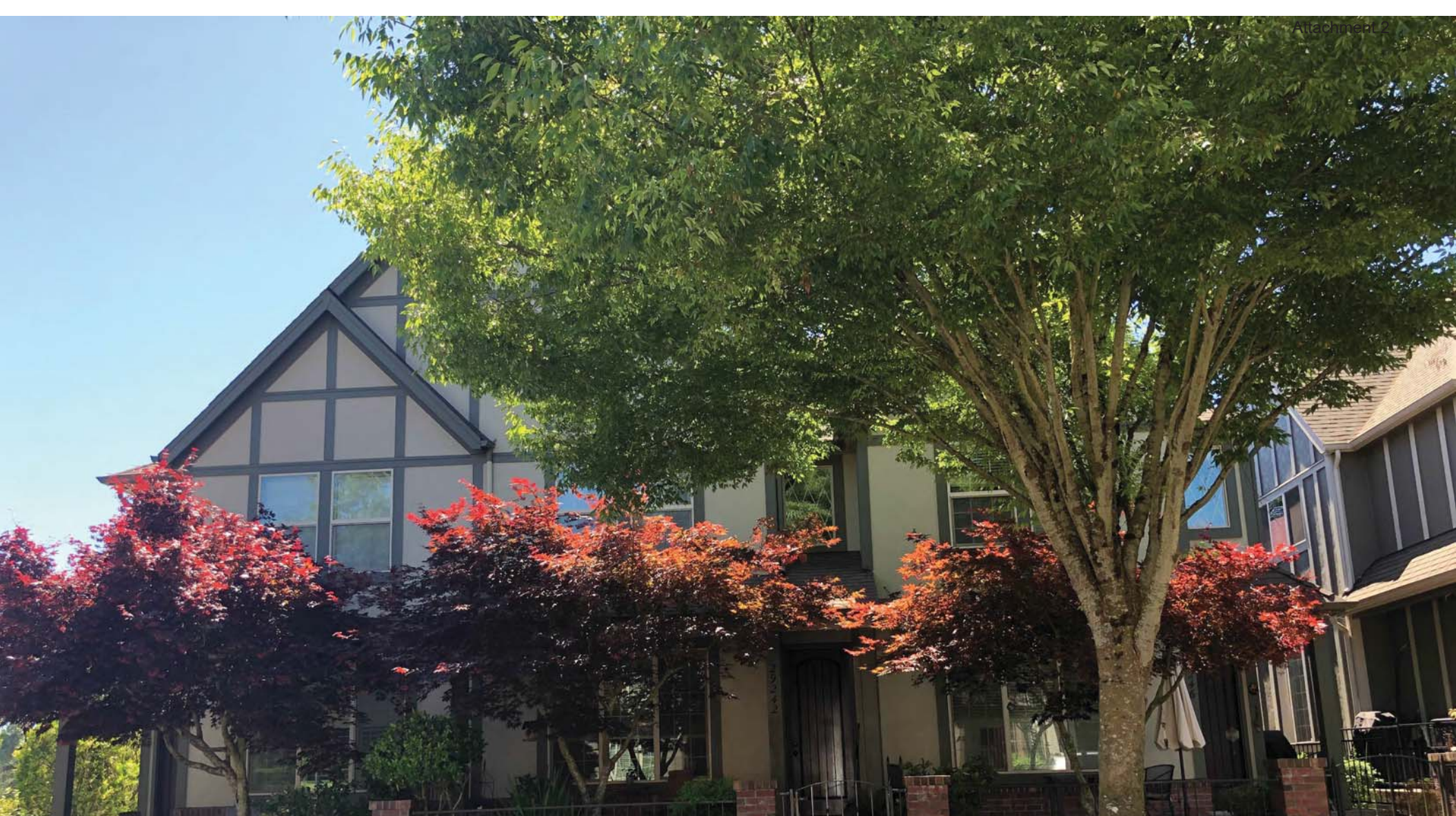


Type 1

Detached single-family

Type 2 Design Type

Example Residential Structures from
Villebois and Frog Pond West



Type 2
3-Unit Townhouse Building
Example of wider building on shallow lots



Type 2 Detached Single-family



Type 2 Detached Single-family



Type 2

Detached Single-family



Type 2 Detached Single-family

Type 3 Design Type

Example Residential Structures from
Villebois and Frog Pond West



Type 3

4-Unit Townhouse Building

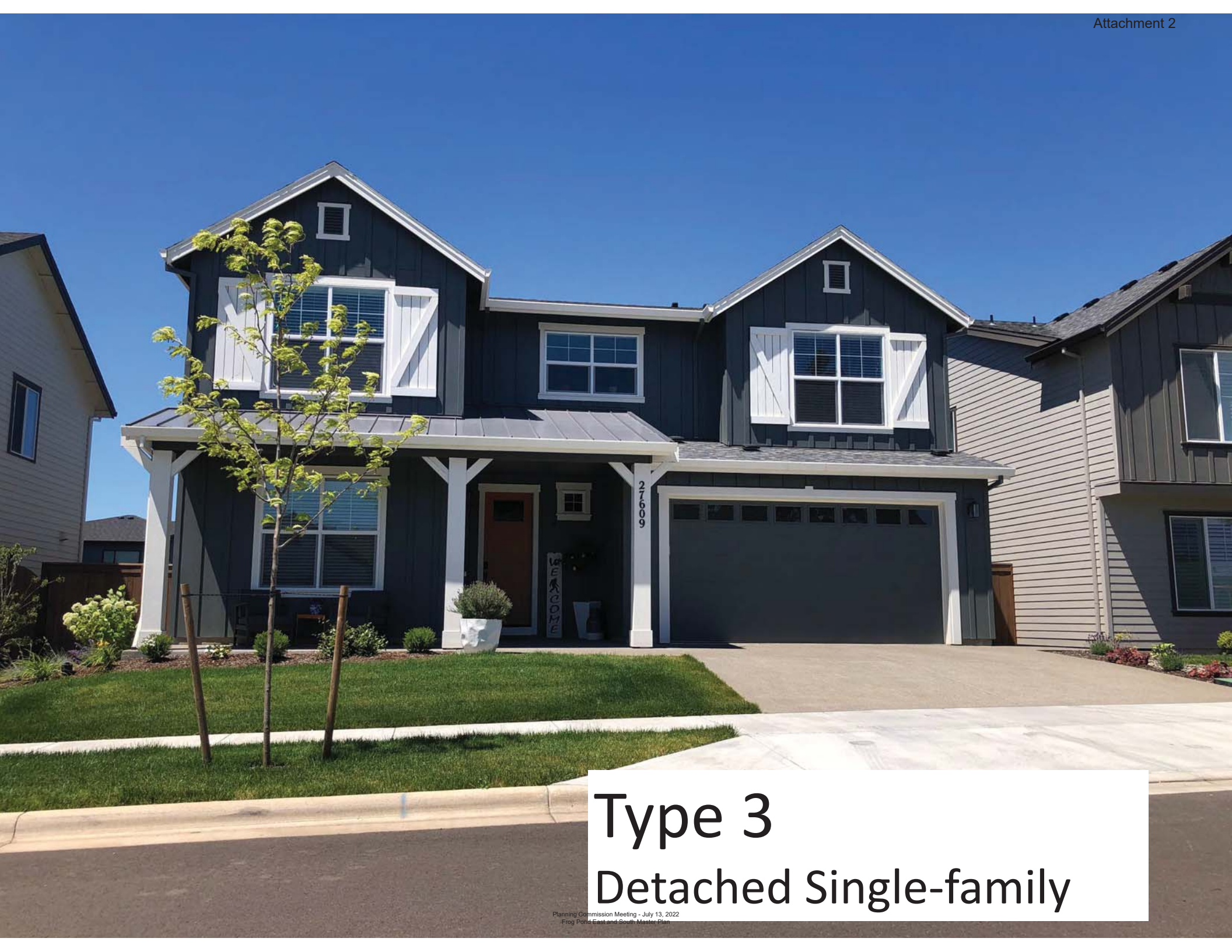


Type 3

2-unit Townhouse Building



Type 3 2-Unit Townhouse Building



Type 3 Detached Single-family



Type 3 Detached Single-family

Frog Pond East and South Master Plan

Planning Commission
Work Session July 13, 2022



Agenda for Tonight's Work Session

- Review Housing Design Types
- Draft Master Plan Preferred Alternative
- Housing Variety Policy Options



Housing Related Design Concepts

- Housing variety throughout
- Affordable housing integration
- Transect in urban form



Variety and Transect Scales



Large/Broad Scale
Zoomed Out



Granular Scale
Zoomed In



The 3 Housing Design Types



How Design Types are the Same

- Variety in unit types
- Limited isolation of unit types
- Consistent building bulk and setbacks within a design type
- Housing organized around focal points



How Design Types are Different

- Bulk of buildings (height and façade length)
- Setbacks
- Lot size (or land area per structure)
- Vehicle access and off-street parking locations



Examples of Design Types Proposed for Frog Pond East and South

From Villebois and Frog Pond West



Type 1 Design Type

Example Residential Structures
from Villebois





Type 1
4-Unit Townhouse Building

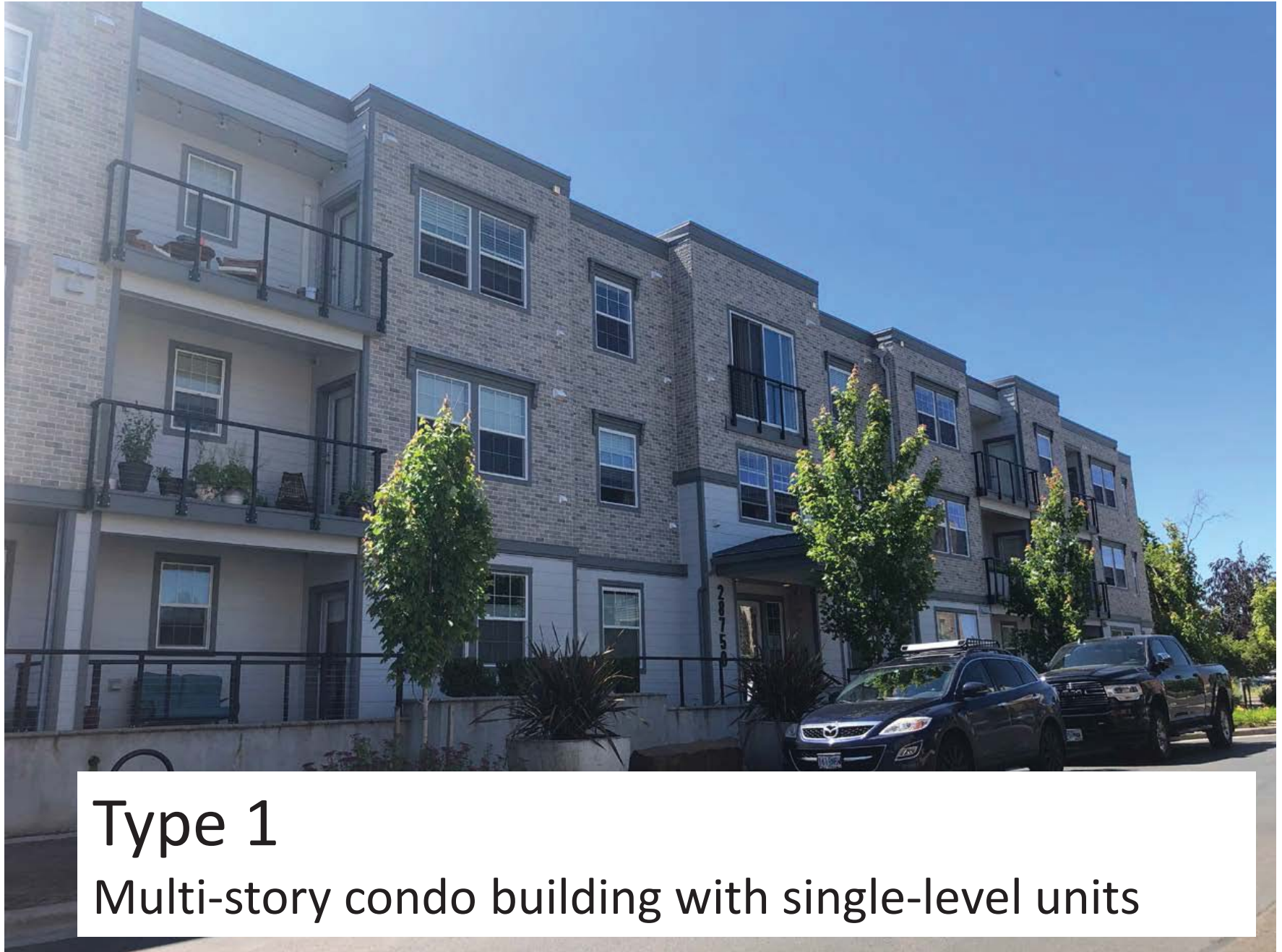


Type 1

3-unit Townhouse Buildings



Type 1
5-Unit Townhouse Building



Type 1

Multi-story condo building with single-level units

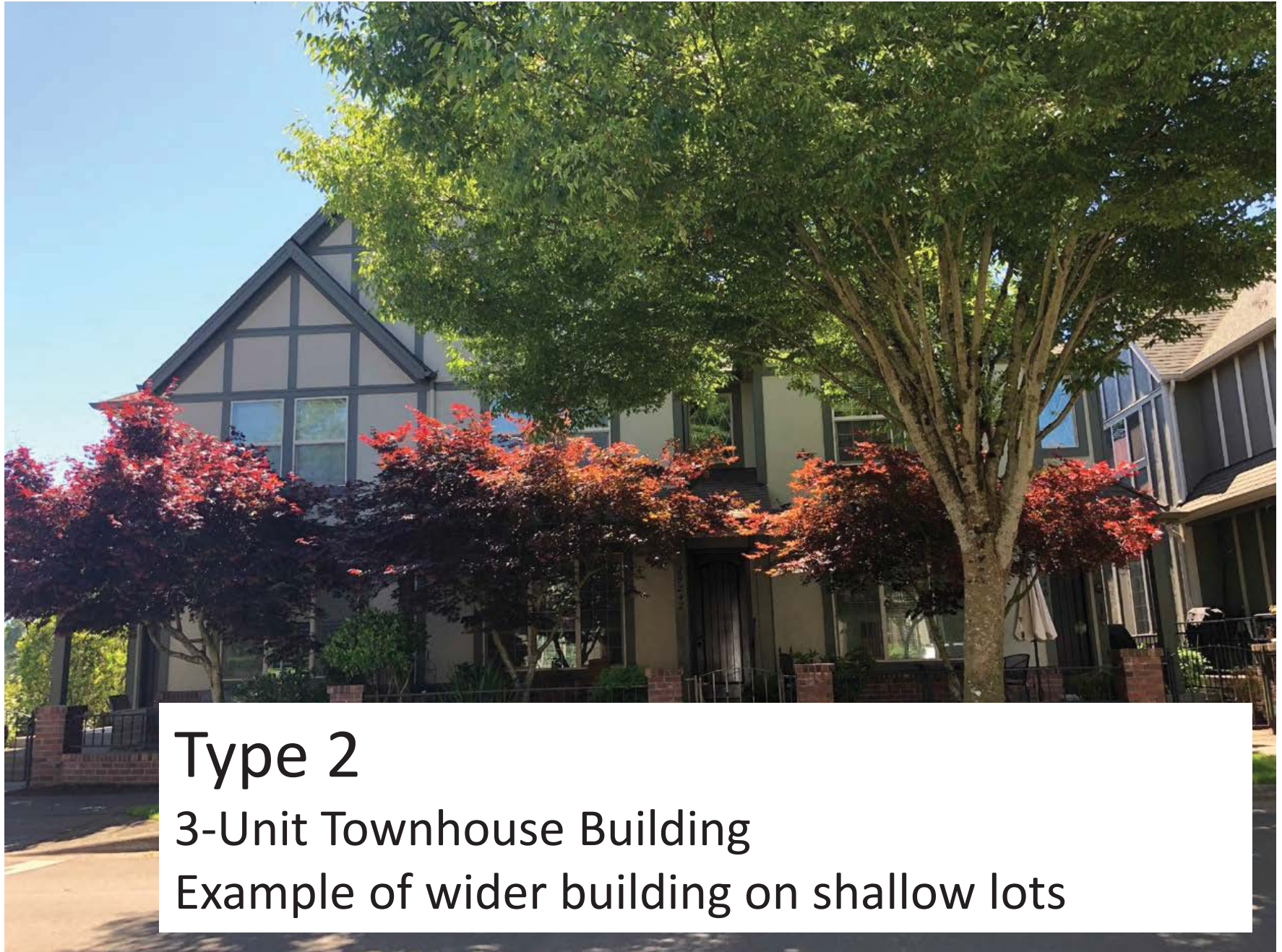


Type 1
Detached single-family

Type 2 Design Type

Example Residential Structures
from Villebois and Frog Pond
West





Type 2

3-Unit Townhouse Building

Example of wider building on shallow lots



Type 2
Detached Single-family



Type 2
Detached Single-family



Type 2
Detached Single-family



Type 2
Detached Single-family

Type 3 Design Type

Example Residential Structures
from Villebois and Frog Pond
West





Type 3
4-Unit Townhouse Building



Type 3
2-unit Townhouse Building



Type 3
2-Unit Townhouse Building



Type 3
Detached Single-family

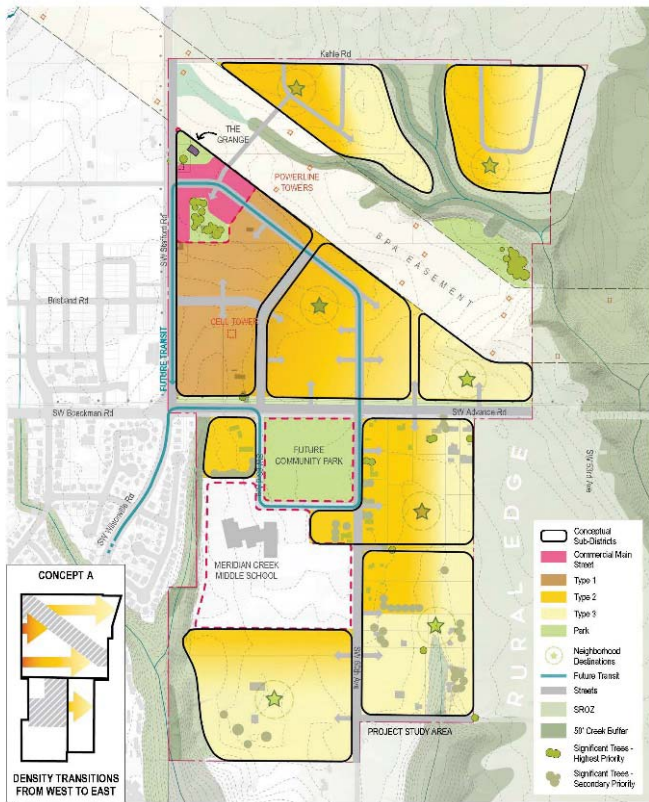


Type 3
Detached Single-family

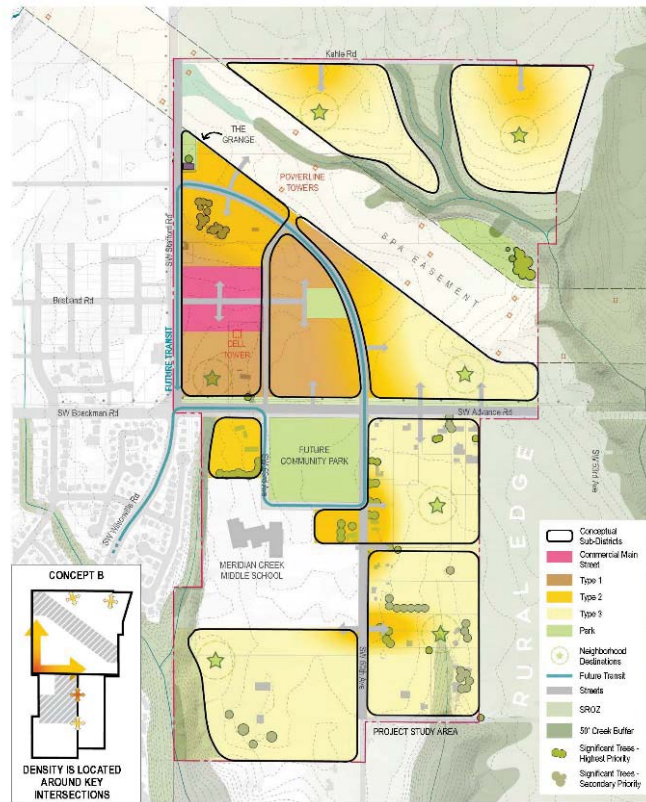
Draft Preferred Land Use Alternative



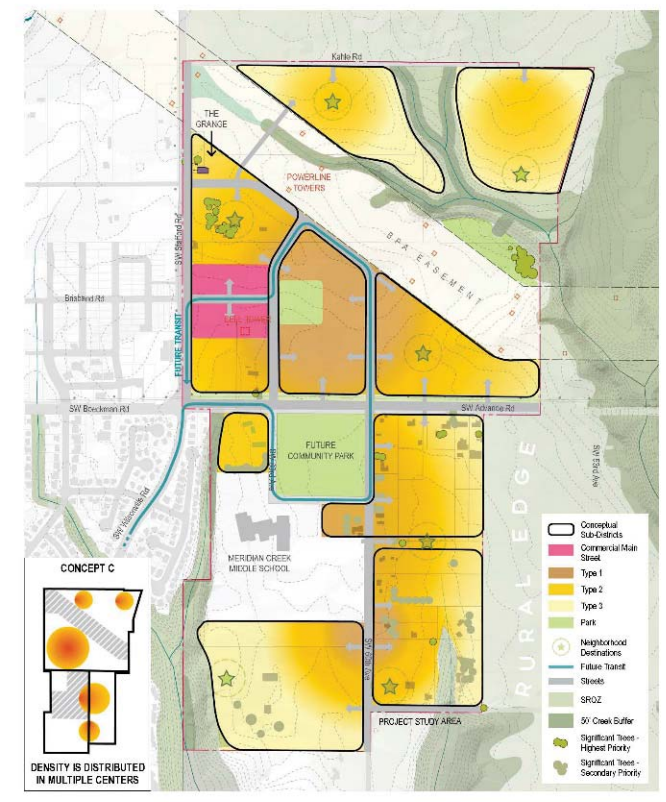
Draft Alternatives



EAST & SOUTH **ALTERNATIVE A: SUB-DISTRICTS**



EAST & SOUTH **ALTERNATIVE B: SUB-DISTRICTS**

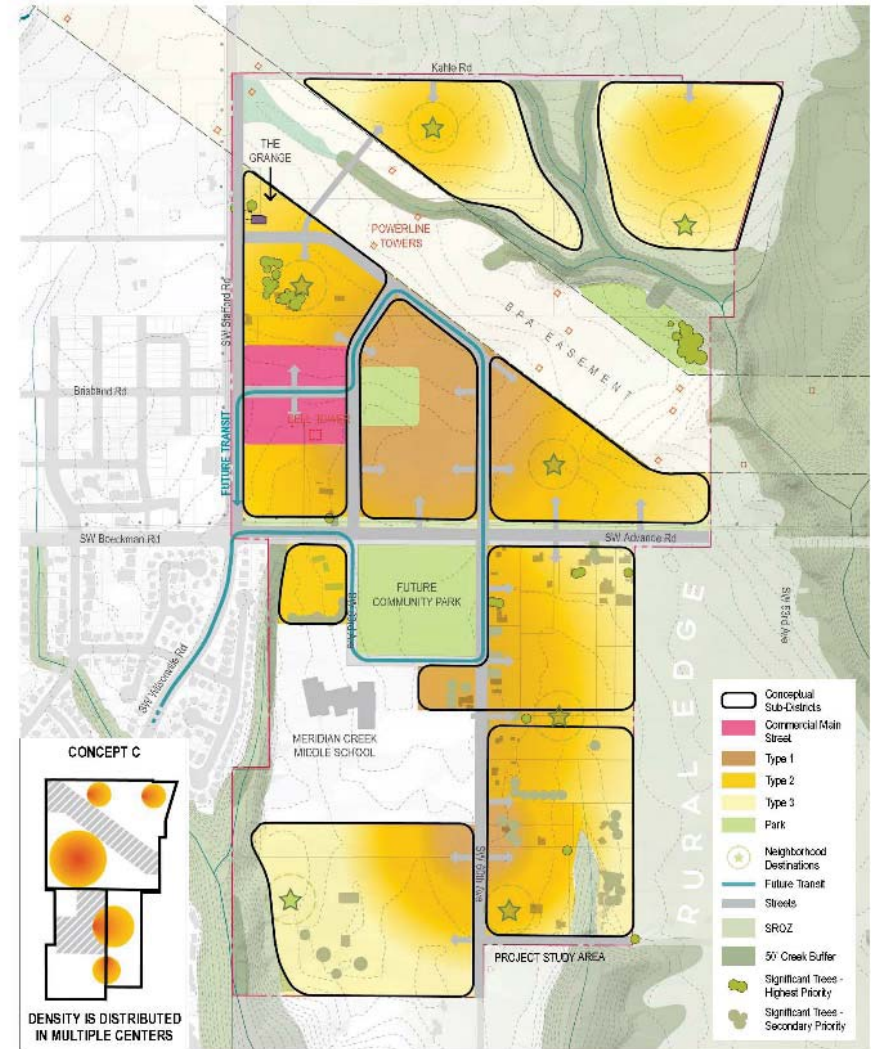


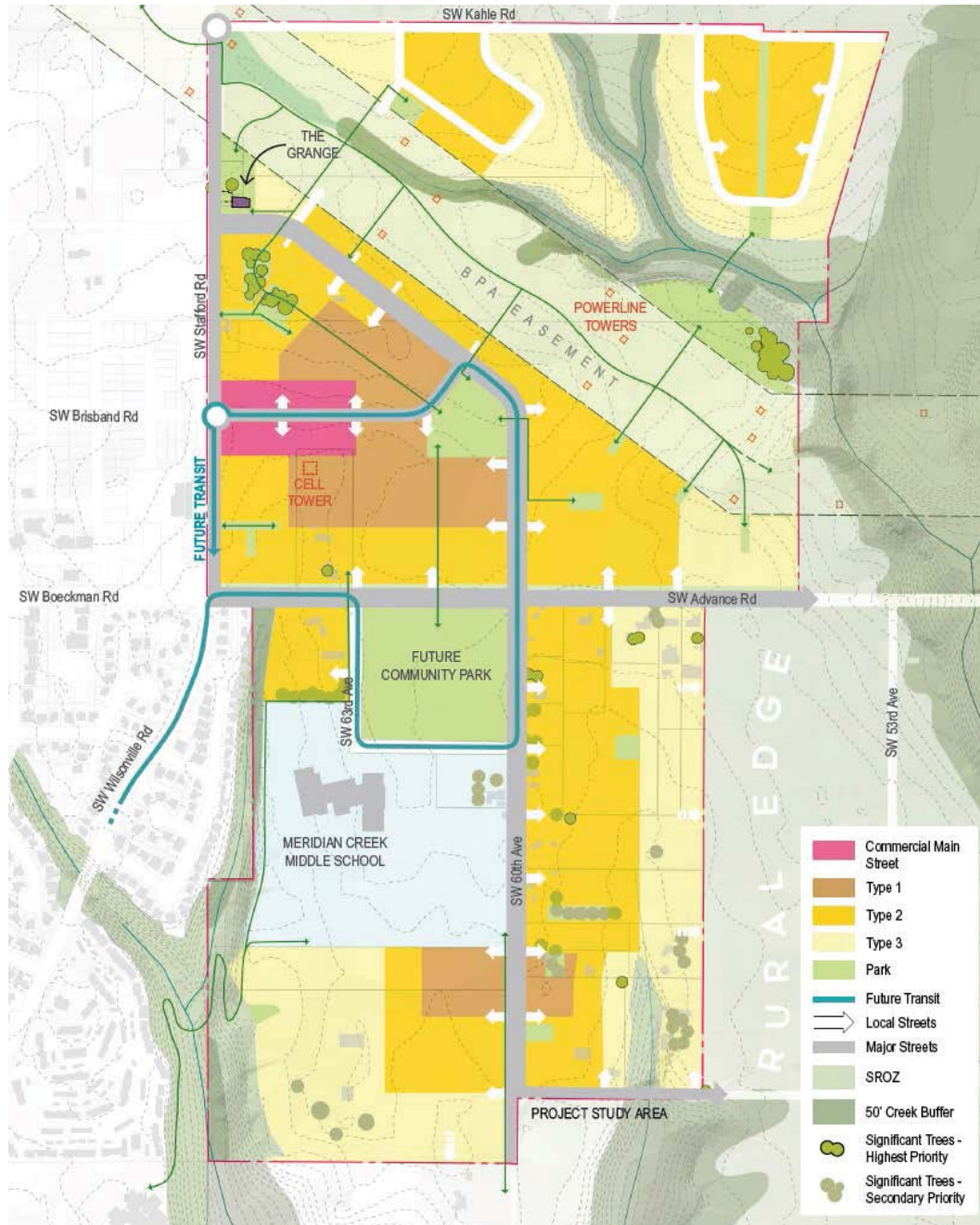
EAST & SOUTH **ALTERNATIVE C: SUB-DISTRICTS**



Planning Commission Direction

- South of Advance as shown in Alternative C
- North of Advance similar to Alternative C with the following question:
 - Should density be focused along Stafford or more central?
- Alternative C best supports:
 - Equitable Housing Strategic Plan
 - Affordable Housing Analysis target
 - Variety throughout

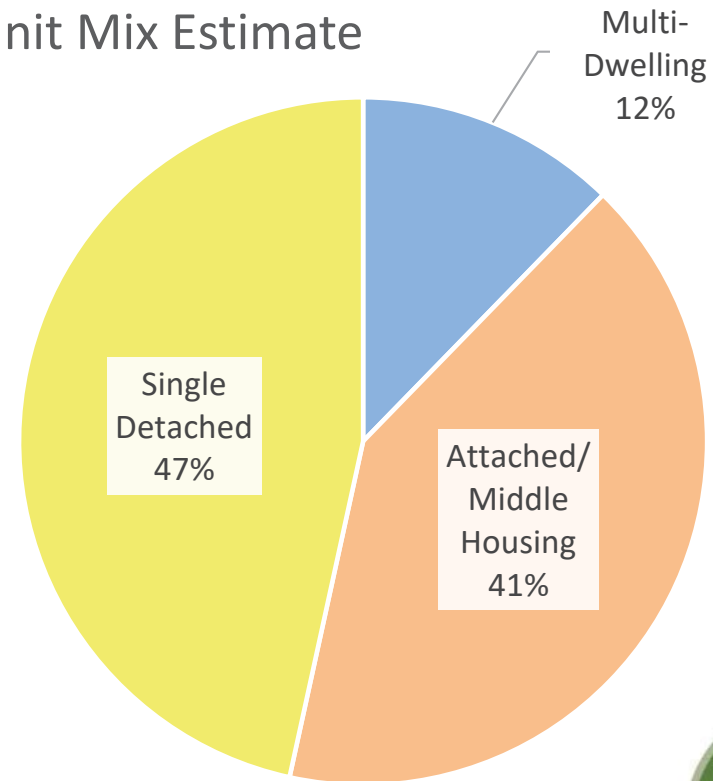




Housing Capacity Estimate

- **East Neighborhood:**
~1,100 units
- **South Neighborhood:**
~500 units
- **Overall:** ~1,600 units
- **Transportation Analysis:**
13% higher in all categories (1,800 total units)

Unit Mix Estimate



Mix Assumptions for Transportation/Infrastructure Planning

- "Reasonable Worst Case" for planning purposes
- Not policy decision on mix
- Percent of units, not percent of land area

Mix	Multi-unit	Attached/Middle	Single Detached
Type 1	50%	30%	20%
Type 2	0%	50%	50%
Type 3	0%	30%	70%



Housing Variety Policy Options



Key Points to Consider

- Policies and code will regulate unit type not price point
- Variety requirements help ensure middle housing implementation
- Likely limited variety without requirements



Key Points to Consider continued

- Reasonable flexibility is important
- Variety best regulated in “buckets”
- Regulations must be clear and objective



Draft Policy Options for Housing Variety

1. Encourage Only
2. Minimum of Target Housing Types
3. Maximum of Individual Housing Type
4. **Combine 2 and 3 (recommended)**



Discussion Questions

1. What additional questions or ideas, if any, does the Planning Commission have about the three housing design types?
2. Which policy option would the Planning Commission like the project team to pursue regarding housing variety in Frog Pond East and South? *Should the City require a certain mix of housing?*
3. What additional questions about housing variety policy would you like the project team to be prepared to answer for future work sessions?



plan around the built-out numbers for the reasons pointed out. Including the build-out numbers would result in a more intense treatment plant site at the facility to account for the population nearly doubling, as shown by the projection on the higher rate curve. (Slide 3)

- Mr. Nacrelli clarified build-out was unrelated to the rate of growth. The current city boundaries and reserve areas would max out and fill up at some point according to how the areas were zoned. There was a number associated with build-out, though it was not necessarily tied to a time frame but to land use.
- Build-out could be tied to a time frame because the Planning Department had some idea of how fast the neighborhoods would develop. For example, 1680 units were planned for Town Center, 1750 units were planned in Frog Pond East and South. At 2.5 people per unit, 8500 residents would be living in developments the City knew were likely to be built between 2022 and 2035. Coffee Creek and Basalt Creek would likely be built out within a 20-year time period. While those were industrial uses, the City knew it would happen during the subject growth period.
- The expected growth chart should reflect the planning the City knew was already in progress. The city's population would increase from 27,000 to 37,000 just with the known development in Frog Pond East and South and Town Center, and that did not include Frog Pond West. The standard curve should include known development and another curve should address potential additional growth.
 - Additionally, the City should be explicit in its conservatism. Right now, the plan showed a 12 percent population growth from 2021 to 2045, but a 30 percent increase in load. The discrepancy between those two numbers should be explicit, especially as it the Master Plan progressed toward Council. The plan needed to be explicit in why the load increase was twice as much as the population growth, which was a big deal.
 - Mr. Nacrelli clarified Jacobs Engineering had taken over CH2MHill, the company that had the design/build/operate contract for the treatment plant, so Jacobs was now the City's contract operator for the treatment plant.
- As different population projections were done, Staff and the consultants were asked to use the same time frame for gathering historical data and for the future projection. For example, show 30 years' worth of previous data and then project 30 years into the future. A projection using 5 years of data to project 25 years in the future was not statistically defensible. The prior five years of growth could have been a growth spurt that was being extended 30 years into the future, which was not accurate. Growth, especially in a small city like Wilsonville, was choppy, so it should be averaged out to determine the long-term trends.

3. Frog Pond East and South Master Plan (Pauly)

Dan Pauly, Planning Manager, noted this was the Commission's sixth work session on the Frog Pond East and South Master Plan. He presented the Master Plan, including updates in response to the Commission's feedback via PowerPoint, reviewing the housing related design concepts and describing the similarities and differences between the three housing design types, displaying examples of each type using photographs from Villebois and Frog Pond West. He noted three housing design types were not set in stone, but the presentation addressed questions from Council and would be helpful for the Commission. Understanding the three housing types would be important in developing policy.

Joe Dills, MIG|APG continued the PowerPoint presentation, summarizing the feedback and preferences discussed by the Planning Commission last month, noting the aspiration to create and connect special destinations within the neighborhoods was still part of the physical planning. (Slide 29) He described the

updates made to create the Draft Plan Preferred Alternative (Slide 30), including changes to traffic circulation, street classifications, and the placement of housing types which helped enhance connectivity throughout the Master Plan area. Additional comments from Saumya Kini from Walker Macy addressed the equitable distribution of housing and multiple types of affordable products throughout the neighborhood and Andrew Paris from MIG|APG overviewed the housing capacity estimates and mix assumptions used to determine the impacts to transportation and infrastructure planning.

Mr. Dills noted the Planning Commission's policy discussion would determine how to achieve the best variety within the housing types. Unlike Villebois, which had a master developer, replicating the best of Villebois would need to be done through public standards and zoning ordinance techniques.

Comments from the Commission and responses to Commissioner questions was as follows:

- Initially there did not seem to be enough Type I in South, but since three-unit town houses could fit into both Type I and Type II. The mix within the type allowed some flexibility with the minimums and maximums. The map was fine.
- Ms. Kini clarified the arrows pointing toward the BPA easement indicated there would be some kind of public connection, whether it was an alley or a pocket park.
 - Mr. Pauly added Staff was still exploring a potential connection across the easement on the north end near the Grange. Otherwise, Staff did not expect any vehicular access across the easement.
- Mr. Dills clarified the arrow down the middle of BPA easement was a proposed trail and as it connected to and crossed Stafford Rd, the trail would be in the proximity of the northern extension of the Boeckman Creek Trail, which Metro was ultimately showing as a trail that would go up into the Stafford Basin. The proposed trail would connect the area to the larger, regional trail network. (Slide 30)
 - Having openings into that open space between houses on the long block paralleling the BPA easement was suggested.
- Ms. Kini noted previous discussions suggested a portion of school property south of the Future Community Park could provide an opportunity for Type 1 housing; however, since the previous meeting, it had been determined that property should be considered part of the school district and was shown as such on the map. The team also had good communication with the City's traffic engineers and the School District about the trail connections and felt confident about showing a trail connection going south toward Boeckman Creek Primary School.
 - Did the land use change result in fewer dwelling units in Alternative C? At the last meeting, Alternative C had a total of 1,803 dwelling units and now it showed approximately 1,600 units. The focus of the new alternative was to do a little mixing and matching within Alternative C. Was the reduction in the overall buildable area driving the reduction in the number of units?
 - Mr. Dills confirmed the school parcel was part of the reduction, but the larger cumulative effect was from going from fuzzy lines to hard lines with block thinking. The amount of Type I decreased as it was fit into areas with the actual conceptual block formation.

Mr. Pauly continued the PowerPoint presentation with a review of housing variety policy options, key points to consider, and a summary of four draft policy options to facilitate housing variety. Staff recommended combining Policy Options 2 and 3 to adopt a minimum of target housing types and a maximum of individual housing types.

- He clarified that including Frog Pond West, the entire area was similar to Villebois, which was developed mainly by four developers. While some small developers would come into play, Frog Pond would ultimately have a maximum of four or five developers. Frog Pond East would not have as many as North

where the large tracts of land would likely be controlled by one or two developers. There was potential for some smaller scale projects in the southern portion.

Planning Commissioner comments and responses to Staff's questions (Slide 37) continued as follows with Staff addressing further questions as noted.

Commissioner Willard expressed support for Policy Option 4.

Commissioner Karr:

- Liked Policy Option 4 but asked if specifying a minimum and maximum would require a minimum and maximum for each housing category within the type or could a maximum just be attached to detached single-family, for example.
 - Mr. Pauly replied the number would be adjustable; each bucket did not have to be in each block. The minimums and maximums could vary based on the size of the subdistrict or the context.
- Noted detached single-family would push things out of the affordable range, so developers would get the idea if a maximum was placed on at least detached single-family. He believed minimum and maximum requirements were needed on housing types in order to meet the City's affordable and equitable housing initiatives. If not required, developers would build detached single-family houses as they were the most profitable.

Commissioner Woods also liked Staff's recommendation, which provided a good balance between the City complying with HB 2001 and providing a limit range on housing types. However, in addition to single-family detached homes, there should be options for tiny homes, perhaps even a tiny home requirement, if builders were available, to offer more affordability for first-time homebuyers. He clarified tiny homes were typically 499 sq ft to a maximum of 899 sq ft and had all the amenities of a larger home but were just smaller in size and cost.

Commissioner Gallagher believed the City needed to be very clear about the minimum standards regarding what the City wanted to achieve. If the City just made suggestions, profit would overrule standards. She confirmed this was captured in Policy Option 4.

Commissioner Mesbah:

- Also liked Policy Option 4. In looking at the different housing types presented, it was clear that articulation of the façade made a big difference in how the space looked and felt. He was not sure the project team was talking about that level of design at this point or if they ever would.
 - Mr. Pauly replied the City could build off some of the articulation standards adopted for Middle Housing as well as the articulation standards in Frog Pond.
- Commented he had to remind himself that details, like bump outs and coves, which make an attractive façade add to the cost of construction, but he would hate to see blank walls for the affordable housing. There was an approach to affordable housing that said real affordable housing needed to be really well designed because otherwise there were additional costs in maintenance and other things. He hoped it would all fall into place to be a harmonious and coherent look for the neighborhood.

Commissioner Karr asked that Staff include a breakdown of the housing types in Villebois at a future work session. Villebois was a good representation of what the Planning Commission would like to see; though the streets were narrow, it was a nice housing development. He noted discussion had begun about urban renewal and using tax incremental funding to help with some of the HB 2001 affordability requirements in Frog Pond.

Commissioner Heberlein:

- Agreed requiring a certain mix of housing was the only way to go realistically and liked the idea of focusing on a maximum number of single-family homes, which should be investigated further. However, would placing a maximum number on any product type penalize later developers as those in earlier could take up certain housing units? Was there some mechanism to help ensure that would not happen?
 - Mr. Pauly replied the geography the standards were based on would assume each geography was done by one single developer.
- Supported Policy Option 4 as a blend was good.
- Requested that Staff bring examples of housing variety policies that had been successful elsewhere to future work sessions to be used as a template.
 - Mr. Dills replied research had shown that Wilsonville was a trailblazer regarding such policy.

INFORMATIONAL

4. Outreach Framework (Pauly)

Daniel Pauly, Planning Manager, noted Consultants Bill de la Cruz and Pat Noyes had concluded their contract work resulting in draft Outreach Framework. He presented the Wilsonville Framework for Inclusive Engagement via PowerPoint, noting the updates made since the Commission's May work session and.... providing an overview of the framework, how the process was designed, examples of barriers and potential actions, as well as a menu of outreach activity, and next steps.

Commissioner Karr believed the City had done a good job of engaging with the community in the past, but the framework elevated its game, adding a focus on underrepresented stakeholders would help to better serve the entire community, not just the few who attended all the meetings. He applauded the City's efforts, noting in the long run, the framework would make the City/Wilsonville that much better.

Commissioner Woods said he had participated in the framework from the very beginning and found the outcome to be very comprehensive, detailed, and specific. Some key items would be very difficult to overcome, the first being the general interest from the community itself and looking at what the community wants and needs. Hopefully, there were community ambassadors to help to pool groups together and find out exactly what the City was missing. 'Build it and they will come' would not work in this scenario. There were multiple attack points the City would have to approach and it would take some time. Engaging unrepresented stakeholders would be extremely important. The framework was an excellent document, but the City had to do a deep dive and look at how to tie together some of the needs while trying to understand what the community and underserved communities need as well as finding ways to bring them out. Some people would not be able to travel to meetings or access Zoom meetings. It was a good document, but there were key points to concentrate on to make the City's objectives work.

Commissioner Mesbah seconded Commissioner Woods' statements. He was pleased with the framework document, adding the City was dealing with a general citizenry that is disinterested until something is proposed that catches their attention. Throughout the country, communities were finding out that they needed to build that kind of engagement and community spirit into a functioning democracy at a small scale. Part of the impetus for having the Diversity, Equity, and Inclusion (DEI) Committee was to have a committee focused on building that kind of rapport with the community and that kind of outreach, especially with underrepresented communities. Perhaps, if the City built engagement with the underrepresented, the rest of the community would also get interested because the effort necessary to do that kind of work would have spillover effects throughout the community. The Planning Commission needed to think about building that level of engagement as part of its job description. The Planning Commission was the outreach committee. As the document noted, just holding public hearings was not outreach. The Commission needed to come up with



CITY COUNCIL
MONDAY, JUNE 20, 2022

WORK SESSION

Frog Pond East and South Master Plan (Pauly)



CITY COUNCIL MEETING STAFF REPORT

Meeting Date: June 20, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development, Planning Division	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input type="checkbox"/> Not Applicable	
		Comments: During a June 8 work session Planning Commission recommended a developing a preferred alternative most similar to Alternative C.	
Staff Recommendation: Provide requested input regarding land use and urban design alternatives.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE COUNCIL:

Provide feedback and input on components of the master planning for Frog Pond East and South, specifically regarding land use and urban design alternatives.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified local housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a Master Plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the subject land. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process also identifies water, sewer, stormwater, and transportation infrastructure needs and funding sources.

This will be the Council's fifth work session on the Master Plan. The previous work sessions and their content were as follows:

Work Session 1-October 2021: Focus on overall project scope and the outreach plan.

Work Session 2-January 2022: Initial feedback on the needs and opportunities for affordable housing and housing variety.

Work Session 3-March 2022: Continuation of the topic of housing needs for more detailed feedback and direction, introduction of the neighborhood commercial evaluation.

Work Session 4-May 2022: Further discussion of the neighborhood commercial center and discussion of the recommended design concepts for development of land use and urban design alternatives.

This *Work Session 5* will present three land use and urban design alternatives for Council feedback and direction. The alternatives are based on the design concepts discussed during the May work session as well as feedback received through various outreach efforts over the last couple months. Following input from the Council and integrating additional outreach feedback, a preferred alternative will be presented at a July 18 work session. Any final refinements from the Council on this preferred land use and urban design alternative will then be the basis of infrastructure and public realm planning to occur over the remainder of the summer and into the fall.

Land Use Alternatives

Below you will find a brief description of each alternative. More description of each alternative and corresponding maps can be found in Attachment 1.

Alternatives will discuss Type 1, Type 2, and Type 3 housing types. For ease of reference, the following describes the housing types:

- Type 1 Housing: Similar to the Villebois Village Center beyond the core around the piazza, this type may include townhouses, condos/apartments, closely spaced detached homes on small lots less than 3,000 square feet.
- Type 2 Housing: Similar to areas of Villebois beyond the Village Center or small lot areas of Frog Pond West, this type may include small to medium detached single-family homes along with duplexes, triplexes, quadplexes, 2-4 unit townhouse buildings, and small (5-9) unit condo/apartment buildings on lots 3,000-5,000 square feet.
- Type 3 Housing: Similar to medium to large lot areas of Frog Pond West and single-family neighborhoods such as Renaissance at Canyon Creek, this type may include medium to large detached single-family homes along with duplexes, triplexes, quadplexes, and 2-4 unit townhouse buildings, cluster housing (multiple detached homes of similar architecture on a lot), and small (5-9) unit condo/apartment buildings on lots 6,000-10,000 square feet.

Alternative A

Highlights of Alternative A include:

- Collocating the neighborhood commercial and an east neighborhood park at Frog Pond lane with Grange building.
- Organizing housing in a transect from the west (Type 1 and 2 housing types) to the east (transition to Type 2 and 3 housing types). Types generally have their own distinct locations.
- Early estimates are for approximately 1583 dwellings at 12.8 dwelling units per net acre, 48% which would be Type 2, 27% Type 1, and 24% Type 3.

Alternative B

Highlights of Alternative B include:

- The neighborhood commercial is located along Brisband at Stafford Road with the east neighborhood park a couple blocks away to the east. The Grange is its own destination at its current location.
- Organizing housing around five focal points such as small parks, with Type 2 dwellings generally at the focal points radiating out to Type 3. The focal point at Stafford and Advance has a large area of Type 1 dwellings radiating out prior to the Type 2 and 3. Additional mixing of housing types over Alternative A, but not as much of Alternative C.
- Early estimates are for approximately 1389 dwellings at 11.5 dwelling units per net acre, 37% which would be Type 3, 33% Type 2, and 30% Type 1.

Alternative C

Highlights of Alternative C include:

- The neighborhood commercial is located along Brisband at Stafford Road with the east neighborhood park collocated directly to the east. The Grange is its own destination at its current location.
- Organizing housing around five focal points such as small parks similar to Alternative B, however more Type 1 housing type is introduced. with Type 2 housing type generally at the focal points radiating out to Type 3. The focal point at Stafford and Advance has a large area of Type 1 housing types radiating out prior to the Type 2 and 3. Additional mixing of housing types over other alternatives.
- Provides most units and greatest mix of housing types. Early estimates are for approximately 1803 dwellings at 14.7 units per net acre, 49% of which would be Type 2, 36% Type 1, and 14% Type 3.

Planning Commission Feedback and Recommendation

Following a work session on June 8, the Planning Commission recommended developing a preferred alternative closest to Alternative C with additional refinements and considerations. Below are their key recommendations and comments regarding housing mix and location of commercial and a neighborhood park in Frog Pond East.

Housing Mix

- All commissioners agreed the additional mix of housing for Frog Pond South (south of Advance Road) in Alternative C.
- Commissioners like the mix of housing in Frog Pond East (north of Advance Road) in Alternative C as well. However, there was not consensus on where to center the beginning of the density transect. Some preferred the central part of the east neighborhood around the neighborhood park and other preferred along Stafford Road. Considerations included having density near the neighborhood commercial versus having smaller residential buildings along Stafford Road frontage to not be as abrupt and better mirror the frontage in Frog Pond West.
- A main focus of the Commission's recommendation is that Alternative C best supports the housing affordability concepts from the Equitable Housing Strategic Plan and Affordable Housing Analysis.

Location of Neighborhood Commercial and East Neighborhood Park.

- The majority of the Planning Commission continues to support the neighborhood commercial as a main street concept at Brisband as shown in Alternatives B and C. This also remains the recommendation of Leland Consulting Group that has done the commercial evaluation.
- The majority also supported the neighborhood park adjacent to or a couple blocks from the Brisband Street commercial location. Additional feedback and public discussion will

occur to finalize whether to locate the park immediately adjacent to the commercial as shown in Alternative C or a couple blocks away as shown in Alternative B.

- The Commissioner that supported the Frog Pond Lane location for the commercial center and park took into consideration public comments supporting the location and potential for flexibility in programming the land for civic or park use around the grange if the commercial does not develop on a similar timeframe as the surrounding residential.

Discussion questions:

1. What questions does the Council have about the presented land use and urban design alternatives?
2. Considering all of the following, the Planning Commission recommended pursuing a preferred alternative closest to Alternative C. See recommendation discussion above.
 - The foundational framework of the Frog Pond Area Plan
 - The Equitable Housing Strategic Plan
 - The Affordable Housing Analysis completed for this Master Planning effort
 - Design concepts discussed in the last work session
 - Public input received to date (see Attachment 2 outreach summary)

Does the Council support this direction? What additional feedback would Council offer as the project team develops a preferred alternative?

EXPECTED RESULTS:

Feedback and direction from the Council to develop a preferred land use and urban design alternative for Frog Pond East and South.

TIMELINE:

This is the fifth in a series of work sessions for the City Council. The next work session is planned for July. Most components of the project must be completed by December 2022.

CURRENT YEAR BUDGET IMPACTS:

The project is funded by a combination of a \$350,000 Metro grant, an \$81,000 Oregon DLCD grant, and matching City funds in the form of staff time. The FY 21/22 year end estimate is \$269,000. An additional \$311,000 is budget in FY 22/23 to complete the project.

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which lays out a robust public engagement program that will include meaningful and impactful involvement of people who identify with historically marginalized communities. In addition, City staff continues work with consultants and the DEI committee to establish a framework for broad community involvement.

POTENTIAL IMPACTS OR BENEFIT TO THE COMMUNITY:

Furthering of the City's Equitable Housing Strategic Plan and Council's goal of affordable home ownership, while creating Wilsonville next great neighborhoods.

ALTERNATIVES:

The City Council can support one of the alternatives, as presented, or recommend a combination of elements from the different alternatives.

CITY MANAGER COMMENT:

N/A

ATTACHMENTS:

1. Frog Pond East and South Land Use and Urban Design Alternatives Memo (dated May 31, 2022)
2. Frog Pond East and South Outreach Summary (draft, dated May 31, 2022)



DRAFT MASTER PLAN ALTERNATIVES

TO: Planning Commission and City Council

FROM: Project Team

DATE: May 31, 2022, Updated June 8, 2022

Overview

The Frog Pond East and South Master Plan builds on the Frog Pond Area Plan, adopted by the City of Wilsonville in 2015. The Vision statement in the Area Plan states:

The Frog Pond Area in 2035 is a Wilsonville community with attractive and connected neighborhoods. The community's hallmarks are its walkable and active streets, variety of quality homes, and connected trails and open spaces. Frog Pond's excellent schools and parks are focal points of the community. Frog Pond is "just a short bike, walk, or bus trip" from all parts of Wilsonville – a highly valued part of the larger city.

In addition to the outcomes stated above, the City has directed that the plan place additional emphasis on: (a) providing housing choices for a range of incomes; and (b) focusing on housing form (rather than units per acre) as the guide to community design. These two priorities implement action items in the Equitable Housing Strategic Plan adopted in 2020.

This memorandum describes draft alternatives for the Master Plan. The alternatives intend to reflect: the foundational framework of the Frog Pond Area Plan, the Equitable Housing Strategic Plan, the Affordable Housing Analysis completed for this master-planning effort, design concepts previously discussed with Planning Commission and City Council, and public input received to date. The alternatives will identify choices for further discussion and direction by the Planning Commission and City Council to guide development of a Preferred Alternative. The alternatives are conceptual at this stage of the planning process and include neighborhood destinations (e.g., parks), framework-level streets and paths, options for a Commercial Main Street, optional locations and patterns for a variety of housing types, open space, and subdistricts. Utilities and more detailed community design will be prepared after a preferred alternative is identified.

Plan Direction Discussed To-Date

The notes below summarize research memoranda and plan elements discussed by the Planning Commission and City Council.

Base Mapping

- Based on the buildable land inventory, the 255-acre Master Plan area has approximately 139-acres of unconstrained buildable land
- An arborist report and supplement identified significant trees within the project area



- The project team is compiling information about historic resources within the project area

Affordable Housing¹

- Affordable housing strategies likely to have the most impact in Frog Pond are listed below. The attached alternatives implement the first strategy: zoning for all housing types. The other strategies are implementation actions dependent on being enabled by the land use plan and design concepts shown on the alternatives.
 - Zone for all housing types
 - Acquire land for affordable housing
 - Partner with a community land trust
 - Waive, reduce, or defer SDCs for income-restricted affordable units
 - Incentivize smaller and lower-cost middle housing
- Potential affordable housing “targets” for the plan were reviewed with the Planning Commission and City Council. The targets are quantified examples of the types and amounts of housing that could serve lower income populations in Frog Pond East and South, per the guidance of the Equitable Housing Strategic Plan. They are listed below and assumed to be part of Master Plan Alternative C, which has slightly higher overall density to accommodate more affordable housing choices (See the Alternatives section of this memo). Alternatives A and B could also include sufficient land for potential inclusion the housing listed below. Note that the land needs cited below are relatively small: about 5 to 10 acres.

Target # of Developments	Housing Type	Population Served	Approx. Scale and Land Needs
1	Multifamily	HH earning <60% of MFI* (rental)	120-180 units 4-6 acres
1	Cottage cluster, tiny homes, or courtyard housing	HH earning <30% of MFI, low-income seniors, veterans, or people with disabilities (rental)	5-50 units 0.25-2 acres
1-2	Townhomes or cottage cluster	First-time homeowners earning <80% of MFI	10-40 units 1-2 acres

- Regulatory actions for Accessory Dwelling Units to add to the City’s existing regulations:
 - Provide additional flexibility and exemptions to lot coverage and setbacks for ADUs
 - Allow ADUs with townhouses regardless of lot size.

¹ Source: “Frog Pond East and South Affordable Housing Analysis”, January 31, 2022, ECONorthwest (see Wilsonville Planning Commission packet for February 9,2022)



Neighborhood Commercial Center²

The neighborhood commercial center program listed below was discussed with Planning Commission and City Council during work sessions and shared with the public during outreach.

Plan Element	Commercial Development Program Recommendation
Bldg. Square Feet	Up to 44,000 square feet (or 56,000 square feet if the City can attract a pharmacy or medium sized grocer)
Site Acreage	Up to 4.0 acres (or 5.1 acres if the City can attract a pharmacy or medium sized grocery)
Tenant Mix	Food and beverage, retail, general commercial, professional services/office, healthcare, fitness, daycare, banks, and more. Specific retail tenants may include cafes and restaurants, a specialty food product store, a pharmacy, and other miscellaneous stores like laundromats, salons, hobby/boutique stores, and medical, professional, and financial offices.
Development Type	“Hybrid” Main Street, with buildings on both sides of the planned Brisband Street or Frog Pond Lane extension on the east side of Stafford Road.
Parking	Parking ratios of 4.0 to 5.0 per thousand square feet of gross leasable space.
Location	Main Street retail provides the greatest experience and offers an opportunity for the commercial area to be prosperous over a longer timeframe. Main street retail feels “fresher” for longer than conventional retail centers and would be more accessible to a greater number of people traveling by car, foot, and bike.
Other Recommendations	Plan for higher-density residential, including apartments, townhomes, and live/work spaces, surrounding the commercial center. Most case studies of successful commercial areas are surrounded by higher-density housing.

Community Design Concepts³

The following design concepts were discussed with Planning Commission and City Council during work sessions and shared with the public during outreach. They state the important outcomes and design strategies intended for the Master Plan alternatives. They will be implemented through the Frog Pond East and South Master Plan and by development proposals.

The community design concepts for the Master Plan include:

- Housing Variety Throughout
- Affordable Housing Integration
- A Transect of Densities
- A Neighborhood Commercial Center

² Source: “Commercial Area Evaluation”, March 28, 2022, Leland Consulting Group (see Wilsonville Planning Commission packet for April 13, 2022)

³ Source: “Recommended Community Design Concepts”, April 1, 2022, MIG|APG (see Wilsonville Planning Commission packet for April 13, 2022)



- Street Connectivity
- Bicycle and Pedestrian Connectivity
- Natural Areas
- Preservation of Important Trees
- Active Parks and Open Space
- Consideration of the BPA Easement Corridor
- The Historic Grange as a Civic Amenity
- Use of Subdistricts

Community Engagement and Input into the Alternatives

Engagement Activities

In April and May, the team hosted multiple opportunities for community members and stakeholders to provide input into the alternatives. Those opportunities included:

- A focus group engaging community members who are immigrants and/or people of color
- A Spanish-speaking focus group
- A focus group of individuals interested in being first time homebuyers
- A community design workshop virtual meeting
- An online survey addressing topics covered in the community design workshop
- Two focus groups of community members representing renter perspectives

Please see the Public Engagement Summary memorandum for feedback received from the participants.

Alternatives

Overview

Three alternatives have been prepared to evaluate options for land use, street and trail connectivity, neighborhood destinations, and open space.

Common Attributes of the Alternatives

The three alternative share the following attributes in common:

- The Frog Pond Grange as a community destination and civic amenity
- A 2–4-acre neighborhood commercial center to be designed as a walkable Main Street or similar neighborhood destination
- A variety of housing (Types 1, 2 and 3, see below) in each neighborhood arranged in a transect of Type 1 and/or 2 at centers or focal points fanning out to Type 3 at edges.
- Each of the alternatives could potentially accommodate the affordable housing targets described above (Alternative C has slightly higher density than Alternatives A and B; it is assumed to include the targets and more affordable choices overall)
- A neighborhood park in the East Neighborhood
- A connected street pattern, with new streets and extensions of Frog Pond Lane, Brisband Street, 63rd Avenue and 60th Avenue



- Trails connecting important community and neighborhood destinations
- Walkable subdistricts in each neighborhood with a variety of housing choices within each
- Small neighborhood destinations within each subarea, such as small open spaces, community gardens, or other public amenities.

Housing Forms or Types

Three housing forms or types are used for the purpose of the preliminary alternatives. The three types are broad categories, and each includes multiple kinds of housing with overlap between the types. The focus of this typology is the bulk and spacing of buildings. For example, a similarly sized detached home may exist in any of the typologies, but for Type 1 it would tend to be taller and closer to adjoining homes, and Type 3 shorter and further apart from adjacent homes.



Type 1 Housing Form

Type 1 is 2-3 stories tall with 75 to 200 foot wide building façades. Smaller buildings are closely spaced.

Townhouses, closely spaced detached homes, condo/apartment buildings are included.

The look and feel is similar to the Villebois Village Center beyond the immediate buildings around the piazza, including: a variety of taller closely-spaced detached homes, 3-6 unit townhouse buildings, condo buildings, and apartment buildings.



Type 2 Housing Form

Type 2 is primarily 2 stories, with 3 stories allowed. Building facades are approximately 25 to 75 feet. Building separation is approximately 8-10 feet and lot area per building will likely be 3,000-5,000 square feet.

Many small to medium single-family detached homes plus duplexes, triplexes, quadplexes and small townhouse buildings are included.

The look and feel is similar to the southwest portion of Frog Pond West near Boeckman Creek with smaller homes and single-family areas of Villebois – there is primarily two-story single-family homes with fairly close spacing with some duplexes and townhouses mixed in. However, the prevalence of duplexes and townhouses is likely to be greater in Frog Pond East and South.



Type 3 Housing Form

Type 3 is primarily 1-2 stories, with 3 stories allowed. Building facades are approximately 45-100 feet. Building separation is 10 or more feet. Lot area per building is likely 6,000-10,000 square feet.

Medium to large single-family detached homes plus duplexes, triplexes, quadplexes, small townhouse buildings, etc. are included.

The look and feel is similar to large lot areas of Frog Pond West and single-family detached subdivisions in Wilsonville with medium to large lots such as Renaissance at Canyon Creek, Wilsonville Meadows, and Morey's Landing. However, these areas in Frog Pond East and South would have more housing variety, with each housing type built in a style consistent with larger detached homes.



Descriptions of the Alternatives

Alternative A

Alternative A is organized around three major neighborhood destinations:

1. The Frog Pond Grange, a Commercial Main Street (along the extended Frog Pond Lane) and a future Neighborhood Park – all collocated to create a primary neighborhood destination. In this concept, the Grange building would be relocated northeast of its current location, with an opportunity to connect to the BPA easement open space and future trail.
2. The future Community Park
3. Meridian Creek Middle School

The framework of walkable and bikeable streets and paths/trails provide direct connections between these destinations and connect to the smaller neighborhood destinations. In this concept, the Frog Pond Lane to 60th Avenue connection parallels the BPA easement with room for development along the edge of the easement and public connections and view corridors through to the easement from the street.

Housing is organized in a transect from denser look and feel to less dense look and feel from the west (Type 1 and 2 housing form) to the east (transition to Type 2 and 3 housing form).

Alternative B

Alternative B is organized around five neighborhood destinations:

1. The Frog Pond Grange
2. A Commercial Main Street along the extension of Brisband Street
3. A future Neighborhood Park located approximately one block east of the Commercial Main Street, creating opportunities to gather and stroll or roll between the Main Street and the park
4. The Future Community Park
5. Meridian Creek Middle School

The framework of streets and paths/trails provide direct connections between these destinations and connect to the smaller neighborhood destinations. In this concept, the Frog Pond Lane to 60th Avenue connection is shown as an arching, curved street.

Housing is organized to place Type 1 housing form on the north side of Advance Road and along Stafford Road, proximate to and between all five destinations. Type 2 housing form transitions to the east and northeast from the Type 1 around the Advance/Stafford intersection. Small areas of Type 2 housing form are clustered in each of the other subdistricts, focused on framework streets and intersections.

Alternative C

Alternative C is organized around the same five neighborhood destinations as Alternative B:

1. The Frog Pond Grange
2. A Commercial Main Street along the extension of Brisband Street



3. A future Neighborhood Park located just at the end the Commercial Main Street, creating opportunities for the main street area to activate the park as a central gathering space
4. The Future Community Park
5. Meridian Creek Middle School

The framework of streets and paths/trails provide direct connections between these destinations and connect to the smaller neighborhood destinations. In this concept, the Frog Pond Lane to 60th Avenue connection parallels the BPA easement.

Housing is organized to create five focal points where Type 1 housing form is at the center, with the largest center arranged around the neighborhood park and nearby the commercial area. Type 2 and 3 housing form radiates out from each focal point.

This alternative provides the most overall housing of the alternatives, including the most Type 1 housing, providing the greatest opportunity for the City to meet the “affordable housing targets” program noted above.

Draft Housing Capacity Estimates

These are rough estimates of the dwelling unit capacity, density, and breakdown by typology in each alternative. These estimates follow from the alternative land use maps and are based on a general assumption of 25 units/net acre in Type 1, 15 units/net acre in Type 2, and 7 units/net acre in Type 3.

Alternative A:

1583 dwellings, 12.8 du/net acre

27% Type 1, 48% Type 2, 24% Type 3

Alternative B:

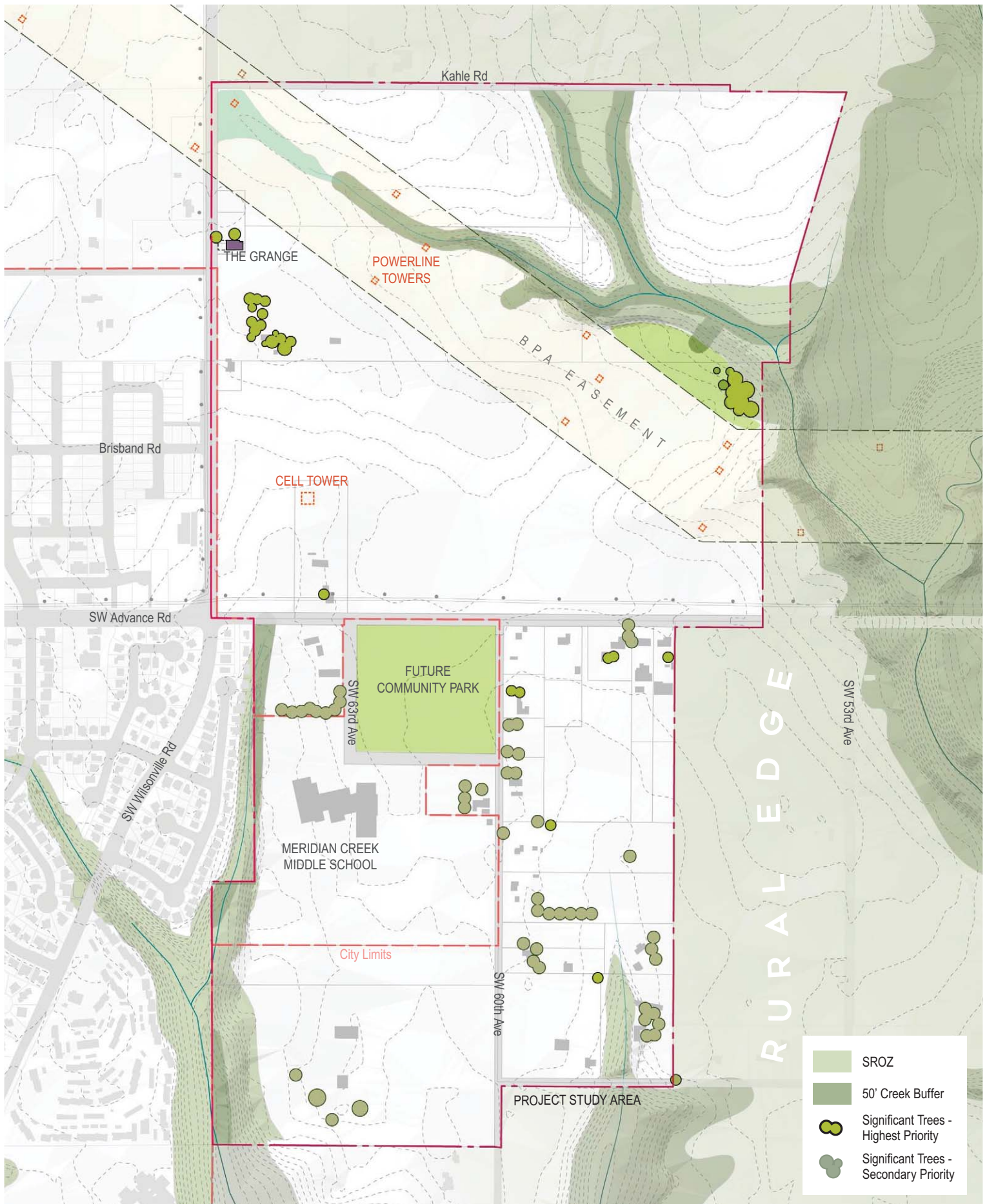
1389 dwellings, 11.5 du/net acre

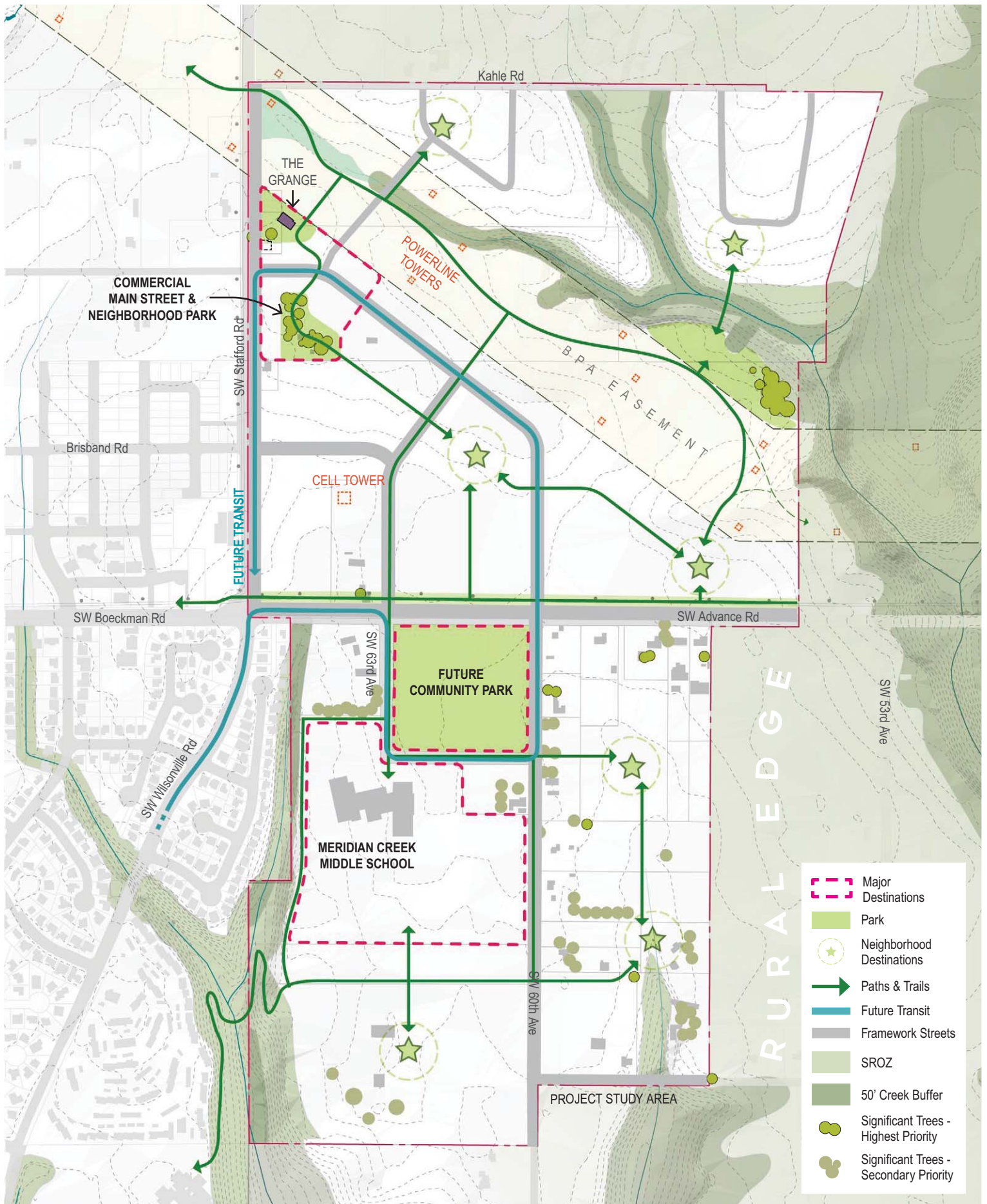
30% Type 1, 33% Type 2, 37% Type 3

Alternative C:

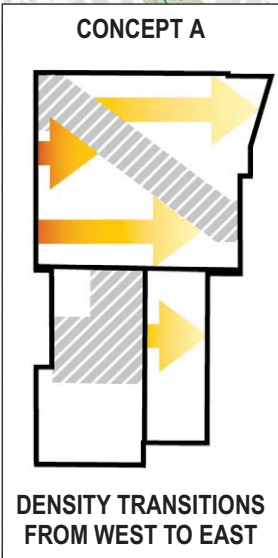
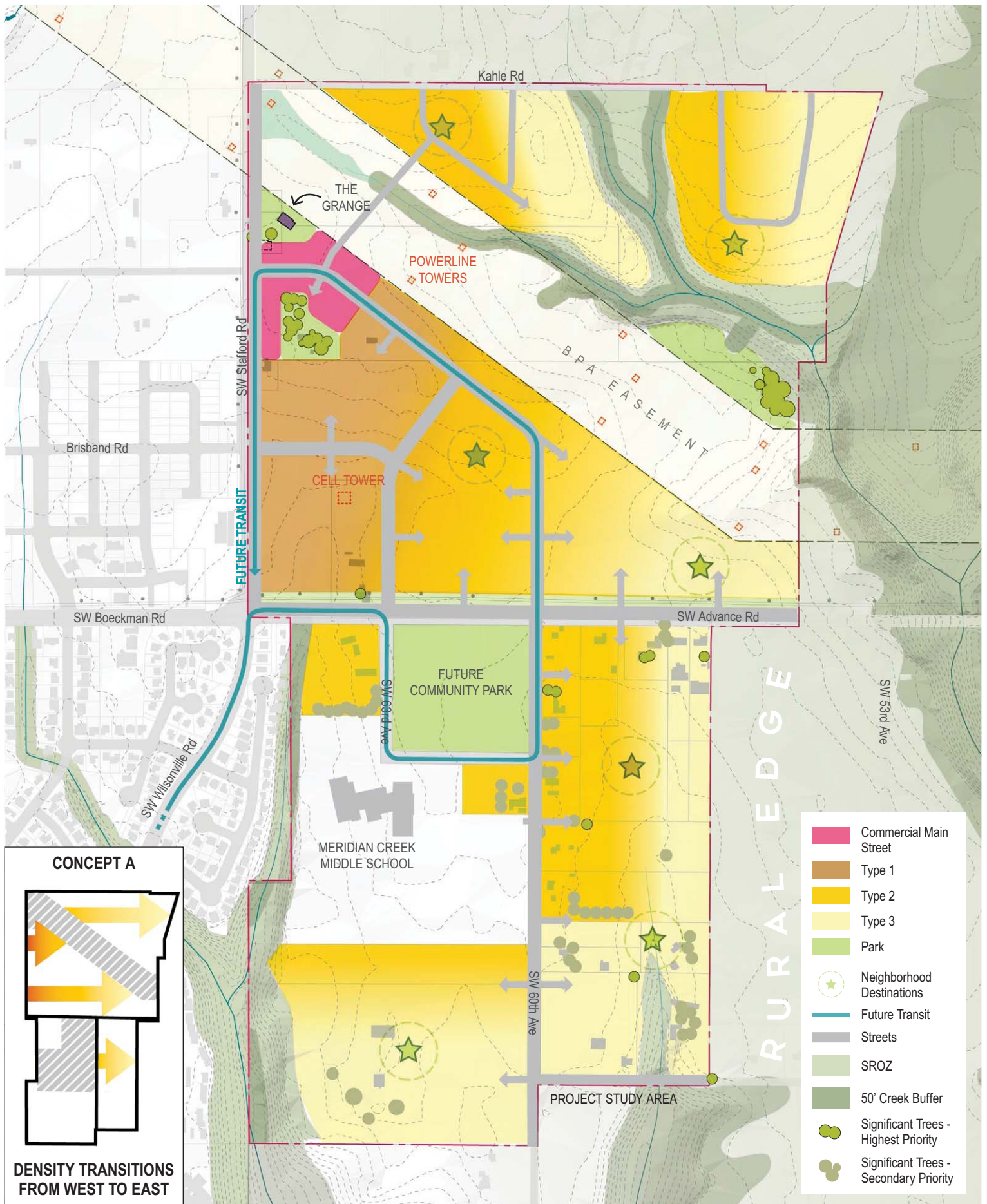
1803 dwellings, 14.7 du/net acre

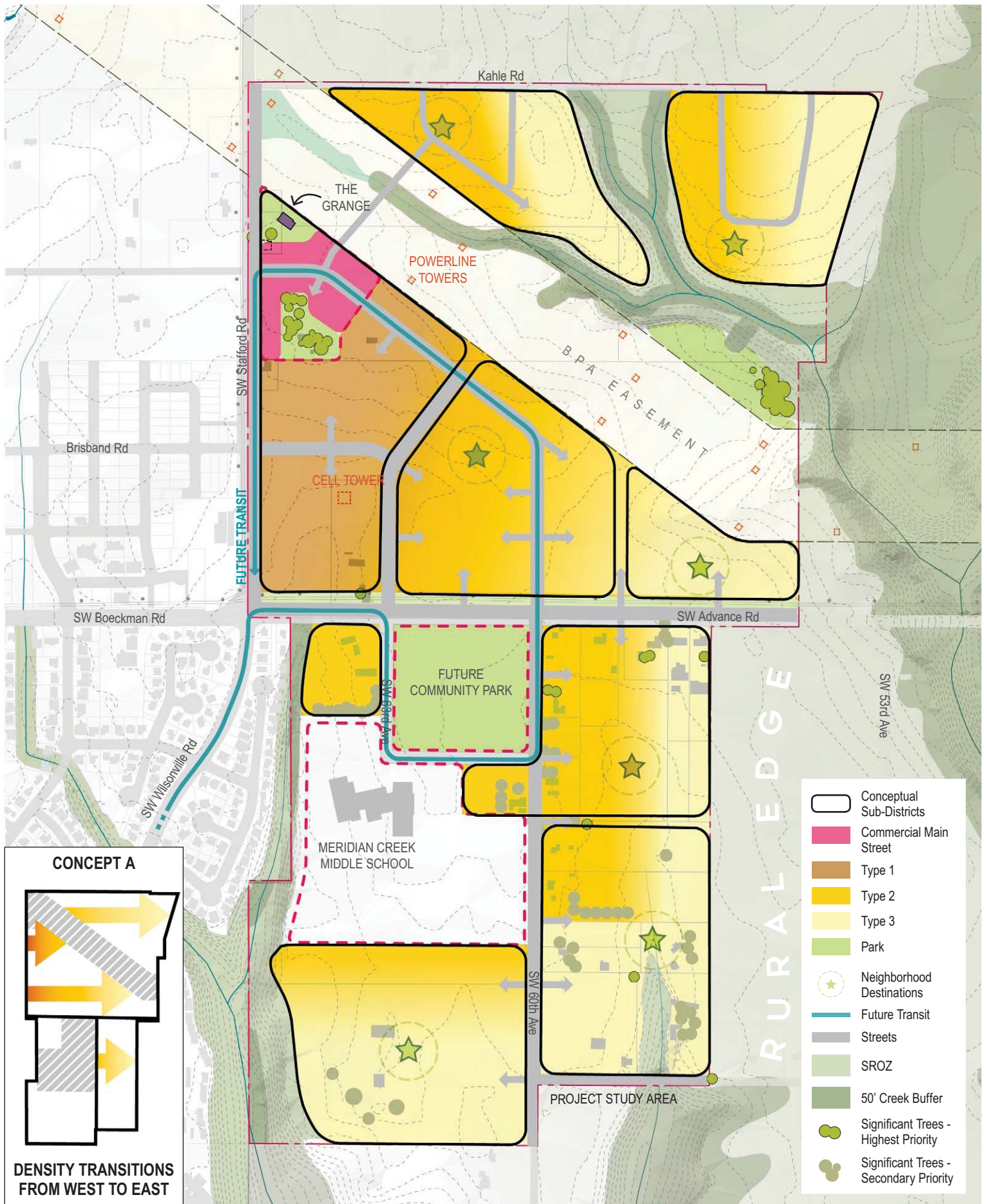
36% Type 1, 49% Type 2, 14% Type 3

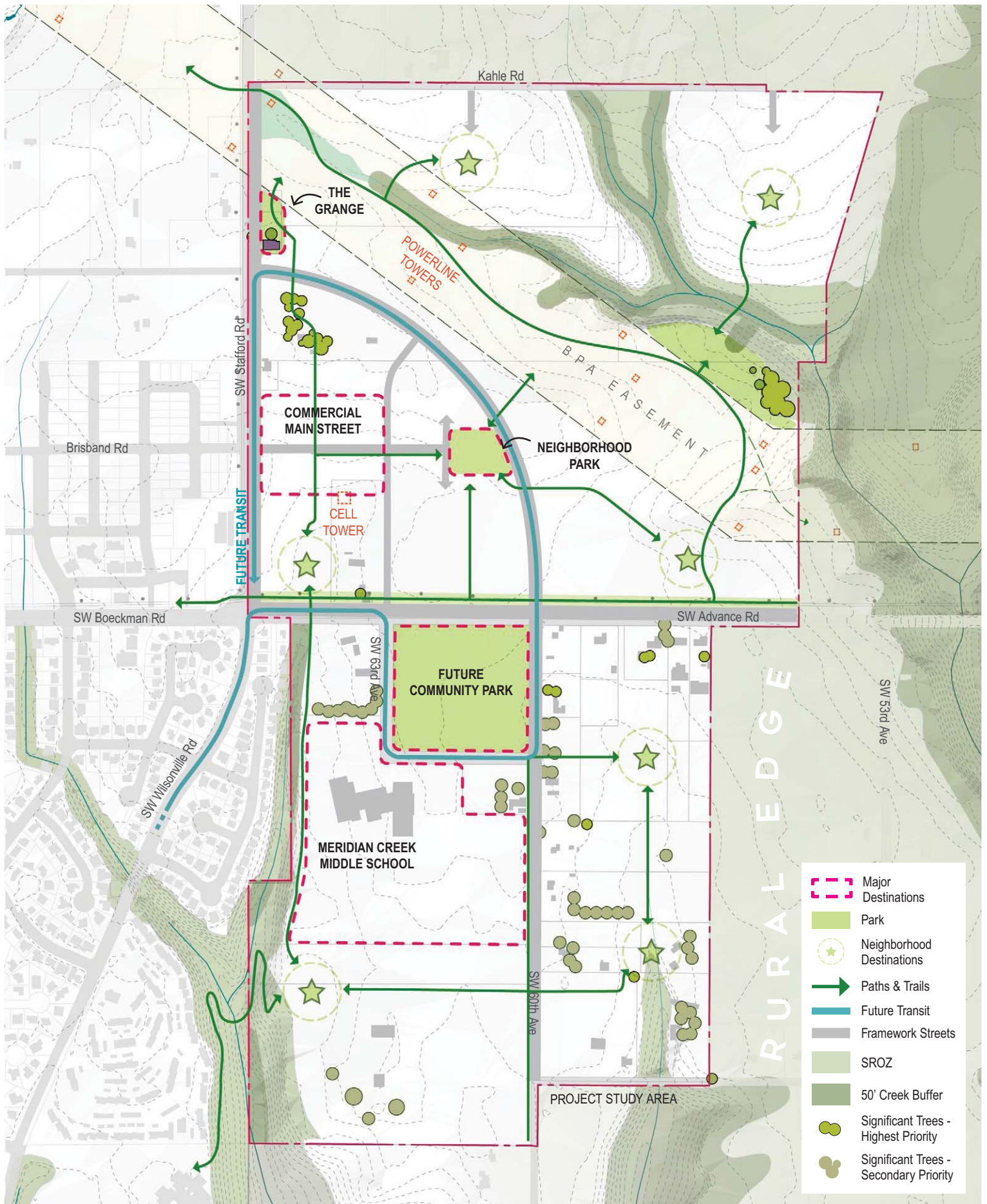




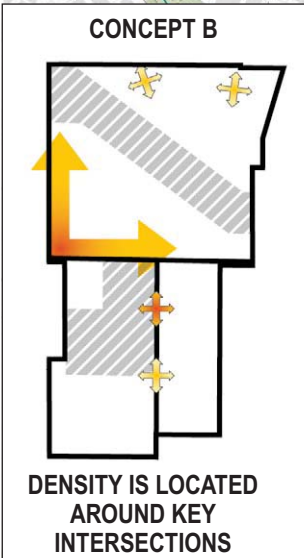
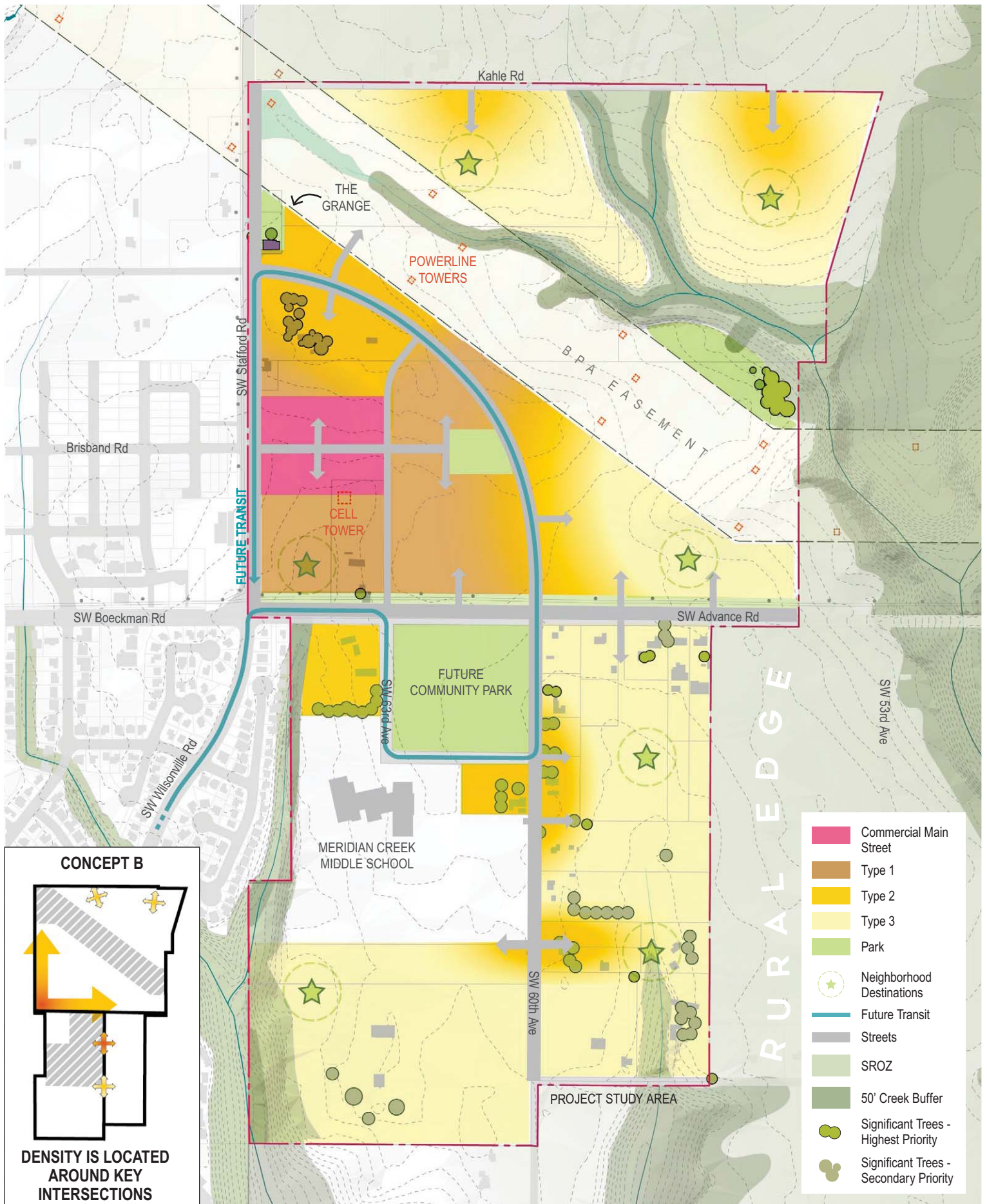
- Major Destinations
- Park
- ★ Neighborhood Destinations
- Paths & Trails
- Future Transit
- Framework Streets
- SROZ
- 50' Creek Buffer
- Significant Trees - Highest Priority
- Significant Trees - Secondary Priority

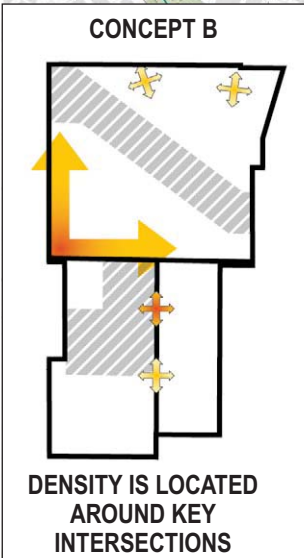
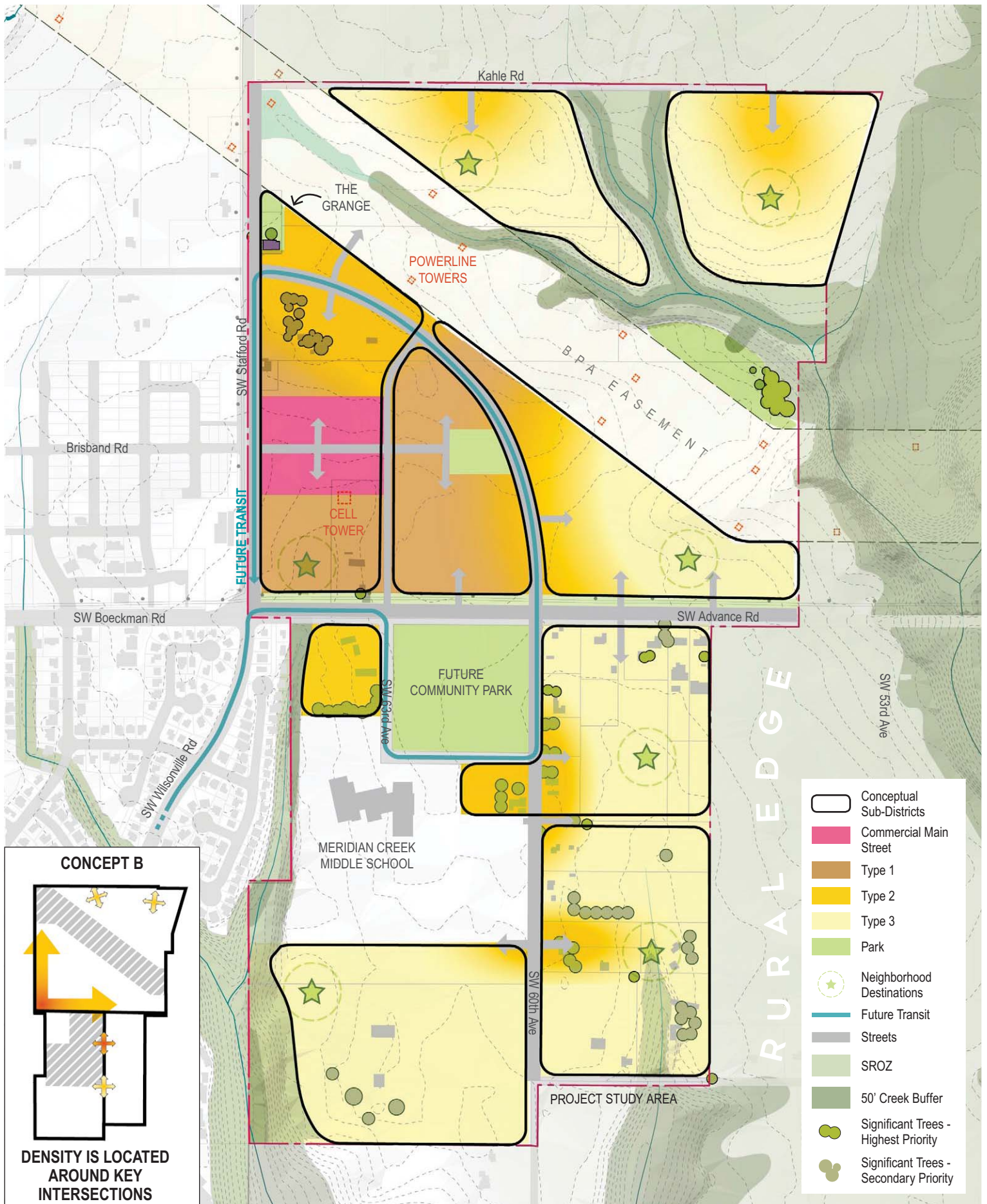


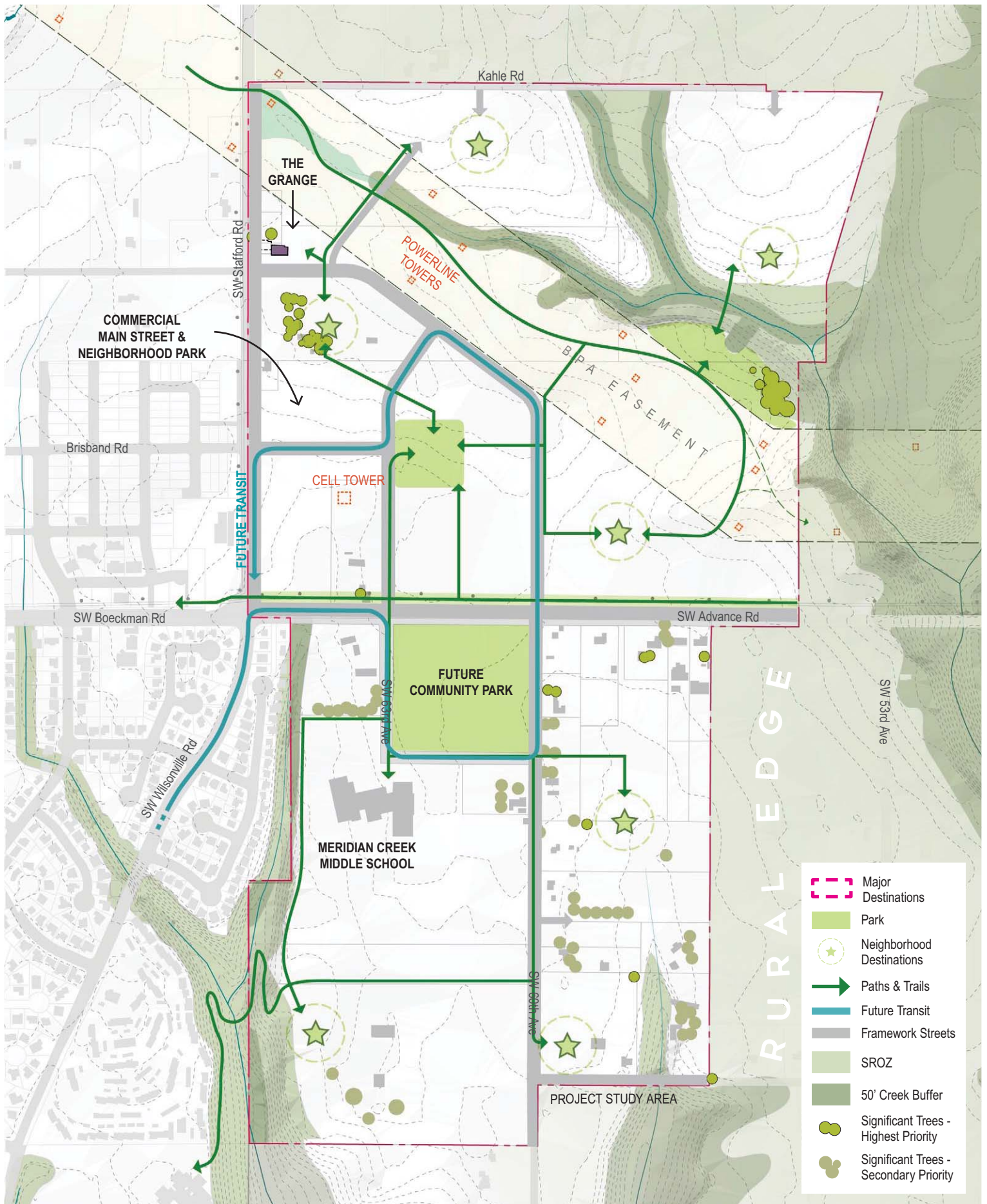




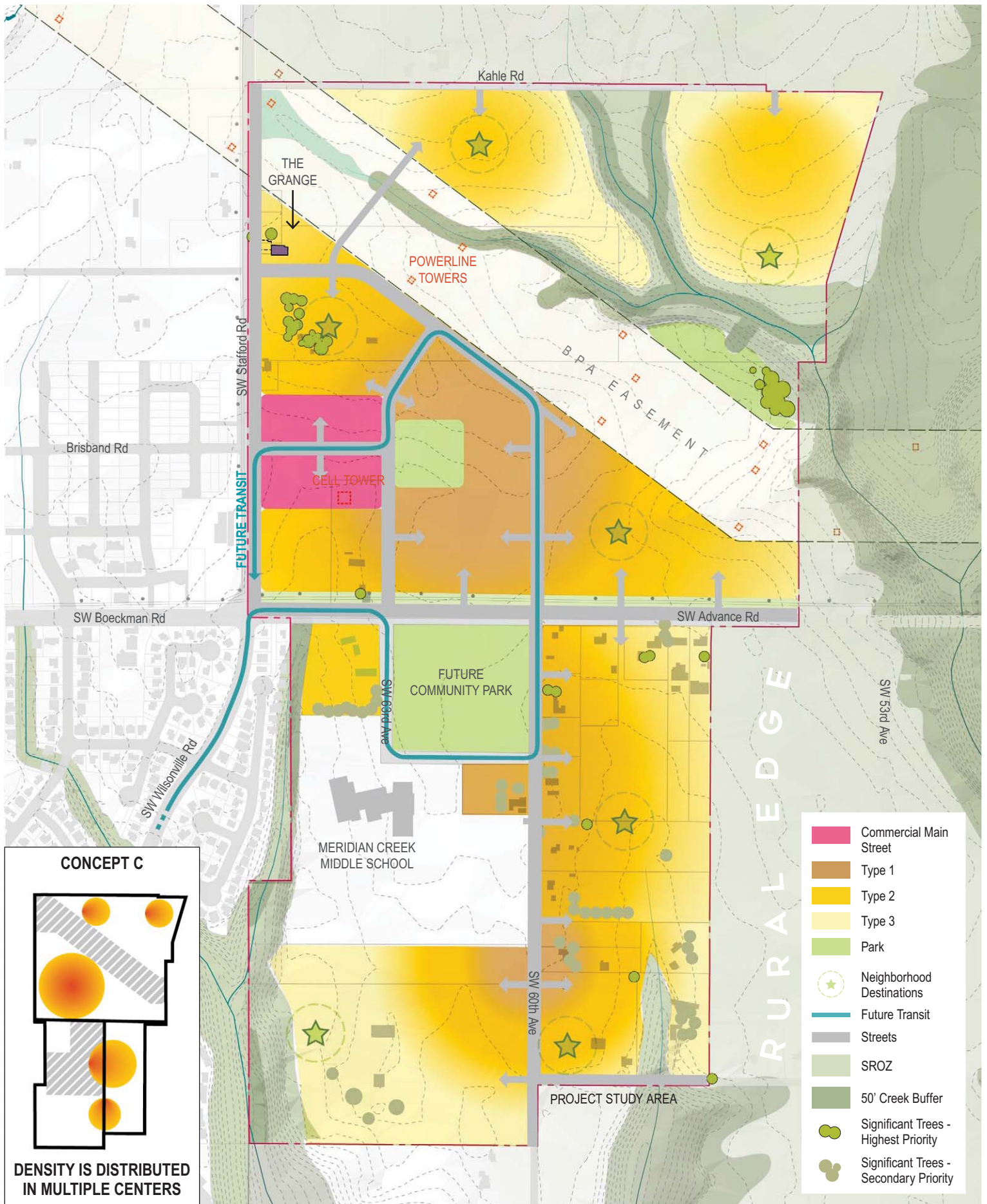
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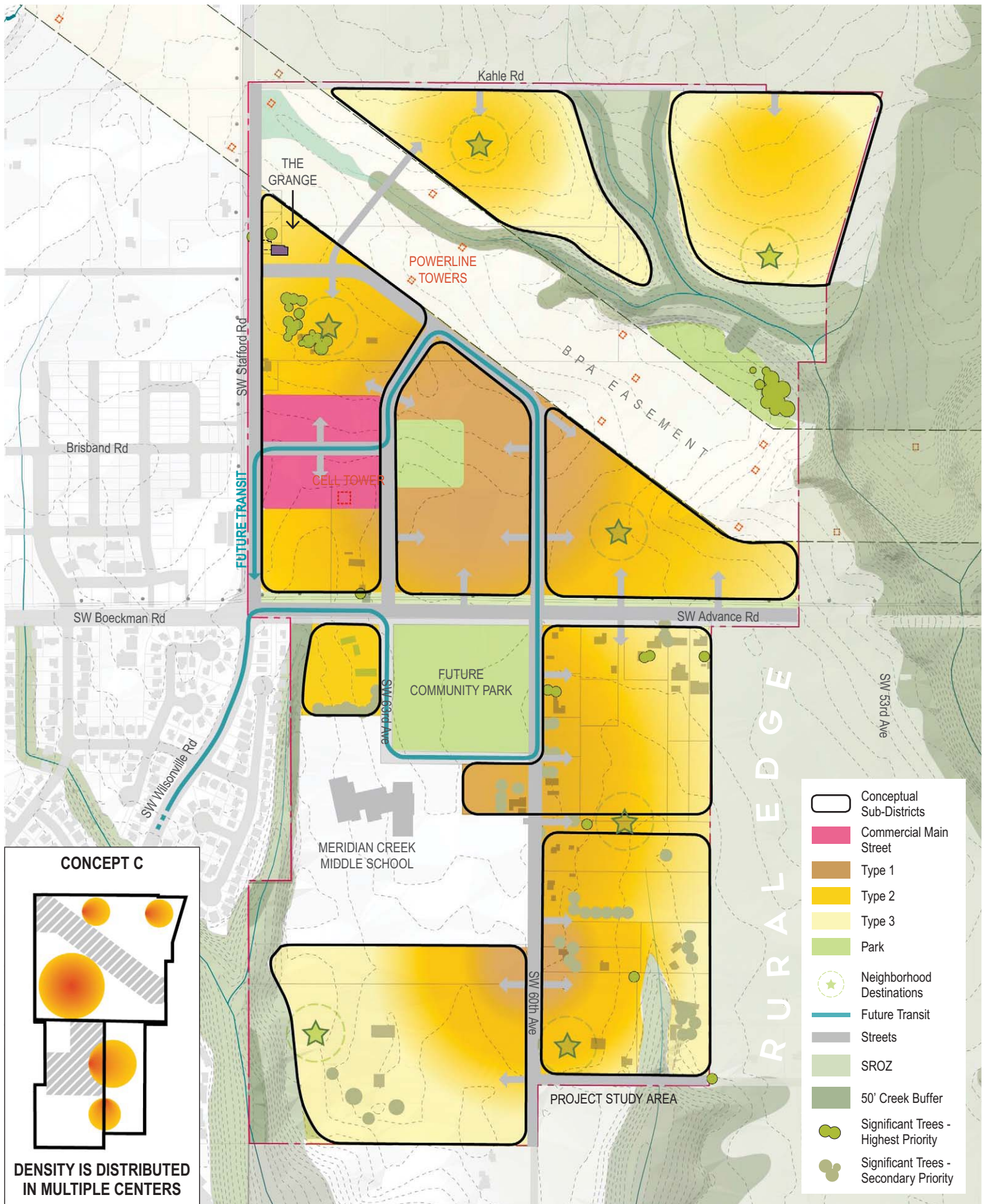


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- Park
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- Paths & Trails
- Future Transit
- Framework Streets
- SROZ
- 50' Creek Buffer
- Significant Trees - Highest Priority
- Significant Trees - Secondary Priority



CONCEPT C

DENSITY IS DISTRIBUTED IN MULTIPLE CENTERS



CONCEPT C

DENSITY IS DISTRIBUTED IN MULTIPLE CENTERS



DRAFT ENGAGEMENT SUMMARY: APRIL-MAY 2022

Introduction

This document is a summary of community engagement activities conducted between April 30 and June 1, 2022, for the Frog Pond East and South Master Plan. The project and engagement was focused on issues and ideas to inform the development of the plan alternatives. Key themes from each engagement meeting or activity are summarized below. The draft summaries and overviews below intend to make the information available as Planning and Commission and City Council consider land use and urban design alternatives. Engagement is ongoing and this summary will be updated in the future. Future updates will also include additional explanation of how the various engagement activities are impacting decisions.

Meetings and Activities

Meetings and engagement activities are summarized below. In addition, City staff had (and continues to have) on-going informational and coordination meetings with individual property owners, community members and developers.

- Community Focus Group #1 (April 30, 2022)
- Affordable Housing Focus Group #1 (May 11, 2022)
- Community Design Workshop (May 12, 2022)
- Affordable Housing Focus Group #2 (May 13, 2022)
- Community Focus Group #2 (May 14, 2022)
- Online survey on Let's Talk Wilsonville! (May 12 – May 30, 2022)

Project information and meeting notices were provided through a variety of ways including: *Let's Talk Wilsonville!*, the Boones Ferry Messenger; the project Interested Parties email list; and social media postings.



Meeting Summary – Community Focus Group #1

When: April 30, 2022; 3:30 – 5:30 p.m.

Where: Zoom

Participants:

Project team: Dan Pauly, Georgia McAlister (City of Wilsonville); Joe Dills (MIG|APG); Mariana Valenzuela (Centro Cultural)

Attendees: 18 community members pre-registered through recruitment via Zoom. However, only 4 participants were confirmed as legitimate participants.

Meeting purpose: To share information, and receive feedback, regarding the Frog Pond East and South Master Plan project. The feedback will inform project alternatives. This focus group was intended to broaden the engagement to include community members who do not typically participate in planning processes and are part of underrepresented communities.

Welcome and project overview

Mariana welcomed participants and Zoom start-up was finalized for all participants.

Dan welcomed the group on behalf of the City. Dan described: Frog Pond location, focus group agenda-overview-relevance, why planning is occurring, planning to date and vision. Joe presented slides addressing working ideas for: affordable housing, a range/typology of housing choices, a neighborhood center, community gathering places, connections, and the BPA power line corridor.

Breakout groups

The participants then broke into groups for discussion of the issues described in the overview. The questions and summary of feedback is below.

Neighborhood Center: What do you think of the idea to locate a “Main Street” commercial area along SW Brisband Street at SW Stafford Road? What would make it somewhere you and your family would go?

- Coffee or “refreshment spot”
- Cinema
- Positive attractions, things that are fun
- Places to exercise
- Spa
- Restaurants
- Security is important

Housing Choices: For the range of housing choices that was presented – which ones should go where?

- Range of homes on the larger parcels
- Type 1 near the grange
- Type 1 near the Community Park



- Type 1 away from the Community Park – in a location where there is less noise and activity
- Housing away from traffic
- Type 2 in a quiet location
- Mix of home throughout
- Overall general preference for Type 2

Community Gathering Places: What are the potential uses for the Grange? What ideas do you have for the East Neighborhood Park? What other community gathering places should there be?

- Grange: history, library, small museum, environmental education, community center for occasions, place to vote,
- Park: a fun place, kiddies corner, visibility, drinking fountains, outdoor gym

Connecting Destinations – Regarding the design concept map that shows connections: Do these make sense to you? Are there other important destinations to connect? Where should trails be located?

- Trails: the red lines make sense, connect to Brisband Street

BPA Power Line Corridor: What would you like to see in this area?

- Sports courts, parking, trails, concern about safety, could be dangerous

Other comments/questions of interest:

- Is there security (e.g. a police station) nearby?
- Where is the closest healthcare?
- There should be access to food and personal needs. A small grocery would be good.

Reports, Next Steps and Adjourn

The participants reconvened and provided highlights from the discussions. Dan thanked everyone for the participation, described next steps, and adjourned the meeting.

Meeting Summary – Affordable Housing Focus Groups #1&2 With Renters

When: May 11th, 2022; 5:30-7 p.m. and May 13th, 2022; 12-1:30 p.m.

Where: Zoom

Participants:

Project team: Georgia McAlister (City of Wilsonville); Becky Hewitt (ECONorthwest); Virginia Wiltshire-Gordon (ECONorthwest)

Attendees: 11 renters living in Wilsonville (8 on May 11th and 3 on May 13th who pre-registered through recruitment via social media and posted flyers)

Meeting purpose: Seek the perspectives of renters about their preferences for housing.



Welcome and project overview

Georgia welcomed participants and Zoom start-up was finalized for all participants. She welcomed the group on behalf of the City and described the Frog Pond location, focus group relevance, and why planning is occurring. Becky gave an introduction to the focus group agenda.

Breakout Groups - Questions

Discussed the following questions:

Current housing

- What do you like about where you live now? What don't you like?
- What were the most important factors in deciding to live there?

- Future neighborhood

- Is anyone thinking about moving in the next few years? If so, would you be interested in living in a new neighborhood in Wilsonville at the edge of town?
- What would factor into your decision about whether that was a good place to live?
 - Prompt about both the unit itself and the neighborhood / surrounding amenities / location, ask about access to transit

Housing types

- What type or style of housing would be most appealing to you?
- Show different housing types and ask what they would think. If your ideal situation is unaffordable, what kind of housing would you be open to?

- Buying

- If not already covered, ask whether they are hoping to buy a home in the next few years or continue renting
- What challenges are you facing in buying a home?

- Anything else you want to share?

Breakout rooms closed when all questions had been discussed.

Comments and Key Themes from Participants

Wilsonville Community

- Positive experiences:

- Many participants love Wilsonville and love living in Wilsonville
- Family: living close to aging parents, living within driving distance to family, living with family
- Safety: participants expressed appreciating the safety they felt personally, for their property and for their children
- Access to work: living close to work, easy drive as a commute
- Character of neighborhoods: architecture, access to nature and open space, layout of the city



EAST & SOUTH MASTER PLAN

- Amenities: convenient to get around town, bike paths, access to shopping center, access to the highway, activities and play areas for children
- Schools
- Challenges
 - Displaced multiple times due to landlords wanting to sell, more applicable in units with smaller scale owners
 - Rent increases pricing people out
 - Participants recognized the need to build more units and the reality of a region-wide housing shortage
 - Transit is not well connected to other parts of the metro region
 - High levels of growth, people moving into the community and increasing demand. Some of those moving to the area have higher incomes or more access to resources.

Future Neighborhoods

- Everywhere in Wilsonville is nice
- Make sure traffic is addressed, public transportation within town was not as much of a priority at present but becomes more relevant as people age

Future Housing Types

- Middle income 55+ community: desire for communities reserved for older and retirement age people. Interest in amenities that would create recreation opportunities for people to gather.
- Housing appropriate for aging in place: single story, some interest in master on ground floor, smaller size units (less than 1,200 sqft)
- Detached housing: general preference for housing that doesn't share walls, some preference for detached with a shared yard relative to attached housing with a small individual yard
- Design: Interest in duets or duplexes that may not be as obvious, such as different door orientations for each unit and interest in units that have an individual feel. Interest in variety of styles and more individuality still with a consistent character. Some interest in ADU, preference for detached style.
- Unit amenities: Yard and privacy, parking, balconies, high ceilings
- Apartments/Condos: less interest, less attractive. Concerned about privacy, fees, space for younger children

Future Home Ownership

- Many expressed interest in owning a home in Wilsonville. Some people felt they were not yet at the stage of life to own a home.
- Prices were the key limiting factor. Some expressed willingness to compromise on features they wanted in order to afford a home in this location but some would prefer to continue renting unless or until the right home they could afford became available. For some, owning is price prohibitive in Wilsonville regardless.
- Concerns about HOA fees though some expressed appreciating the benefits they provide



Meeting Summary – Community Design Workshop

When: Thursday, May 12, 6-8 p.m.

Where: Zoom virtual meeting

Participants:

Project team: Miranda Bateschell, Georgia McAlister, Cindy Luxhoj, Joe Dills, Andrew Parish, Saumya Kini, Betty Lou Poston, Ken Pirie, Ryan Mottau, Mariana Valenzuela

Attendees: 10 participants

Meeting purpose:

- Share project information
- Obtain feedback to be used in preparing master plan alternatives

Welcome and Meeting Overview

Georgia convened the workshop, welcomed the group, and explained Zoom features

Project and Workshop overview

Georgia gave a short presentation, covering: why this project, why now; where is Frog Pond; 2015 vision and some new priorities; what will happen in the breakout groups; what we will do with your input

Breakout Groups

The attendees were divided into two discussion groups. After introductions, each group discussed:

1. Location and context – Where at the destinations for community gathering in southeast Wilsonville?
2. Connections – Based on a conceptual map of how to connect local destinations, the groups discussed ideas about places to connect and added ideas for additional connections.
3. Neighborhood commercial center – Following background information about a market study and discussions with the Planning Commission, the groups addressed:
 - a. What do you think of the idea to locate a “Main Street” commercial area at SW Brisband Street at SW Stafford Road?
 - b. What would make it somewhere you and your family would go?
 - c. For our work today, can we proceed with Brisband Main Street as the location for our discussions? (One group supported and moved forward with the Brisband Street location. The other group placed their commercial “chip” on the Frog Pond Lane location)
4. Housing types – Background information was provided regarding the City’s focus on providing a range of housing types. Housing Types 1, 2, and 3 were explained, along with principles for their placement on the maps. The groups then proceeded to place housing chips on their maps. See below



EAST & SOUTH MASTER PLAN

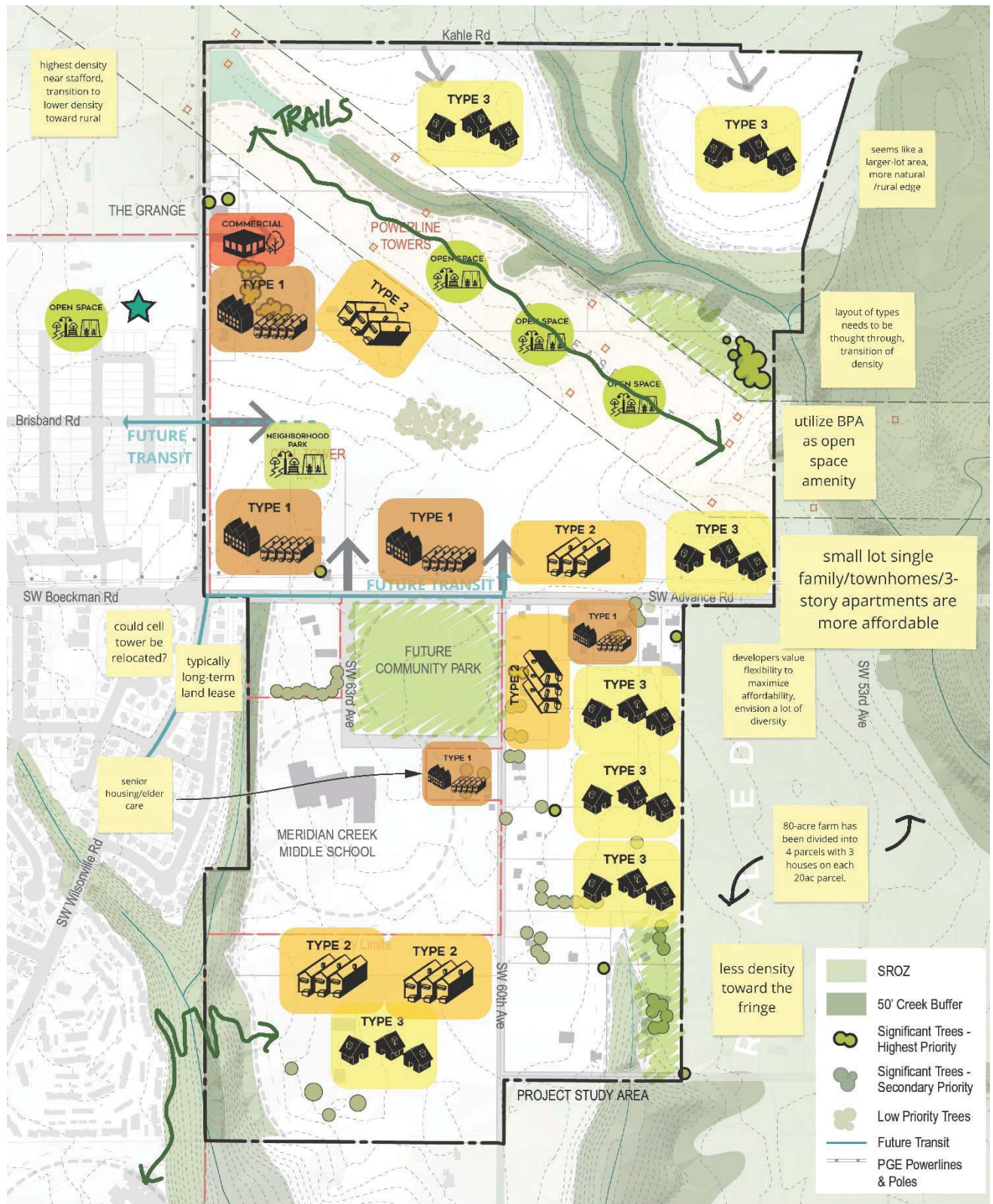
5. Parks and neighborhood destinations – The groups then placed chips for the East Neighborhood Park and small neighborhood destinations distributed around the map.

Breakout Group Feedback

Comments and ideas from workshop participants were recorded on maps – see below.

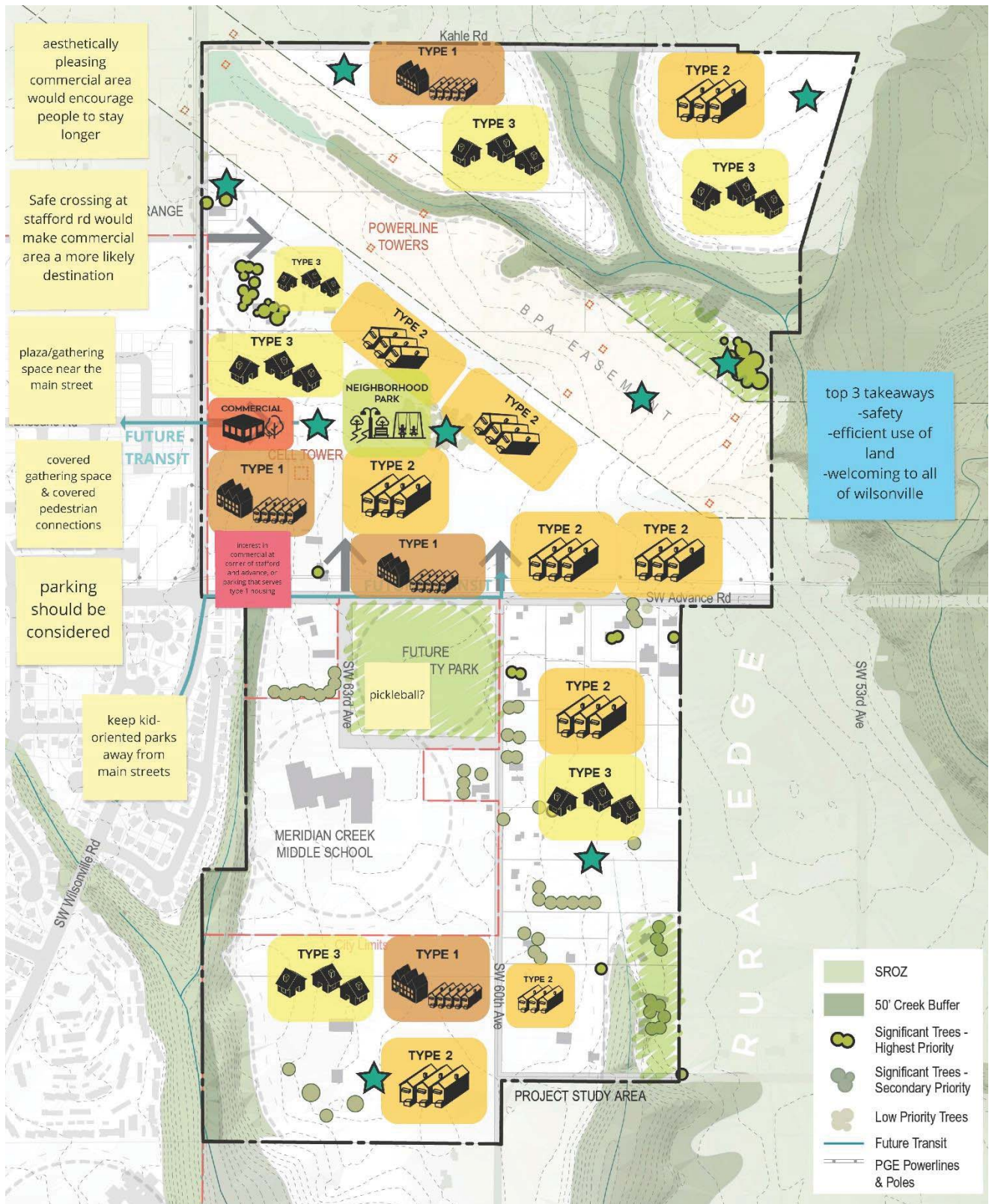


EAST & SOUTH MASTER PLAN





EAST & SOUTH MASTER PLAN



Report backs



Attendees returned from their groups and summarized highlights from their discussions:

Group 1:

- Type 1 housing should be focused towards the center with Type 3 towards the edge
- Make efficient use of the Frog Pond land supply including the BPA corridor and potential commercial area
- The neighborhood should include opportunities for affordable home ownership

Group 2:

- Pedestrian routes and should provide for safe walking and connectivity
- Make efficient use of the Frog Pond land supply
- Make these neighborhoods welcoming places

At 8:00 p.m., Georgia thanked everyone and the meeting was adjourned.

Community Focus Group 2

Overview

This event was delivered in English and Spanish using consecutive interpretation services to serve members of the Latinx Community in the area. Georgia presented the Frog Pond East & West Master Plan in the following sequence:

1. Description of the Frog Pond area
2. Goals of the development for the City of Wilsonville
3. Objective of focus group
4. Project update
5. Vision of Frog Pond – It is important to mention that this vision was built on feedback received during focus group events related to HB 2001 which took place last year.
6. Description and potential location of three home types
7. “Main Street” at Frog Pond-location and potential use
8. Community gathering places
9. Options to connect the neighborhood destinations
10. What to do at the BPA Corridor?
11. Group discussion
12. Next steps-Stay connected

There were seven participants who provided valuable input regarding the potential features and components of the future Frog Pond Neighborhood.

Most of the participants had already heard about Frog Pond since they had attended earlier community engagement events organized by the City of Wilsonville to provide information and gather feedback on HB 2001. They were very excited to have the opportunity to return and continue to be part of the urban planning process.



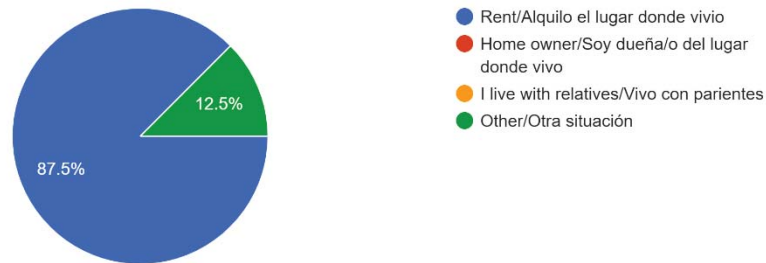
Pre-Meeting Survey

Participants completed a survey prior to the focus group event. These are the findings from that survey:

1. Living situation

¿Cuál de las siguientes opciones describe mejor su situación de vivienda?

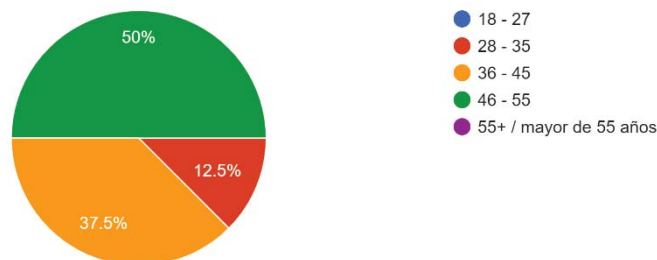
8 responses



2. Age group

¿Qué edad tiene usted?

8 responses

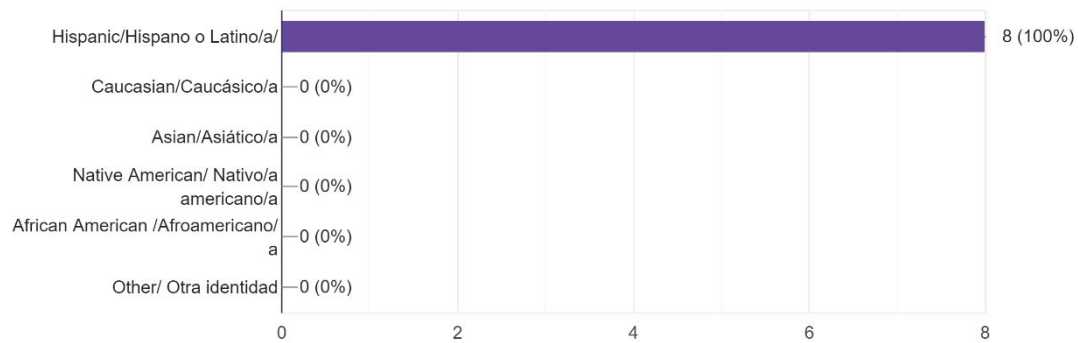


3. Ethnicity



¿Dónde ubica usted su raza o identidad étnica? (marque todas las respuestas relevantes)

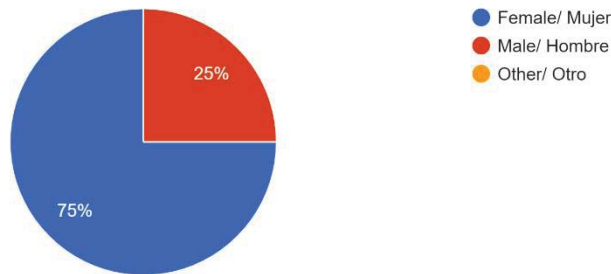
8 responses



4. Gender

¿Con cuál género se identifica usted?

8 responses

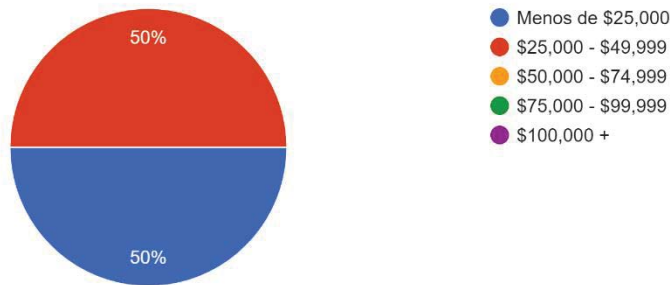


5. Annual Income



¿Cuál de las siguientes categorías representa mejor su ingreso anual? (marque una respuesta)

8 responses



Group Discussion

During the discussion, participants responded to the following questions:

1. **Neighborhood Center-** *What do you think of the idea to locate a “Main Street” commercial area along SW Brisband Street at SW Stafford Road? What would make it somewhere you and your family would go?*

Responses and comments:

- Ethnic food restaurants
 - Family-owned small businesses
 - Services: Beauty salon, Coffee shops, small market, ice cream shop
 - Affordable rent for small businesses
 - “Main Street” idea is good for the family, places you can walk to
 - I really like the idea, but for small businesses rental is challenging. It would be important to know who the owner is. These businesses are small. For a business to be successful, rent needs to be affordable.
 - Yes, a commercial area is a great idea, particularly if there is a focus on cultural exchange with arts & crafts, diversity of ethnic foods.
 - Cultural exchange, as the gentleman mentioned, is very important. This space, if affordable, could be the place for that exchange. Great idea for families to connect.
 - Spectacular idea. It would be wonderful. We don’t have such a place. A Colombian food restaurant would be great.
 - It would be great to have a grocery store, so you can go to do the shopping for the week, and then stop at an ice cream shop.
 - I love this idea of returning to a place where you can create community, connect with others.
2. **Housing Choices-** *For the range of housing choices that was presented – which ones should go where?*



Responses and comments:

- There were many questions about home affordability. How will they make these homes more affordable? Andrew responded to this concern. He explained that the City is thinking that a percentage of the homes will be subsidized. The same participant asked what is the percentage of subsidized homes. Georgia explained that there are three models. The most optimistic is a 15% of homes will be subsidized. Then the participant asked if 15% is the most optimistic, what is the most realistic or lowest? Georgia explained that they do not have the exact percent, that it all depends on the support of the community, but that affordable housing is a goal for the City so they are optimistic.
- **Type 1**-Participants agree that these homes should be near schools for safety since there are more children. Least focus should be on building Type 3 homes. Most houses in Wilsonville are single-family homes and are less affordable.
- **Type 2**-Near retail stores- Near “Main Street”
- **Type 3** closer to the Grange, more isolated- Again, participants concur with that opinion. Focus the least on building this type of home.
- The tallest buildings should be placed far away from power lines, and whatever is built, make sure there is a lot of parking space.
- 3. **Community Gathering Places:** *Which are the potential uses for the Grange? What ideas do you have for the East Neighborhood Park? What other community gathering places should there be?*
 - A Community Center near the park; Park and community center should be located away from traffic for safety
 - Picnic tables
 - Place to barbecue
 - Swimming Pool
 - Sports fields- soccer, tennis
 - Walking and biking trails
 - A road so we could drive and carry food to barbecue
 - A covered space due to rainy days, so families can celebrate birthdays
- 4. **Connecting Destinations:** *Regarding the design concept map that shows connections, do these make sense to you? Are there other important destinations to connect? Where should trails be located?*
 - Biking trails
 - Walking trails
 - Consider those who have mobility issues
 - These trails
 - Connecting path should have the shape of an “S” instead of a “C”

After the discussion, Georgia and Andrew thanked participants for their meaningful contributions.



Online Survey

Overview

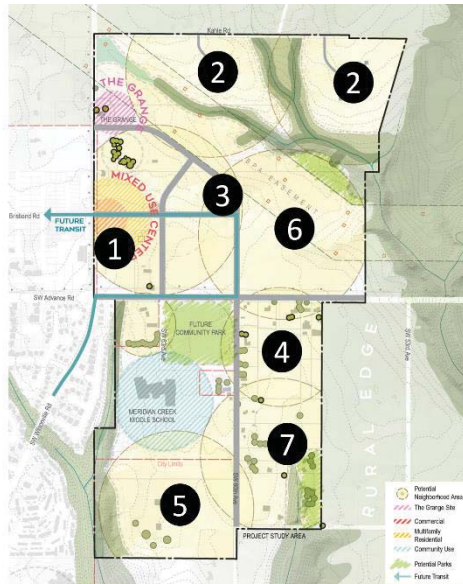
A survey was posted to *Let's Talk Wilsonville!* on May 17 and ran through May 31. The survey had three components: housing history and preference, location of housing types in Frog Pond East and South, and feedback on proposed amenities such as use of the historic grange and park programming. Through May 31 the survey had 46 respondents. More information on responses to individual questions can be found in attached summary.

Of the 46 respondents, 40 currently live in a detached single-family home. A preference for detached single-family homes from this group remained consistent throughout the survey. Detached single-family was by far the predominant preference for respondents if they were to seek a different home in the coming years. In addition, the overall preference for the Type 3 Housing Form was clear. Only 5 respondents indicated they did not prefer Type 3, compared to 14 for Type 2 and 25 for Type 1. It was not unexpected existing single-family homeowners would have this type of response.

Other survey questions brought additional insights about preferences and potential future needs. As can be seen in some of the other outreach results, generally there is a preference for detached units. The ideal of the detached home runs strong. A particularly interesting survey question was if respondents could not afford a detached single-family home what other type of housing they would consider. Half of respondents (23) said a townhouse, the next most frequently selected options were cottage cluster (19), plexes (16), cluster housing (13), and apartment or condo (11).

Respondents were also asked best and preferred location for different housing forms in Frog Pond East and South, referencing the map below.

1. Adjacent to the neighborhood retail and next to Stafford road
2. Outer area of East Neighborhood between creek corridors
3. Central area of East Neighborhood, near power line easement areas
4. South Neighborhood near future community park
5. Southern portion of South Neighborhood area near middle school
6. Central East Neighborhood
7. Southeastern corner of South Neighborhood near natural area and rural residences



Locations 1 and 3 were the only locations where a majority of respondents did not indicate a preference for the Type 3 housing form. A majority of respondents indicated Type 1 housing form as the appropriate housing form for Location 1. Type 2 housing form had the most respondents feeling it is most appropriate for Location 3.



Respondents were also asked to rank all seven locations in order of preference for each Type of housing form. The results indicated as follows:

- For Type 1 housing form, Location 1 was most preferred, followed by Location 3, with locations 7 and 2 being the least preferred
- For Type 2 housing form, Location 3 was most preferred, followed by Location 4, with locations 6 and 7 being the least preferred
- For Type 3 housing form, Location 7 was most preferred, followed by Location 5, with Location 1 being by far the least preferred, followed by Location 3.

Detailed responses to use of the grange and parks will be retained for reference during further work on designing and programming these areas in the coming months.

May 2022 Community Survey

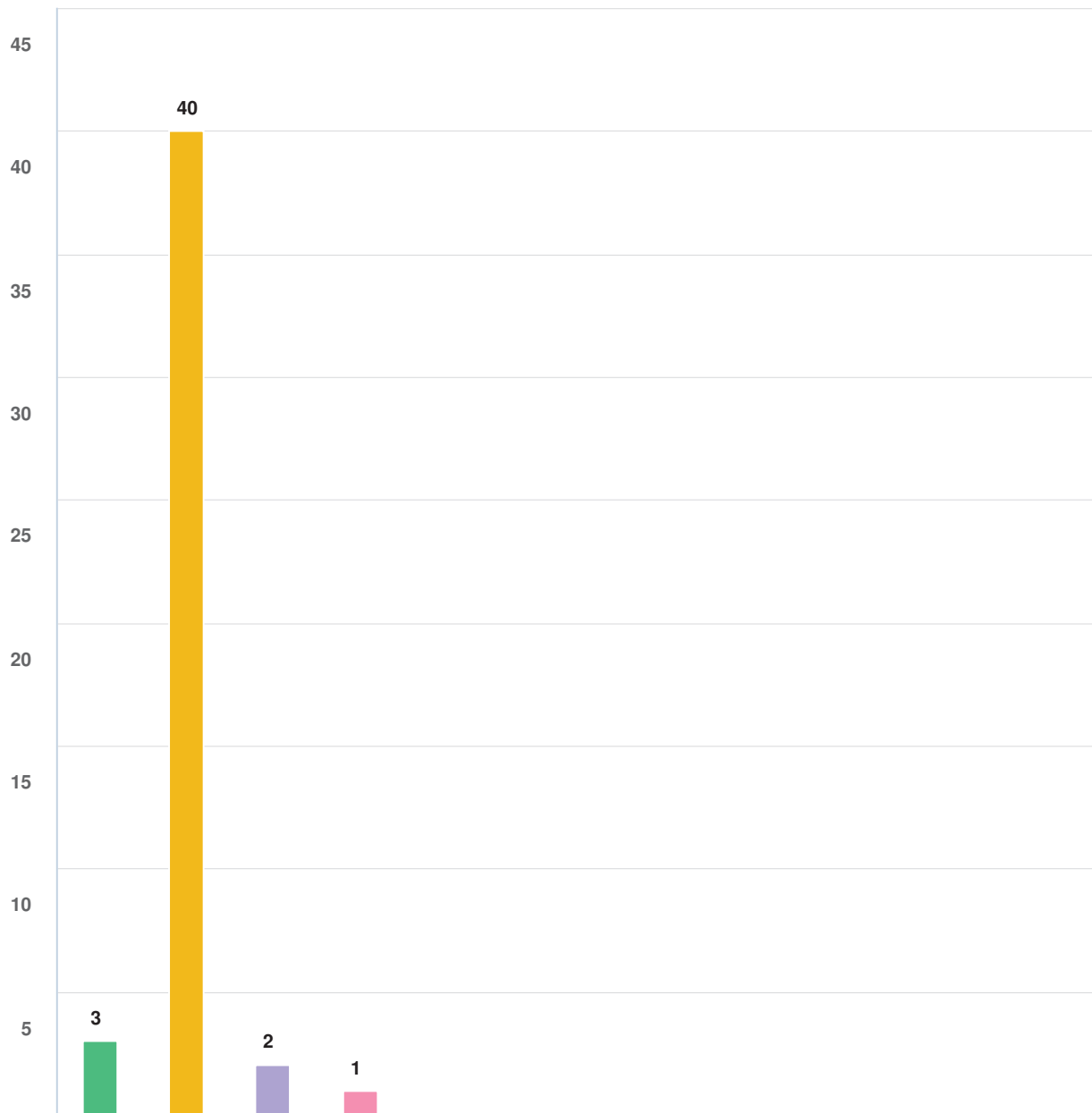
SURVEY RESPONSE REPORT

01 May 2022 - 30 May 2022

PROJECT NAME:

Frog Pond East and South Master Plan

Q1 Which of the following types of housing do you currently live in?



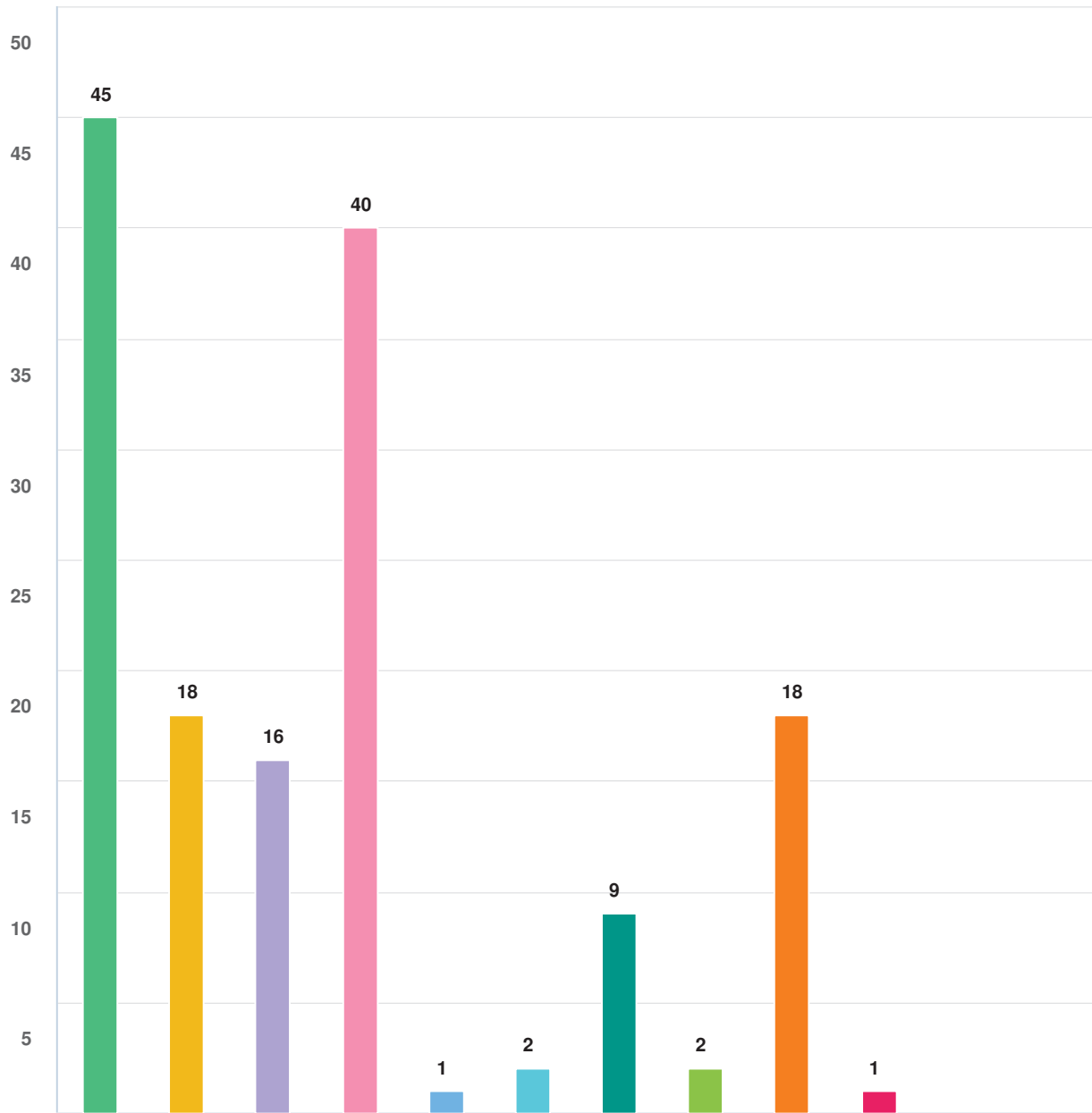
Question options

- Townhouse
- Detached single-family home
- Apartment or Condo
- Accessory Dwelling Unit "ADU"
- Duplex, triplex, quadplex
- Manufactured Home or Mobile Home
- Cluster Housing
- Cottage Cluster
- Congregate housing (i.e. dorms, etc.)
- RV (more than 30 days in a row without another home)
- I am currently houseless
- Other (please specify)

Mandatory Question (46 response(s))

Question type: Checkbox Question

Q2 Which of the following types of housing have you lived in during your life? (select all that apply)

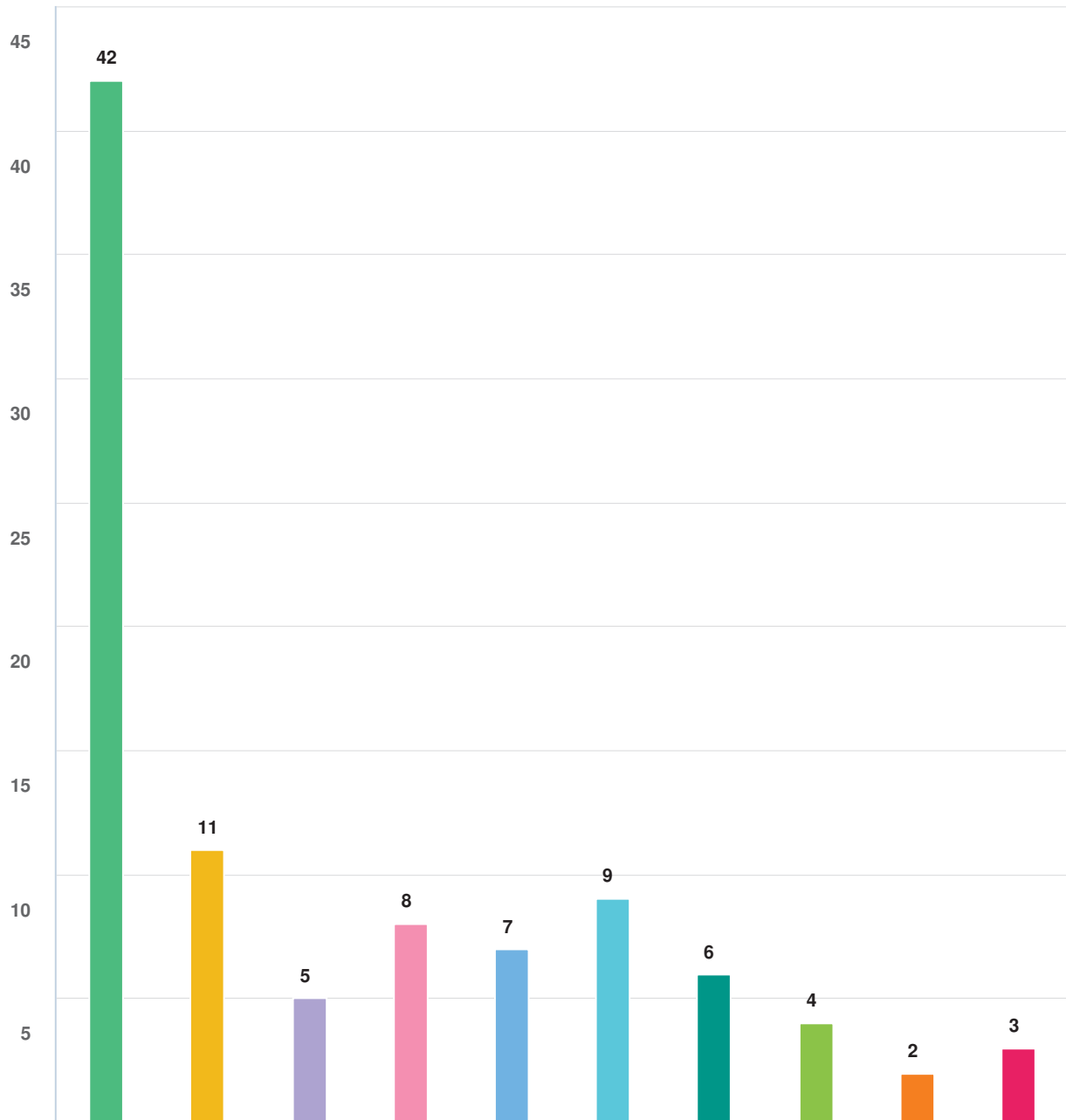


Question options

- Detached single-family home
 ● Duplex, triplex, quadplex
● Townhouse
● Apartment or Condo
- Cottage Cluster
 ● Accessory Dwelling Unit "ADU"
● Manufactured Home or Mobile Home
- RV (more than 30 days in a row without another home)
 ● Congregate housing (i.e. dorms, etc.)
- I have experienced being houseless
 ● Cluster Housing
● Other (please specify)

Mandatory Question (46 response(s))
 Question type: Checkbox Question

Q3 Which of the following types of housing do you think you may live in in the future?
(select all that apply)

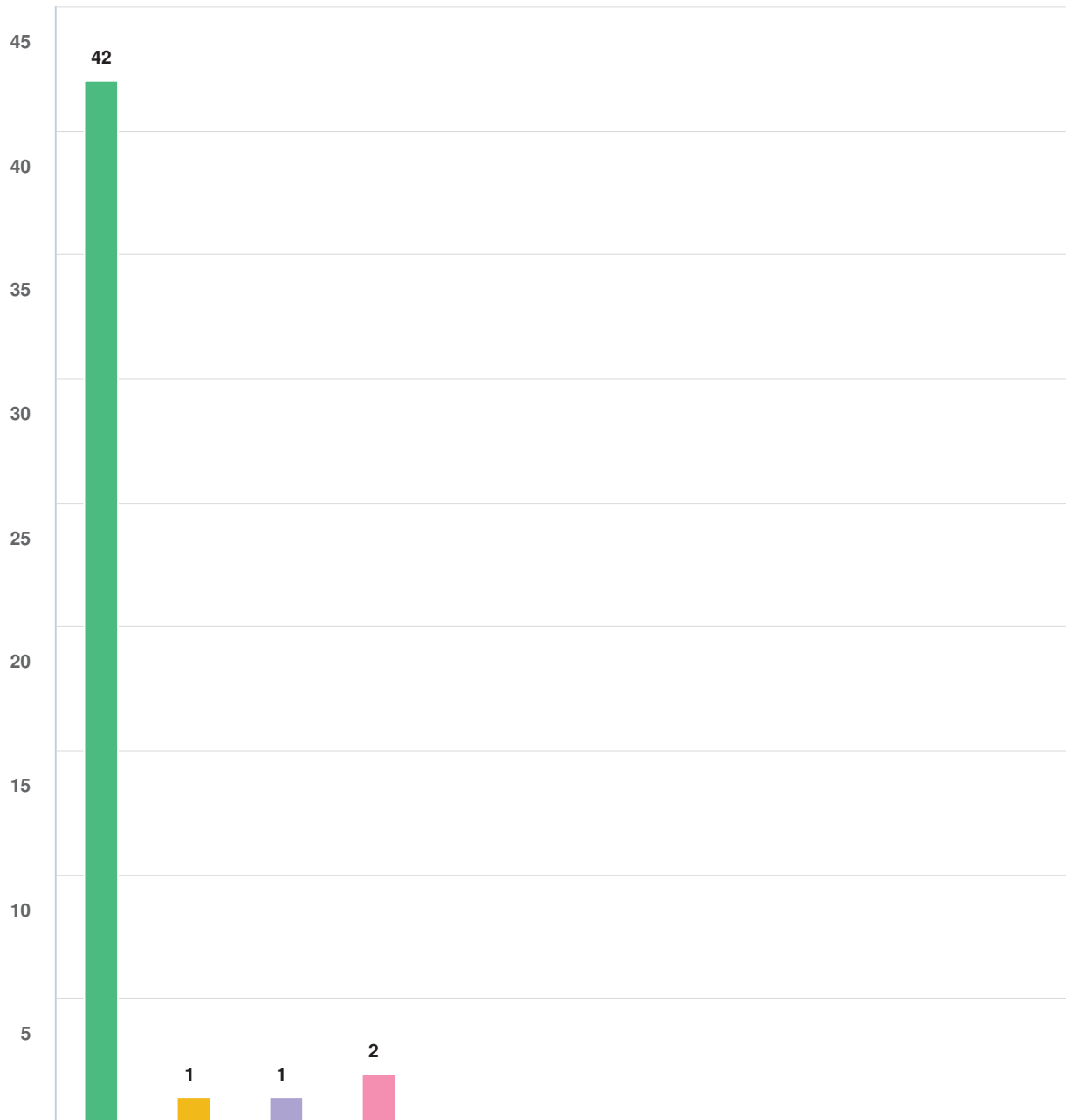


Question options

- Detached single-family home
- Apartment or Condo
- Duplex, triplex, quadplex
- Townhouse
- Cluster Housing
- Cottage Cluster
- Accessory Dwelling Unit "ADU"
- Manufactured Home or Mobile Home
- RV (more than 30 days in a row without another home)
- Congregate housing (i.e. dorms, etc.)

Mandatory Question (46 response(s))
Question type: Checkbox Question

Q4 If you were searching for a home in Wilsonville today or in the next few years, and cost was not a consideration, which of ...

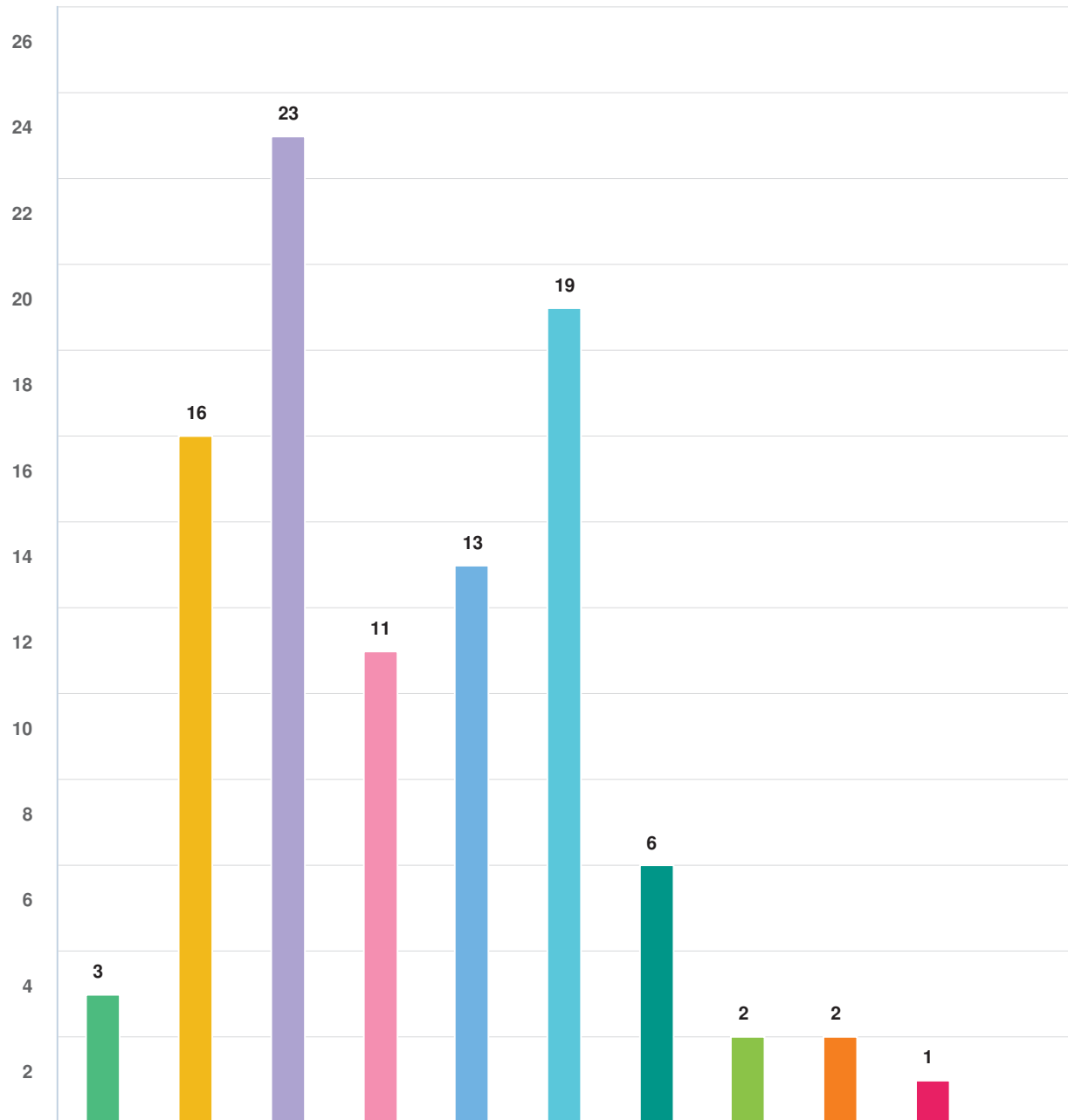


Question options

- Detached single-family home
- Townhouse
- Cluster Housing
- Cottage Cluster
- Duplex, triplex, quadplex
- Apartment or Condo
- Accessory Dwelling Unit "ADU"
- Manufactured Home or Mobile Home
- RV
- Congregate housing (i.e. dorms, etc.)
- Other (please specify)

Mandatory Question (46 response(s))
Question type: Checkbox Question

Q5 If you could not afford the preferred type of housing indicated in Question 5, which of the following types of housing woul...

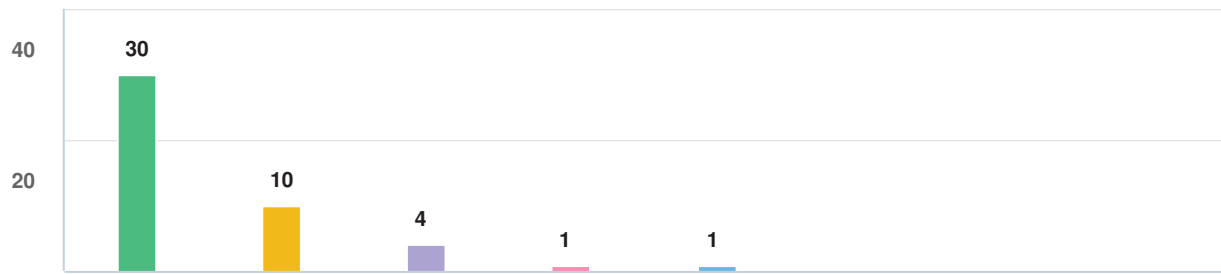


Question options

- Detached single-family home
 ● Duplex, triplex, or quadplex
● Townhouse
● Apartment or Condo
- Cluster Housing
 ● Cottage Cluster
● Accessory Dwelling Unit "ADU"
● Manufactured Home or Mobile Home
- RV
 ● Congregate housing (i.e. dorms, etc.)
● Other (please specify)

Mandatory Question (46 response(s))
 Question type: Checkbox Question

Q6 Which of the following best describes your current living situation?

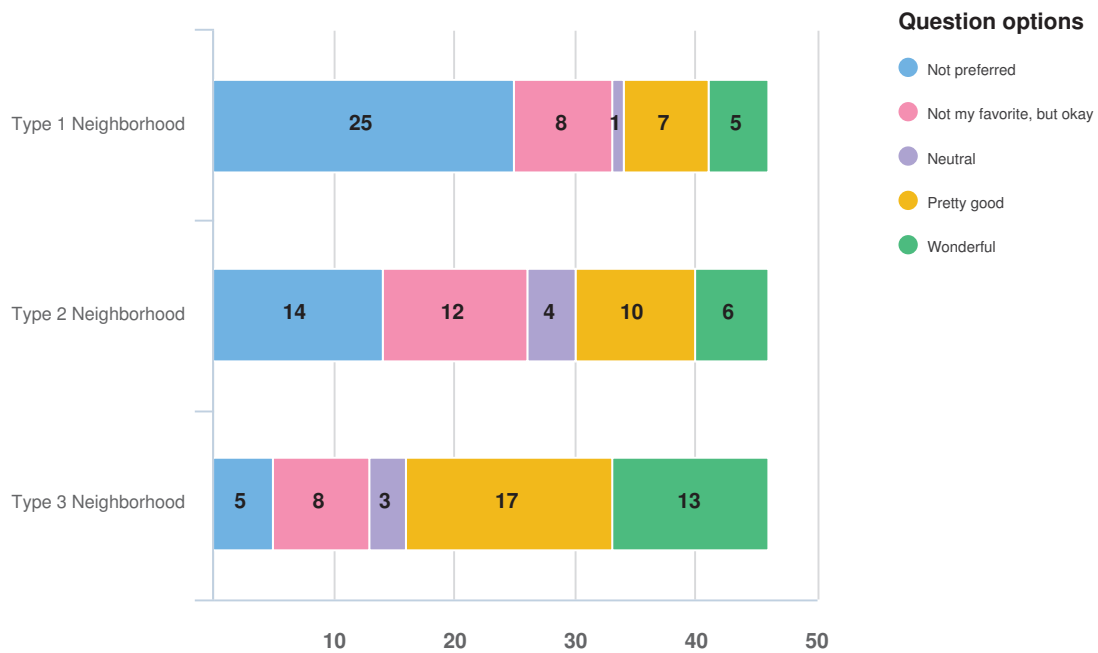


Question options

- I own my home and have or share primary responsibility for the mortgage
- I own my home and it is paid off
- I rent my home and have or share primary responsibility for the rent
- I live in a home owned by family or friends but do not help pay the mortgage
- I live in a home rented by family or friends but do not help pay the rent
- I do not have secure housing or I am currently houseless
- Unsure
- Other (please specify)

Mandatory Question (46 response(s))
Question type: Checkbox Question

Q7 How do you generally feel about the different neighborhood design types

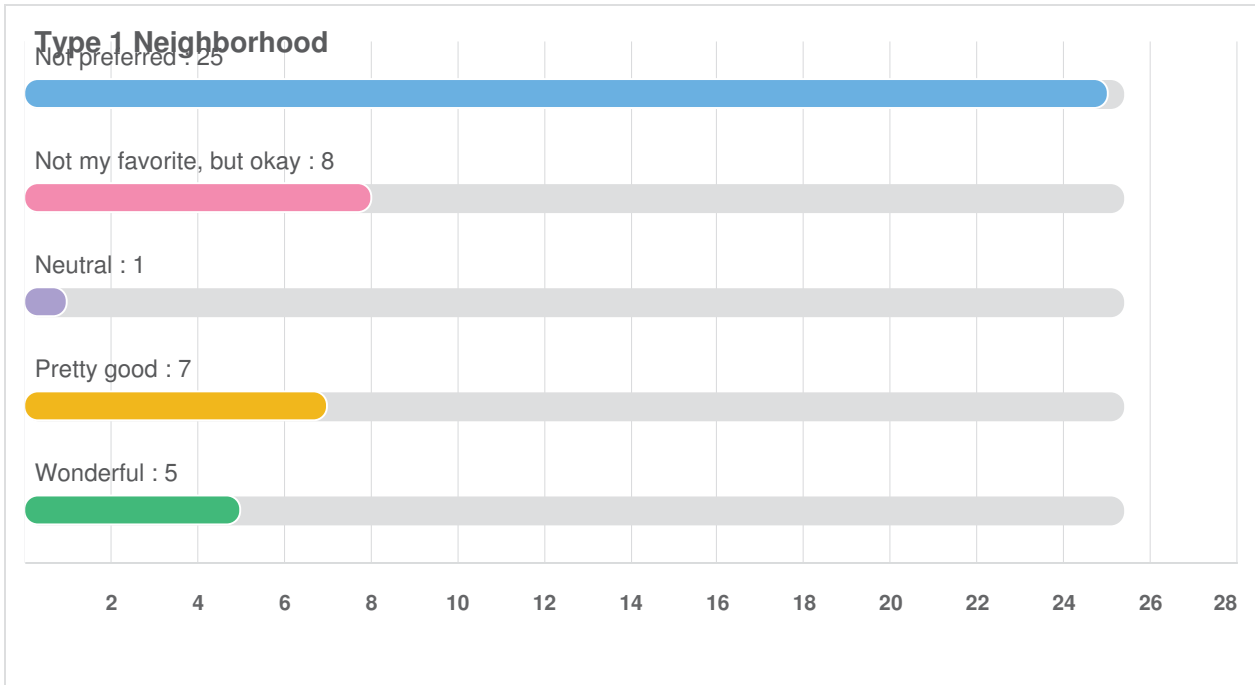


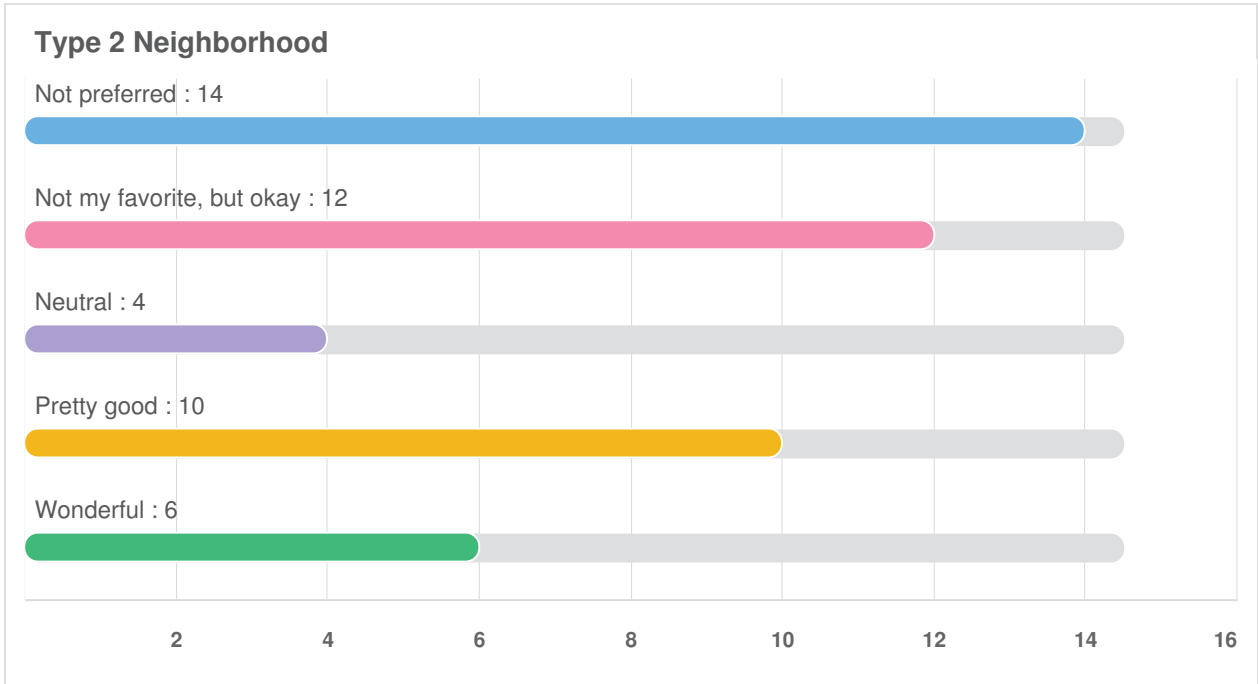
Question options

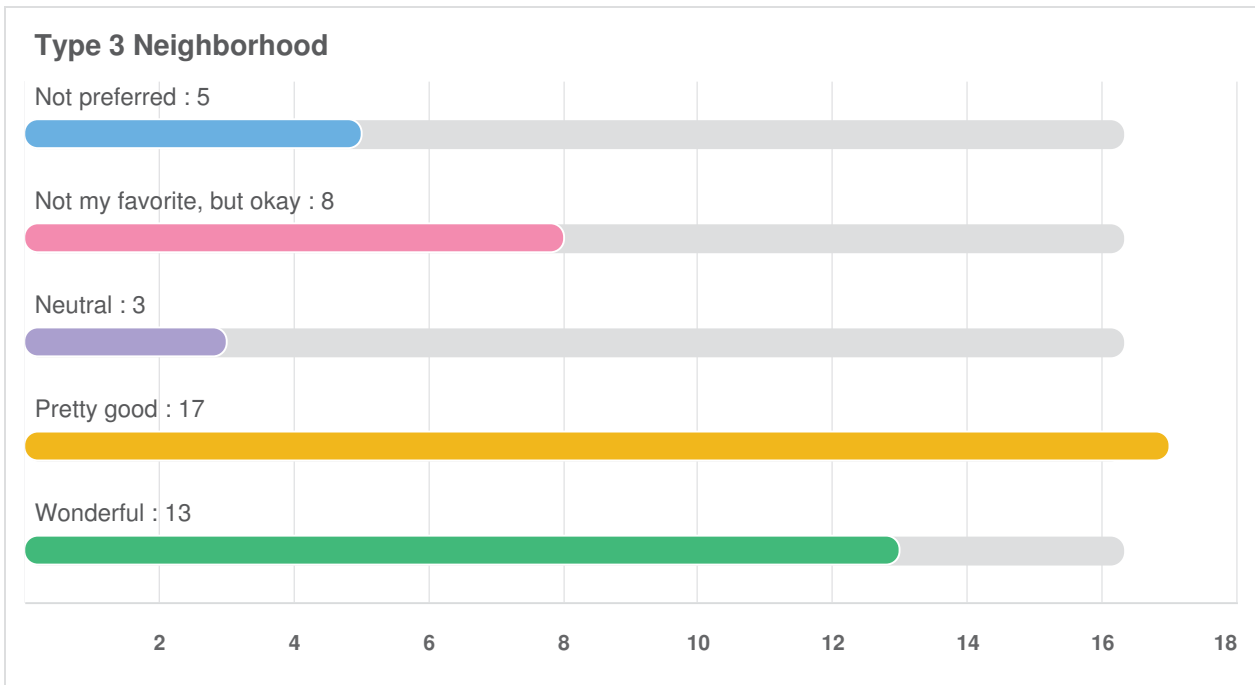
- Not preferred
- Not my favorite, but okay
- Neutral
- Pretty good
- Wonderful

Optional question (46 response(s), 0 skipped)
Question type: Likert Question

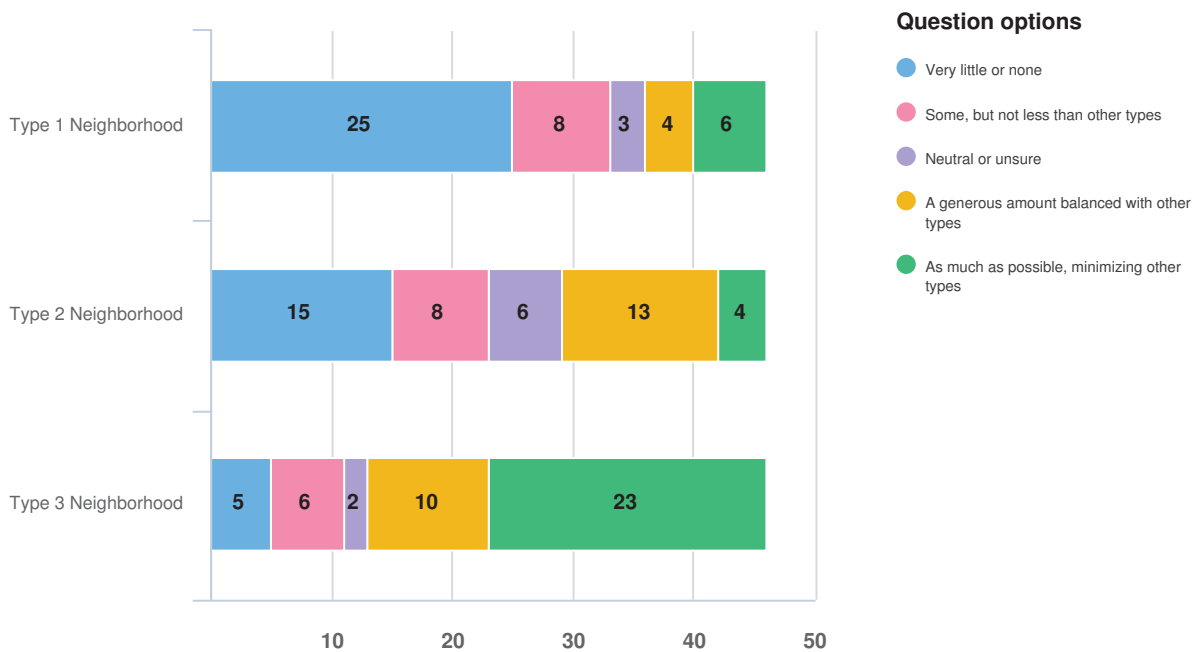
Q7 | How do you generally feel about the different neighborhood design types





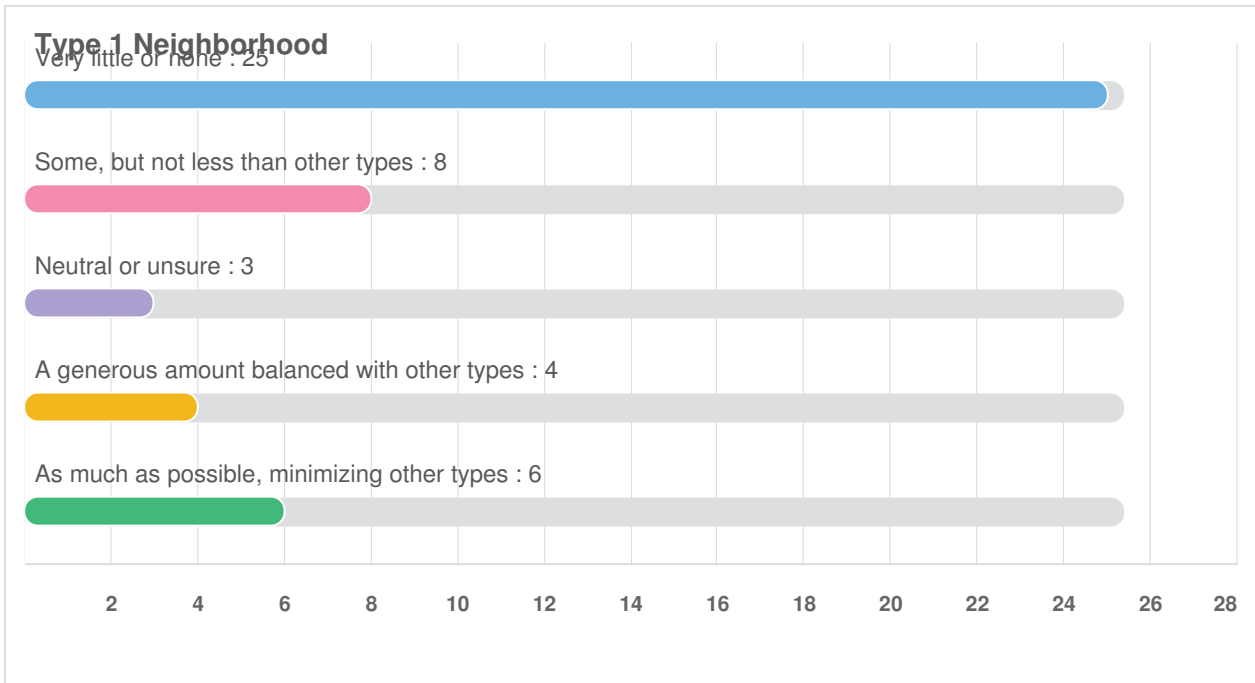


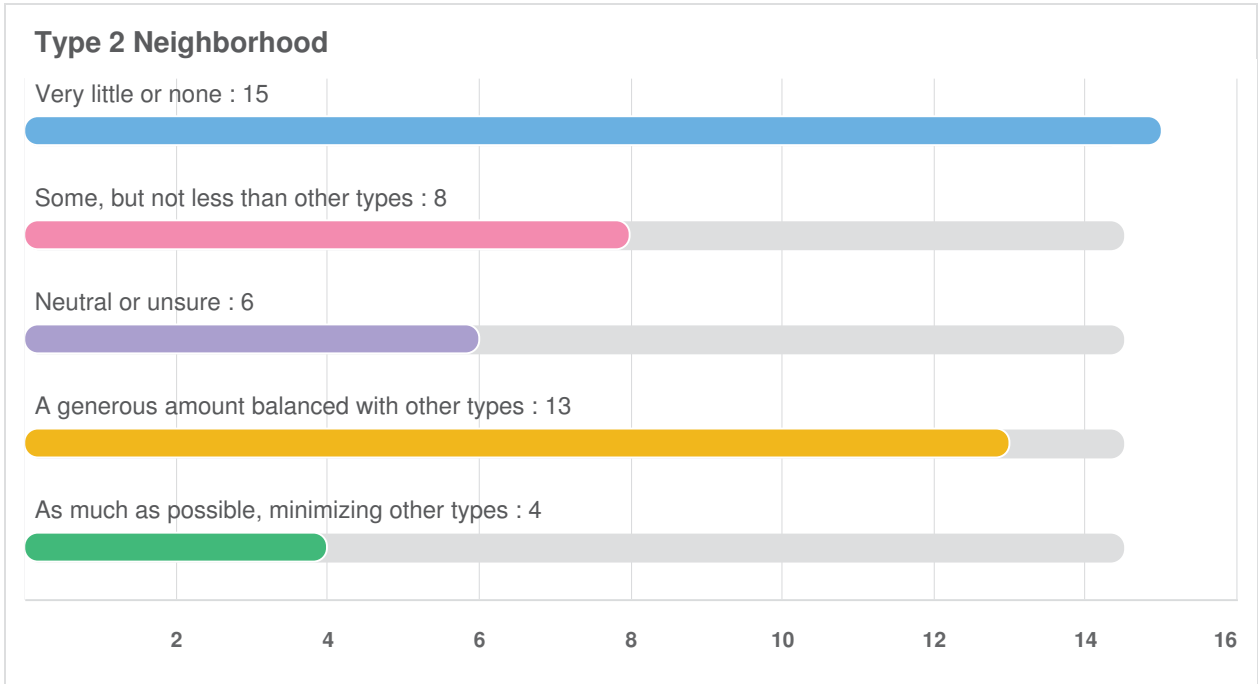
Q8 In your opinion, how much of each neighborhood type should be planned for in the Frog Pond East and South neighborhoods (sh...

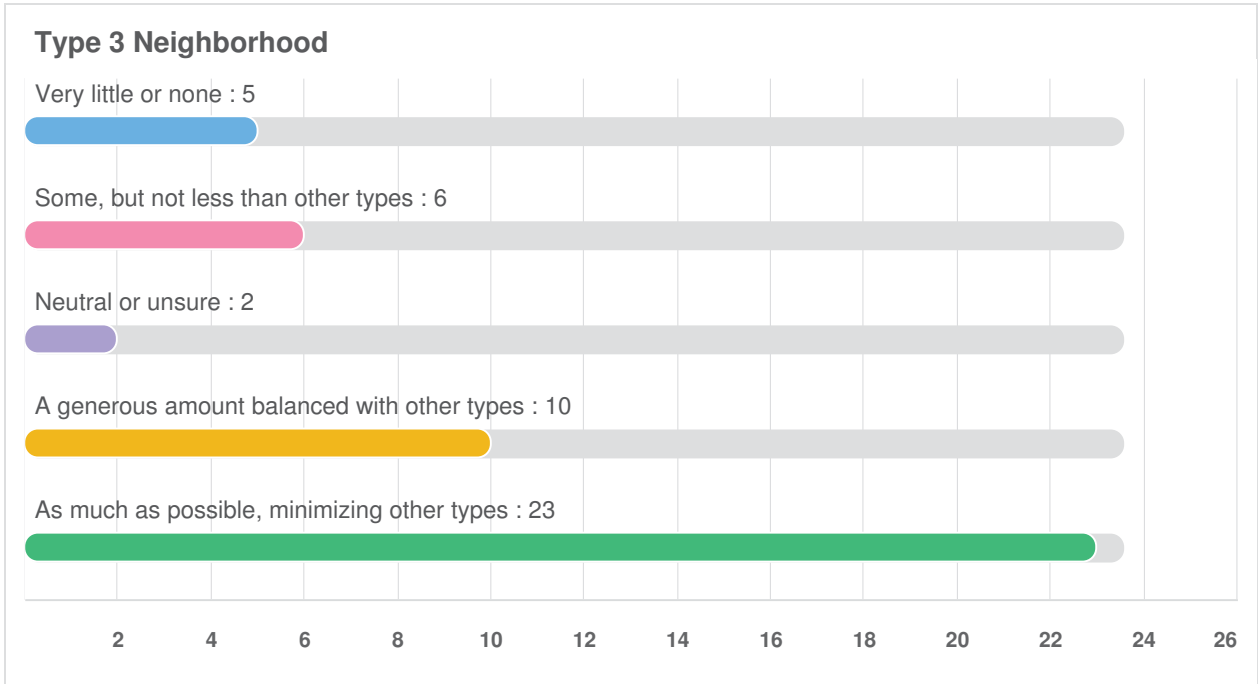


Mandatory Question (46 response(s))
Question type: Likert Question

Q8 In your opinion, how much of each neighborhood type should be planned for in the Frog Pond East and South neighborhoods (sh...





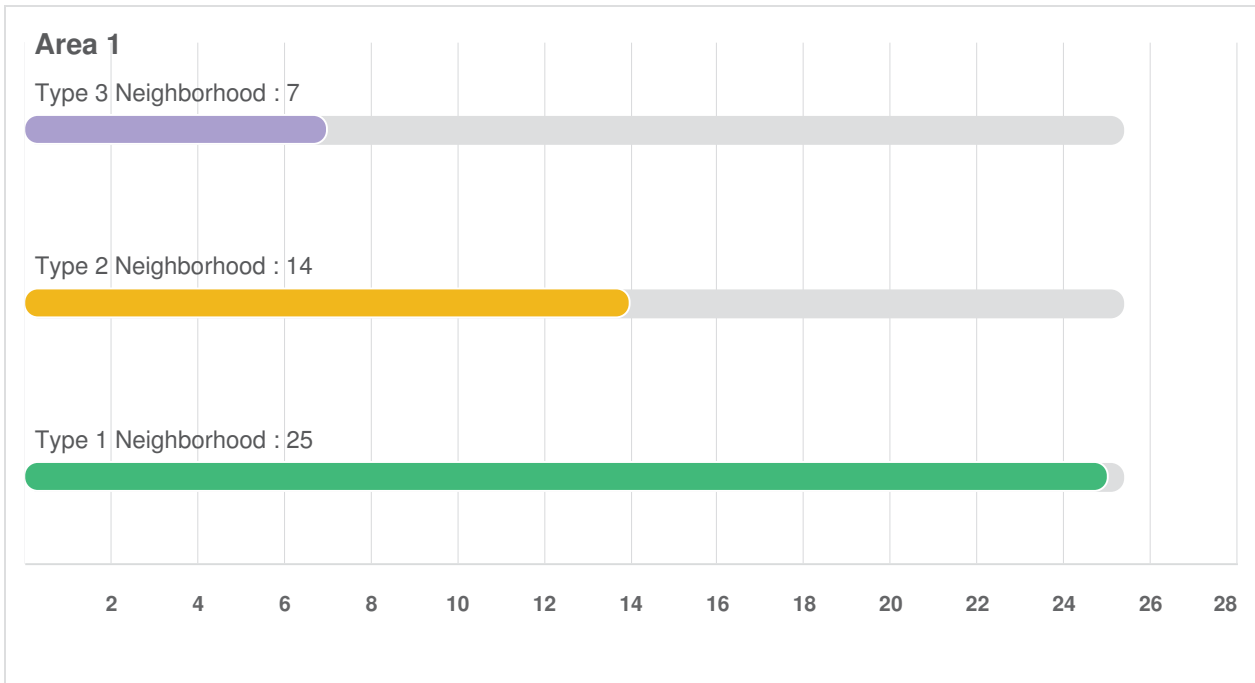


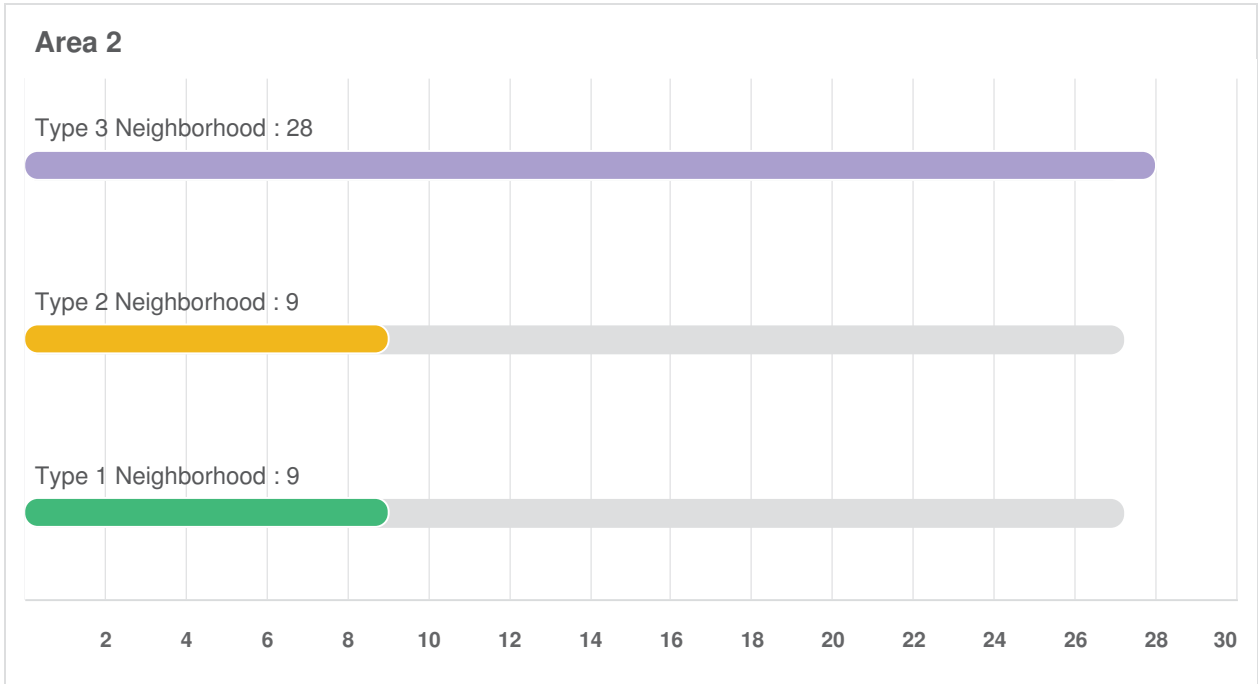
Q9 In your opinion, what neighborhood design type is most appropriate for each location in the map above

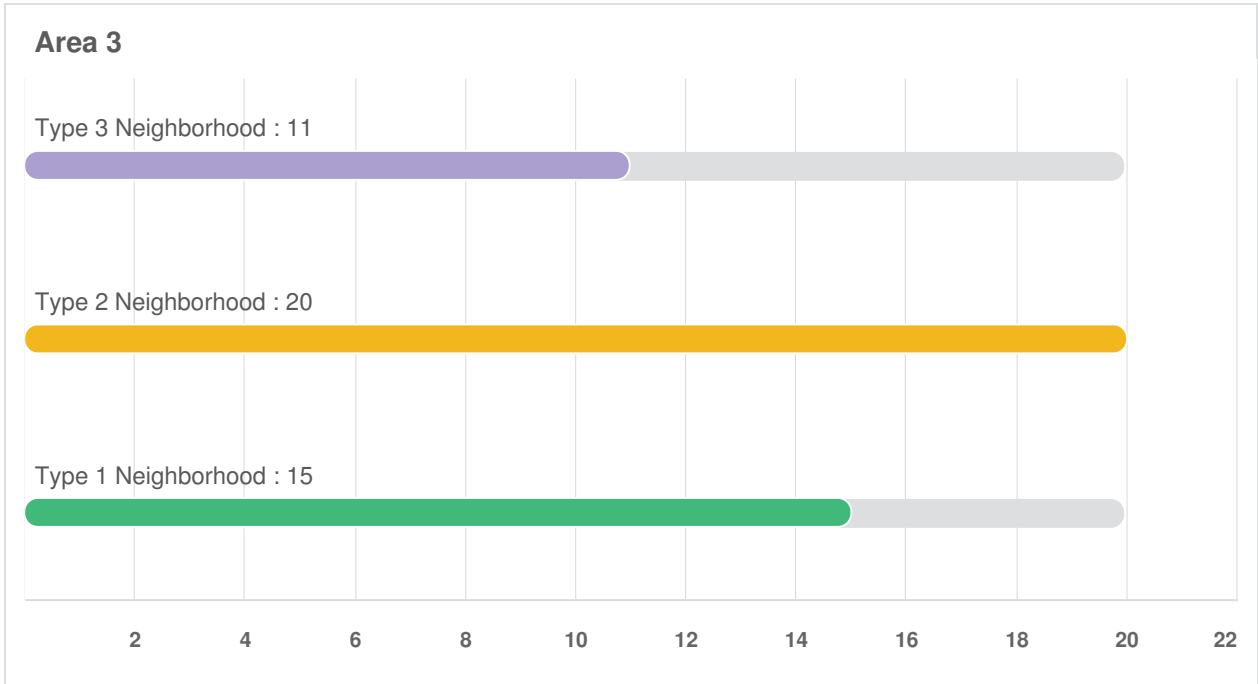


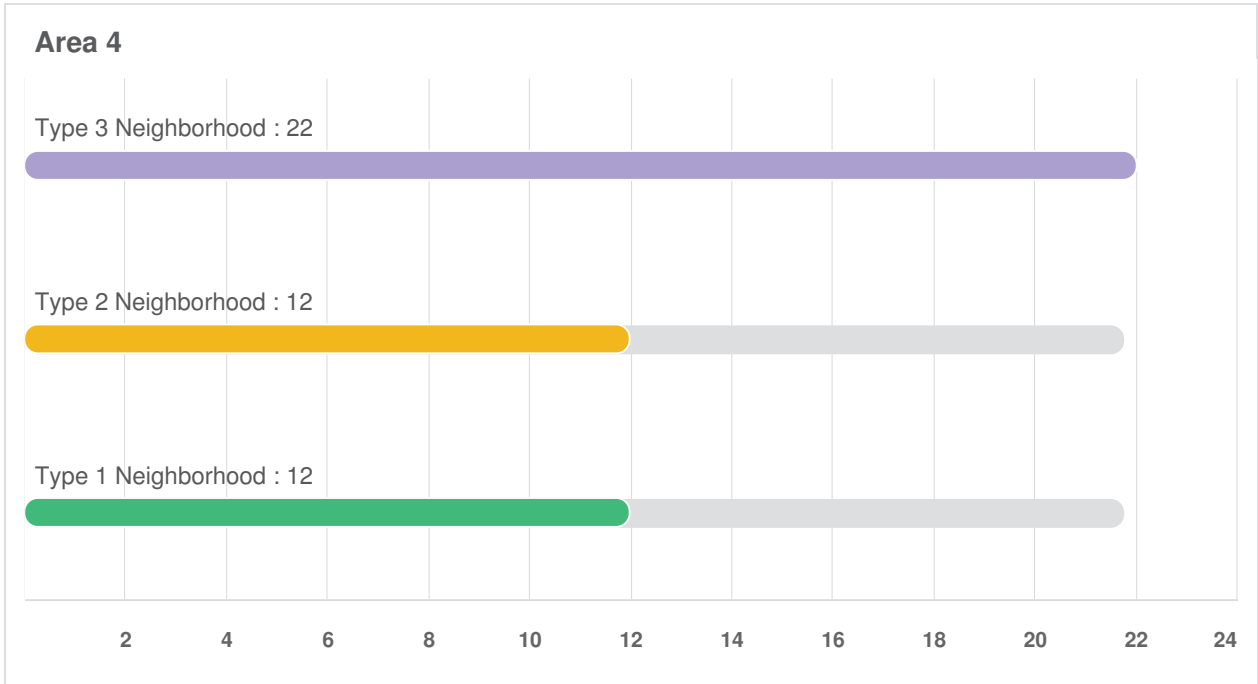
Mandatory Question (46 response(s))
Question type: Likert Question

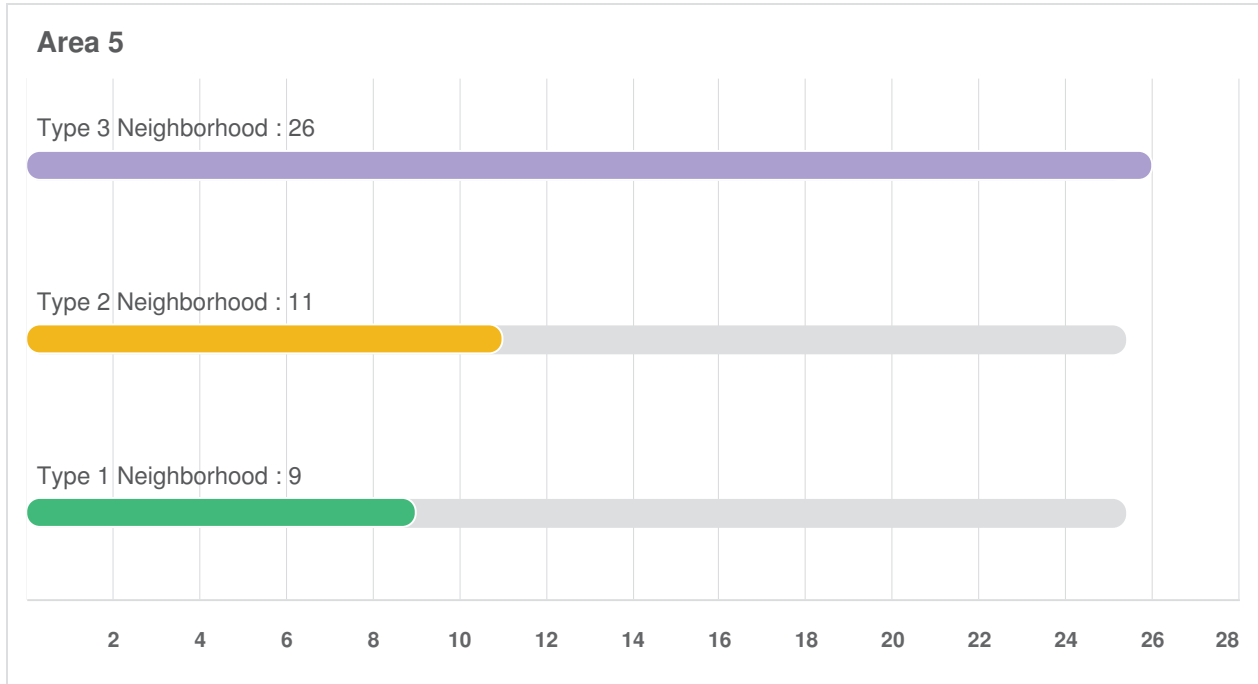
Q9 | In your opinion, what neighborhood design type is most appropriate for each location in the map above

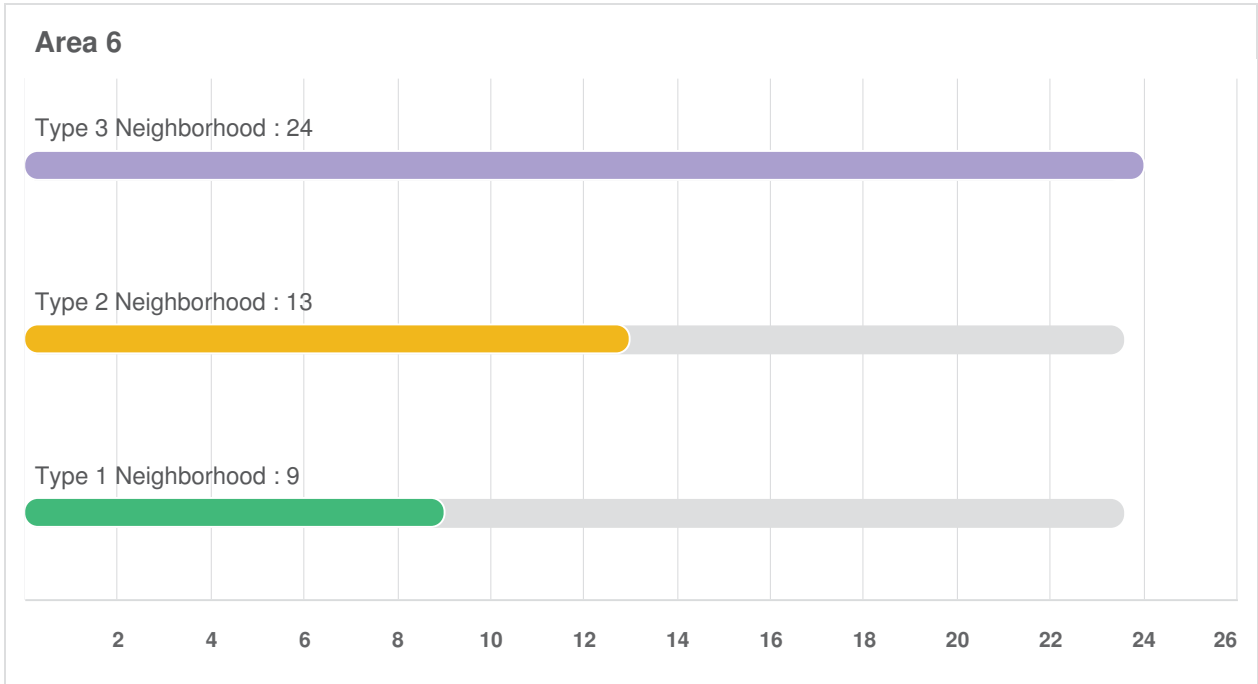


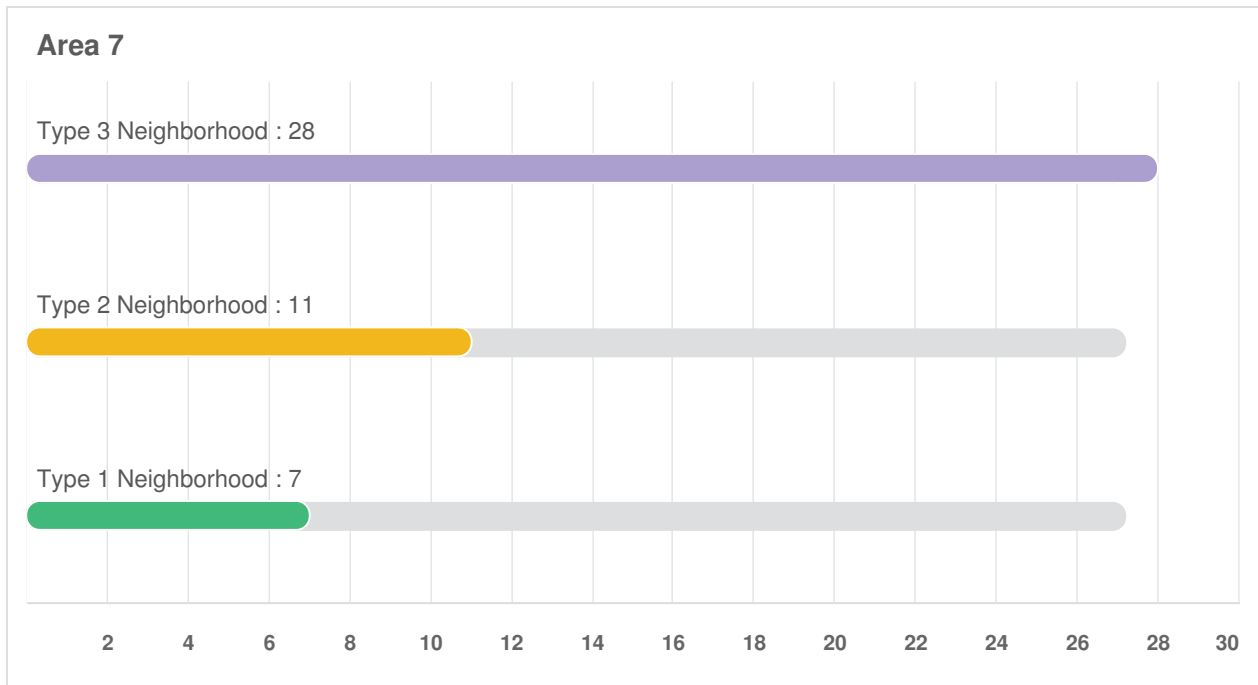












Q10 Rank the locations in the neighborhoods from most preferred location (1) to least preferred location (7) for the Type 1 Nei...

OPTIONS	AVG. RANK
Area 1	2.46
Area 3	3.40
Area 4	3.71
Area 6	4.36
Area 2	4.60
Area 5	4.62
Area 7	4.82

*Optional question (46 response(s), 0 skipped)
Question type: Ranking Question*

Q11 Rank the locations in the neighborhoods from most preferred location (1) to least preferred location (7) for the Type 2 Neighborhood design type. (optional)

OPTIONS	AVG. RANK
Area 3	3.23
Area 4	3.44
Area 1	3.58
Area 2	4.16
Area 5	4.44
Area 6	4.56
Area 7	4.58

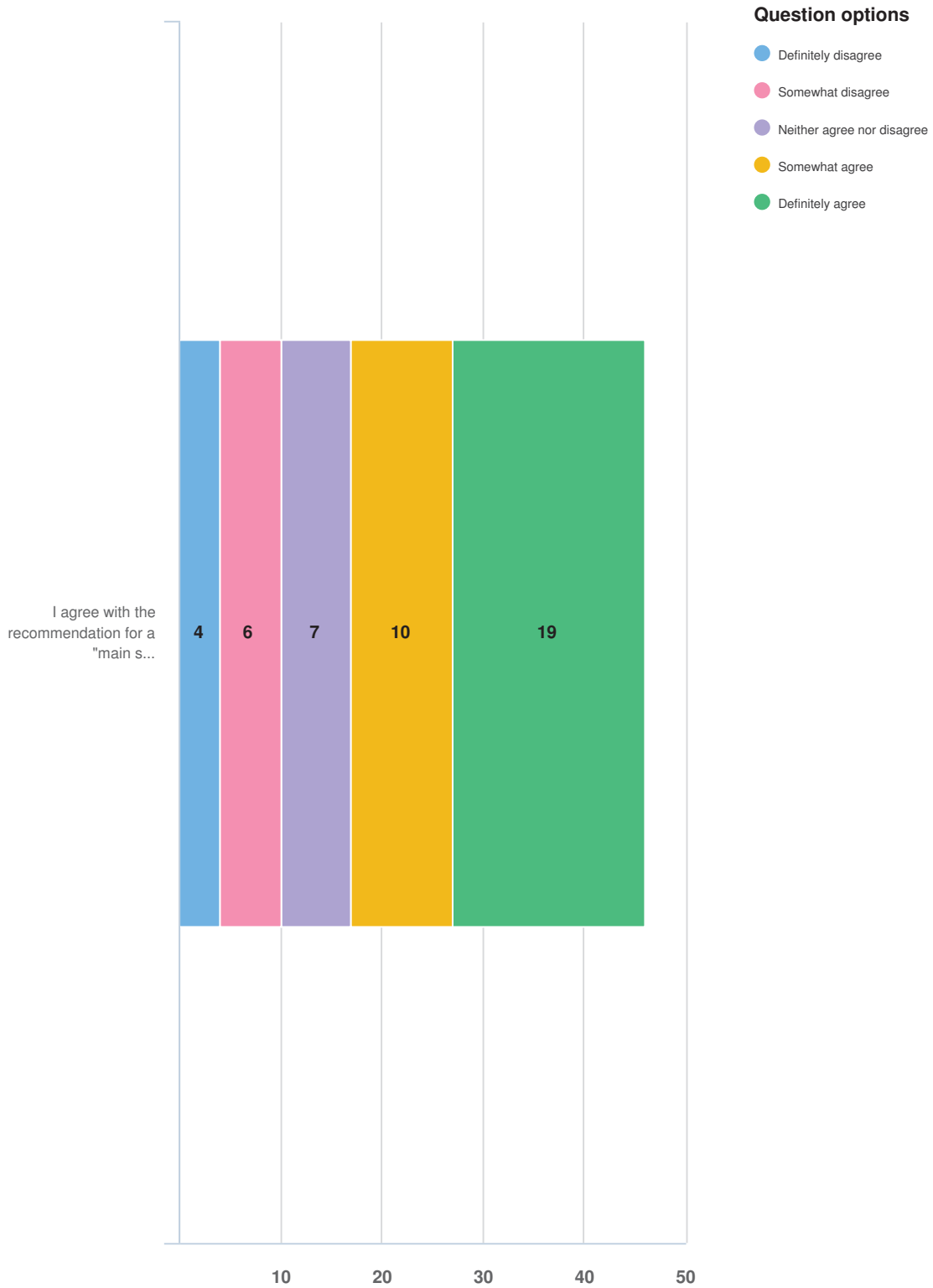
*Optional question (43 response(s), 3 skipped)
Question type: Ranking Question*

Q12 Rank the locations in the neighborhoods from most preferred location (1) to least preferred location (7) for the Type 3 Neighborhood design type. (optional)

OPTIONS	AVG. RANK
Area 7	3.21
Area 5	3.48
Area 2	3.81
Area 6	3.81
Area 4	4.02
Area 3	4.62
Area 1	5.05

*Optional question (42 response(s), 4 skipped)
Question type: Ranking Question*

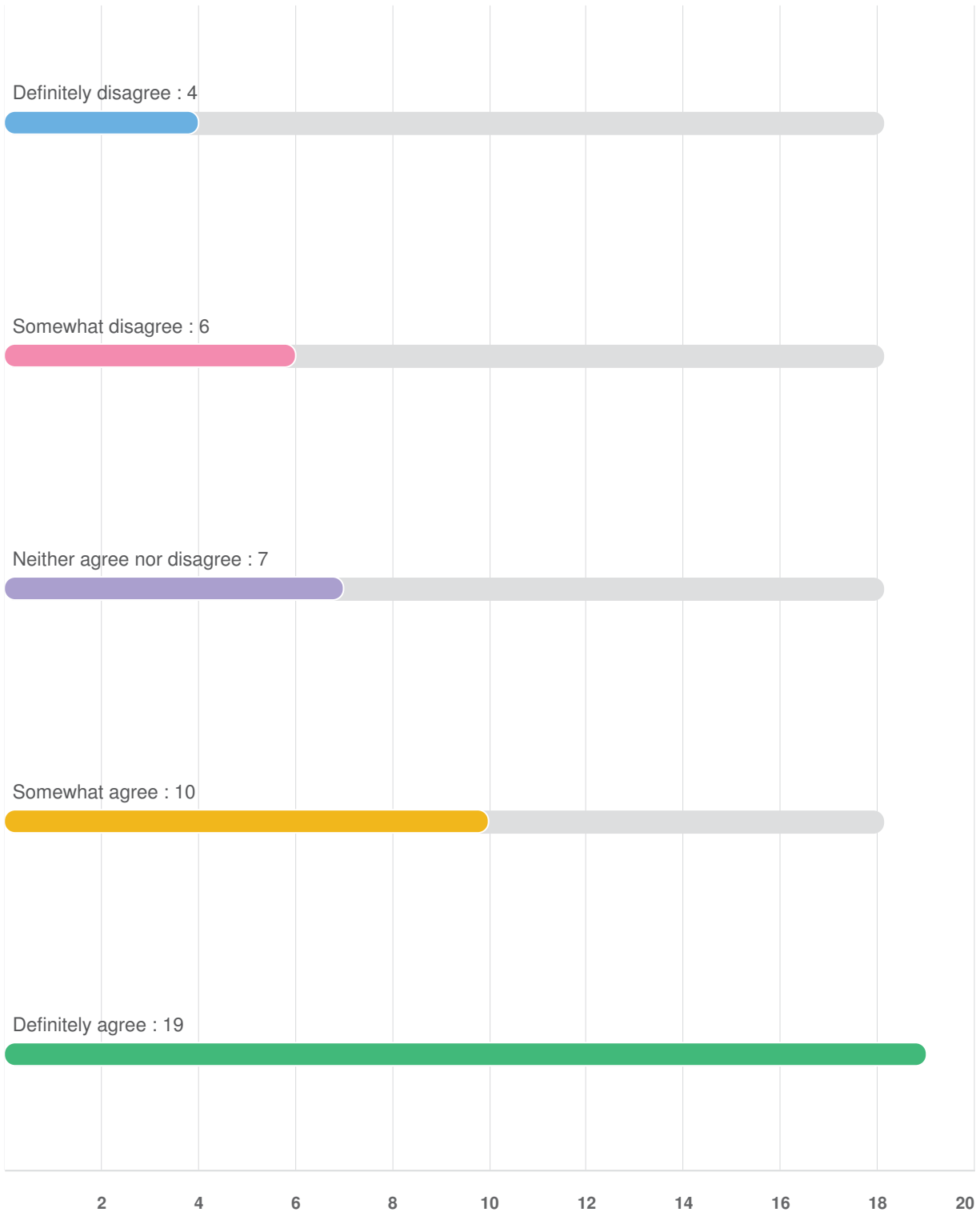
Q13 Indicate the degree to which you agree with the following statement:



Mandatory Question (46 response(s))
Question type: Likert Question

Q13 | Indicate the degree to which you agree with the following statement:

I agree with the recommendation for a "main street style" neighborhood commercial center on Brisband Street off Stafford Road.



Frog Pond East and South Master Plan

City Council

Work Session June 20, 2022



WILSONVILLE
OREGON

Agenda for Tonight's Work Session

Land Use Alternatives (focus on residential mix)

- Review 3 alternatives
- Review draft preferred alternative based on Planning Commission discussion



Inputs to Alternatives

- Frog Pond Area Plan as foundation
- Equitable Housing Strategic Plan
- Affordable Housing Analysis
- Design Concepts (discussed last work session)
- Public input received to date



Community Design Concepts

- Housing Variety Throughout
- Affordable Housing Integration
- A Transect of Densities
- A Neighborhood Commercial Center
- Street Connectivity
- Bicycle and Pedestrian Connectivity
- Natural Areas



Community Design Concepts

- Preservation of Important Trees and Other Resources
- Active Parks and Open Space
- Consideration of the BPA Easement Corridor
- The Historic Grange as a Civic Amenity
- Use of Subdistricts



Summary of Engagement Activities



Engagement Activities



Community Focus Group #1 (April 30, 2022)



Affordable Housing Focus Group #1 (May 11, 2022)



Community Design Workshop (May 12, 2022)



Affordable Housing Focus Group #2 (May 13, 2022)



Community Focus Group #2 (May 14, 2022)



Online survey on Let's Talk Wilsonville! (May 12 – May 30, 2022)



3 Draft Land Use Alternatives



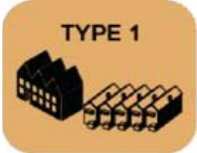
Housing Types

Principles

- Housing variety in each neighborhood
- Logical transition of building size and density
- Three basic housing forms
- Affordable choices
- Cottage-style homes/
ADUs enabled in each type



Housing Types



Type 1



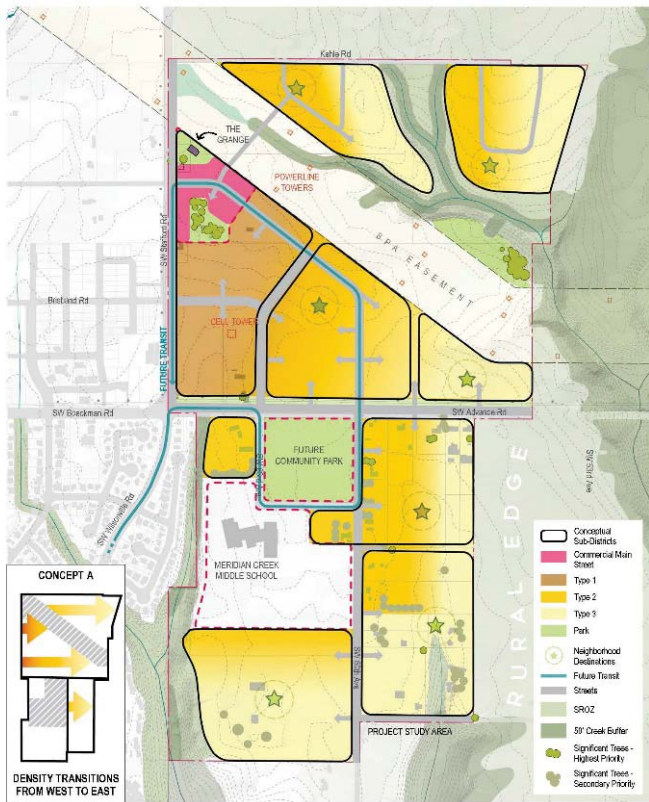
Type 2



Type 3

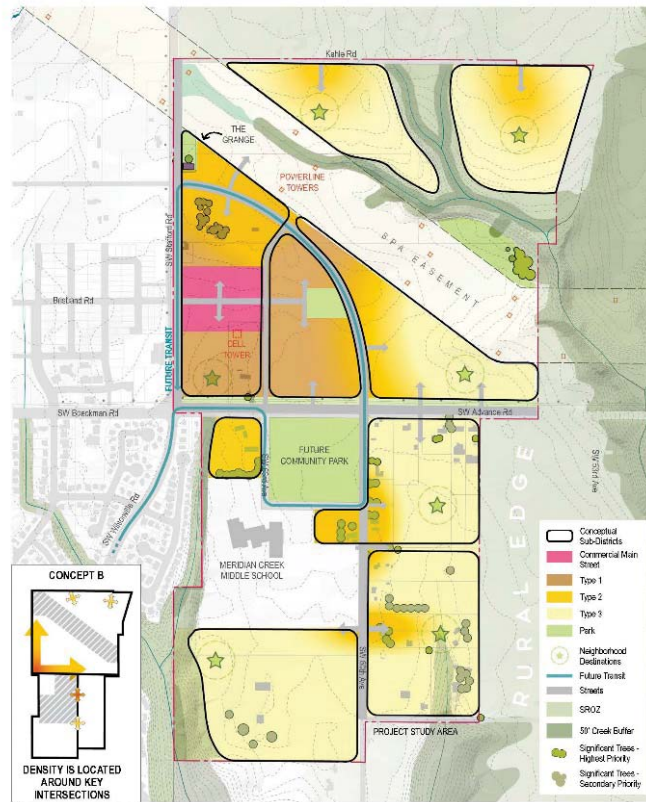


Draft Alternatives



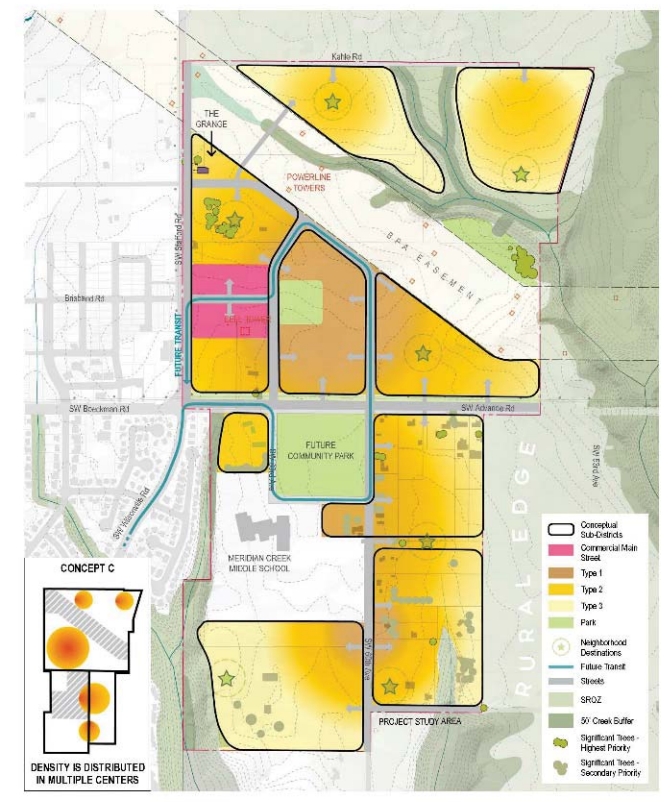
EAST & SOUTH ALTERNATIVE A: SUB-DISTRICTS

0' 150' 300' 600' N



EAST & SOUTH ALTERNATIVE B: SUB-DISTRICTS

0' 150' 300' 600' N

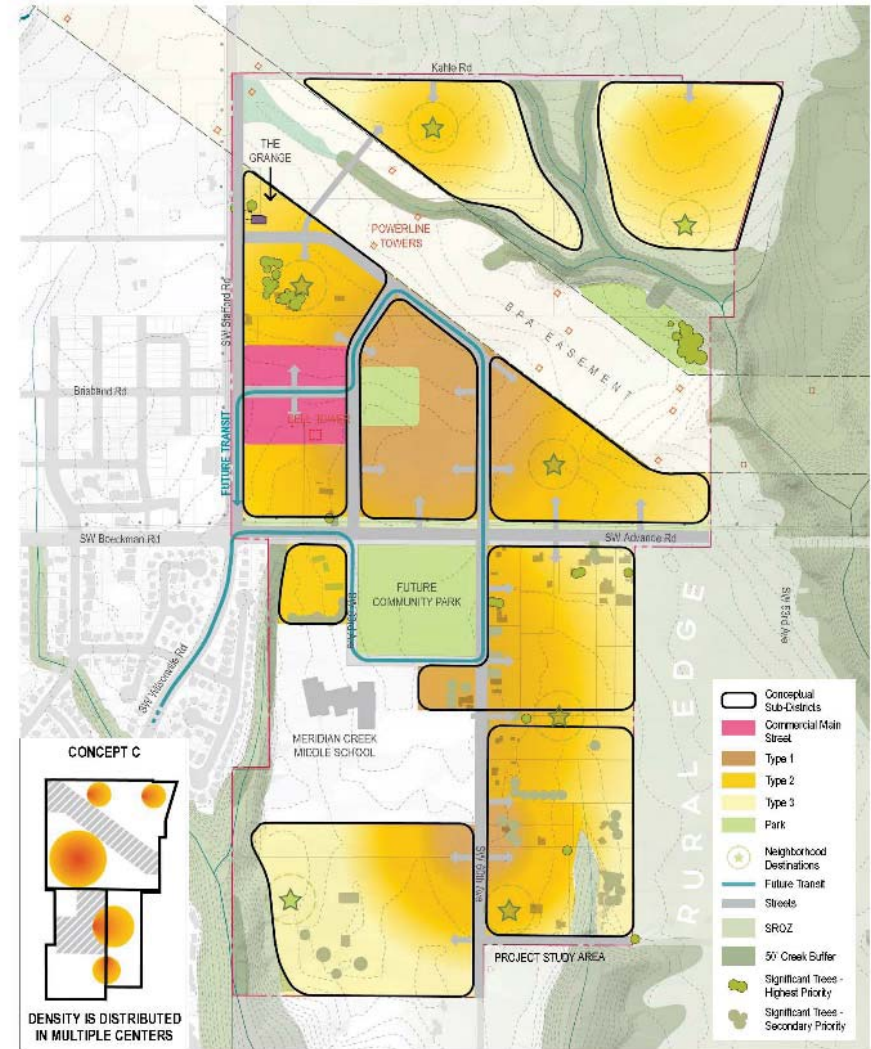


EAST & SOUTH ALTERNATIVE C: SUB-DISTRICTS

0' 150' 300' 600' N

Planning Commission Direction

- South of Advance as shown in Alternative C
- North of Advance similar to Alternative C with the following question:
 - Should density be focused along Stafford or more central?
- Alternative C best supports:
 - Equitable Housing Strategic Plan
 - Affordable Housing Analysis target
 - Variety throughout



Discussion Questions

1. What additional questions does the Council have about the alternatives?
2. Does the Council support a preferred alternative closest to Alternative C consistent with the Planning Commission recommendation?
3. What additional feedback would the Council offer as the project team develops the preferred alternative?



City Council Meeting Action Minutes
June 20, 2022

City Council members present included:

Mayor Fitzgerald
Council President Akervall
Councilor Lehan
Councilor West
Councilor Linville

Jeanna Troha, Assistant City Manager
Zoe Mombert, Assistant to the City Manager
Dan Pauly, Planning Manager
Kelsey Lewis, Grants & Programs Manager
Eric Loomis, Transit Operations Manager
Dwight Brashear, Transit Director
Mike Nacrelli, Civil Engineer
Chris Neamtzu, Community Development Director
Katherine Smith, Assistant Finance Director
Mark Ottenad, Public/Government Affairs Director

Staff present included:

Bryan Cosgrove, City Manager
Amanda Guile-Hinman, City Attorney
Kimberly Veliz, City Recorder

AGENDA ITEM	ACTIONS
WORK SESSION	START: 5:04 p.m.
<p>A. <u>Resolution No. 2979</u> A Resolution Of The City Council Adopting The Diversity, Equity And Inclusion (DEI) Committee Strategic Plan.</p> <p>B. Board/Council Retreat Recap</p> <p>C. Statewide Transportation Improvement Fund (STIF) Planning for FY 24-25</p> <p>D. Frog Pond East and South Master Plan</p> <p>E. Construction Excise Tax (CET) for Affordable Housing</p>	<p>City Council heard an overview of Resolution No. 2979, which adopts the Diversity, Equity and Inclusion Committee Strategic Plan.</p> <p>Consultant summarized recommendations gathered at the Board/Council Retreat to yield enhanced collaboration among the groups.</p> <p>Staff presented draft Statewide STIF priorities for the FY 2024-25 biennial planning process.</p> <p>Staff shared an update on the Frog Pond East and South Master Plan, and sought Council direction.</p> <p>Due to time constraints this item was moved to the July 18, 2022 Work Session.</p>
REGULAR MEETING	
<p><u>Mayor's Business</u></p> <p>A. Wilsonville Wildcats Week Proclamation</p> <p>B. Upcoming Meetings</p>	<p>The Mayor read a proclamation declaring June 20 - 24, 2022 as Wilsonville Wildcats Week. Council then presented a proclamation to the Wilsonville Wildcats Girls Golf Team.</p> <p>Upcoming meetings were announced by the Mayor as well as the regional meetings she attended on behalf of the City.</p>

<p>C. Willamette Falls Locks State Commission Remaining Funds</p> <p>D. Fireworks Ban</p>	<p>Council moved to authorize the City Manager to communicate to Clackamas County the City Council’s permission to advance the City’s unspent Willamette Falls Locks Commission funds to the account of the new Willamette Falls Locks Authority. Passed 5-0.</p> <p>The City will continue to educate residents on the importance of firework safety.</p>
<p><u>Communications</u></p> <p>A. None.</p>	
<p><u>Consent Agenda</u></p> <p>A. <u>Resolution No. 2983</u> A Resolution Of The City Of Wilsonville Authorizing The City Manager To Execute A Second Amendment To The Professional Services Agreement With Murraysmith, Inc. To Provide Construction Inspection Services For The Corral Creek And Rivergreen Lift Stations Rehabilitation Project (Capital Improvement Project #2105)</p> <p>B. <u>Resolution No. 2984</u> A Resolution Of The City Of Wilsonville Authorizing The City Manager To Execute An Amendment To The Professional Services Contract With Moore Iacofano Goltsman, Inc. For Frog Pond East And South Master Planning.</p> <p>C. Minutes of the June 6, 2022 City Council Meeting.</p>	<p>The Consent Agenda was approved 5-0.</p>
<p><u>New Business</u></p> <p>A. None.</p>	
<p><u>Continuing Business</u></p> <p>A. None.</p>	
<p><u>Public Hearing</u></p> <p>A. None.</p>	
<p><u>City Manager’s Business</u></p>	<p>No report.</p>
<p><u>Legal Business</u></p>	<p>Council moved to approve the dismissal of a suit previously filed against the Oregon Department of Aviation and the Oregon Aviation Board. Passed 5-0.</p>

	Council passed 5-0 two motions to update conflicting sections of the City's public contracting code.
URBAN RENEWAL AGENCY	
<u>URA Consent Agenda</u> A. <u>URA Resolution 326</u> A Resolution Of The City Of Wilsonville Urban Renewal Agency Authorizing The Execution Of A Lease Agreement With Wilsonville Community Sharing For Use Of Space In The Art Tech Building. B. Minutes of the June 6, 2022 Urban Renewal Agency Meeting.	The URA Consent Agenda was approved 5-0.
<u>New Business</u> A. None.	
<u>URA Public Hearing</u> A. None.	
ADJOURN (Second Executive Session)	8:51 p.m.



PLANNING COMMISSION

WEDNESDAY, JUNE 8, 2022

WORK SESSION

2. Frog Pond East and South Master Plan (Pauly) (75 minutes)



PLANNING COMMISSION WORK SESSION STAFF REPORT

Meeting Date: June 8, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable Comments: N/A	
Staff Recommendation: Provide requested input regarding land use and urban design alternatives.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE PLANNING COMMISSION:

Provide feedback and input on components of the master planning for Frog Pond East and South, specifically regarding land use and urban design alternatives. Also receive a briefing and offer any comments on an infrastructure existing conditions memo.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified local housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a Master Plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the subject land. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process also identifies water, sewer, stormwater, and transportation infrastructure needs and funding sources.

This will be the Planning Commission's fifth work session on the Master Plan. The previous work sessions and their content were as follows:

- *Work Session 1-October 2021:* Focus on overall project scope and the outreach plan.
- *Work Session 2-December 2021:* Initial feedback on the needs and opportunities for affordable housing and housing variety.
- *Work Session 3-February 2022:* Continuation of the topic of housing needs for more detailed feedback and direction, introduction of the neighborhood commercial evaluation.
- *Work Session 4-April 2022:* Further discussion of the neighborhood commercial center and discussion of the recommended design concepts for development of land use and urban design alternatives.

This *Work Session 5* will present three land use and urban design alternatives for Commission feedback and direction. The alternatives are based on the design concepts discussed during the April work session as well as feedback received through various outreach efforts over the last couple months. Following feedback from the Commission and City Council and processing of additional outreach feedback, a preferred alternative will be presented at the July work session. This preferred land use and urban design alternative will then be the basis of infrastructure and public realm planning to occur over the remainder of the summer and into the fall, and other master planning work in the fall.

In addition, this work session will introduce the significant work to be done around infrastructure by presenting an existing conditions memo.

Land Use Alternatives

Below you will find a brief description of each alternative. More description of each alternative, rationale for choices made, and corresponding maps can be found in Attachment 1.

Alternative A

Highlights of Alternative A include:

- Collocating the neighborhood commercial and an east neighborhood park at Frog Pond lane with Grange building.
- Organizing housing in a transect from the west (Type 1 and 2 dwellings) to the east (transition to Type 2 and 3 dwellings). Types generally have their own distinct locations.
- Some potential for affordable housing consistent with the Affordable Housing Analysis.

Alternative B

Highlights of Alternative B include:

- The neighborhood commercial is located along Brisband at Stafford Road with the east neighborhood park a couple blocks away to the east. The Grange is its own destination at its current location.
- Organizing housing around five focal points with Type 2 dwellings generally at the focal points radiating out to Type 3. The focal point at Stafford and Advance has a large area of Type 1 dwellings radiating out prior to the Type 2 and 3. Additional mixing of land use types over Alternative A, but not as much of Alternative C.
- Some potential for affordable housing targets in the Affordable Housing Analysis, similar to Alternative A.

Alternative C

Highlights of Alternative C include:

- The neighborhood commercial is located along Brisband at Stafford Road with the east neighborhood park collocated directly to the east. The Grange is its own destination at its current location.
- Organizing housing around five focal points similar to Alternative B, however more Type 1 housing is introduced. Type 2 dwellings are generally located at the focal points and radiating out to mix with Type 3 housing. The focal point at Stafford and Advance has a larger area of Type 1 dwellings radiating out to Type 2 and 3. Additional mixing of land use types over other alternatives.
- Provides for most units, including most potential for affordable housing targets in the Affordable Housing Analysis.

Discussion questions:

1. What additional questions does the Commission have about the alternatives?
2. Which alternative or combination of alternative elements best reflects and balances the following:
 - The foundational framework of the Frog Pond Area Plan
 - The Equitable Housing Strategic Plan
 - The Affordable Housing Analysis completed for this Master Planning effort
 - Design concepts discussed in the last work session
 - Public input received to date (see Attachment 2 outreach summary)

Infrastructure Existing Conditions Memo

Infrastructure planning is a critical piece of master planning. Murray Smith and associates, the Engineering firm on the consultant team, prepared an analysis of existing conditions (Attachment 3) to lay the foundation for the upcoming infrastructure planning work. The Commission's work sessions in August and September are planned to focus on more detail of the infrastructure aspect of the Frog Pond East and South Master Plan. This will include the water, sewer, and stormwater introduced by this memo as well as transportation infrastructure. The Commission is encouraged to review the memo and come prepared with any related questions. Highlights of the memo include:

- Additional water pipeline connections previously identified by the Frog Pond Area Plan include: from end of Frog Pond Lane in Frog Pond West to Canyon Creek Road across Boeckman Creek, and from Frog Pond South to the area of Boeckman Creek Primary School. These creek-crossing connections are currently not funded by the Frog Pond West infrastructure plan or the citywide Capital Improvement Program. They are thus anticipated to be part of the infrastructure package funded by Frog Pond East and South.
- Potential for water storage deficiency requiring a new storage tank be built prior to significant development in Frog Pond East and South. Current estimate is new storage tank would be completed and functioning in 2026 or 2027.
- Major planned sewer projects need to be completed prior to significant development in Frog Pond East and South, including: Boeckman Road Trunk Sewer, two phases of Boeckman Interceptor to be built between Boeckman Road and new pump station in Memorial Park along Boeckman Creek corridor. Current estimates are these off-site sewer improvements will be complete by 2025.
- Stormwater infrastructure will take careful planning in Frog Pond East and South to balance limited available space for storm planters in public right-of-way, avoiding large ponds, and more impervious surfaces being constructed relative to Frog Pond West due to higher anticipated residential density.

Discussion question:

1. What questions or comments does the Commission have about the existing conditions memo?
2. What additional analysis would be helpful to the Commission?

EXPECTED RESULTS:

Feedback and direction from the Planning Commission to develop a preferred land use and urban design alternative for Frog Pond East and South. Initial thoughts from the Commission on the upcoming infrastructure planning work.

TIMELINE:

This is the fifth in a series of work sessions for the Planning Commission. The next work session is planned for July. The project end date is currently scheduled as December 2022.

CURRENT YEAR BUDGET IMPACTS:

The main consultant contract is for \$350,000 funded through a Metro grant. Work began during

FY 20/21. Unused portions have been rolled over and the City anticipates spending \$154,000 by the end of FY 21/22. The remaining \$196,000 is planned to be budgeted during FY 22/23 to conclude the project. An additional \$162,000 in State grants support additional affordable housing analysis and work related to infrastructure funding and SDCs.

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which lays out a robust public engagement program that will include meaningful and impactful involvement of people who identify with historically marginalized communities. In addition, City staff continues work with consultants and the DEI committee to establish a framework for broad community involvement.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY:

Well-designed neighborhoods with a variety of housing options for current and future Wilsonville residents.

ALTERNATIVES:

At this early point in the project, the Planning Commission may provide a range of alternatives for the project team to consider.

ATTACHMENTS:

- Attachment 1 Frog Pond East and South Land Use and Urban Design Alternatives Memo (dated May 31, 2022)
- Attachment 2 Frog Pond East and South Outreach Summary to date (dated May 31, 2022)
- Attachment 3 Infrastructure Existing Conditions Memo (dated May 31, 2022)



DRAFT MASTER PLAN ALTERNATIVES

TO: Planning Commission

FROM: Project Team

DATE: May 31, 2022

OVERVIEW

The Frog Pond East and South Master Plan builds on the Frog Pond Area Plan, adopted by the City of Wilsonville in 2015. The Vision statement in the Area Plan states:

The Frog Pond Area in 2035 is a Wilsonville community with attractive and connected neighborhoods. The community's hallmarks are its walkable and active streets, variety of quality homes, and connected trails and open spaces. Frog Pond's excellent schools and parks are focal points of the community. Frog Pond is "just a short bike, walk, or bus trip" from all parts of Wilsonville – a highly valued part of the larger city.

In addition to the outcomes stated above, the City has directed that the plan place additional emphasis on: (a) providing housing choices for a range of incomes; and (b) focusing on housing form (rather than units per acre) as the guide to community design. These two priorities implement action items in the Equitable Housing Strategic Plan adopted in 2020.

This memorandum describes draft alternatives for the Master Plan. The intent is to summarize plan direction received to date, input received through community engagement, and plan choices for further discussion and direction by the Planning Commission and City Council. The alternatives are conceptual at this stage of the planning process and include neighborhood destinations (e.g., parks), framework-level streets and paths, options for a Commercial Main Street, optional locations and patterns for a variety of housing types, open space, and subdistricts. Utilities and more detailed community design will be prepared after a preferred alternative is identified.

PLAN DIRECTION DISCUSSED TO-DATE

The notes below summarize research memoranda and plan elements discussed by the Planning Commission and City Council.

BASE MAPPING

- Based on the buildable land inventory, the 255-acre Master Plan area has approximately 139-acres of unconstrained buildable land
- An arborist report and supplement identified significant trees within the project area



- The project team is compiling information about historic resources within the project area

AFFORDABLE HOUSING¹

- Affordable housing strategies likely to have the most impact in Frog Pond are listed below. The attached alternatives implement the first strategy: zoning for all housing types. The other strategies are implementation actions dependent on being enabled by the land use plan and design concepts shown on the alternatives.
 - Zone for all housing types
 - Acquire land for affordable housing
 - Partner with a community land trust
 - Waive, reduce, or defer SDCs for income-restricted affordable units
 - Incentivize smaller and lower-cost middle housing
- Potential affordable housing “targets” for the plan were reviewed with the Planning Commission and City Council. The targets are quantified examples of the types and amounts of housing that could serve lower income populations in Frog Pond East and South, per the guidance of the Equitable Housing Strategic Plan. They are listed below and assumed to be part of Master Plan Alternative C, which has slightly higher overall density to accommodate more affordable housing choices (See the Alternatives section of this memo). Alternatives A and B could also potentially include the housing listed below. Note that the land needs cited below are relatively small: about 5 to 10 acres.

Target # of Developments	Housing Type	Population Served	Approx. Scale and Land Needs
1	Multifamily	HH earning <60% of MFI* (rental)	120-180 units 4-6 acres
1	Cottage cluster, tiny homes, or courtyard housing	HH earning <30% of MFI, low-income seniors, veterans, or people with disabilities (rental)	5-50 units 0.25-2 acres
1-2	Townhomes or cottage cluster	First-time homeowners earning <80% of MFI	10-40 units 1-2 acres

- Regulatory actions for Accessory Dwelling Units to add to the City’s existing regulations:
 - Provide additional flexibility and exemptions to lot coverage and setbacks for ADUs
 - Allow ADUs with townhouses regardless of lot size.

¹ Source: “Frog Pond East and South Affordable Housing Analysis”, January 31, 2022, ECONorthwest (see Wilsonville Planning Commission packet for February 9,2022)



NEIGHBORHOOD COMMERCIAL CENTER²

The neighborhood commercial center program listed below was discussed with Planning Commission and City Council during work sessions and shared with the public during outreach.

Plan Element	Commercial Development Program Recommendation
Bldg. Square Feet	Up to 44,000 square feet (or 56,000 square feet if the City can attract a pharmacy or medium sized grocer)
Site Acreage	Up to 4.0 acres (or 5.1 acres if the City can attract a pharmacy or medium sized grocery)
Tenant Mix	Food and beverage, retail, general commercial, professional services/office, healthcare, fitness, daycare, banks, and more. Specific retail tenants may include cafes and restaurants, a specialty food product store, a pharmacy, and other miscellaneous stores like laundromats, salons, hobby/boutique stores, and medical, professional, and financial offices.
Development Type	"Hybrid" Main Street, with buildings on both sides of the planned Brisband Street or Frog Pond Lane extension on the east side of Stafford Road.
Parking	Parking ratios of 4.0 to 5.0 per thousand square feet of gross leasable space.
Location	Main Street retail provides the greatest experience and offers an opportunity for the commercial area to be prosperous over a longer timeframe. Main street retail feels "fresher" for longer than conventional retail centers and would be more accessible to a greater number of people traveling by car, foot, and bike. An alternative, from a pure market perspective, is the northeast corner of the Stafford Road and Advance Road intersection. This location requires the least new infrastructure and can be built independently of the rest of Frog Pond.
Other Recommendations	Plan for higher-density residential, including apartments, townhomes, and live/work spaces, surrounding the commercial center. Most case studies of successful commercial areas are surrounded by higher-density housing.

COMMUNITY DESIGN CONCEPTS³

The following design concepts were discussed with Planning Commission and City Council during work sessions and shared with the public during outreach. They state the important outcomes and design strategies intended for the Master Plan alternatives. They will be implemented through the Frog Pond East and South Master Plan and by development proposals.

The community design concepts for the Master Plan include:

- Housing Variety Throughout
- Affordable Housing Integration
- A Transect of Densities

² Source: "Commercial Area Evaluation", March 28, 2022, Leland Consulting Group (see Wilsonville Planning Commission packet for April 13, 2022)

³ Source: "Recommended Community Design Concepts", April 1, 2022, MIG|APG (see Wilsonville Planning Commission packet for April 13, 2022)



- A Neighborhood Commercial Center
- Street Connectivity
- Bicycle and Pedestrian Connectivity
- Natural Areas
- Preservation of Important Trees
- Active Parks and Open Space
- Consideration of the BPA Easement Corridor
- The Historic Grange as a Civic Amenity
- Use of Subdistricts

COMMUNITY ENGAGEMENT AND INPUT INTO THE ALTERNATIVES

ENGAGEMENT ACTIVITIES

In April and May, the team hosted multiple opportunities for community members and stakeholders to obtain input into the alternatives. Those opportunities included:

- A focus group engaging community members who do not typically participate in planning
- A Latino focus group
- Two focus groups of community members representing affordable housing perspectives
- A community design workshop virtual meeting
- An online survey addressing topics covered in the community design workshop
- Two focus groups of community members representing renter perspectives

Please see the Public Engagement Summary memorandum for feedback received from the participants. Figures 1 and 2 in that memorandum are the maps prepared by discussion groups at the Community Design Workshop held on May 12, 2022.

ALTERNATIVES

OVERVIEW

Three alternatives have been prepared to evaluate options for land use, street and trail connectivity, neighborhood destinations, and open space – incorporating ideas heard from the community thus far. The alternatives are conceptual and intended to support discussion of the pros and cons of the various choices. Following review and discussion by project participants, a “preferred plan” will be prepared that will be used for infrastructure analysis, more detailed design work, and implementation.

COMMON ATTRIBUTES OF THE ALTERNATIVES

The three alternative share the following attributes in common:

- The Frog Pond Grange as a community destination and civic amenity
- A 2–4-acre neighborhood commercial center to be designed as a walkable Main Street or similar neighborhood destination



- A variety of housing (Types 1, 2 and 3, see below) in each neighborhood arranged in a transect of housing form transition
- Each of the alternatives could potentially accommodate the affordable housing targets described above (Alternative C has slightly higher density than Alternatives A and B; it is assumed to include the targets and more affordable choices overall)
- A neighborhood park in the East Neighborhood
- A connected street pattern, with new streets and extensions of Frog Pond Lane, Brisband Street, 63rd Avenue and 60th Avenue
- Trails connecting important community and neighborhood destinations
- Walkable subdistricts in each neighborhood with a variety of housing choices within each
- Small neighborhood destinations within each subarea, such as small open spaces, community gardens, or other public amenities.

HOUSING FORMS OR TYPES

Three housing forms or types are used for the purpose of the preliminary alternatives. The three types are broad categories, and each includes multiple kinds of housing with overlap between the types. The focus of this typology is the bulk and spacing of buildings. For example, a similarly sized detached home may exist in any of the typologies, but for Type 1 it would tend to be taller and closer to adjoining homes, and Type 3 shorter and further apart from adjoining homes.



Type 1 Housing Form

Type 1 is 2-3 stories tall with 75 to 200 foot building façades. Smaller buildings are closely spaced.

Townhouses, closely spaced detached homes, condo/apartment buildings are included.

The look and feel is similar to the Villebois Village Center beyond the immediate buildings around the piazza, including: a variety of taller closely-spaced detached homes, 3-6 unit townhouse buildings, condo buildings, and apartment buildings.



Type 2 Housing Form

Type 2 is primarily 2 stories, with 3 stories allowed. Building facades are approximately 25 to 75 feet. Building separation is approximately 8-10 feet and lot area per building will likely be 3,000-5,000 square feet.

Many small to medium single-family detached homes plus duplexes, triplexes, quadplexes and small townhouse buildings are included.

The look and feel is similar to areas of Frog Pond West with smaller homes and single-family areas of Villebois – there is primarily two-story single-family homes with fairly close spacing with some duplexes and townhouses mixed in. However, the prevalence of duplexes and townhouses is likely to be greater in Frog Pond East and South.



Type 3 Housing Form

Type 3 is primarily 1-2 stories, with 3 stories allowed. Building facades are approximately 45-100 feet. Building separation is 10 or more feet. Lot area per building is likely 6,000-10,000 square feet.

Medium to large single-family detached homes plus duplexes, triplexes, quadplexes, small townhouse buildings, etc. are included.

The look and feel is similar to large lot areas of Frog Pond West and single-family detached subdivisions in Wilsonville with medium to large lots such as Renaissance at Canyon Creek, Wilsonville Meadows, and Morey's Landing. However, these areas in Frog Pond East and South would have more housing variety, with each housing type built in a style consistent with larger detached homes.



DESCRIPTIONS OF THE ALTERNATIVES

ALTERNATIVE A

Alternative A is organized around three major neighborhood destinations:

1. The Frog Pond Grange, a Commercial Main Street (along the extended Frog Pond Lane) and a future Neighborhood Park – all collocated to create a primary neighborhood destination. In this concept, the Grange building would be relocated northeast of its current location, with an opportunity to connect to the BPA easement open space and future trail.
2. The future Community Park
3. Meridian Creek Middle School

The framework of walkable and bikeable streets and paths/trails provide direct connections between these destinations and connect to the smaller neighborhood destinations. In this concept, the Frog Pond Lane to 60th Avenue connection parallels the BPA easement with room for development along the edge of the easement and public connections and view corridors through to the easement from the street.

Housing is organized in a transect from the west (Type 1 and 2 housing form) to the east (transition to Type 2 and 3 housing form).

Four-to-five walkable subdistricts are within each neighborhood. Each subdistrict has a central neighborhood destination.

ALTERNATIVE B

Alternative B is organized around five neighborhood destinations:

1. The Frog Pond Grange
2. A Commercial Main Street along the extension of Brisband Street
3. A future Neighborhood Park located approximately one block east of the Commercial Main Street, creating opportunities to gather and stroll or roll between the Main Street and the park
4. The Future Community Park
5. Meridian Creek Middle School

The framework of streets and paths/trails provide direct connections between these destinations and connect to the smaller neighborhood destinations. In this concept, the Frog Pond Lane to 60th Avenue connection is shown as an arching, curved street.

Housing is organized to place Type 1 housing form on the north side of Advance Road and along Stafford Road, proximate to and between all five destinations. Type 2 housing form transitions to the east and northeast. Smaller areas of Type 2 housing form are clustered in each of the other subdistricts, focused on framework streets and intersections.

Four-to-five subdistricts are within each neighborhood. Each has a neighborhood destination.



ALTERNATIVE C

Alternative C is organized around the same five neighborhood destinations as Alternative B:

1. The Frog Pond Grange
2. A Commercial Main Street along the extension of Brisband Street
3. A future Neighborhood Park located just at the end the Commercial Main Street, creating opportunities for the main street area to activate the park as a central gathering space
4. The Future Community Park
5. Meridian Creek Middle School

The framework of streets and paths/trails provide direct connections between these destinations and connect to the smaller neighborhood destinations. In this concept, the Frog Pond Lane to 60th Avenue connection parallels the BPA easement.

Housing is organized to create five focal points where Type 1 housing form is at the center, with the largest center arranged around the neighborhood park and nearby the commercial area.

This alternative provides the most overall housing of the alternatives and is assumed to include the “affordable housing targets” program noted above. Type 2 and 3 housing form radiates out from each focal point. Existing homes are assumed to either remain or redevelop over time per the preference and initiative of property owners.

Four-to-five subdistricts are within each neighborhood. Each has a neighborhood destination.

DRAFT HOUSING CAPACITY ESTIMATES

These are rough estimates of the dwelling unit capacity, density, and breakdown by typology in each alternative. These estimates follow from the alternative land use maps and are based on a general assumption of 25 units/net acre in Type 1, 15 units/net acre in Type 2, and 7 units/net acre in Type 3.

ALTERNATIVE A:

1583 dwellings, 12.8 du/net acre

27% Type 1, 48% Type 2, 24% Type 3

ALTERNATIVE B:

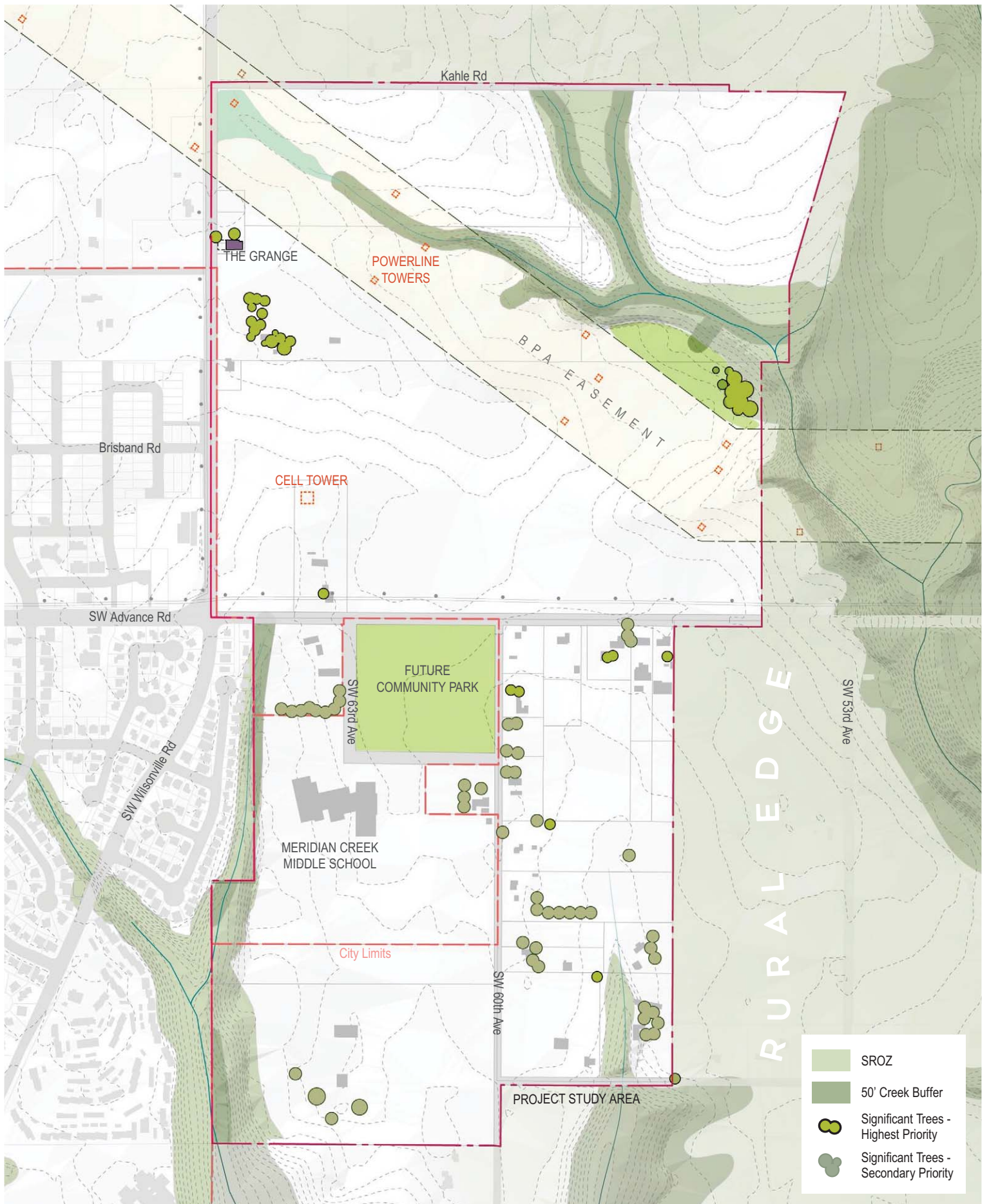
1389 dwellings, 11.5 du/net acre

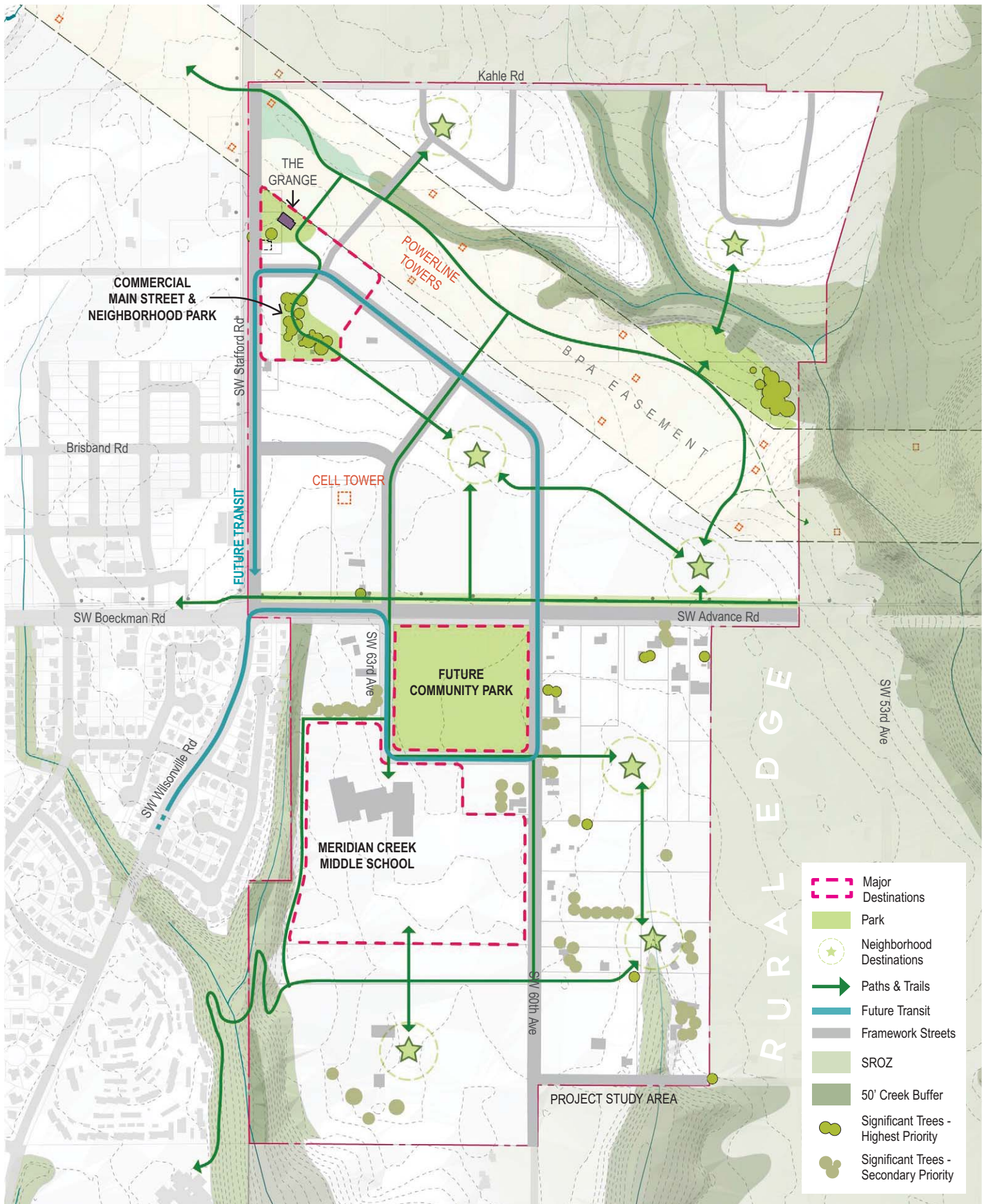
30% Type 1, 33% Type 2, 37% Type 3

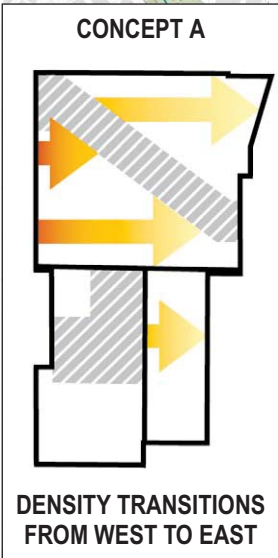
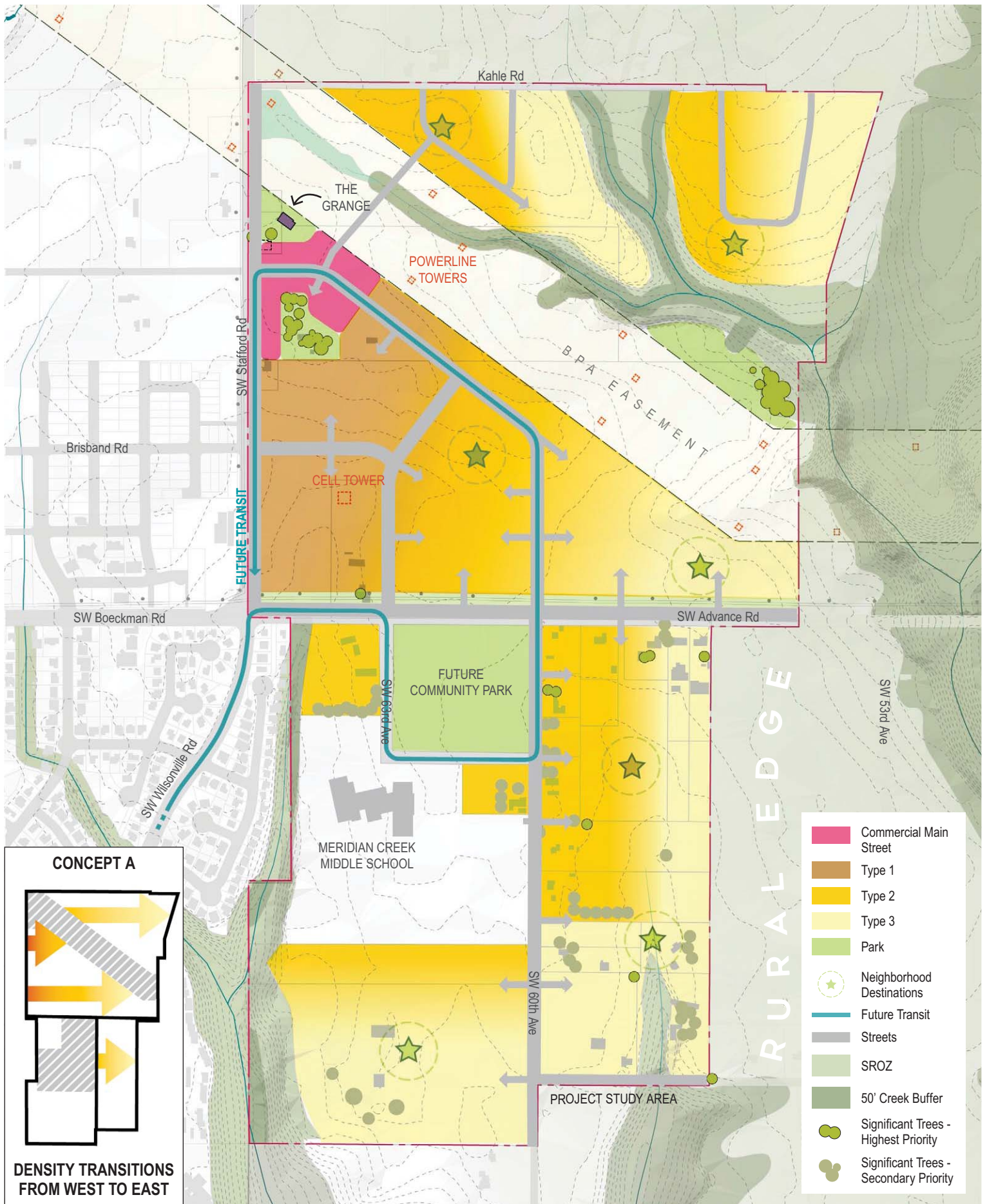
ALTERNATIVE C:

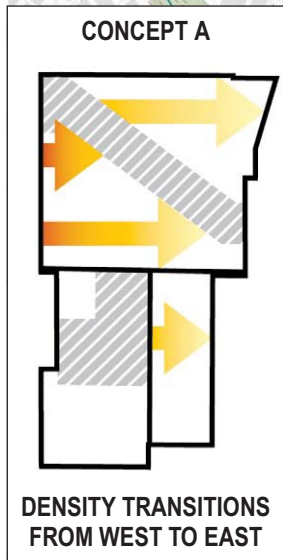
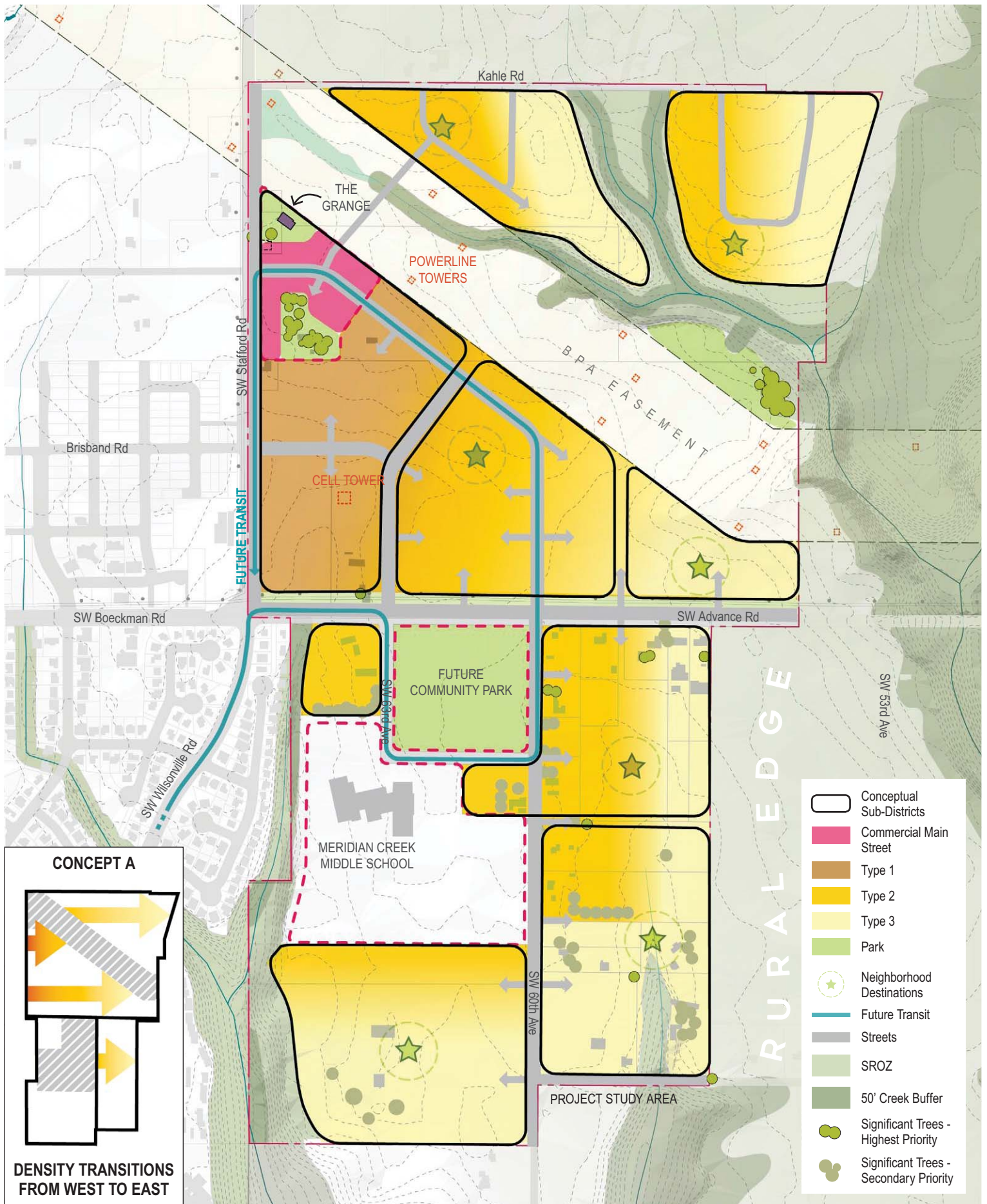
1803 dwellings, 14.7 du/net acre

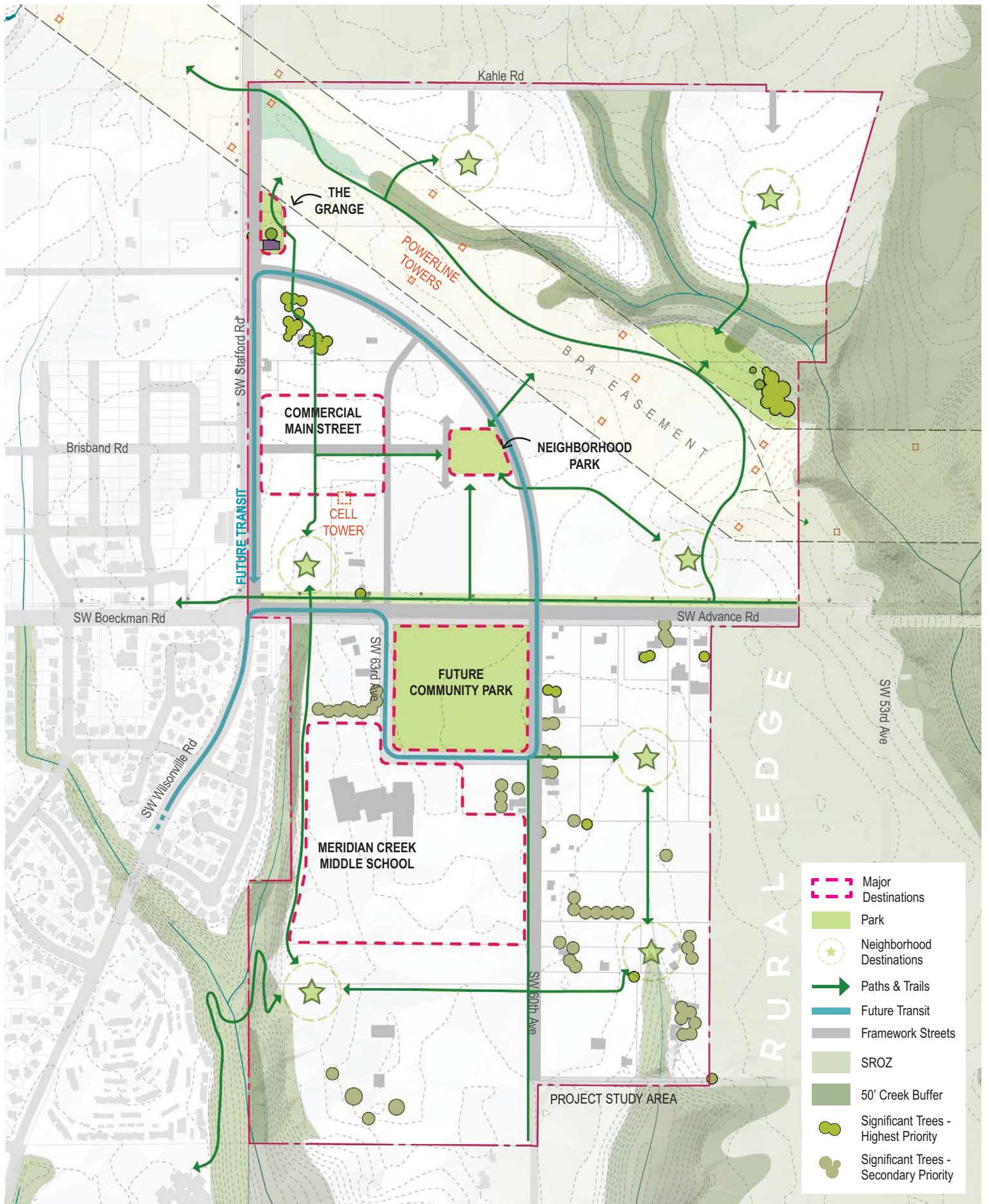
36% Type 1, 49% Type 2, 14% Type 3

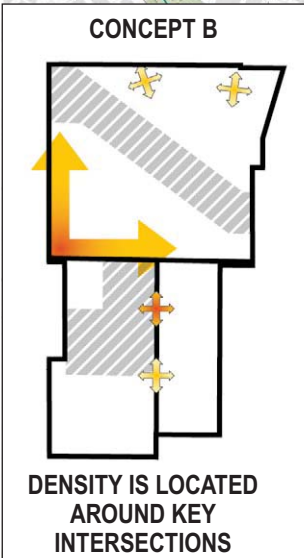
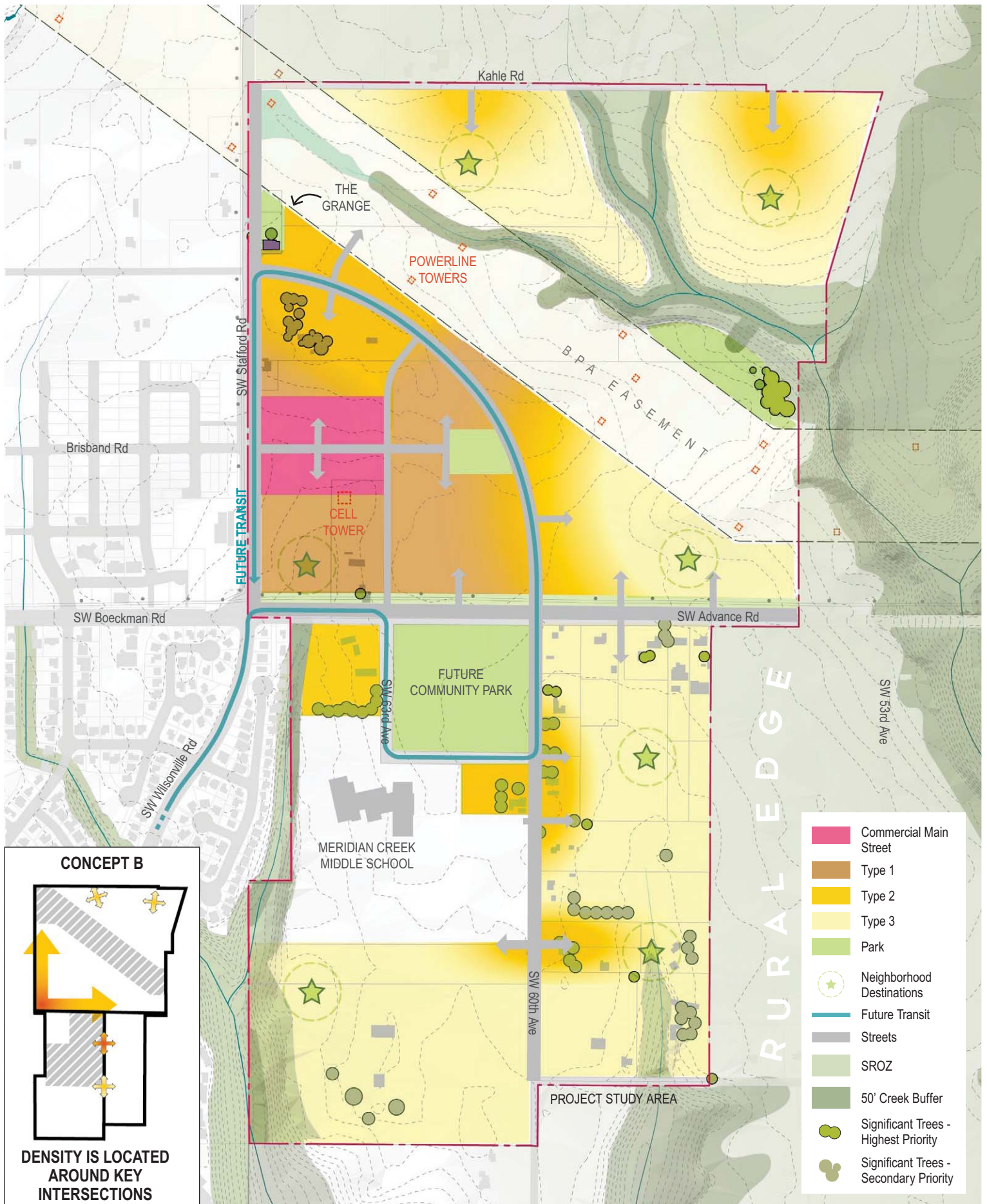


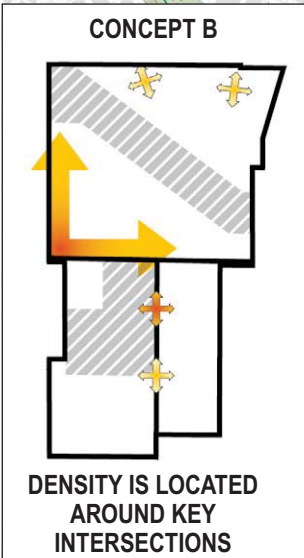
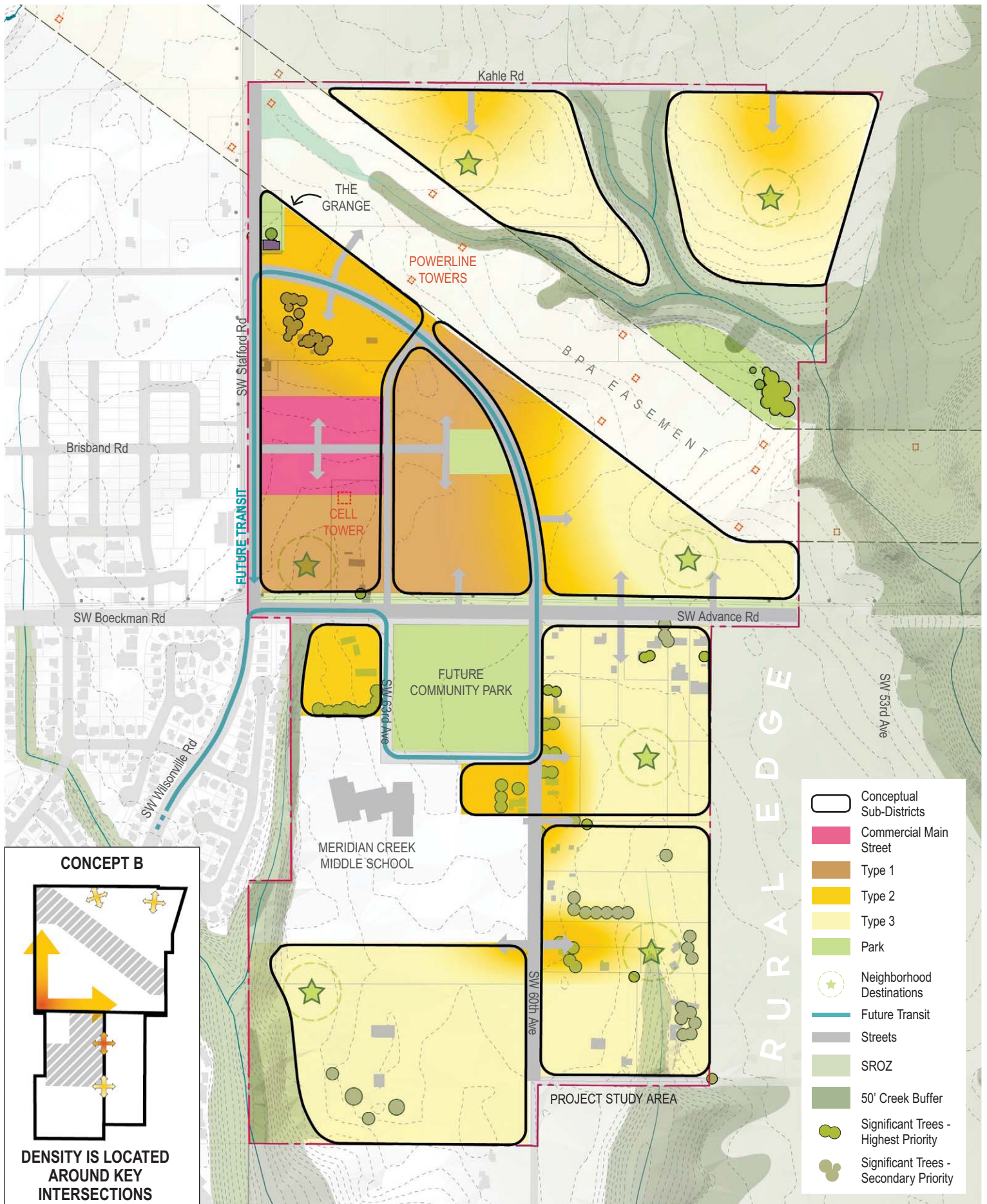


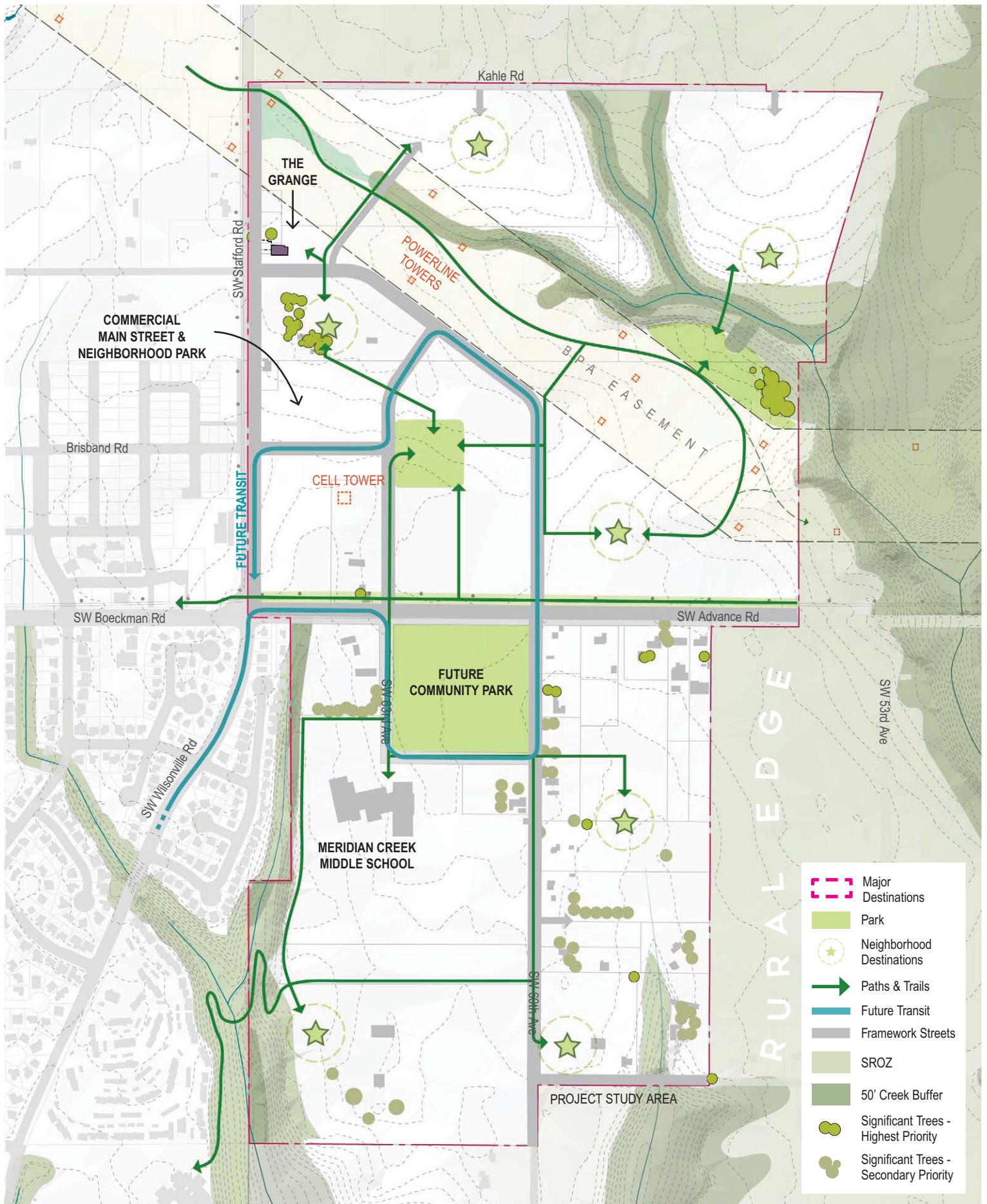


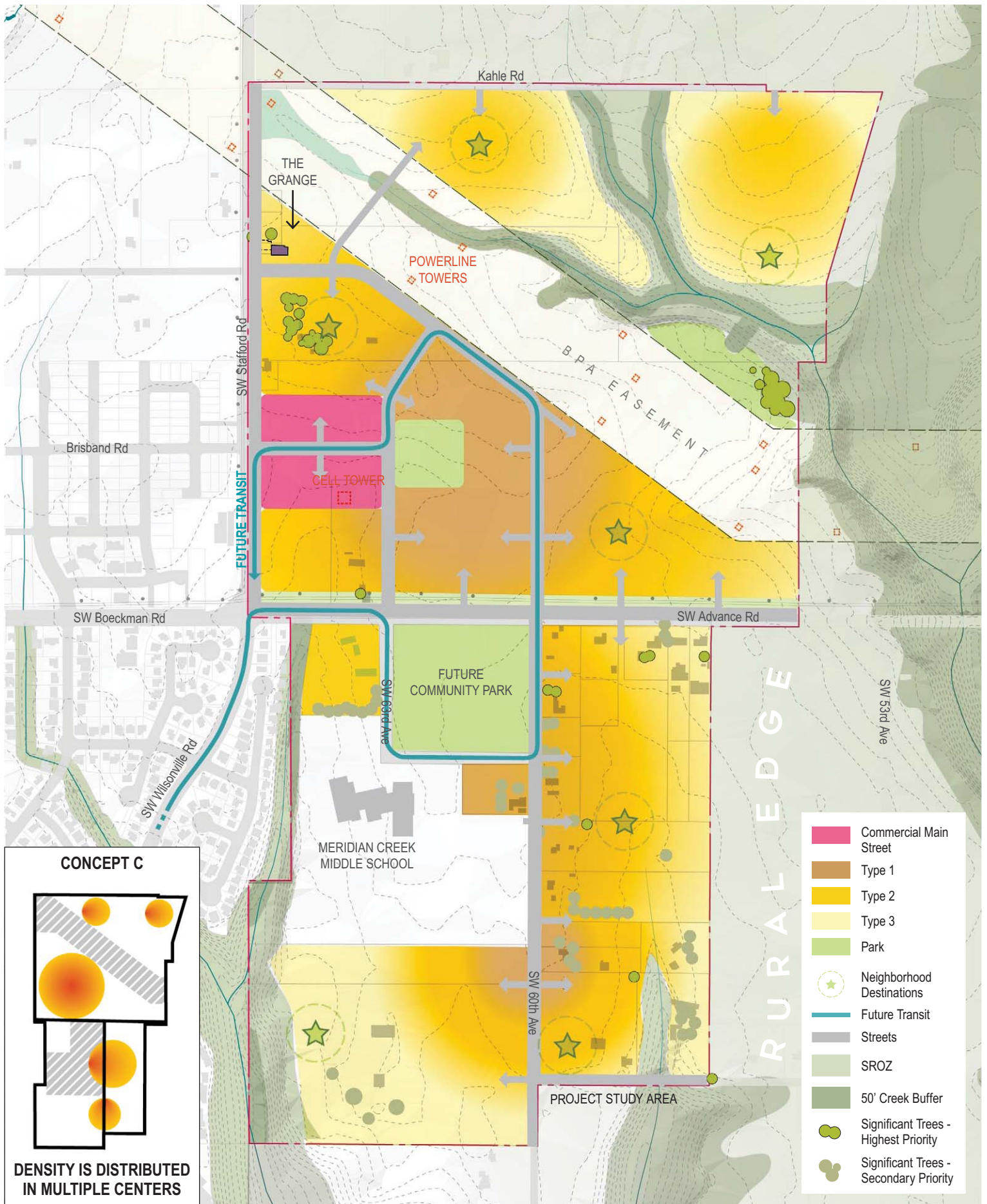






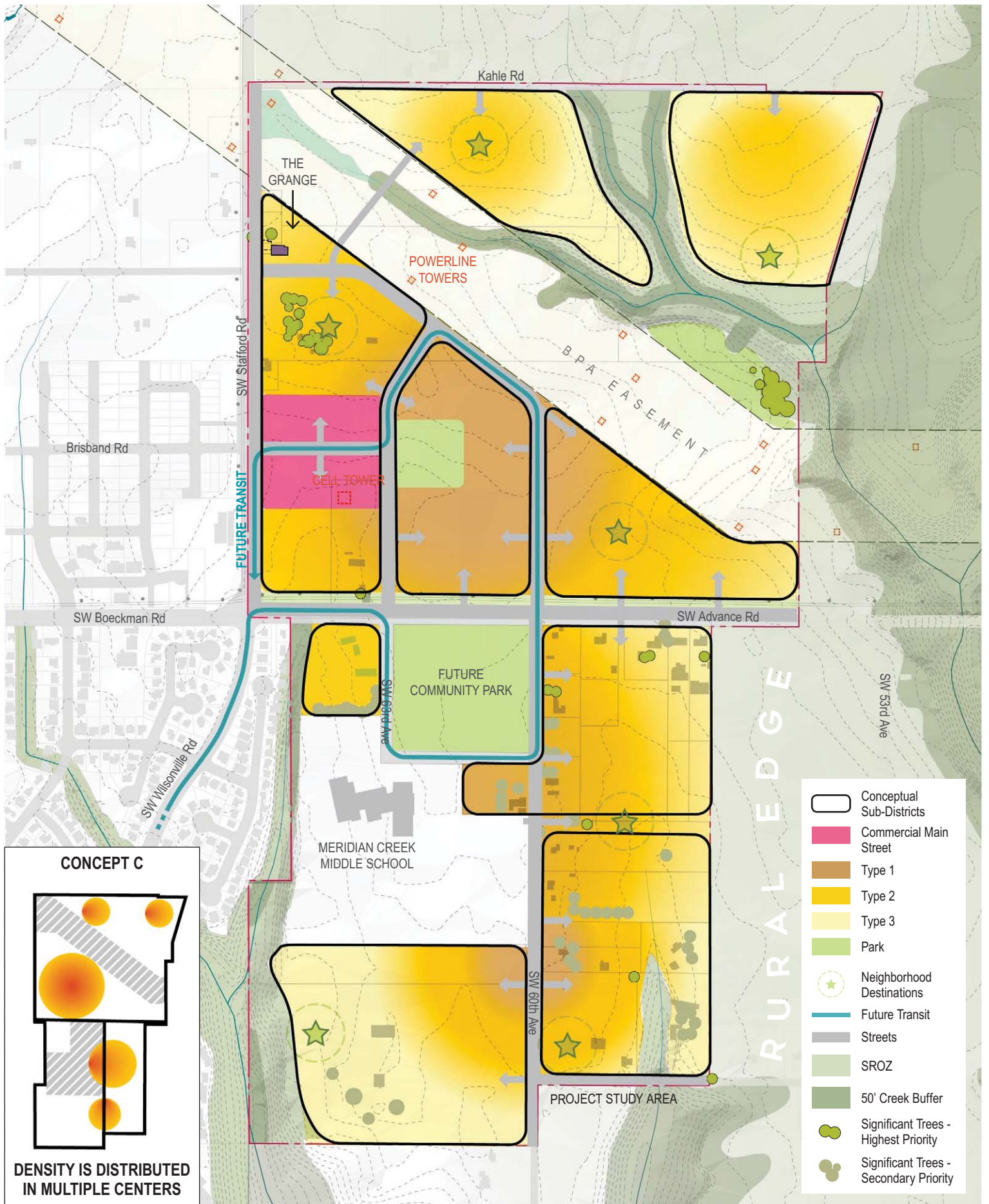






CONCEPT C

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ENGAGEMENT SUMMARY: APRIL-MAY 2022

Overview

This document is a summary of community engagement activities conducted between April 30 and June 1, 2022, for the Frog Pond East and South Master Plan. The project and engagement was focused on issues and ideas to inform the development of the plan alternatives. Key themes from each engagement meeting or activity are summarized below. Attached are summaries for each of the meetings.

Meetings and Activities

Meetings and engagement activities are summarized below. In addition, City staff had (and continues to have) on-going informational and coordination meetings with individual property owners, community members and developers.

- Community Focus Group #1 (April 30, 2022)
- Affordable Housing Focus Group #1 (May 11, 2022)
- Community Design Workshop (May 12, 2022)
- Affordable Housing Focus Group #2 (May 13, 2022)
- Community Focus Group #2 (May 14, 2022)
- Online survey on Let's Talk Wilsonville! (May 12 – May 30, 2022)

Project information and meeting notices were provided through a variety of ways including: *Let's Talk Wilsonville!*, the Boones Ferry Messenger; the project Interested Parties email list; and social media postings.



Meeting Summary – Community Focus Group #1

When: April 30, 2022; 3:30 – 5:30 p.m.

Where: Zoom

Participants:

Project team: Dan Pauly, Georgia McAlister (City of Wilsonville); Joe Dills (MIG|APG); Mariana Valenzuela (Centro Cultural)

Attendees: 18 community members pre-registered through recruitment via Zoom. However, only 4 participants were confirmed as legitimate participants.

Meeting purpose: To share information, and receive feedback, regarding the Frog Pond East and South Master Plan project. The feedback will inform project alternatives. This focus group was intended to broaden the engagement to include community members who do not typically participate in planning processes and are part of underrepresented communities.

Welcome and project overview

Mariana welcomed participants and Zoom start-up was finalized for all participants.

Dan welcomed the group on behalf of the City. Dan described: Frog Pond location, focus group agenda-overview-relevance, why planning is occurring, planning to date and vision. Joe presented slides addressing working ideas for: affordable housing, a range/typology of housing choices, a neighborhood center, community gathering places, connections, and the BPA power line corridor.

Breakout groups

The participants then broke into groups for discussion of the issues described in the overview. The questions and summary of feedback is below.

Neighborhood Center: What do you think of the idea to locate a “Main Street” commercial area along SW Brisband Street at SW Stafford Road? What would make it somewhere you and your family would go?

- Coffee or “refreshment spot”
- Cinema
- Positive attractions, things that are fun
- Places to exercise
- Spa
- Restaurants
- Security is important

Housing Choices: For the range of housing choices that was presented – which ones should go where?

- Range of homes on the larger parcels
- Type 1 near the grange
- Type 1 near the Community Park



- Type 1 away from the Community Park – in a location where there is less noise and activity
- Housing away from traffic
- Type 2 in a quiet location
- Mix of home throughout
- Overall general preference for Type 2

Community Gathering Places: What are the potential uses for the Grange? What ideas do you have for the East Neighborhood Park? What other community gathering places should there be?

- Grange: history, library, small museum, environmental education, community center for occasions, place to vote,
- Park: a fun place, kiddies corner, visibility, drinking fountains, outdoor gym

Connecting Destinations – Regarding the design concept map that shows connections: Do these make sense to you? Are there other important destinations to connect? Where should trails be located?

- Trails: the red lines make sense, connect to Brisband Street

BPA Power Line Corridor: What would you like to see in this area?

- Sports courts, parking, trails, concern about safety, could be dangerous

Other comments/questions of interest:

- Is there security (e.g. a police station) nearby?
- Where is the closest healthcare?
- There should be access to food and personal needs. A small grocery would be good.

Reports, Next Steps and Adjourn

The participants reconvened and provided highlights from the discussions. Dan thanked everyone for the participation, described next steps, and adjourned the meeting.

Meeting Summary – Affordable Housing Focus Groups #1&2 With Renters

When: May 11th, 2022; 5:30-7 p.m. and May 13th, 2022; 12-1:30 p.m.

Where: Zoom

Participants:

Project team: Georgia McAlister (City of Wilsonville); Becky Hewitt (ECONorthwest); Virginia Wiltshire-Gordon (ECONorthwest)

Attendees: 11 renters living in Wilsonville (8 on May 11th and 3 on May 13th who pre-registered through recruitment via social media and posted flyers)

Meeting purpose: Seek the perspectives of renters about their preferences for housing.



Welcome and project overview

Georgia welcomed participants and Zoom start-up was finalized for all participants. She welcomed the group on behalf of the City and described the Frog Pond location, focus group relevance, and why planning is occurring. Becky gave an introduction to the focus group agenda.

Breakout Groups - Questions

Discussed the following questions:

Current housing

- What do you like about where you live now? What don't you like?
- What were the most important factors in deciding to live there?

- Future neighborhood

- Is anyone thinking about moving in the next few years? If so, would you be interested in living in a new neighborhood in Wilsonville at the edge of town?
- What would factor into your decision about whether that was a good place to live?
 - Prompt about both the unit itself and the neighborhood / surrounding amenities / location, ask about access to transit

Housing types

- What type or style of housing would be most appealing to you?
- Show different housing types and ask what they would think. If your ideal situation is unaffordable, what kind of housing would you be open to?

- Buying

- If not already covered, ask whether they are hoping to buy a home in the next few years or continue renting
- What challenges are you facing in buying a home?

- Anything else you want to share?

Breakout rooms closed when all questions had been discussed.

Comments and Key Themes from Participants

Wilsonville Community

- Positive experiences:

- Many participants love Wilsonville and love living in Wilsonville
- Family: living close to aging parents, living within driving distance to family, living with family
- Safety: participants expressed appreciating the safety they felt personally, for their property and for their children
- Access to work: living close to work, easy drive as a commute
- Character of neighborhoods: architecture, access to nature and open space, layout of the city



EAST & SOUTH MASTER PLAN

- Amenities: convenient to get around town, bike paths, access to shopping center, access to the highway, activities and play areas for children
- Schools
- Challenges
 - Displaced multiple times due to landlords wanting to sell, more applicable in units with smaller scale owners
 - Rent increases pricing people out
 - Participants recognized the need to build more units and the reality of a region-wide housing shortage
 - Transit is not well connected to other parts of the metro region
 - High levels of growth, people moving into the community and increasing demand. Some of those moving to the area have higher incomes or more access to resources.

Future Neighborhoods

- Everywhere in Wilsonville is nice
- Make sure traffic is addressed, public transportation within town was not as much of a priority at present but becomes more relevant as people age

Future Housing Types

- Middle income 55+ community: desire for communities reserved for older and retirement age people. Interest in amenities that would create recreation opportunities for people to gather.
- Housing appropriate for aging in place: single story, some interest in master on ground floor, smaller size units (less than 1,200 sqft)
- Detached housing: general preference for housing that doesn't share walls, some preference for detached with a shared yard relative to attached housing with a small individual yard
- Design: Interest in duets or duplexes that may not be as obvious, such as different door orientations for each unit and interest in units that have an individual feel. Interest in variety of styles and more individuality still with a consistent character. Some interest in ADU, preference for detached style.
- Unit amenities: Yard and privacy, parking, balconies, high ceilings
- Apartments/Condos: less interest, less attractive. Concerned about privacy, fees, space for younger children

Future Home Ownership

- Many expressed interest in owning a home in Wilsonville. Some people felt they were not yet at the stage of life to own a home.
- Prices were the key limiting factor. Some expressed willingness to compromise on features they wanted in order to afford a home in this location but some would prefer to continue renting unless or until the right home they could afford became available. For some, owning is price prohibitive in Wilsonville regardless.
- Concerns about HOA fees though some expressed appreciating the benefits they provide



Meeting Summary – Community Design Workshop

When: Thursday, May 12, 6-8 p.m.

Where: Zoom virtual meeting

Participants:

Project team: Miranda Bateschell, Georgia McAlister, Cindy Luxhoj, Joe Dills, Andrew Parish, Saumya Kini, Betty Lou Poston, Ken Pirie, Ryan Mottau, Mariana Valenzuela

Attendees: 10 participants

Meeting purpose:

- Share project information
- Obtain feedback to be used in preparing master plan alternatives

Welcome and Meeting Overview

Georgia convened the workshop, welcomed the group, and explained Zoom features

Project and Workshop overview

Georgia gave a short presentation, covering: why this project, why now; where is Frog Pond; 2015 vision and some new priorities; what will happen in the breakout groups; what we will do with your input

Breakout Groups

The attendees were divided into two discussion groups. After introductions, each group discussed:

1. Location and context – Where at the destinations for community gathering in southeast Wilsonville?
2. Connections – Based on a conceptual map of how to connect local destinations, the groups discussed ideas about places to connect and added ideas for additional connections.
3. Neighborhood commercial center – Following background information about a market study and discussions with the Planning Commission, the groups addressed:
 - a. What do you think of the idea to locate a “Main Street” commercial area at SW Brisband Street at SW Stafford Road?
 - b. What would make it somewhere you and your family would go?
 - c. For our work today, can we proceed with Brisband Main Street as the location for our discussions? (One group supported and moved forward with the Brisband Street location. The other group placed their commercial “chip” on the Frog Pond Lane location)
4. Housing types – Background information was provided regarding the City’s focus on providing a range of housing types. Housing Types 1, 2, and 3 were explained, along with principles for their placement on the maps. The groups then proceeded to place housing chips on their maps. See below



EAST & SOUTH MASTER PLAN

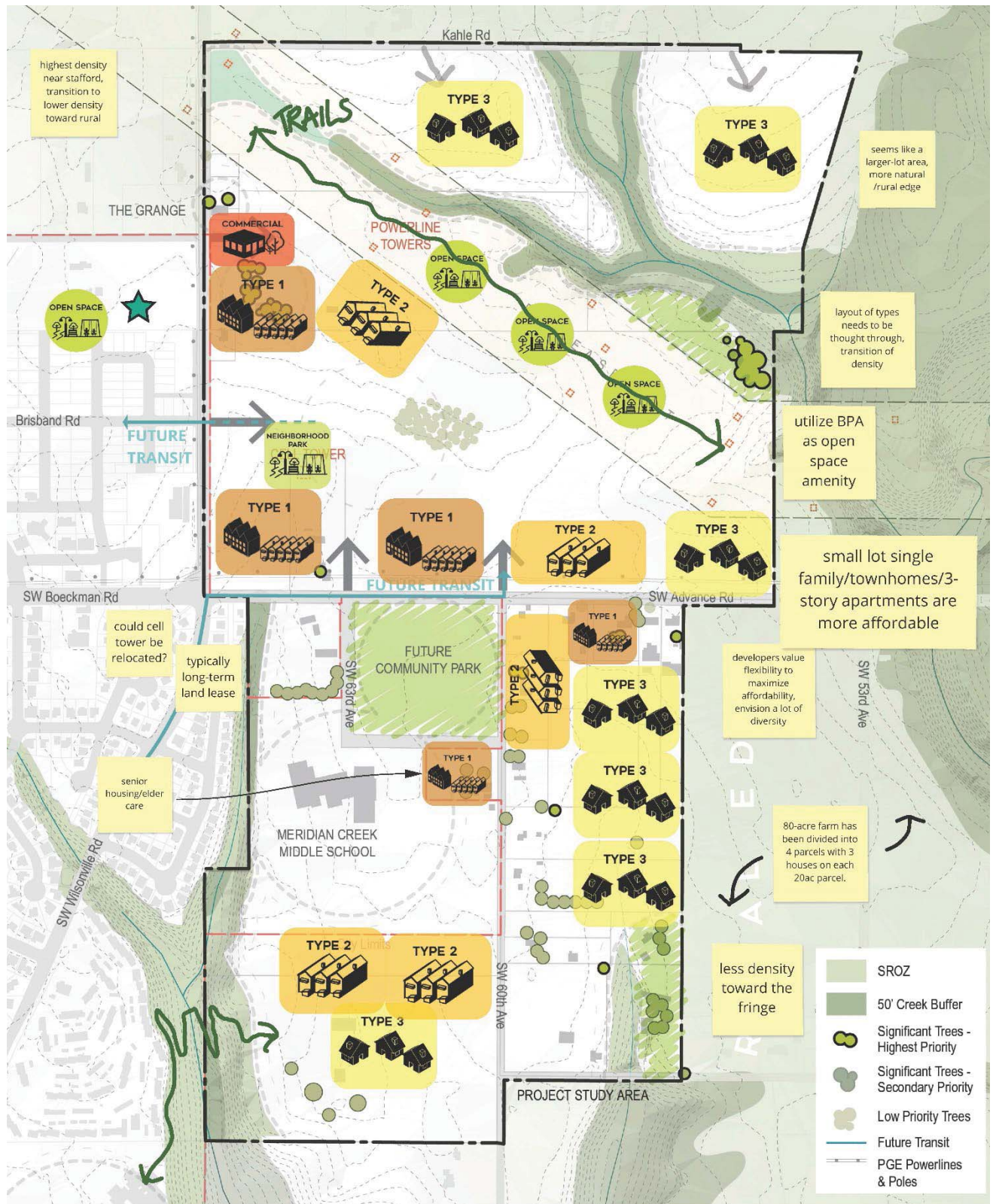
5. Parks and neighborhood destinations – The groups then placed chips for the East Neighborhood Park and small neighborhood destinations distributed around the map.

Breakout Group Feedback

Comments and ideas from workshop participants were recorded on maps – see below.

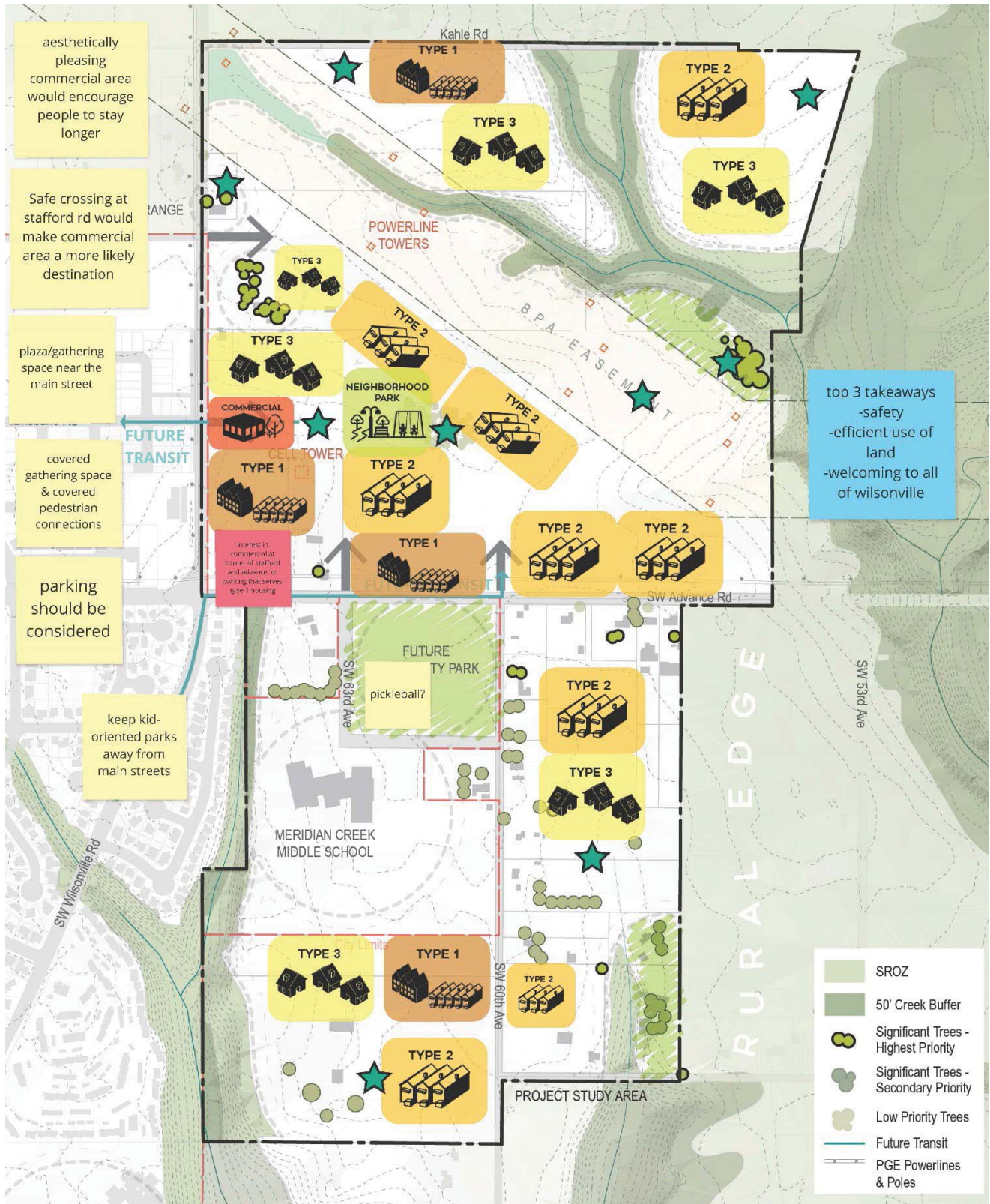


EAST & SOUTH MASTER PLAN





EAST & SOUTH MASTER PLAN



Report backs



Attendees returned from their groups and summarized highlights from their discussions:

Group 1:

- Type 1 housing should be focused towards the center with Type 3 towards the edge
- Make efficient use of the Frog Pond land supply including the BPA corridor and potential commercial area
- The neighborhood should include opportunities for affordable home ownership

Group 2:

- Pedestrian routes and should provide for safe walking and connectivity
- Make efficient use of the Frog Pond land supply
- Make these neighborhoods welcoming places

At 8:00 p.m., Georgia thanked everyone and the meeting was adjourned.

Community Focus Group 2

Overview

This event was delivered in English and Spanish using consecutive interpretation services to serve members of the Latinx Community in the area. Georgia presented the Frog Pond East & West Master Plan in the following sequence:

1. Description of the Frog Pond area
2. Goals of the development for the City of Wilsonville
3. Objective of focus group
4. Project update
5. Vision of Frog Pond – It is important to mention that this vision was built on feedback received during focus group events related to HB 2001 which took place last year.
6. Description and potential location of three home types
7. “Main Street” at Frog Pond-location and potential use
8. Community gathering places
9. Options to connect the neighborhood destinations
10. What to do at the BPA Corridor?
11. Group discussion
12. Next steps-Stay connected

There were seven participants who provided valuable input regarding the potential features and components of the future Frog Pond Neighborhood.

Most of the participants had already heard about Frog Pond since they had attended earlier community engagement events organized by the City of Wilsonville to provide information and gather feedback on HB 2001. They were very excited to have the opportunity to return and continue to be part of the urban planning process.



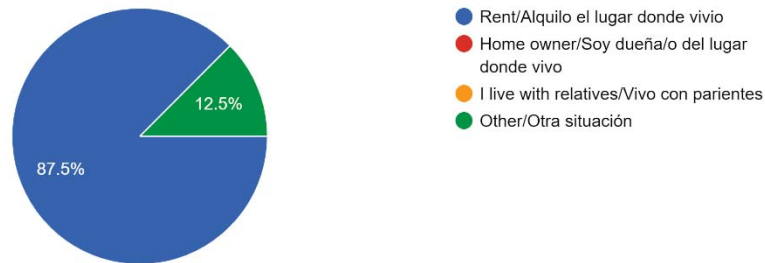
Pre-Meeting Survey

Participants completed a survey prior to the focus group event. These are the findings from that survey:

1. Living situation

¿Cuál de las siguientes opciones describe mejor su situación de vivienda?

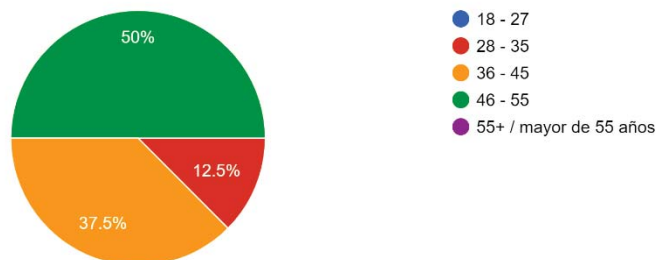
8 responses



2. Age group

¿Qué edad tiene usted?

8 responses

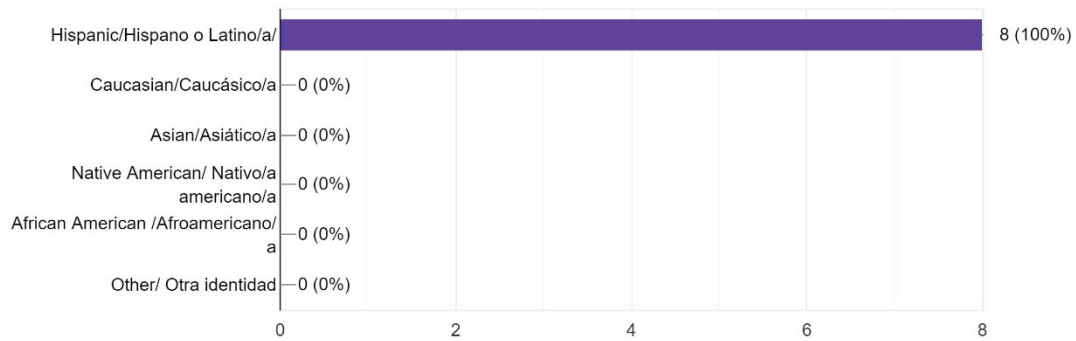


3. Ethnicity



¿Dónde ubica usted su raza o identidad étnica? (marque todas las respuestas relevantes)

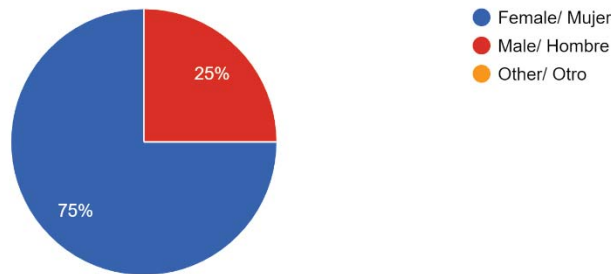
8 responses



4. Gender

¿Con cuál género se identifica usted?

8 responses

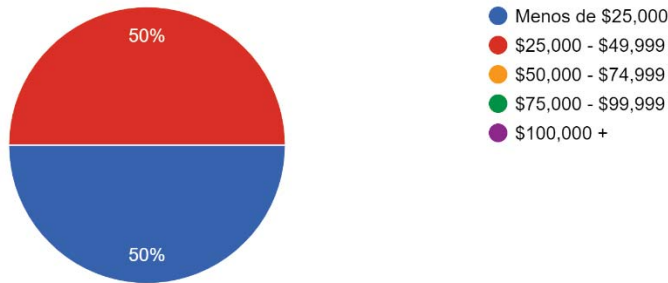


5. Annual Income



¿Cuál de las siguientes categorías representa mejor su ingreso anual? (marque una respuesta)

8 responses



Group Discussion

During the discussion, participants responded to the following questions:

1. **Neighborhood Center-** *What do you think of the idea to locate a “Main Street” commercial area along SW Brisband Street at SW Stafford Road? What would make it somewhere you and your family would go?*

Responses and comments:

- Ethnic food restaurants
 - Family-owned small businesses
 - Services: Beauty salon, Coffee shops, small market, ice cream shop
 - Affordable rent for small businesses
 - “Main Street” idea is good for the family, places you can walk to
 - I really like the idea, but for small businesses rental is challenging. It would be important to know who the owner is. These businesses are small. For a business to be successful, rent needs to be affordable.
 - Yes, a commercial area is a great idea, particularly if there is a focus on cultural exchange with arts & crafts, diversity of ethnic foods.
 - Cultural exchange, as the gentleman mentioned, is very important. This space, if affordable, could be the place for that exchange. Great idea for families to connect.
 - Spectacular idea. It would be wonderful. We don’t have such a place. A Colombian food restaurant would be great.
 - It would be great to have a grocery store, so you can go to do the shopping for the week, and then stop at an ice cream shop.
 - I love this idea of returning to a place where you can create community, connect with others.
2. **Housing Choices-** *For the range of housing choices that was presented – which ones should go where?*



Responses and comments:

- There were many questions about home affordability. How will they make these homes more affordable? Andrew responded to this concern. He explained that the City is thinking that a percentage of the homes will be subsidized. The same participant asked what is the percentage of subsidized homes. Georgia explained that there are three models. The most optimistic is a 15% of homes will be subsidized. Then the participant asked if 15% is the most optimistic, what is the most realistic or lowest? Georgia explained that they do not have the exact percent, that it all depends on the support of the community, but that affordable housing is a goal for the City so they are optimistic.
- **Type 1**-Participants agree that these homes should be near schools for safety since there are more children. Least focus should be on building Type 3 homes. Most houses in Wilsonville are single-family homes and are less affordable.
- **Type 2**-Near retail stores- Near “Main Street”
- **Type 3** closer to the Grange, more isolated- Again, participants concur with that opinion. Focus the least on building this type of home.
- The tallest buildings should be placed far away from power lines, and whatever is built, make sure there is a lot of parking space.
- 3. **Community Gathering Places:** *Which are the potential uses for the Grange? What ideas do you have for the East Neighborhood Park? What other community gathering places should there be?*
 - A Community Center near the park; Park and community center should be located away from traffic for safety
 - Picnic tables
 - Place to barbecue
 - Swimming Pool
 - Sports fields- soccer, tennis
 - Walking and biking trails
 - A road so we could drive and carry food to barbecue
 - A covered space due to rainy days, so families can celebrate birthdays
- 4. **Connecting Destinations:** *Regarding the design concept map that shows connections, do these make sense to you? Are there other important destinations to connect? Where should trails be located?*
 - Biking trails
 - Walking trails
 - Consider those who have mobility issues
 - These trails
 - Connecting path should have the shape of an “S” instead of a “C”

After the discussion, Georgia and Andrew thanked participants for their meaningful contributions.



Online Survey

Overview

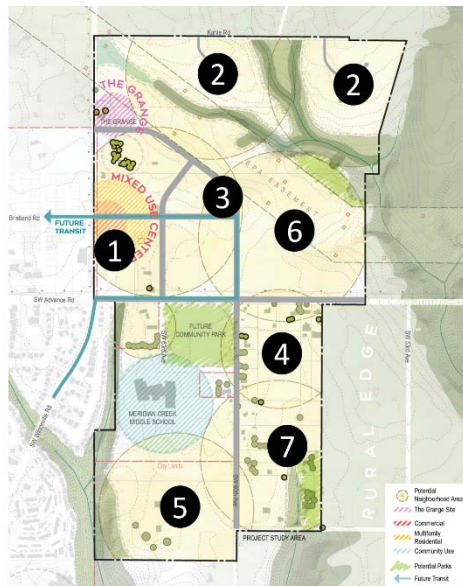
A survey was posted to *Let's Talk Wilsonville!* on May 17 and ran through May 31. The survey had three components: housing history and preference, location of housing types in Frog Pond East and South, and feedback on proposed amenities such as use of the historic grange and park programming. Through May 31 the survey had 46 respondents. More information on responses to individual questions can be found in attached summary.

Of the 46 respondents, 40 currently live in a detached single-family home. A preference for detached single-family homes from this group remained consistent throughout the survey. Detached single-family was by far the predominant preference for respondents if they were to seek a different home in the coming years. In addition, the overall preference for the Type 3 Housing Form was clear. Only 5 respondents indicated they did not prefer Type 3, compared to 14 for Type 2 and 25 for Type 1. It was not unexpected existing single-family homeowners would have this type of response.

Other survey questions brought additional insights about preferences and potential future needs. As can be seen in some of the other outreach results, generally there is a preference for detached units. The ideal of the detached home runs strong. A particularly interesting survey question was if respondents could not afford a detached single-family home what other type of housing they would consider. Half of respondents (23) said a townhouse, the next most frequently selected options were cottage cluster (19), plexes (16), cluster housing (13), and apartment or condo (11).

Respondents were also asked best and preferred location for different housing forms in Frog Pond East and South, referencing the map below.

1. Adjacent to the neighborhood retail and next to Stafford road
2. Outer area of East Neighborhood between creek corridors
3. Central area of East Neighborhood, near power line easement areas
4. South Neighborhood near future community park
5. Southern portion of South Neighborhood area near middle school
6. Central East Neighborhood
7. Southeastern corner of South Neighborhood near natural area and rural residences



Locations 1 and 3 were the only locations where a majority of respondents did not indicate a preference for the Type 3 housing form. A majority of respondents indicated Type 1 housing form as the appropriate housing form for Location 1. Type 2 housing form had the most respondents feeling it is most appropriate for Location 3.



Respondents were also asked to rank all seven locations in order of preference for each Type of housing form. The results indicated as follows:

- For Type 1 housing form, Location 1 was most preferred, followed by Location 3, with locations 7 and 2 being the least preferred
- For Type 2 housing form, Location 3 was most preferred, followed by Location 4, with locations 6 and 7 being the least preferred
- For Type 3 housing form, Location 7 was most preferred, followed by Location 5, with Location 1 being by far the least preferred, followed by Location 3.

Detailed responses to use of the grange and parks will be retained for reference during further work on designing and programming these areas in the coming months.

May 2022 Community Survey

SURVEY RESPONSE REPORT

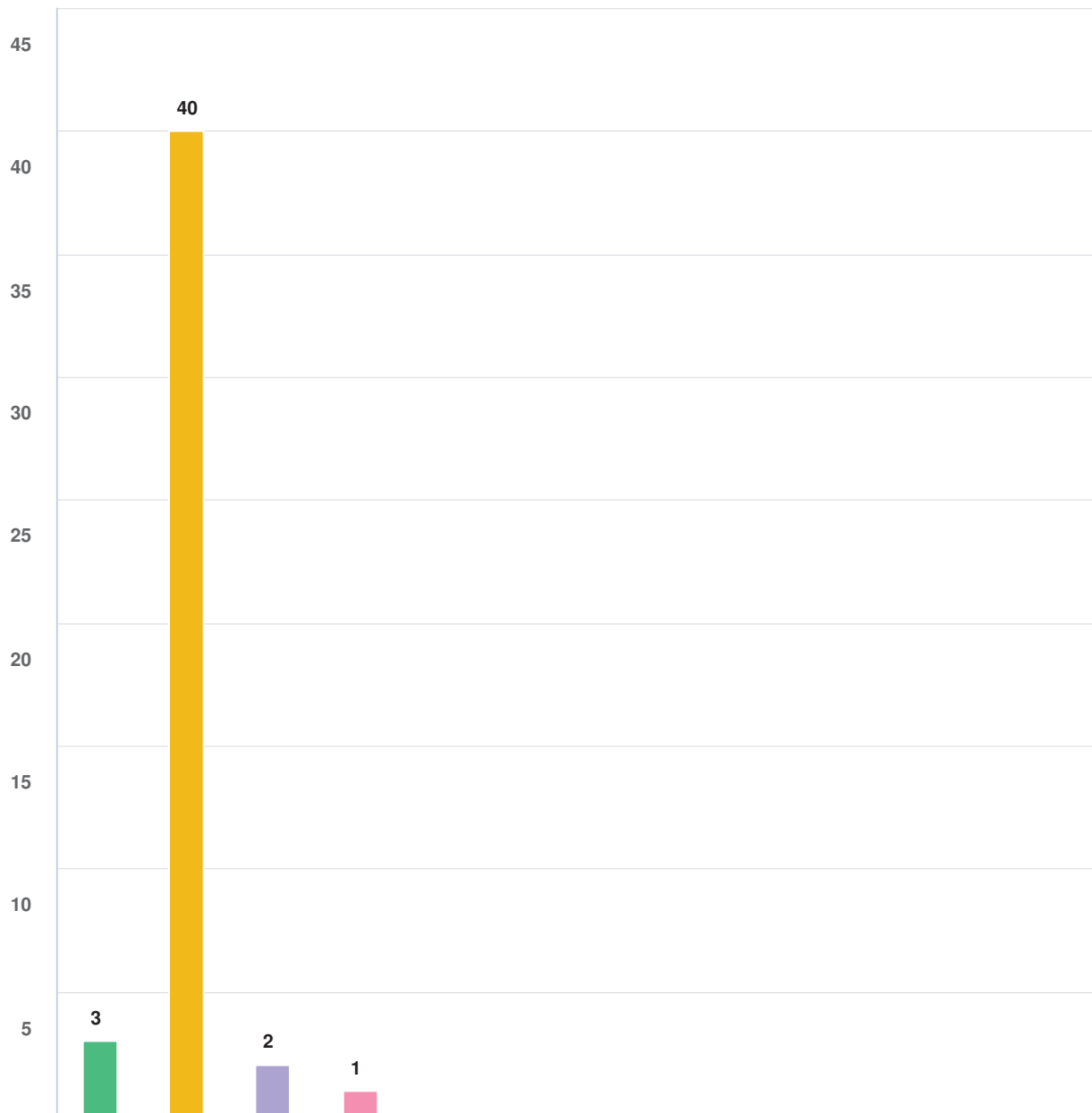
01 May 2022 - 30 May 2022

PROJECT NAME:

Frog Pond East and South Master Plan



Q1 Which of the following types of housing do you currently live in?



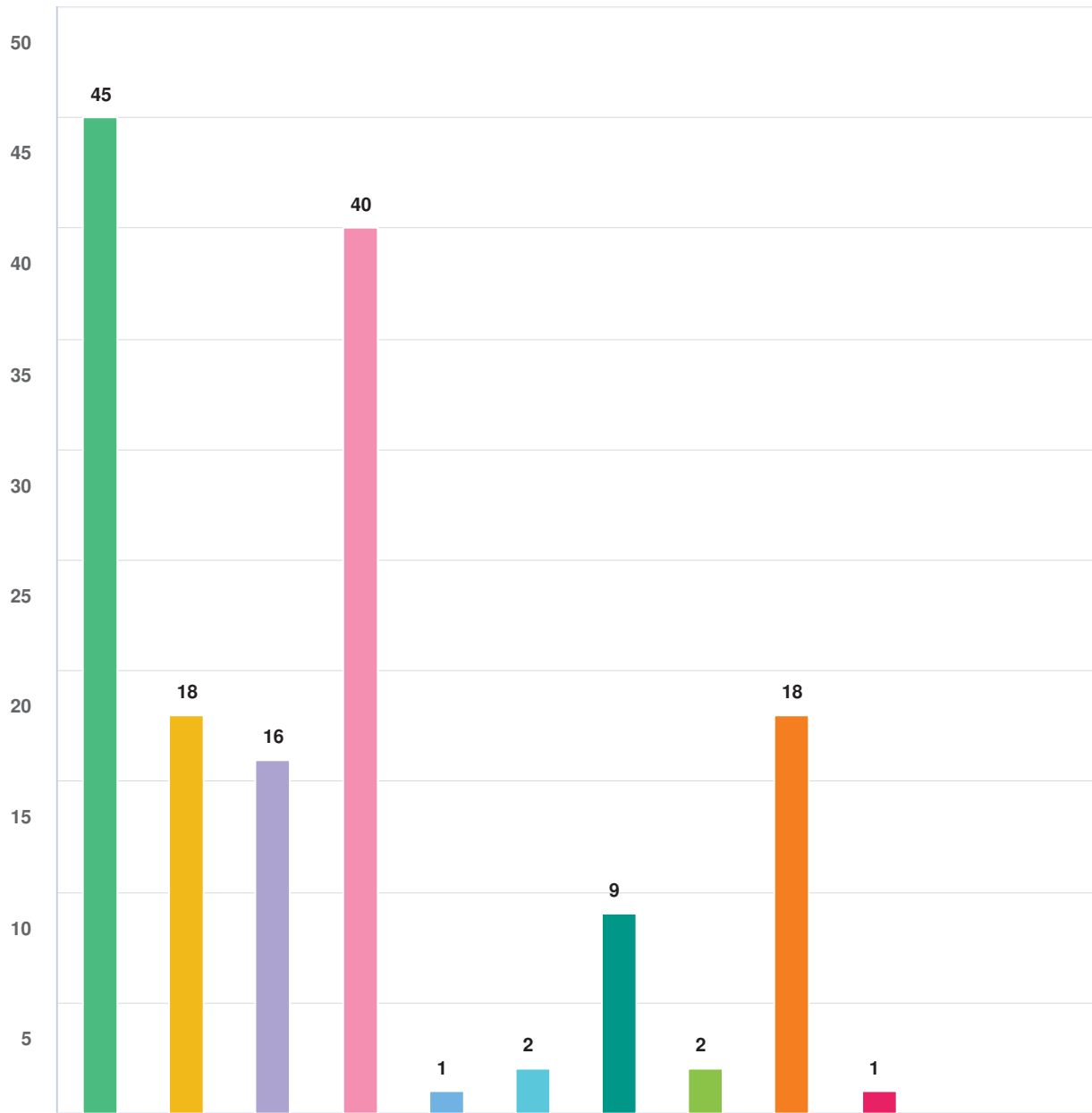
Question options

- Townhouse
- Detached single-family home
- Apartment or Condo
- Accessory Dwelling Unit "ADU"
- Duplex, triplex, quadplex
- Manufactured Home or Mobile Home
- Cluster Housing
- Cottage Cluster
- Congregate housing (i.e. dorms, etc.)
- RV (more than 30 days in a row without another home)
- I am currently houseless
- Other (please specify)

Mandatory Question (46 response(s))

Question type: Checkbox Question

Q2 Which of the following types of housing have you lived in during your life? (select all that apply)

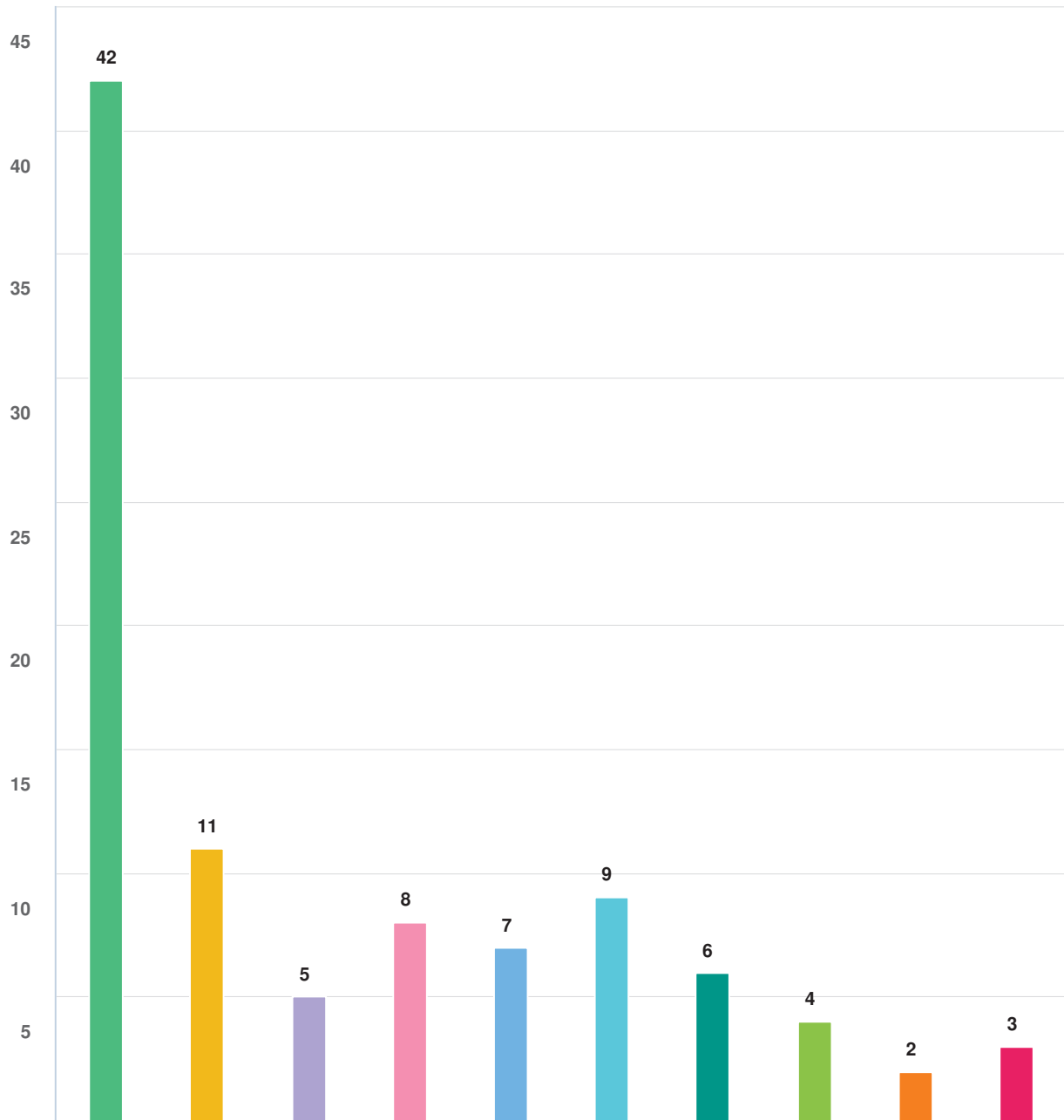


Question options

- Detached single-family home
 ● Duplex, triplex, quadplex
 ● Townhouse
 ● Apartment or Condo
- Cottage Cluster
 ● Accessory Dwelling Unit "ADU"
 ● Manufactured Home or Mobile Home
- RV (more than 30 days in a row without another home)
 ● Congregate housing (i.e. dorms, etc.)
- I have experienced being houseless
 ● Cluster Housing
 ● Other (please specify)

Mandatory Question (46 response(s))
 Question type: Checkbox Question

**Q3 Which of the following types of housing do you think you may live in in the future?
(select all that apply)**

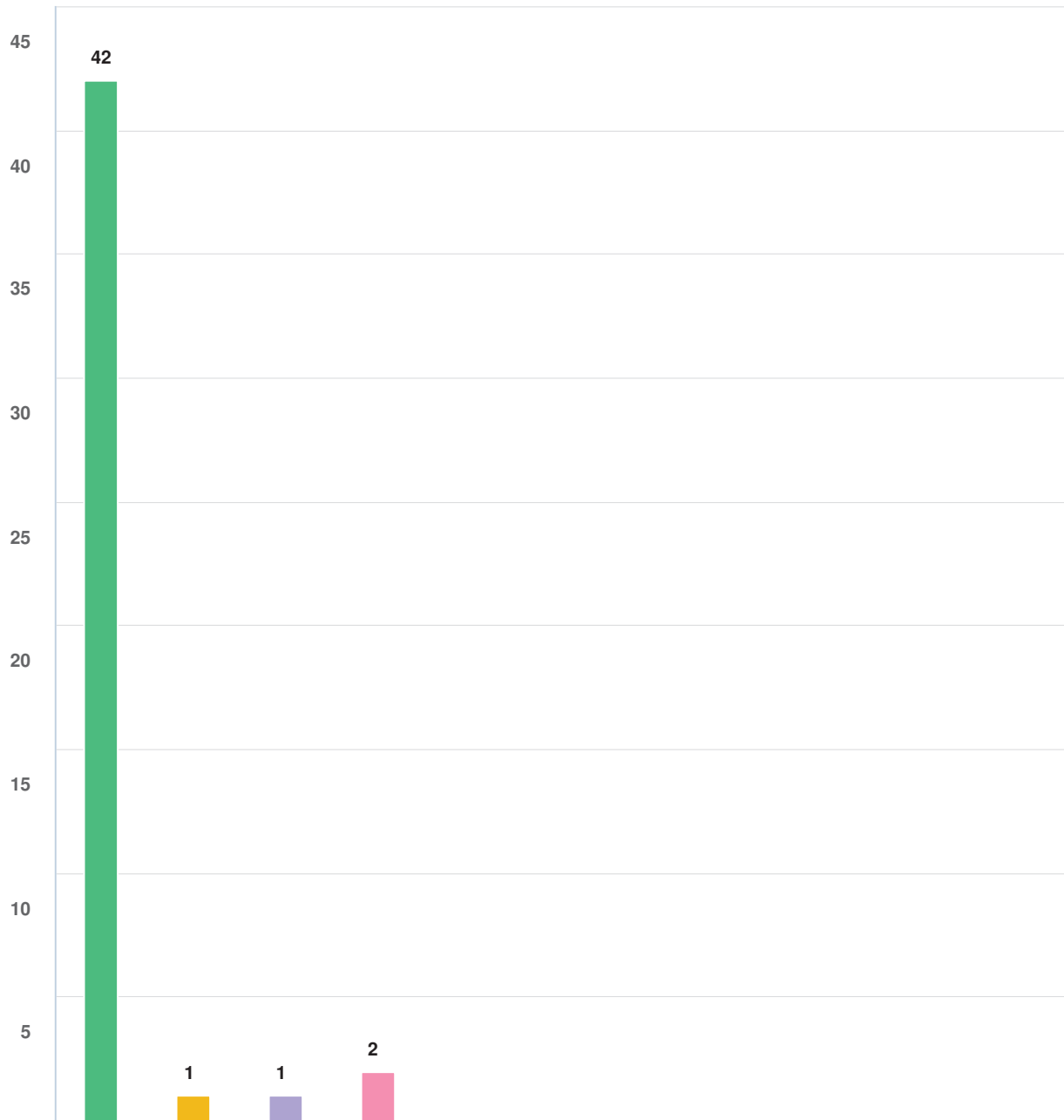


Question options

- Detached single-family home
- Apartment or Condo
- Duplex, triplex, quadplex
- Townhouse
- Cluster Housing
- Cottage Cluster
- Accessory Dwelling Unit "ADU"
- Manufactured Home or Mobile Home
- RV (more than 30 days in a row without another home)
- Congregate housing (i.e. dorms, etc.)

Mandatory Question (46 response(s))
Question type: Checkbox Question

Q4 If you were searching for a home in Wilsonville today or in the next few years, and cost was not a consideration, which of ...

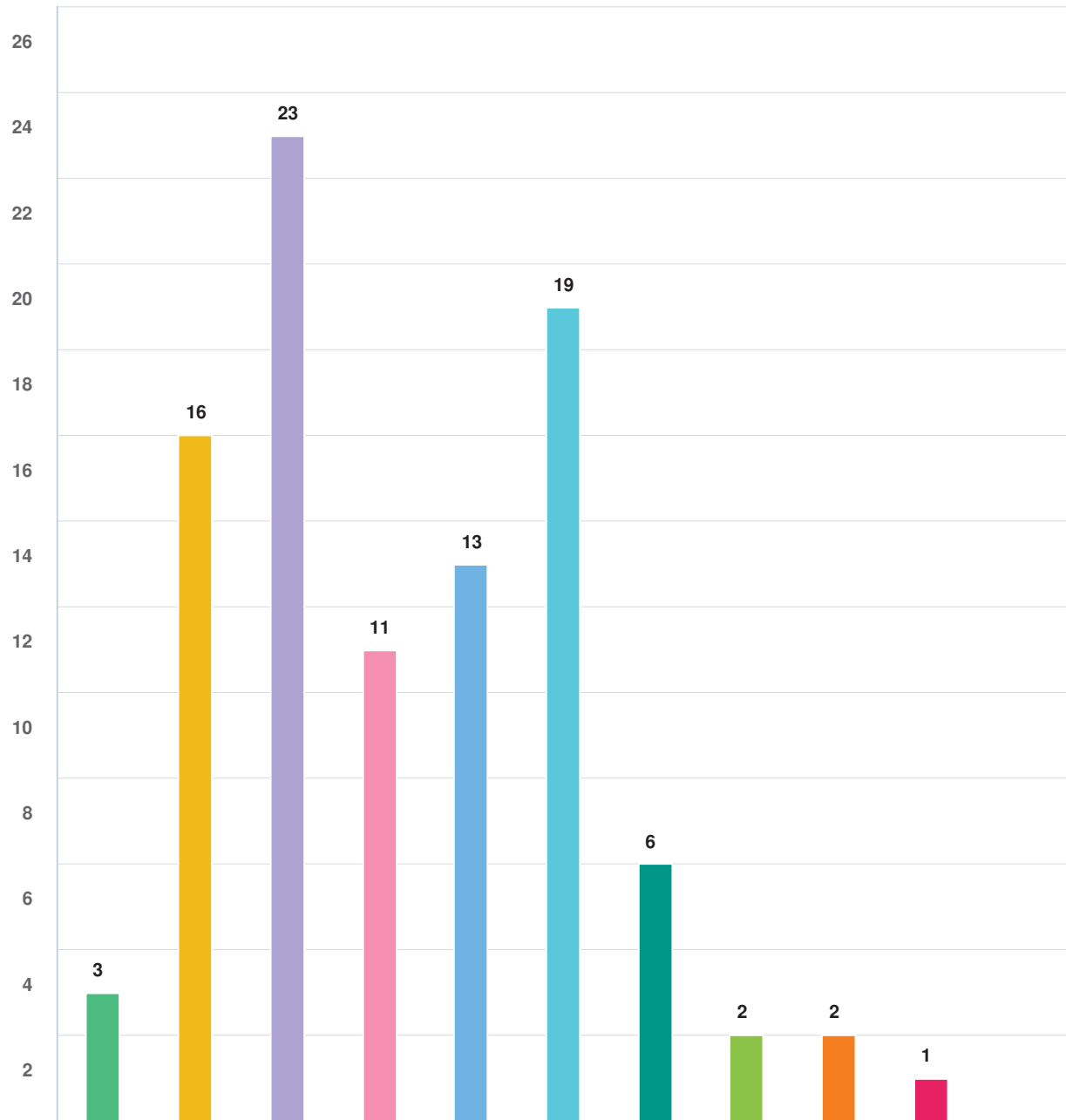


Question options

- Detached single-family home
- Townhouse
- Cluster Housing
- Cottage Cluster
- Duplex, triplex, quadplex
- Apartment or Condo
- Accessory Dwelling Unit "ADU"
- Manufactured Home or Mobile Home
- RV
- Congregate housing (i.e. dorms, etc.)
- Other (please specify)

Mandatory Question (46 response(s))
Question type: Checkbox Question

Q5 If you could not afford the preferred type of housing indicated in Question 5, which of the following types of housing woul...

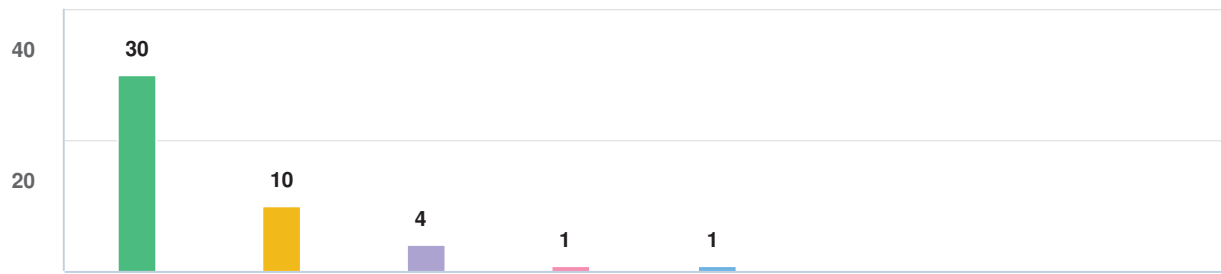


Question options

- Detached single-family home ● Duplex, triplex, or quadplex ● Townhouse ● Apartment or Condo
- Cluster Housing ● Cottage Cluster ● Accessory Dwelling Unit "ADU" ● Manufactured Home or Mobile Home
- RV ● Congregate housing (i.e. dorms, etc.) ● Other (please specify)

Mandatory Question (46 response(s))
Question type: Checkbox Question

Q6 Which of the following best describes your current living situation?

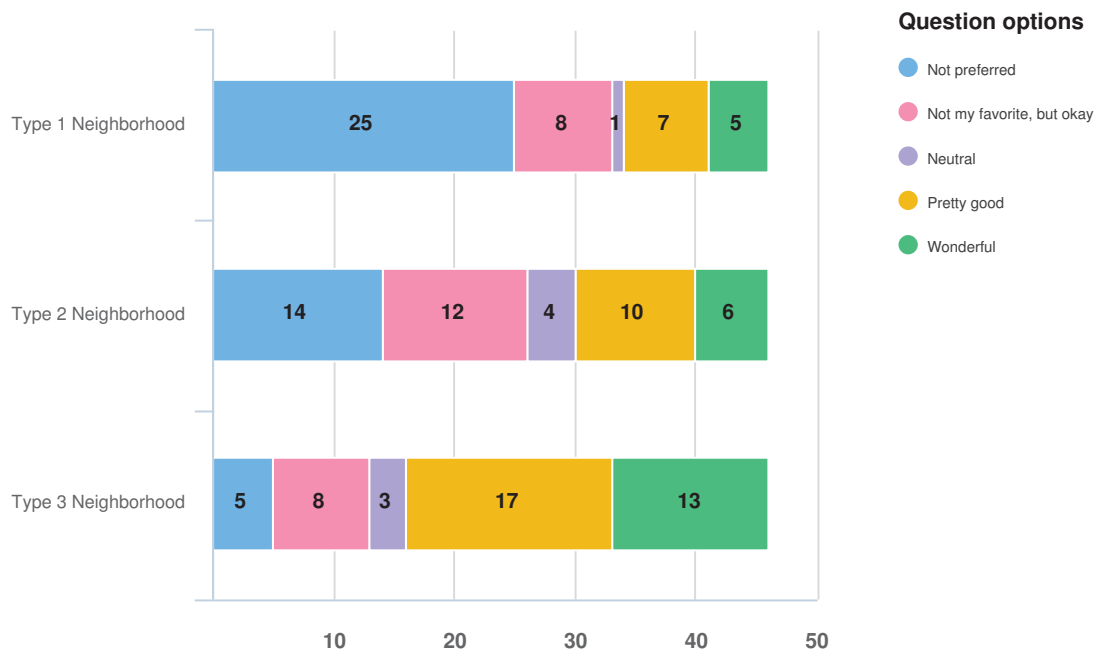


Question options

- I own my home and have or share primary responsibility for the mortgage
- I own my home and it is paid off
- I rent my home and have or share primary responsibility for the rent
- I live in a home owned by family or friends but do not help pay the mortgage
- I live in a home rented by family or friends but do not help pay the rent
- I do not have secure housing or I am currently houseless
- Unsure
- Other (please specify)

Mandatory Question (46 response(s))
Question type: Checkbox Question

Q7 How do you generally feel about the different neighborhood design types

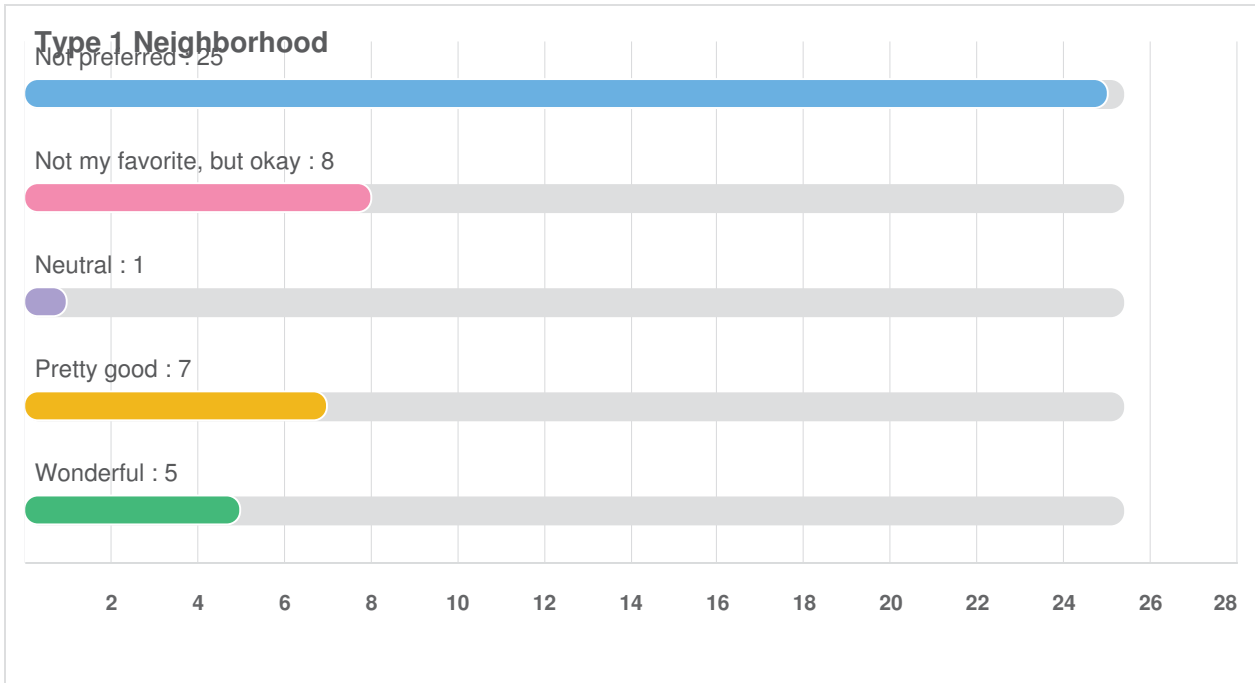


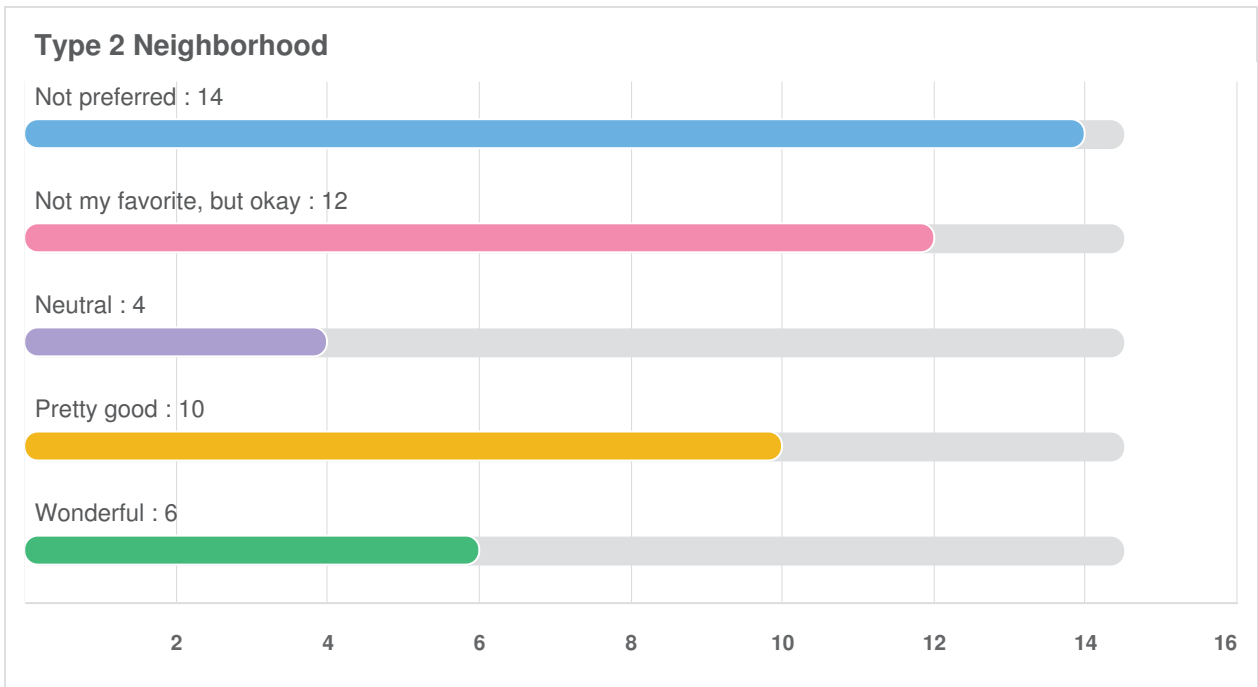
Question options

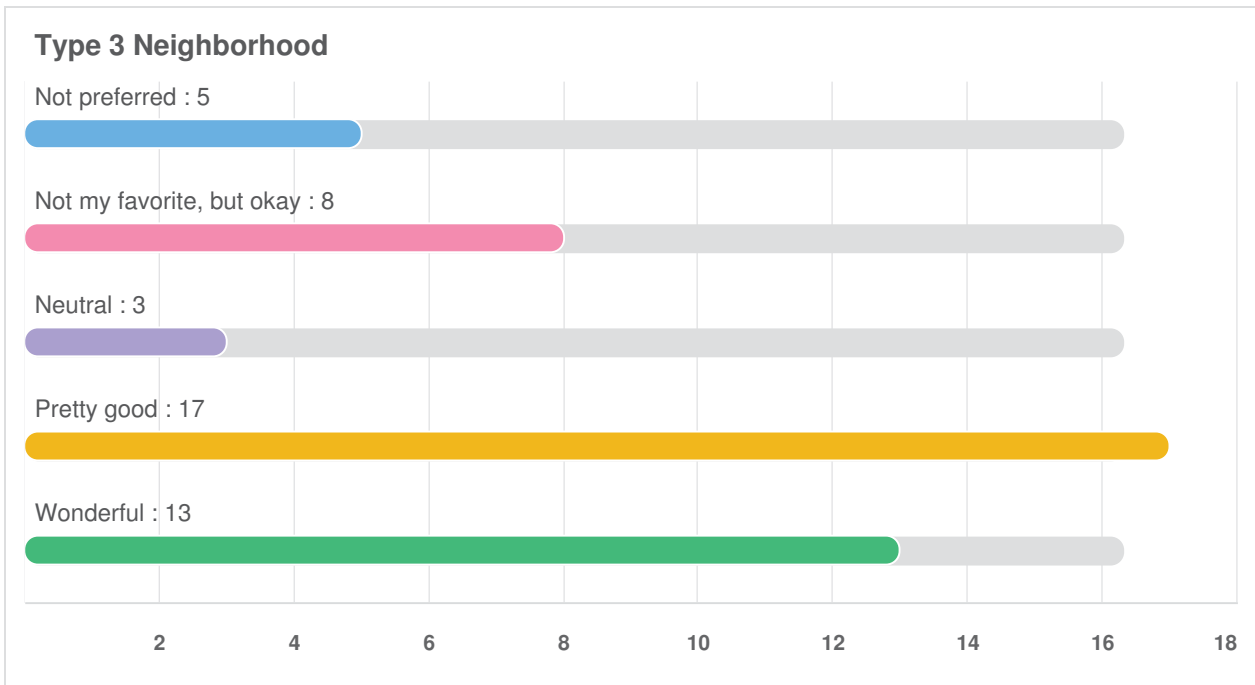
- Not preferred
- Not my favorite, but okay
- Neutral
- Pretty good
- Wonderful

Optional question (46 response(s), 0 skipped)
Question type: Likert Question

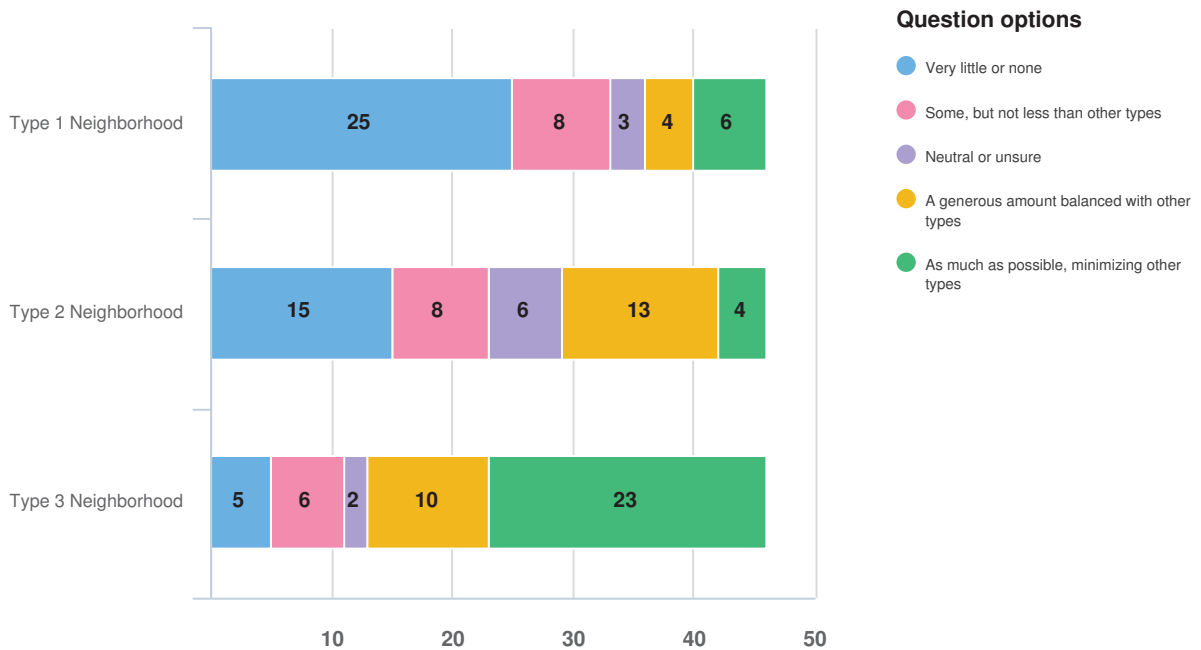
Q7 | How do you generally feel about the different neighborhood design types





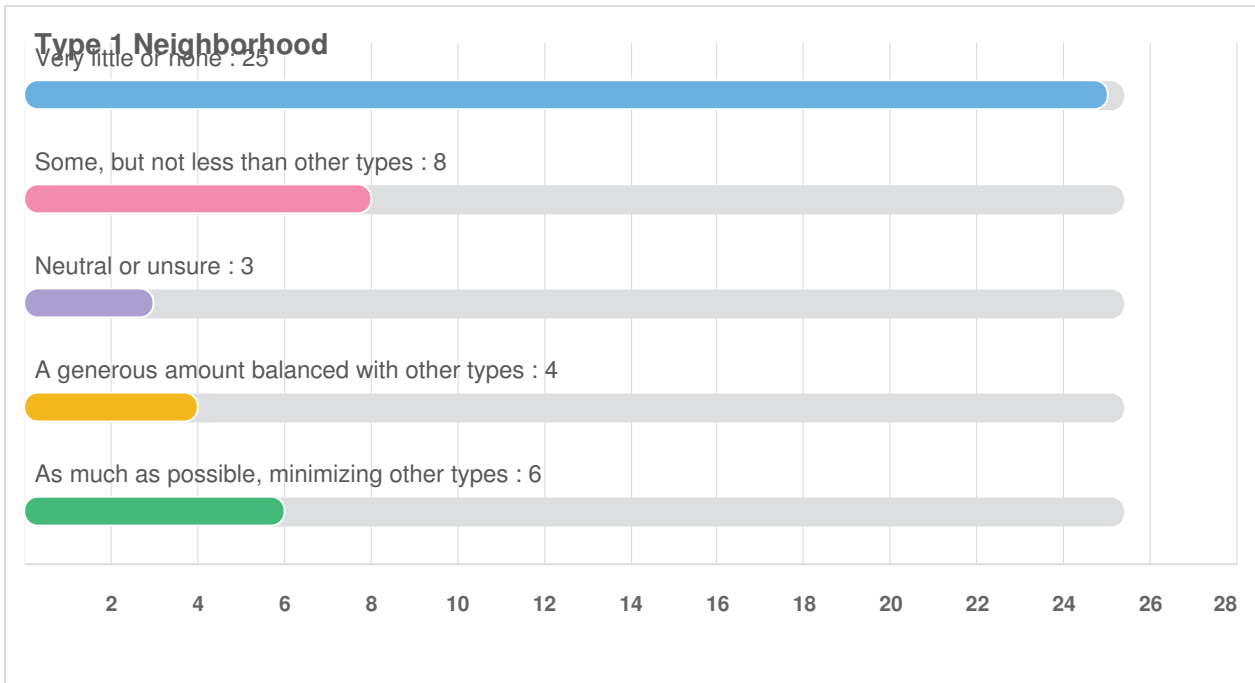


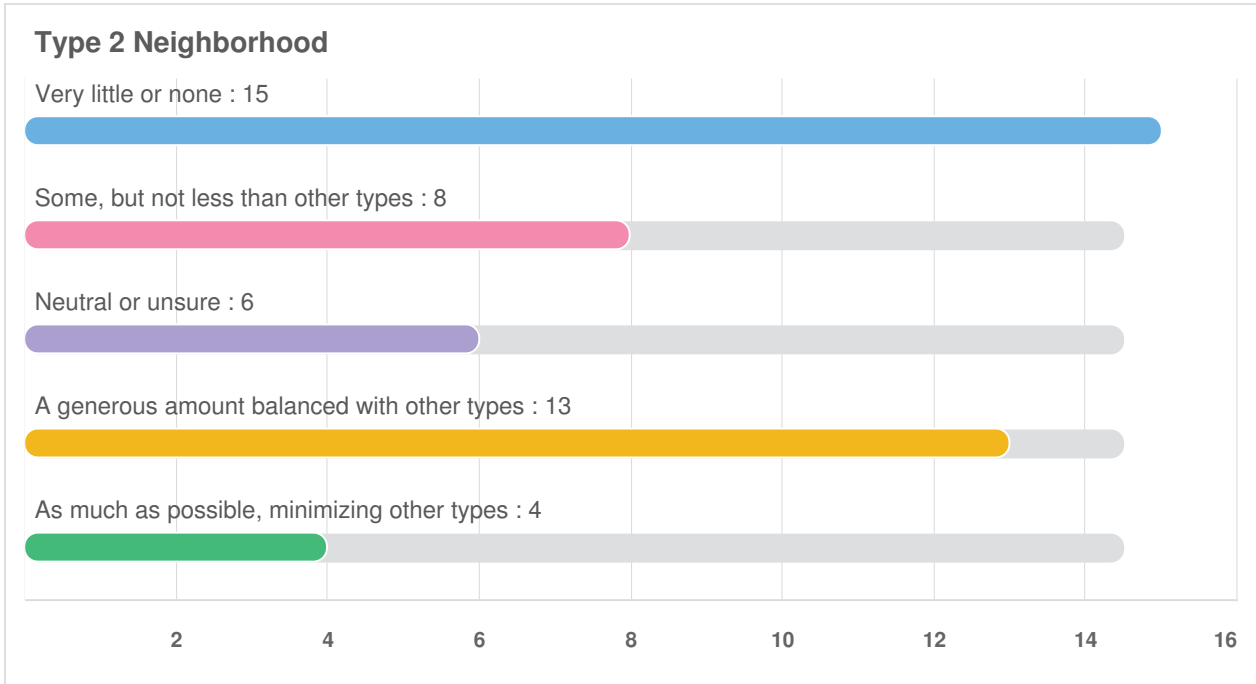
Q8 In your opinion, how much of each neighborhood type should be planned for in the Frog Pond East and South neighborhoods (sh...

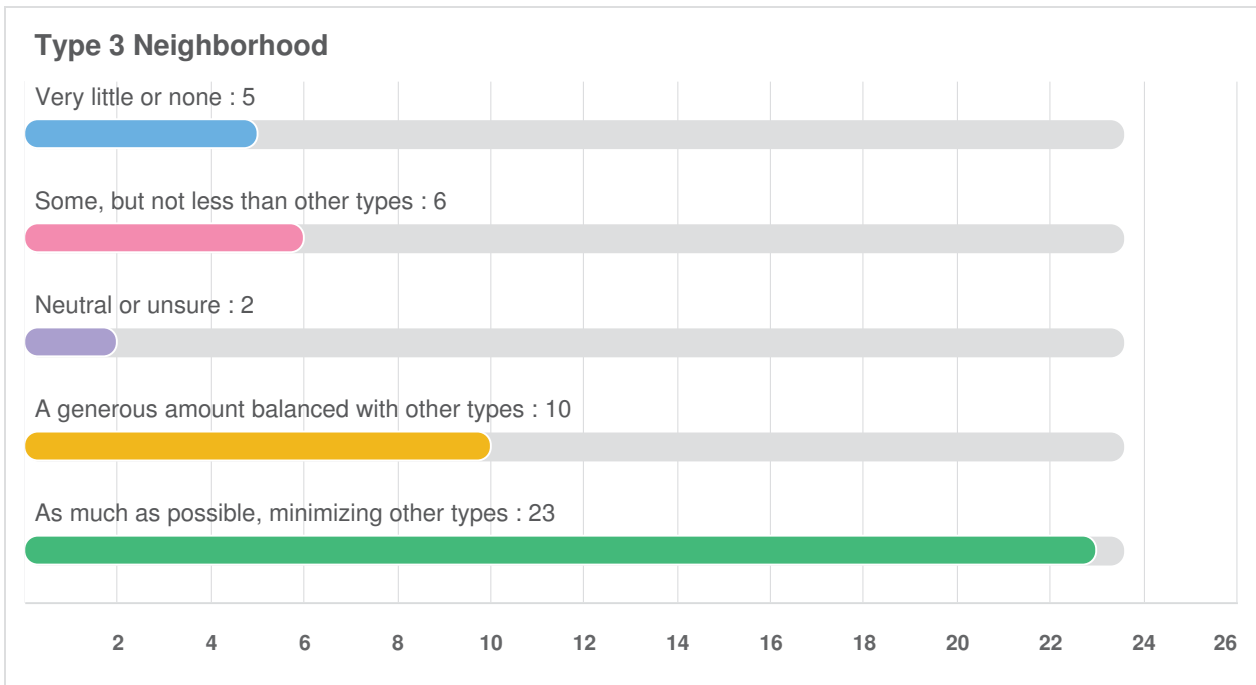


Mandatory Question (46 response(s))
Question type: Likert Question

Q8 In your opinion, how much of each neighborhood type should be planned for in the Frog Pond East and South neighborhoods (sh...





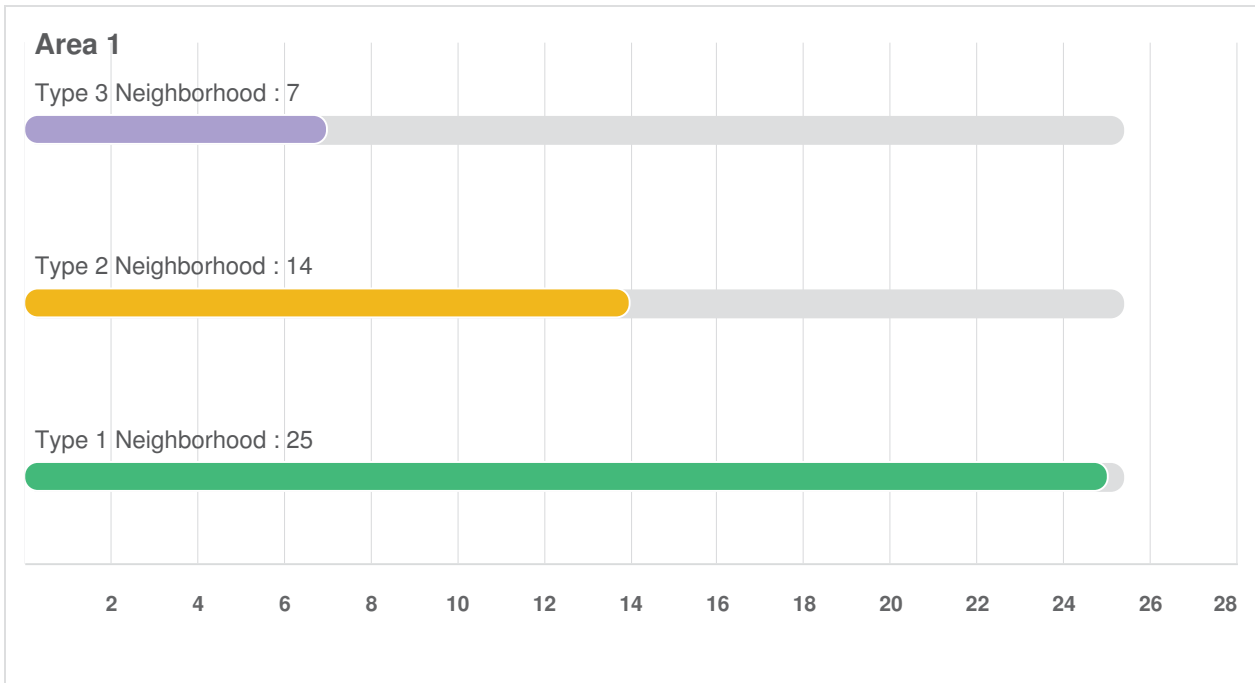


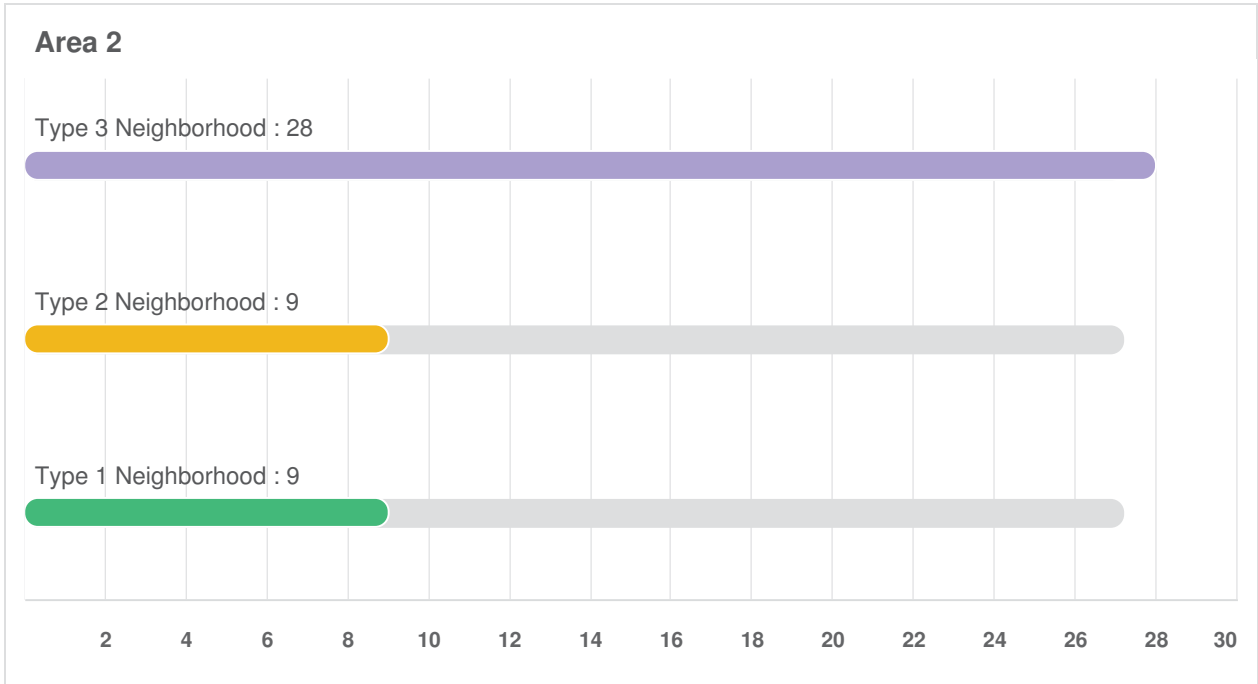
Q9 In your opinion, what neighborhood design type is most appropriate for each location in the map above

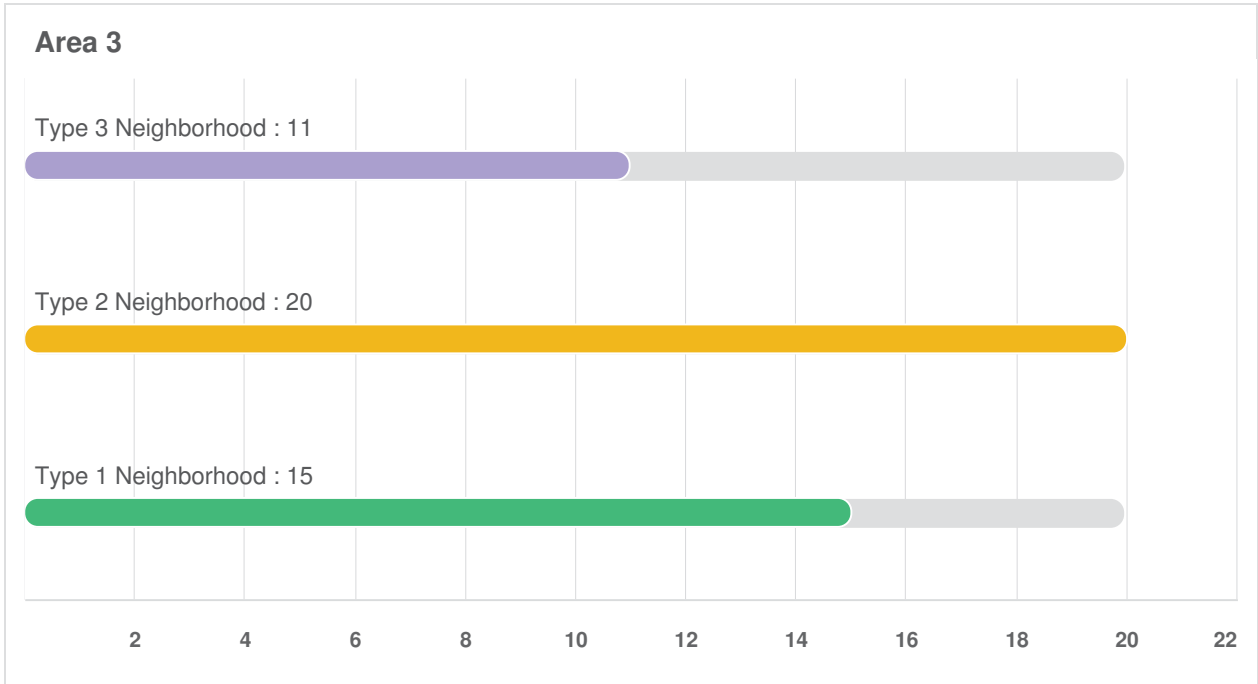


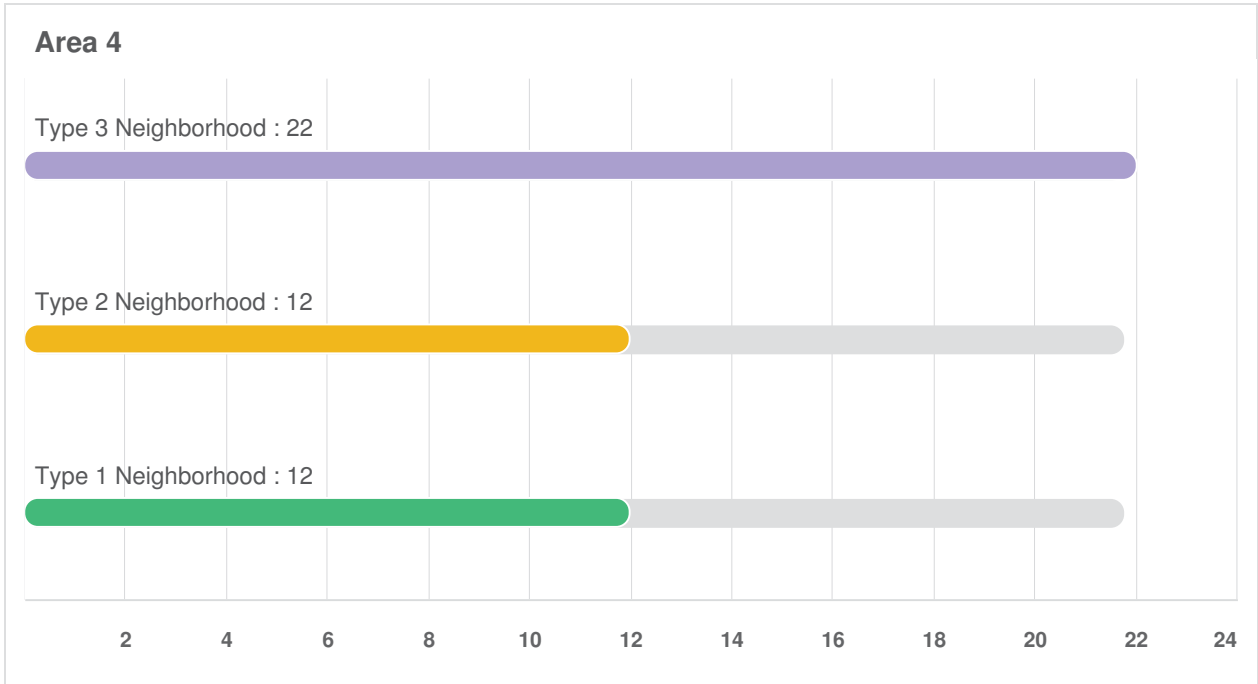
Mandatory Question (46 response(s))
Question type: Likert Question

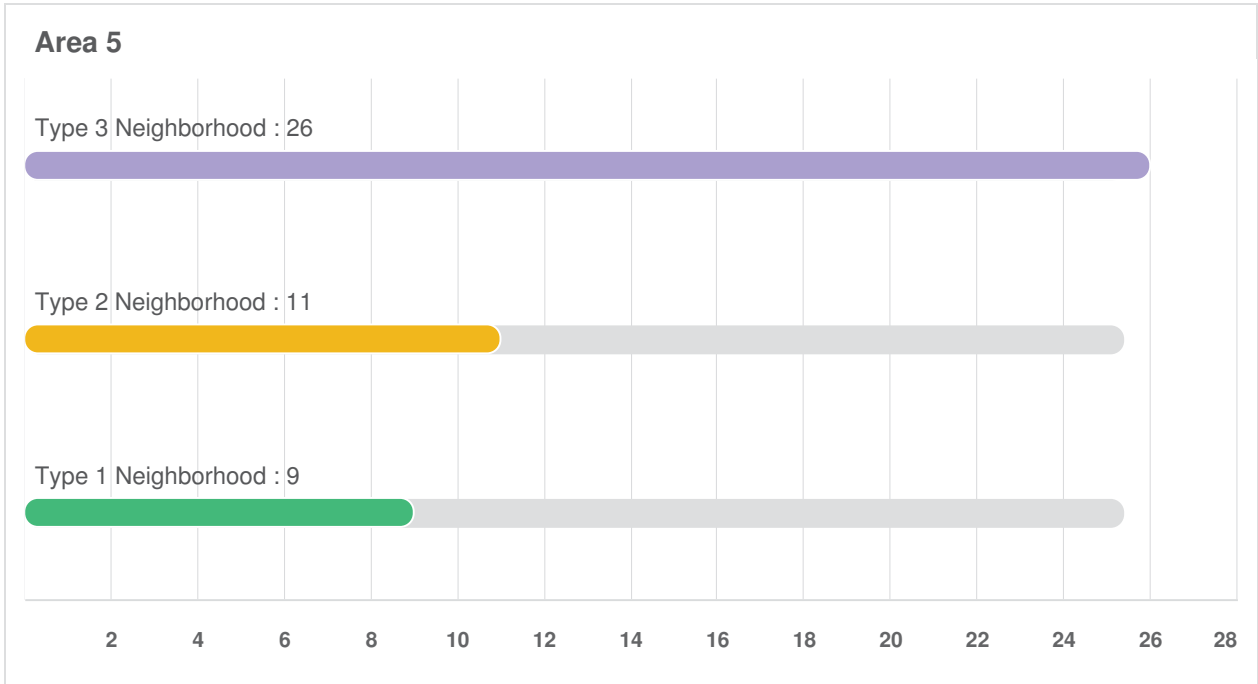
Q9 | In your opinion, what neighborhood design type is most appropriate for each location in the map above

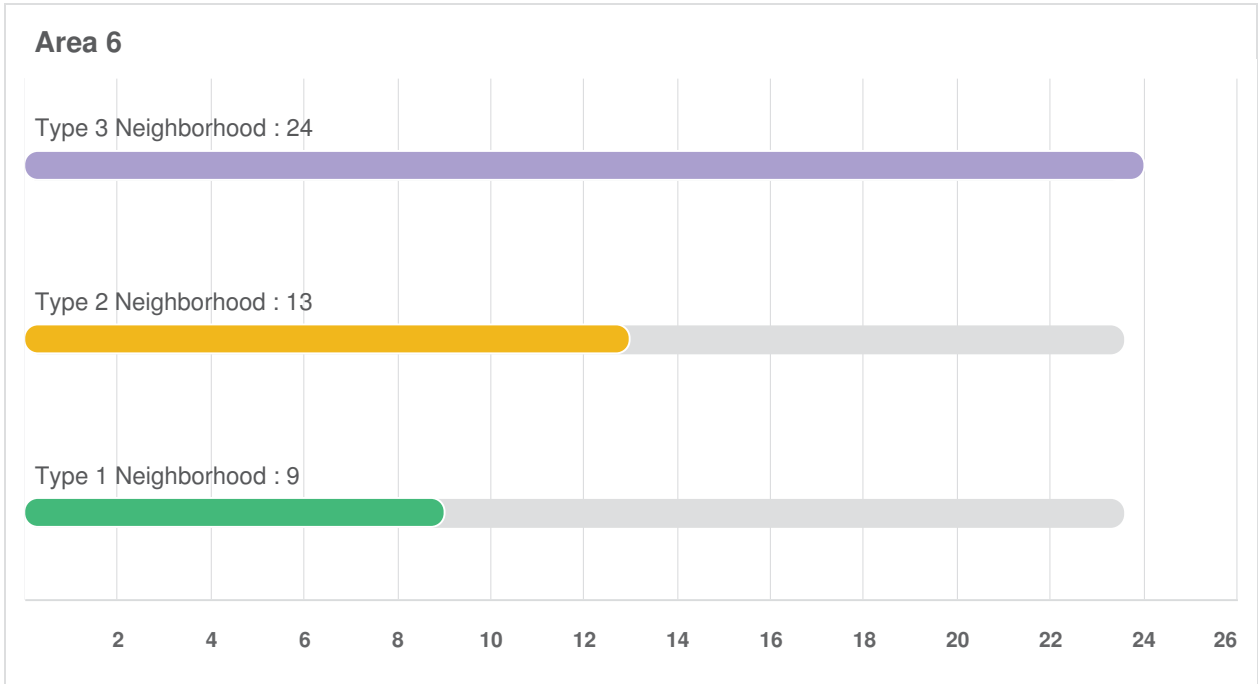


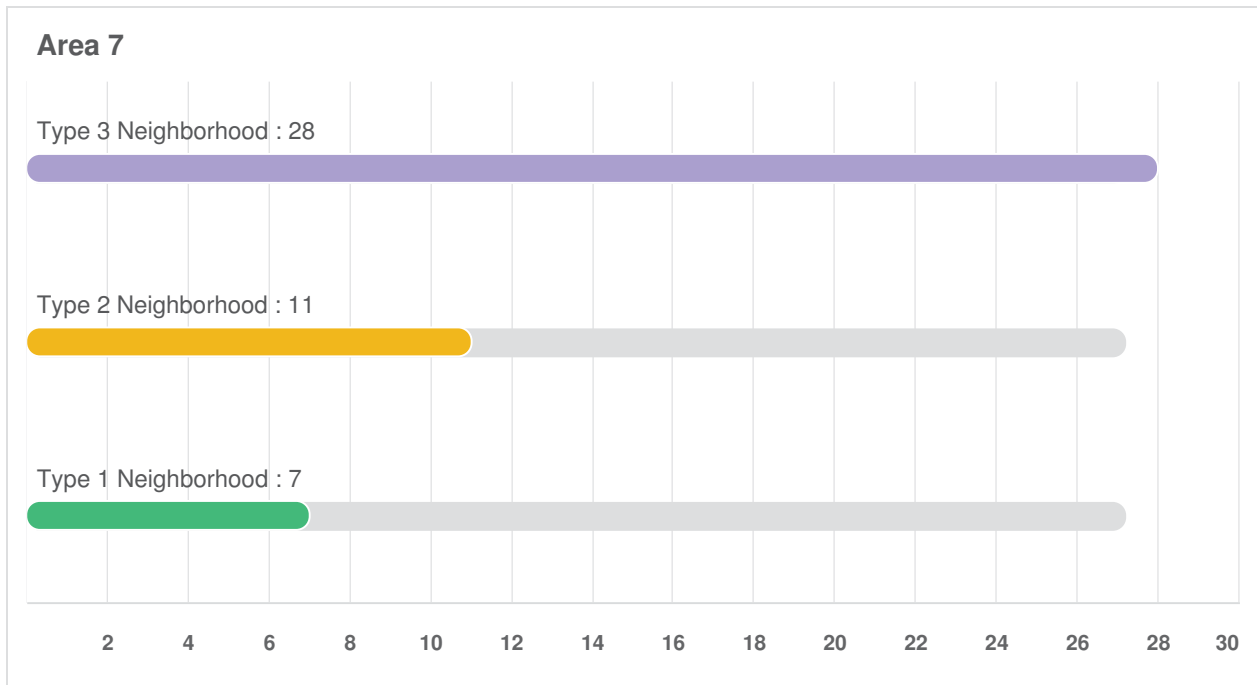












Q10 Rank the locations in the neighborhoods from most preferred location (1) to least preferred location (7) for the Type 1 Nei...

OPTIONS	AVG. RANK
Area 1	2.46
Area 3	3.40
Area 4	3.71
Area 6	4.36
Area 2	4.60
Area 5	4.62
Area 7	4.82

*Optional question (46 response(s), 0 skipped)
Question type: Ranking Question*

Q11 Rank the locations in the neighborhoods from most preferred location (1) to least preferred location (7) for the Type 2 Neighborhood design type. (optional)

OPTIONS	AVG. RANK
Area 3	3.23
Area 4	3.44
Area 1	3.58
Area 2	4.16
Area 5	4.44
Area 6	4.56
Area 7	4.58

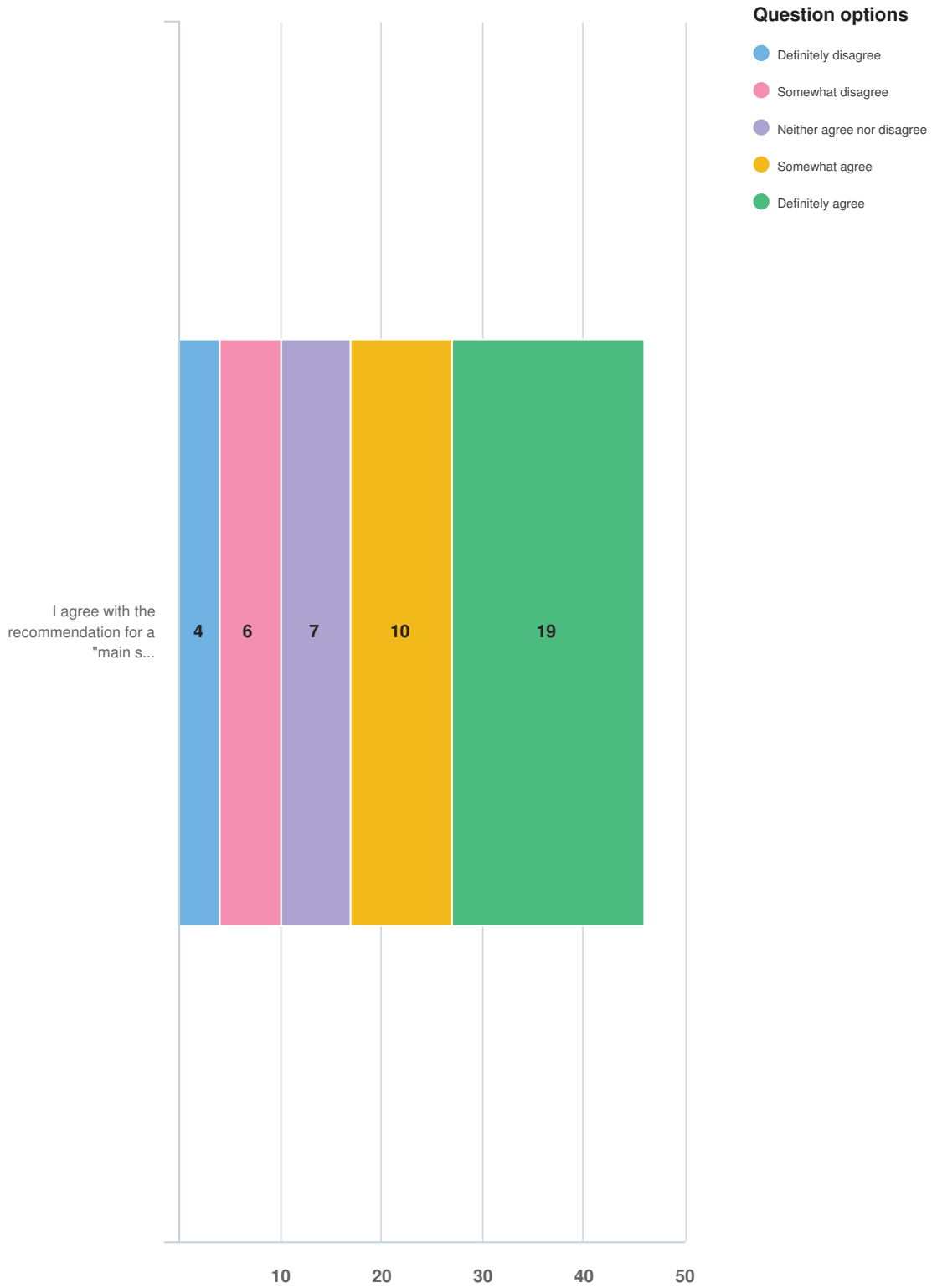
*Optional question (43 response(s), 3 skipped)
Question type: Ranking Question*

Q12 Rank the locations in the neighborhoods from most preferred location (1) to least preferred location (7) for the Type 3 Neighborhood design type. (optional)

OPTIONS	AVG. RANK
Area 7	3.21
Area 5	3.48
Area 2	3.81
Area 6	3.81
Area 4	4.02
Area 3	4.62
Area 1	5.05

*Optional question (42 response(s), 4 skipped)
Question type: Ranking Question*

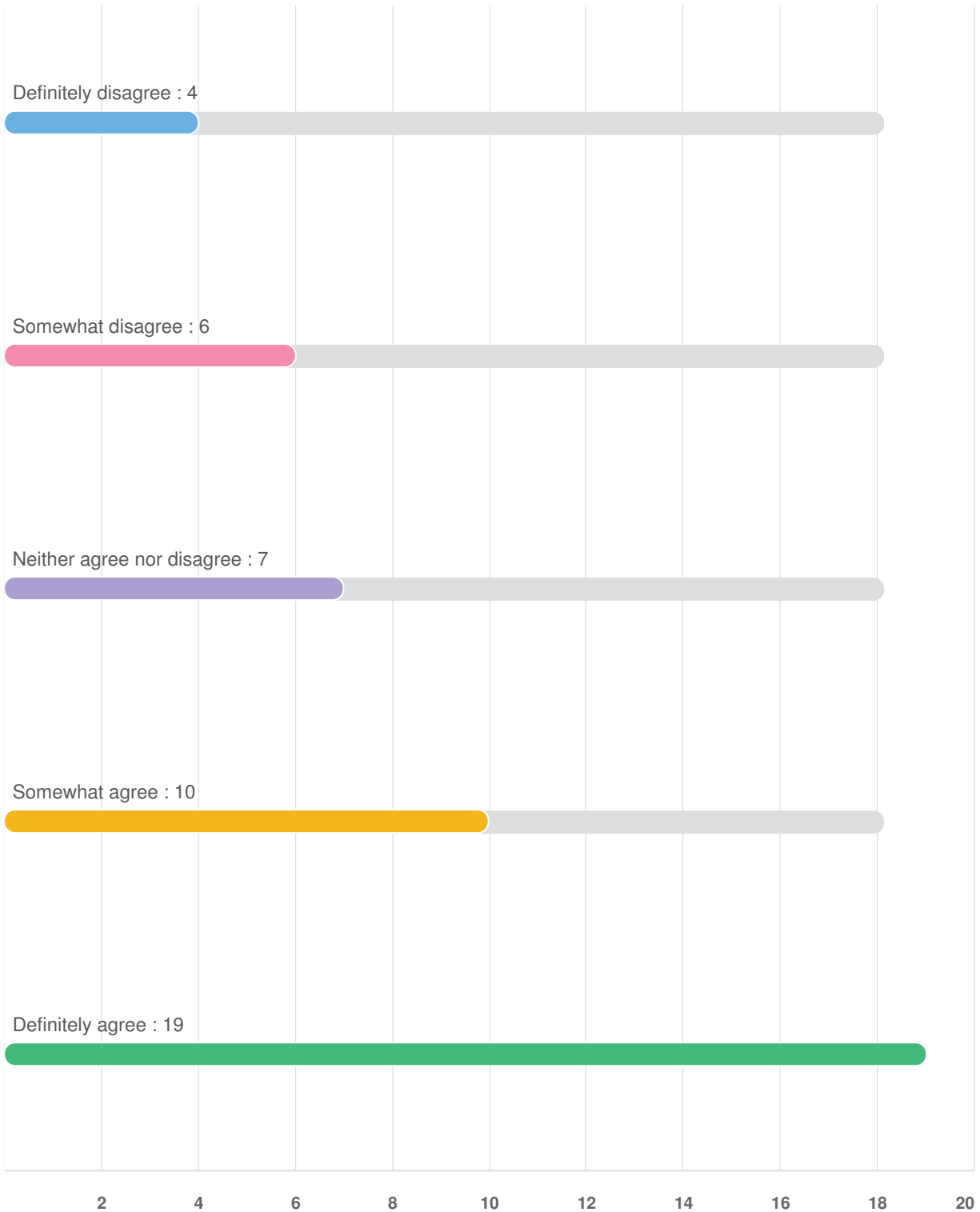
Q13 Indicate the degree to which you agree with the following statement:



Mandatory Question (46 response(s))
Question type: Likert Question

Q13 | Indicate the degree to which you agree with the following statement:

I agree with the recommendation for a "main street style" neighborhood commercial center on Brisband Street off Stafford Road.





Technical Memorandum

Date: May 31, 2022

Project: Wilsonville Frog Pond East and South Master Plan

To: Andrew Parish – APG/MIG
Joe Dills – APG/MIG

From: Mike Carr, PE – Murraysmith
Julia King, EIT – Murraysmith

Re: Existing Conditions Analysis - Water, Wastewater, Stormwater Infrastructure

Introduction

This technical memorandum provides a summary of the analysis performed to determine existing conditions for water, wastewater, and stormwater infrastructure for the Wilsonville Frog Pond East and South areas, to be documented in the area's Master Plan. The analysis includes a review of existing conditions, previously prepared planning documents, and a review of applicable standards for the systems.

Background

In 2015, the Frog Pond Area Plan (FPAP) was adopted by the City of Wilsonville. The Frog Pond area consists of three separate neighborhoods: West, East, and South. A master plan for Frog Pond West was developed in 2017 and development in Frog Pond West began soon after. Based on current information from the City, it is estimated that 80% of the parcels in Frog Pond West are currently under development.

In 2018, the Frog Pond East and South areas were brought into the regional Urban Growth Boundary (UGB). In 2021, the City began the process of preparing a master plan for Frog Pond East and South. The City is anticipating having the master plan completed and adopted by end of 2022.

Water, Sewer & Stormwater Existing Conditions

The existing conditions analysis included review of relevant background information provided by the City regarding water, sanitary sewer and stormwater infrastructure needed to serve the Frog Pond East and South area. These documents are described in the individual sections below.

The work also included discussions with City staff to learn the current status of related infrastructure projects, and to document any lessons learned from infrastructure development in the Frog Pond West area, currently under construction. The recommendations and observations for future infrastructure development to serve the land uses anticipated in the Frog Pond East and South areas were developed and are summarized below.

Existing Water Conditions

The water purveyor for the Frog Pond area is the City of Wilsonville. The City's *Water System Master Plan* (WSMP), adopted September 6, 2012, is the current basis for domestic water and fire system planning within the Frog Pond East and South. The water system recommendations in the 2015 FPAP still apply for the current Frog Pond East and South. These areas are planned to be extensions of water pressure Zone B which operates in an elevation range from 100 ft to 285 ft and has a hydraulic grade of 400 ft.

Figure 1 shows the existing water system in the Frog Pond area, and identifies off-site improvements needed to serve the area. These are further described below.

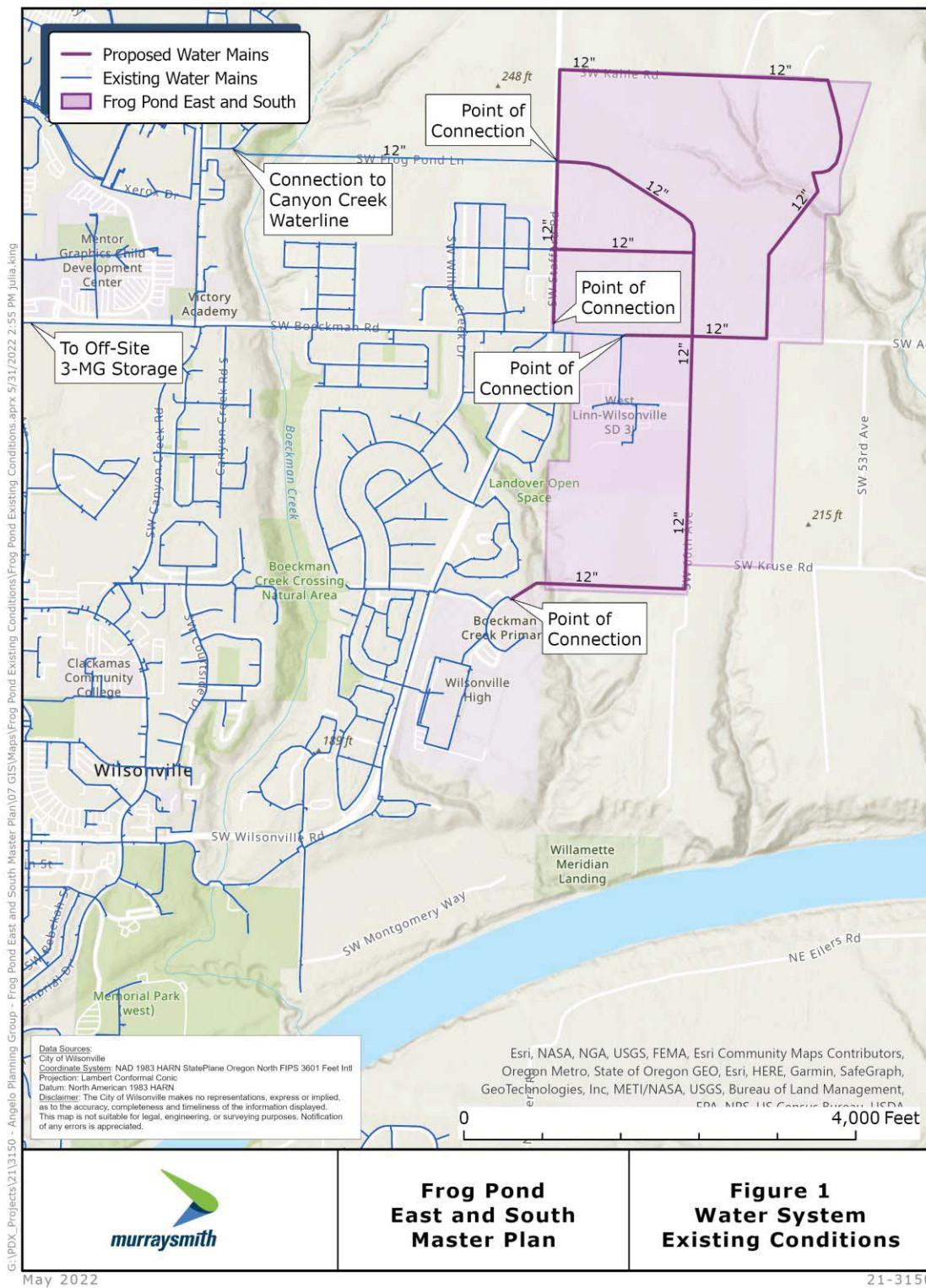
An existing 12-inch waterline in Boeckman Road, extending east to the intersection of Stafford Road, is considered the primary backbone connection to the City's water supply and storage system. The FPAP identified a new point of connection to the existing distribution system would be needed from Frog Pond South near the Boeckman Creek Primary School. The FPAP also identified a connection to the existing water system through a proposed 12-inch waterline through Frog Pond West, which was connected to the existing 18-inch line in Canyon Creek Road. Development will be installing a 12-inch water line through Frog Pond West, but the creek crossing and connection to the existing water system is not included in the City's 5-year CIP. This creek crossing and connection project will be needed to service Frog Pond East and South.

As shown in the FPAP, a system of looped 12-inch waterlines extending off the existing Boeckman Road waterline around the Frog Pond East and South areas is recommended to provide potable water and fire service meeting City standards, including new waterlines extending north in Stafford Road east in Advance Road.

The WSMP identified an overall water storage deficiency in the City which will be further increased by development in Frog Pond East and South. The WSMP proposed a 3.0-million-gallon West Side Tank and 24-inch transmission main project to provide sufficient storage for the City. This project is identified in the City's CIP for design to begin in FY2023 and construction in will take approximately 3 years to construct.

The extent of the storage deficiency and its impact on development of Frog Pond East and South is unknown at this time, since the WSMP is 10 years old and significant development has occurred in the City in that period. Additional analysis should be conducted to determine what, if any, impact the storage deficiency would have on the timing for development in Frog Pond East and South.

Figure 1 – Existing Water System Conditions



Water Planning Criteria and Standards

Planning criteria used in the 2012 WSMP is presented in

Table 1. These criteria will be used to determine the water infrastructure needs for Frog Pond.

Table 1 - Water Planning Criteria

Water System Component	Evaluation Criterion	Value
Water Supply¹	Firm Capacity	ADD + 2 days
	Maximum in mainlines	120 psi
Service Pressure	Maximum (without PRV)	80 psi
	Minimum, PHD	40 psi
	Minimum, during emergency or fire flow	20 psi
Distribution Mains	Velocity during PHD or fire flow	Not to exceed 10 fps
	Firm Capacity	MDD + fire flow
Required Fire Flow and Duration	Minimum for new residential	1,500 gpm
	Target for commercial/industrial	3,000 gpm

Notes:

1. Firm capacity is the total capacity with the largest well, or WTP supply pump, out of service
2. Firm capacity is the total capacity with the largest pump out of service

Existing Wastewater Conditions

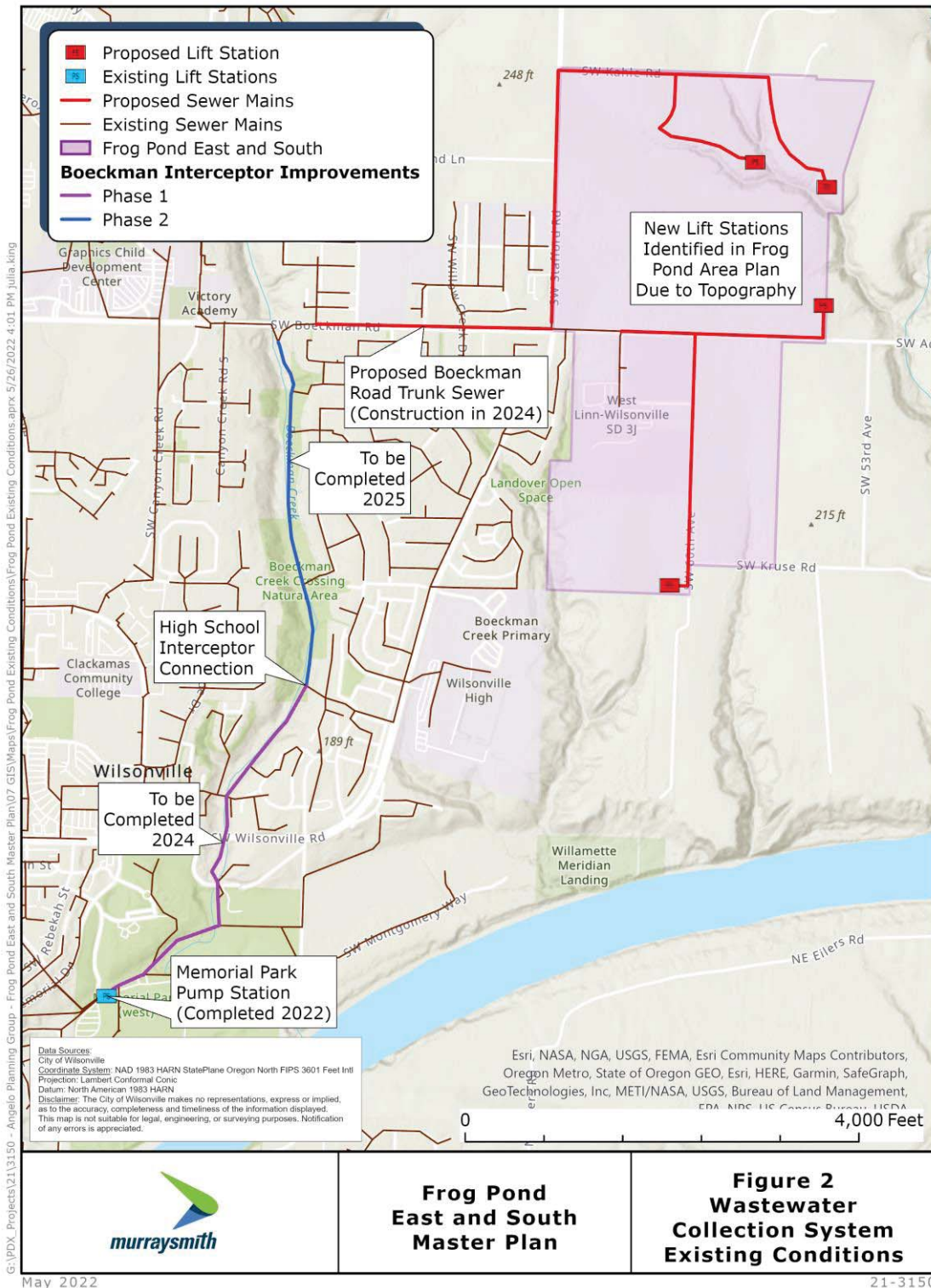
The City of Wilsonville will provide sanitary sewer service for the Frog Pond East and South area as an extension of the City’s existing collection system. The City’s *Wastewater Collection System Master Plan (WCSMP)*, adopted in 2014, is the current basis for wastewater system planning within the City. The 2015 FPAP and subsequent studies provide the specific framework for wastewater system planning in the Frog Pond East & South Areas.

Figure 2 shows the existing wastewater system in the Frog Pond area, and identifies the improvements needed to serve the area and their current status.

In general, the analysis and findings developed as part of the FPAP still apply. Wastewater from Frog Pond East and South is to be conveyed to the wastewater treatment plant through connection to a planned 18-inch trunk sewer in Boeckman Road, which flows west to the existing Boeckman Creek Interceptor Sewer and the Memorial Park Pump Station. The Boeckman Road Trunk Sewer is to be constructed as part of improvements to the roadway and Boeckman Creek Bridge, with completion anticipated for 2024.

The Boeckman Interceptor is a 12-inch to 18-inch diameter pipe from Boeckman Road down to the Memorial Park Pump Station. Capacity of the Boeckman Interceptor was determined to be sufficient for buildout of Frog Pond West, but is insufficient to serve full build-out of Frog Pond East and South. The FPAP notes that the Boeckman Interceptor upgrade project should be triggered upon development of the East and South areas.

Figure 2 – Existing Wastewater Conditions



The City is currently planning an upsizing of the Boeckman Interceptor as a two-phased project, to be constructed in conjunction with a regional trail in the creek corridor. Design of the project will begin in 2022. Phase 1 will replace the southern portion of the interceptor between the High School Interceptor and the Memorial Park Pump Station, where capacity restriction was found to be greatest. Phase 1 is planned to be completed in fall of 2024. Phase 2 will increase the northern portion of the interceptor and is expected to be completed in fall of 2025.

The Memorial Park Pump Station was recently relocated out of the 100-year floodplain, and its capacity was increased to 3,200 gpm. According to an analysis performed in 2021, documented in the *HB2001 Sanitary Sewer Sensitivity Analysis Technical Memorandum* (Murraysmith, 2021), the pump station is adequately sized for full build-out of the Frog Pond West, East and South areas, even under increased density expected through middle housing development.

As noted above, the Boeckman Interceptor has remaining capacity to serve the full build out of Frog Pond West, but not capacity to serve build-out in Frog Pond East and South. There may be some capacity available for initial development in Frog Pond East and South, depending on how much capacity was actually taken up by Frog Pond West, but a specific amount has not been calculated. With the Frog Pond West area nearing full development, it is recommended the City reevaluate the remaining capacity in the Boeckman Interceptor to estimate how many new dwelling units in Frog Pond East and South can be connected before the planned off-site improvements are complete.

The FPAP shows three additional pump stations are planned in Frog Pond East and one additional pump station is planned for Frog Pond South, due to the area’s topography.

Wastewater Planning and Criteria Standards

Design criteria from the 2017 Public Works Standards are shown below in **Table 2**. These criteria are to be used in the Frog Pond design.

Table 2 - Wastewater Planning Criteria

Wastewater System Component	Wastewater Criteria	
Pipe Size	D=d/0.67	
Minimum Pipe Size	8 inches	
Mean Velocity When Flowing Full or Half-Full	2 ft/s	
Minimum Grade for Sanitary Laterals	2.00%	
Minimum Grade for Sanitary Mains	8-inch	0.40%
	10-inch	0.28%
	12-inch	0.22%
	15-inch	0.15%
	18-inch	0.12%
	21-inch	0.10%
	24-inch	0.08%
	27-inch	0.07%
	30-inch	0.06%

Wastewater System Component	Wastewater Criteria
Typical Sanitary Sewer Main Cover	8 feet
Minimum Horizontal Clearance from Water Pipe	5 feet if water pipe is above 10 feet if water pipe is below
Minimum Vertical Clearance from Water Pipe	Sewer 18 inches below water

Existing Stormwater Conditions

The City of Wilsonville will be the regulatory authority for design and construction of stormwater facilities for the Frog Pond East and South area, in accordance with the City’s current National Pollution Discharge Elimination System (NPDES) permit. Furthermore, the City is currently preparing an update to their Stormwater Master Plan (SWMP), adopted in 2012. The new Stormwater Master Plan is anticipated to be adopted for use in 2023.

Figure 3 shows the existing drainage features in the Frog Pond area, with estimated drainage basin boundaries and flow directions to the most likely location of runoff discharge identified. The FPAP identified a framework for stormwater system planning in Frog Pond East and South, and is considered to still be generally applicable, with some minor changes. This framework includes the use of Low Impact Development Approaches (LIDA) for stormwater management where possible. Neither the SWMP or FPAP identified deficient conveyance systems within the proximity of the Frog Pond Area, and therefore did not identify any capital improvements necessary for supporting development within the Frog Pond Area.

Currently, LIDA methods are being implemented for stormwater management in Frog Pond West in accordance with the 2015 Stormwater and Surface Water Standards. City staff were consulted about their experience in the implementation of the standards for Frog Pond. Amy Pepper, PE, the City’s Development Engineering Manager, noted the following:

- The Frog Pond West Master Plan envisioned the City’s LIDA standards being implemented as more of a green street design with LIDA facilities located within the landscaping strip adjacent to sidewalks. Development is proceeding quickly, on 5- to 10-acre lots. LIDA is being used throughout each subdivision to the extent feasible, but each development is also requiring a larger stormwater pond.
- The City is seeing challenges with developers implementing LIDA in the rights-of-way (ROW) typically between the curb and the sidewalk. The ROW is also needed for other infrastructure, including as driveways, street lights, fire hydrants, and street trees, and these compete for limited space with LIDA. This can result in conflicts and design changes, and may lead to a reduced number of street trees or fewer dispersed LIDA facilities.

Frog Pond East and South are expected to be developing at somewhat higher densities than Frog Pond West due to new middle housing standards and other factors. Increased density often results in more impervious surfaces being constructed (roofs, pavement) which will require more stormwater management. It is recommended the City closely evaluate the street cross-section

and feasibility of a green street design and identify alternatives that avoid the installation of larger ponds to the extent possible.

Stormwater Planning and Criteria Standards

Stormwater conveyance facilities are sized for the 25-year design storm with no pressure flow. Systems should strive to maintain pre-development stormwater runoff characteristics. Low impact development approaches and designs that encourage groundwater recharge are preferred. It should be anticipated that stricter stormwater design standards may be adopted by the City prior to or during the development of Frog Pond East and South, to reflect the City's recently updated NPDES permit. Bacteria and mercury are classified as stormwater parameters for the Willamette River total daily maximum loads.

References

Angelo Planning Group. (2015). *Frog Pond Area Plan*.

City of Wilsonville. (2017). *Public Works Standards*.

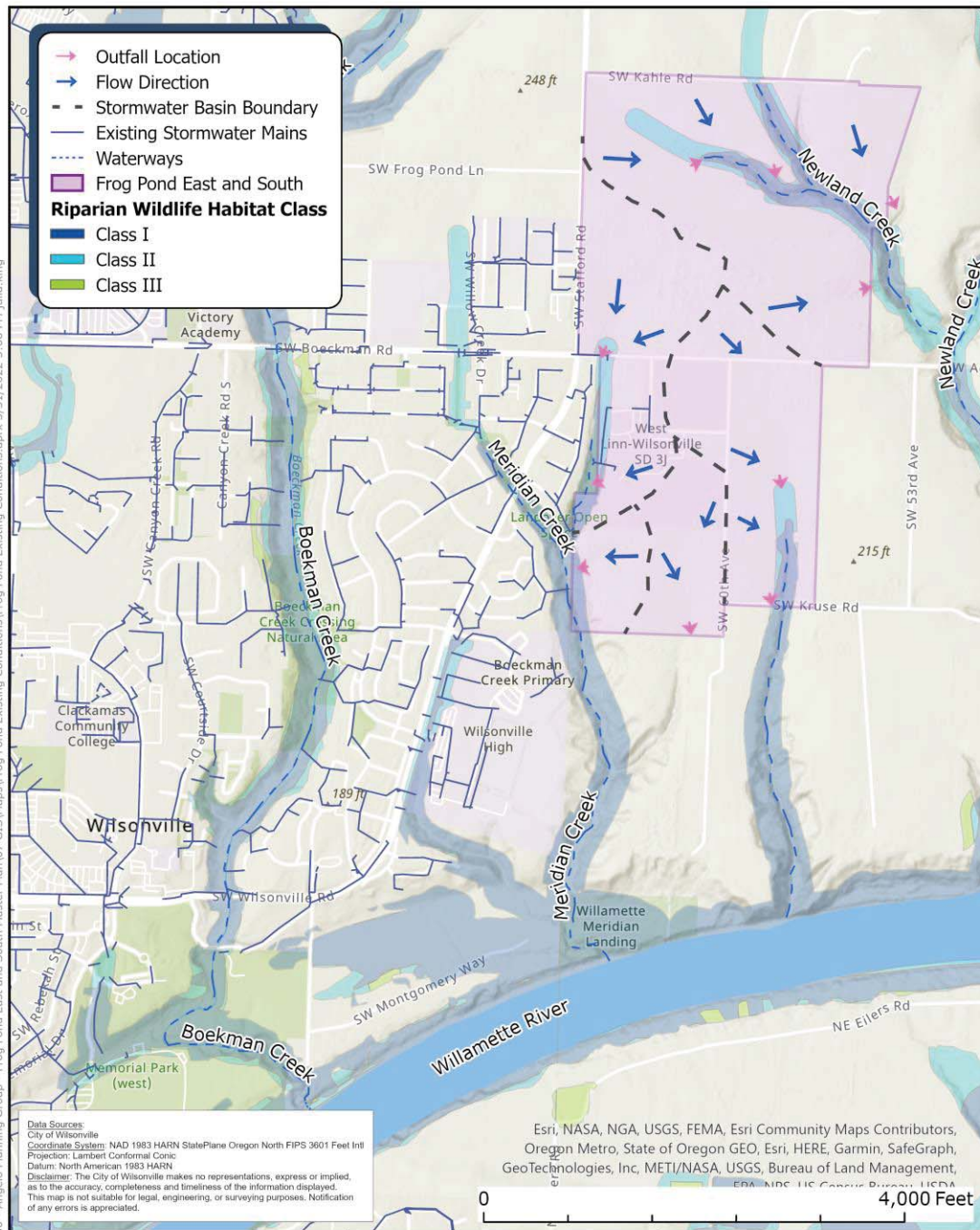
Keller Associates. (2012). *Water System Master Plan*.

Murraysmith. (2014). *Wastewater Collection System Master Plan*.

Murraysmith. (2021). *Findings of HB 2001 Sensitivity Analysis*.

URS. (2012). *Stormwater Master Plan*.

Figure 1 - Existing Stormwater Conditions



	<p>Frog Pond East and South Master Plan</p>	<p>Figure 3 Stormwater System Existing Conditions</p>
<p>May 2022</p>		<p>21-3150</p>

Frog Pond East and South Master Plan

Planning Commission
Work Session June 8, 2022



Agenda for Tonight's Work Session

- Infrastructure – Existing Conditions
- Summary of Recent Engagement Activities
- Draft Master Plan Alternatives

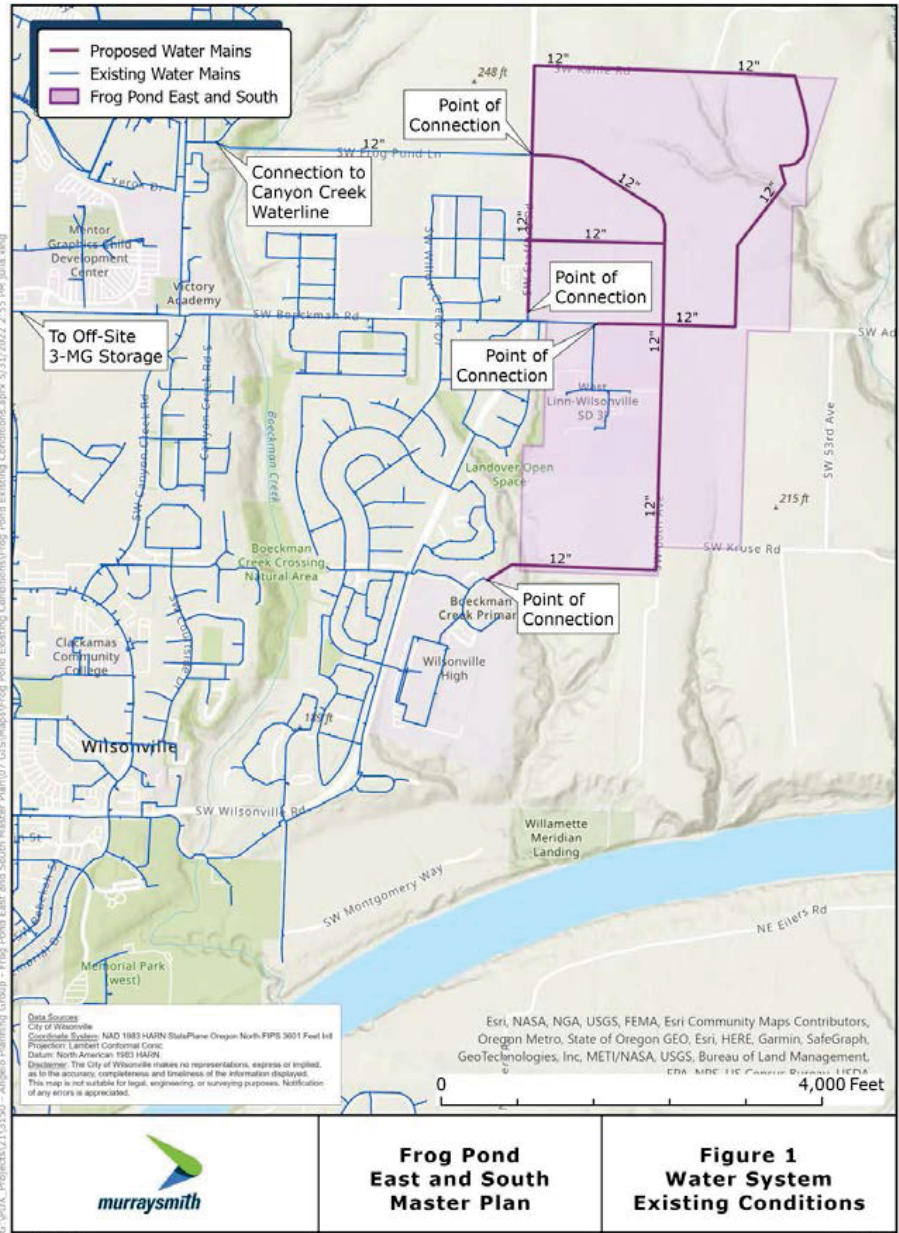


Infrastructure – Existing Conditions



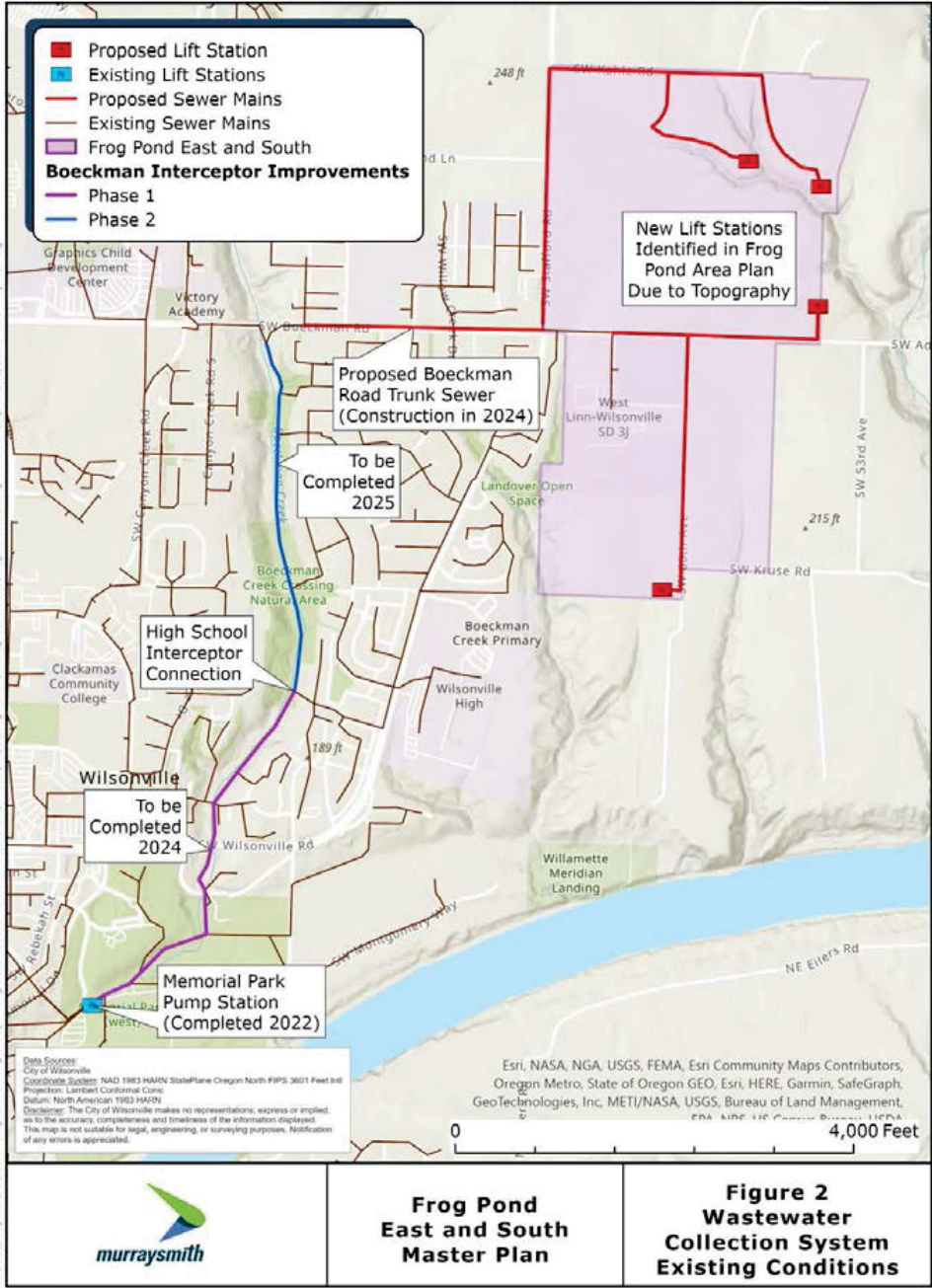
Water

- New connections
 - Frog Pond Lane west to Canyon Creek Road
 - Frog Pond South neighborhood to Boeckman Creek Primary area
- New storage needed (estimate: 2026-27)



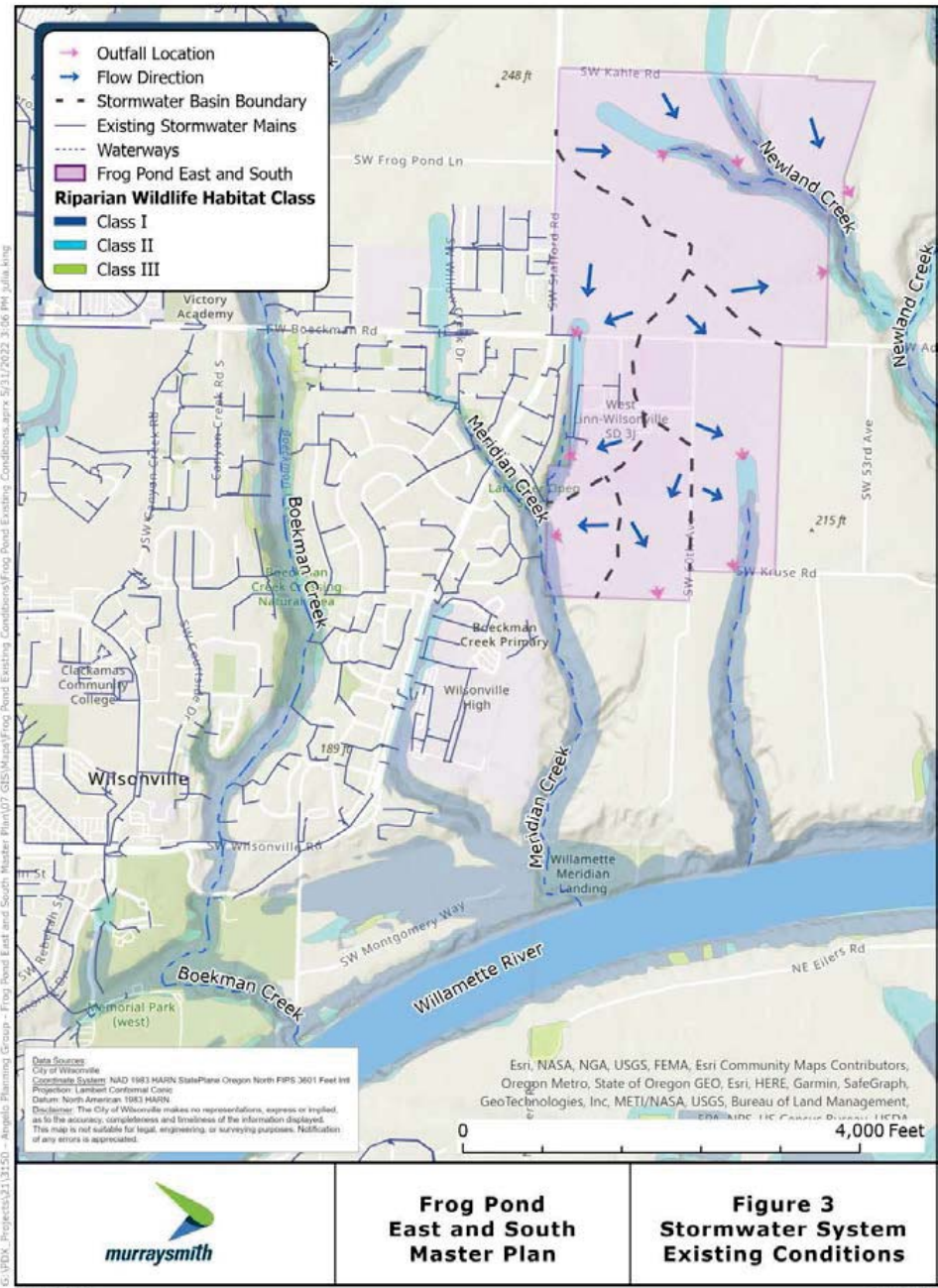
Wastewater

- Major off-site projects
 - Boeckman Road trunk
 - Boeckman Creek interceptor
 - Memorial Park pump station
- Timeline estimate: complete by 2025



Stormwater

- Issues
 - Limited space in public ROW
 - Avoid large ponds
 - More total impervious area with increased density



Next Steps and Discussion Question

Next steps:

- Prepare infrastructure plans and costs for Preferred Alternative (begin in July)
- Test infrastructure “what if” scenario of 20 du/acre

Discussion question:

What questions does the Commission have about the infrastructure memo?



Summary of Engagement Activities



Purpose of Engagement



Provide a variety of ways for community members to contribute to the plan alternatives



Involve community members who may not typically participate in planning



Learn about community preferences and ideas

Engagement Activities



Community Focus Group #1 (April 30, 2022)



Affordable Housing Focus Group #1 (May 11, 2022)



Community Design Workshop (May 12, 2022)



Affordable Housing Focus Group #2 (May 13, 2022)



Community Focus Group #2 (May 14, 2022)



Online survey on Let's Talk Wilsonville! (May 12 – May 30, 2022)



Key Themes: Housing Focus Groups

Positive experiences: living in Wilsonville, proximity to family, community amenities, safety

Challenges: displacement, rent increases, transit not connected

Future Housing: housing for seniors, detached homes, duplexes that have an individual feel

Future Ownership: interest but in future, prices and HOA fees are key limiting factors



Key Themes: Community Workshop and Focus Groups

Support for neighborhood commercial – interest in Brisband and Grange locations

“Type 1” housing – Central, near Stafford Road and north of Advance Road

“Type 2” housing - center of East Neighborhood and north/central area of South Neighborhood

Broad support for destinations and connections maps

Priority for **safe and walkable connections**



Draft Master Plan Alternatives



Community Design Concepts

- Housing Variety Throughout
- Affordable Housing Integration
- A Transect of Densities
- A Neighborhood Commercial Center
- Street Connectivity
- Bicycle and Pedestrian Connectivity
- Natural Areas



Community Design Concepts

- Preservation of Important Trees
- Active Parks and Open Space
- Consideration of the BPA Easement Corridor
- The Historic Grange as a Civic Amenity
- Use of Subdistricts



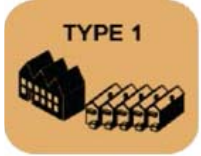
Housing Types

Principles

- Housing variety in each neighborhood
- Logical transition of building size and density
- Three basic housing forms
- Affordable choices



Housing Types



Type 1



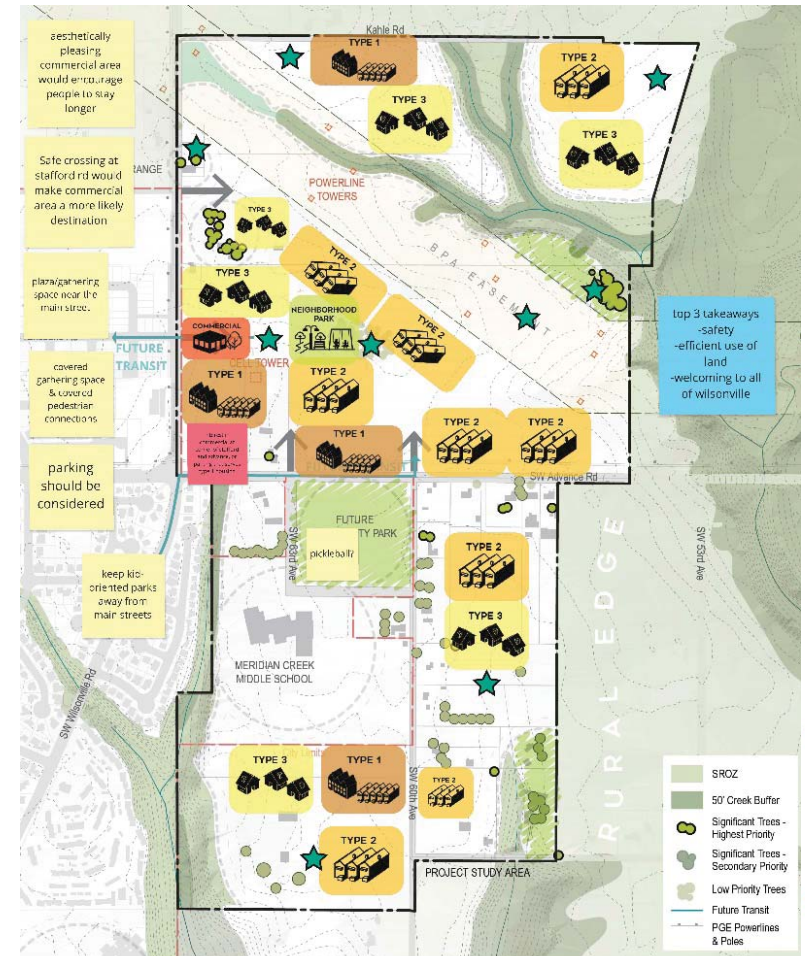
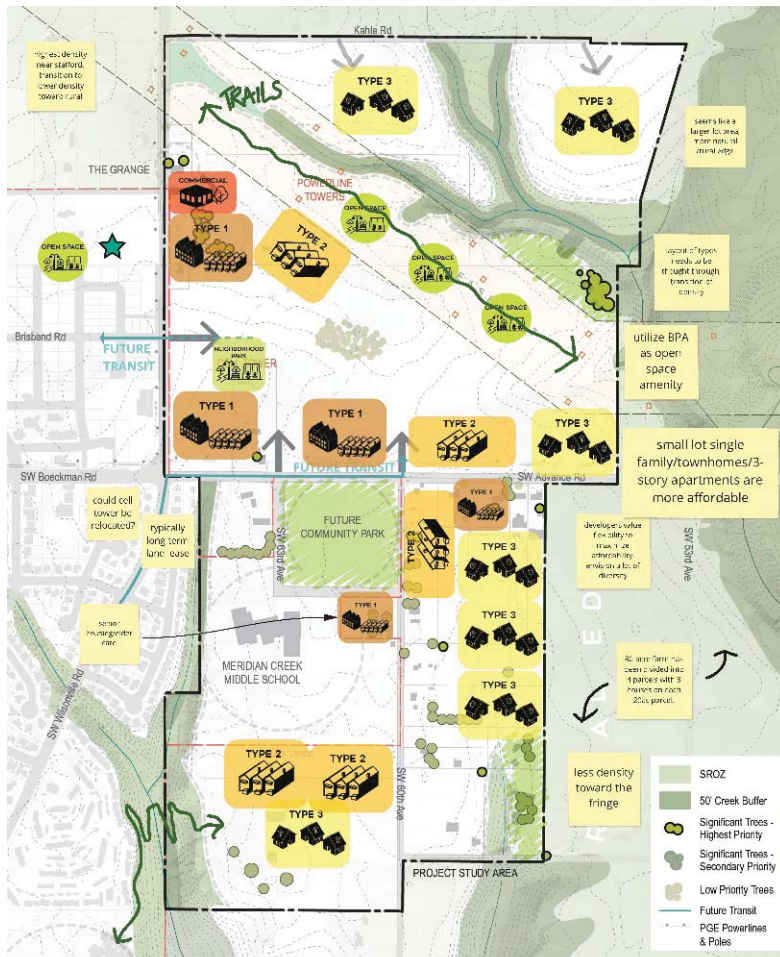
Type 2



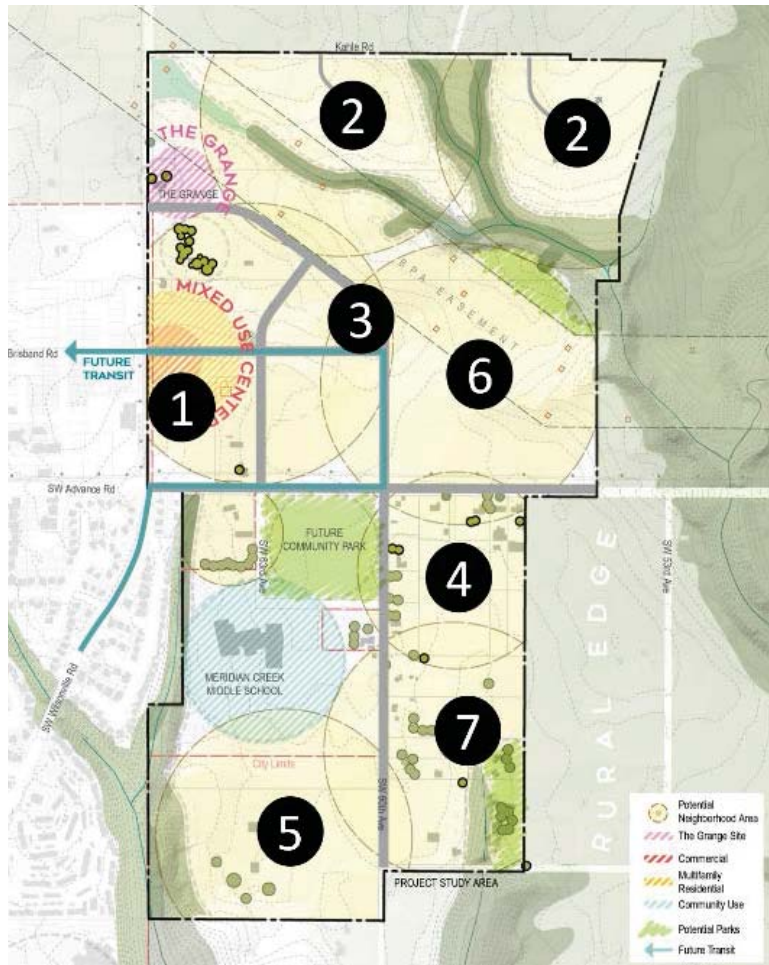
Type 3



Input on Housing Type Locations



Input on Housing Type Locations



Survey Says. . . (lower score means more preferred location, lowest possible 1.00, highest possible 7.00)

Location 1: **Type 1 2.46**; Type 2 3.58; Type 3 5.05

Location 2: Type 1 4.60; Type 2 4.16; **Type 3 3.81**

Location 3: Type 1 3.40; **Type 2 3.23**; Type 3 4.62

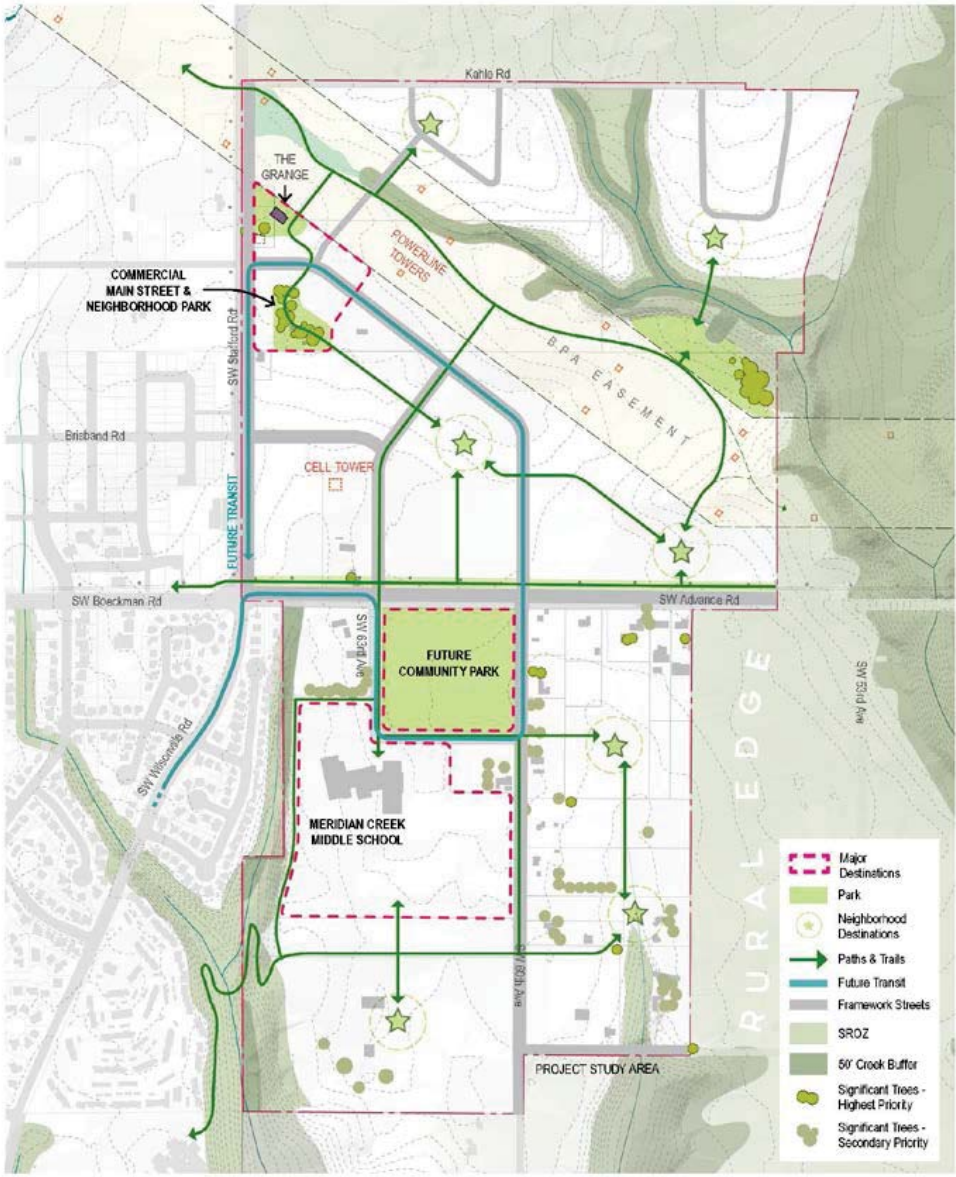
Location 4: Type 1 3.71; **Type 2 3.44**; Type 3 4.02

Location 5: Type 1 4.62; Type 2 4.44; **Type 3 3.48**

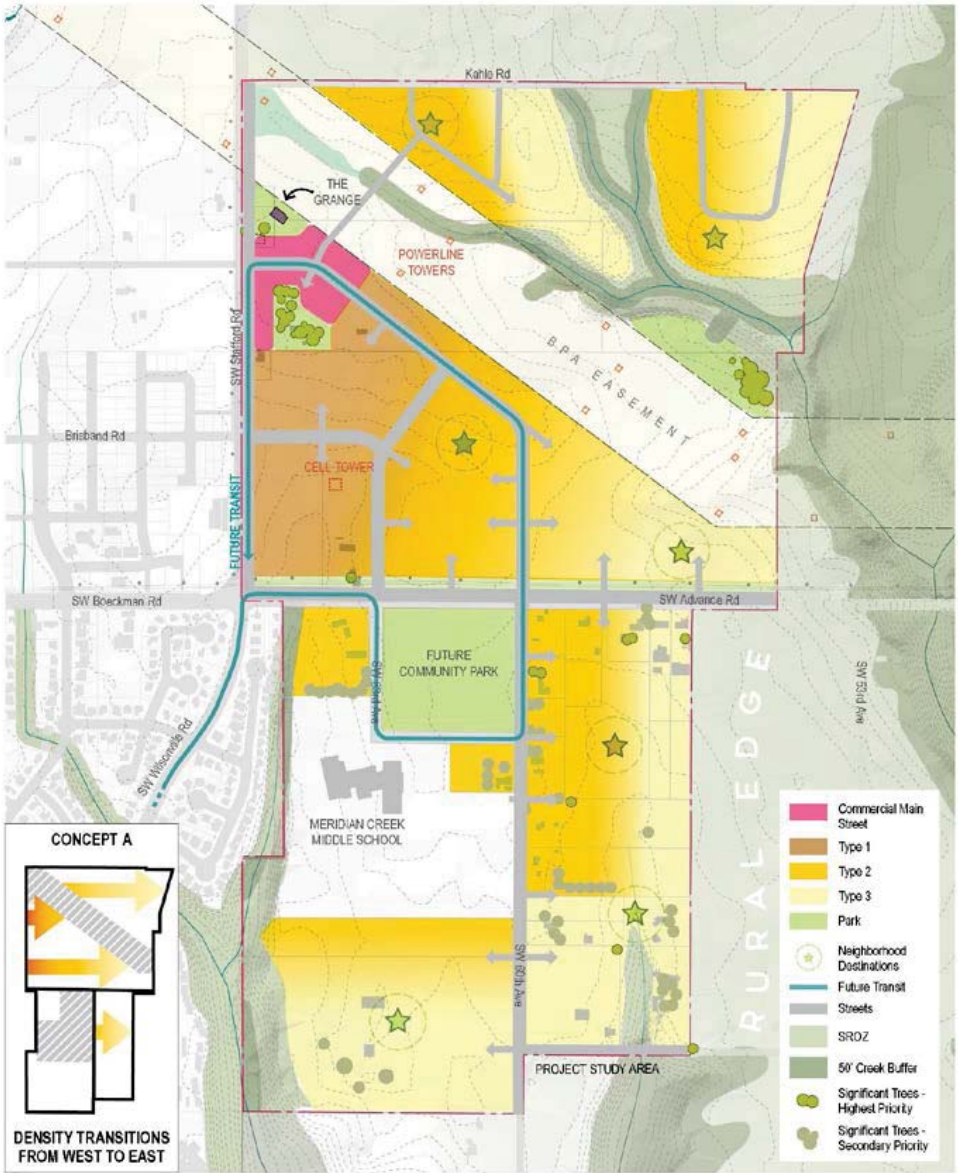
Location 6: Type 1 4.36; Type 2 4.56; **Type 3 3.81**

Location 7: Type 1 4.82; Type 2 4.58; **Type 3 3.21**

Alternative A



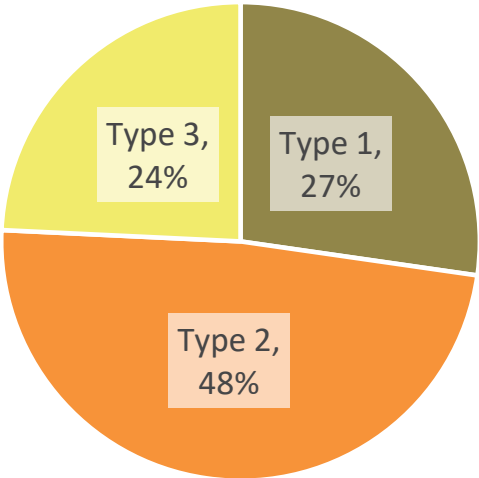
Alternative A



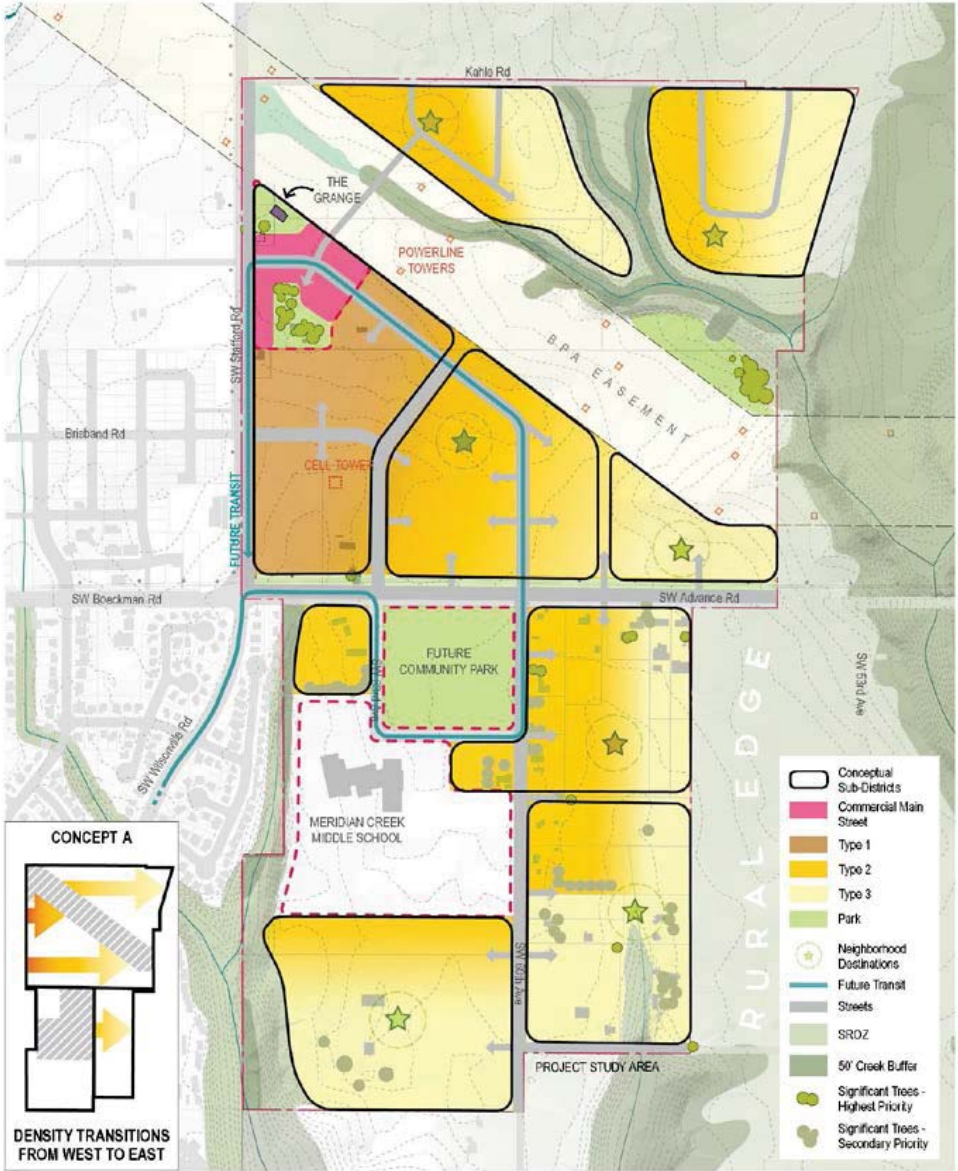
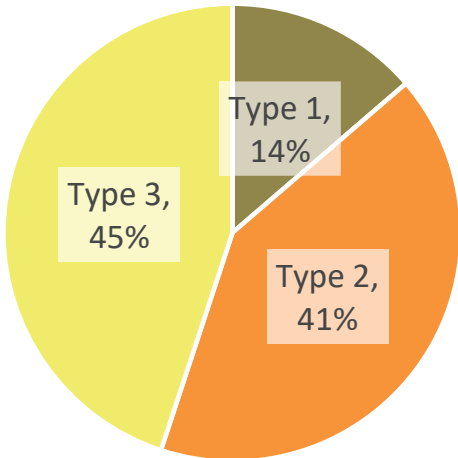
Alternative A

- 1583 dwellings
- 12.8 du/net acre

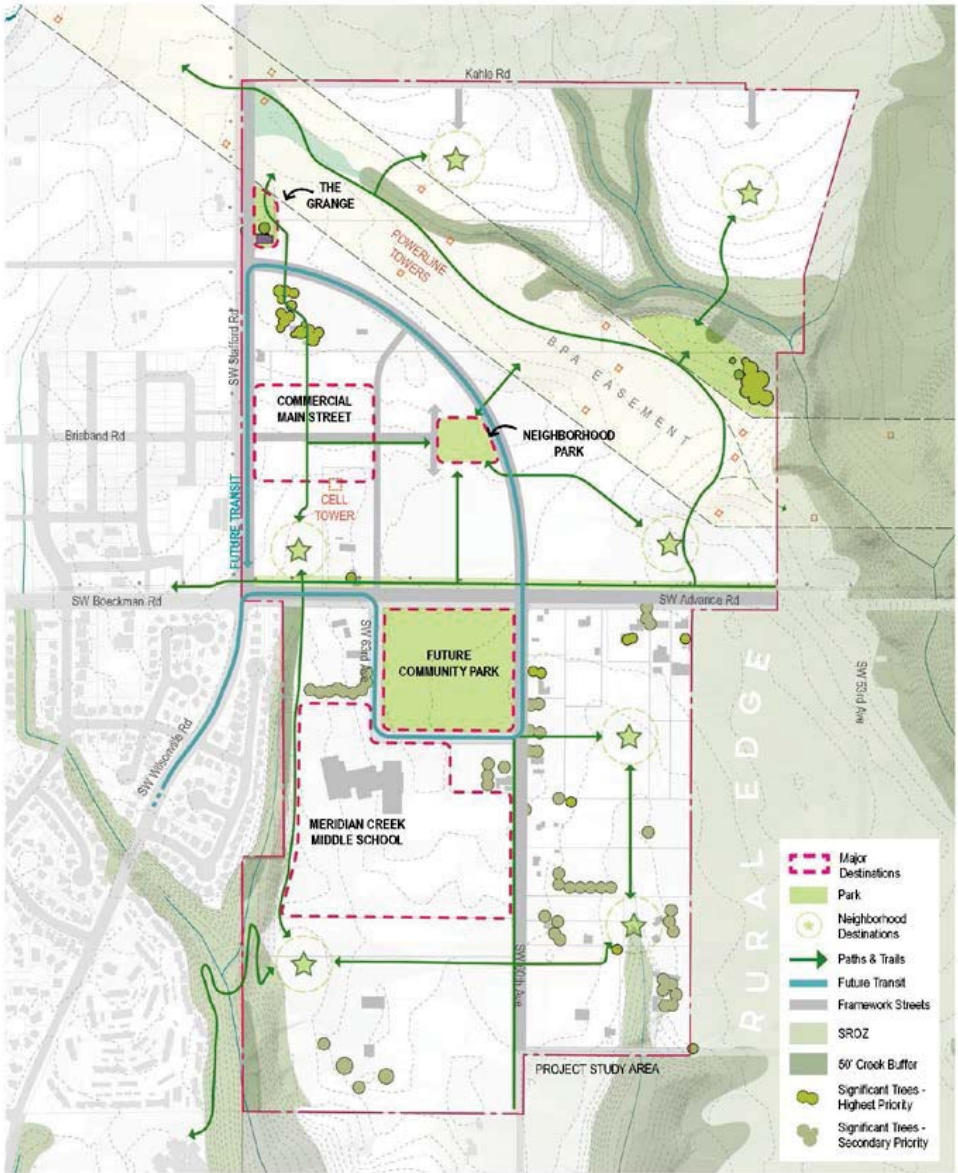
Mix of Units



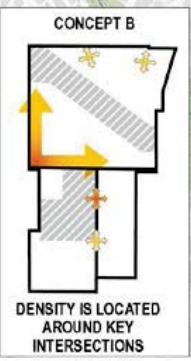
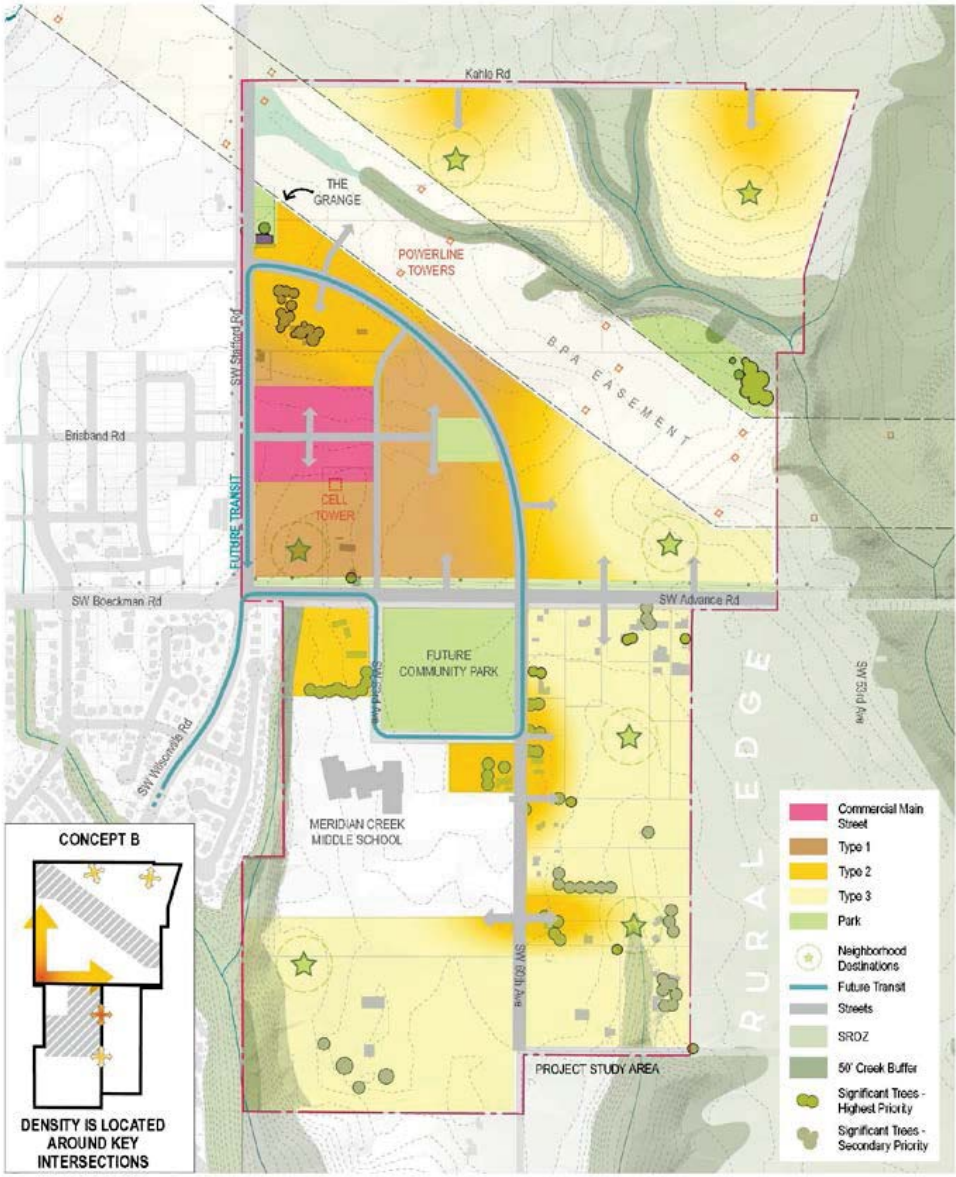
Mix of Acres



Alternative B



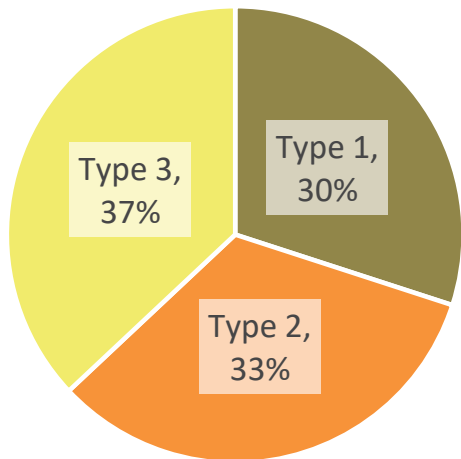
Alternative B



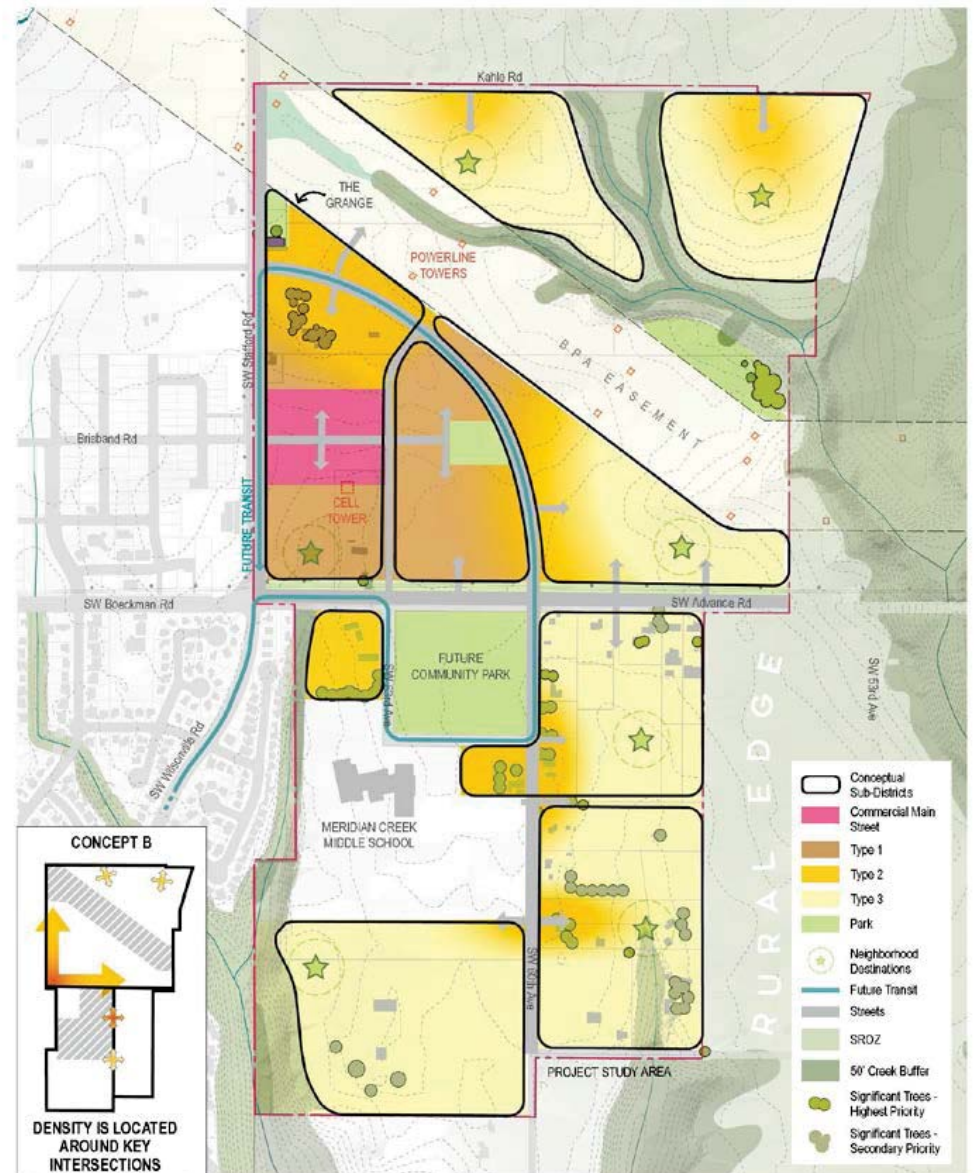
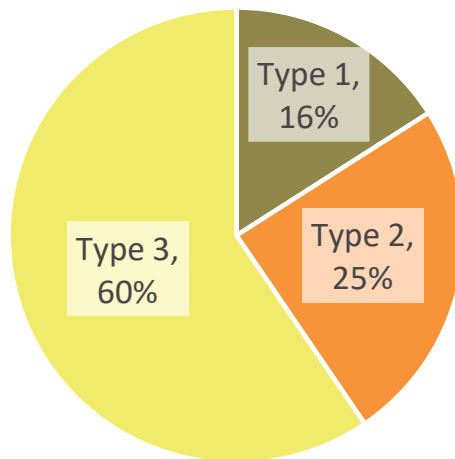
Alternative B

- 1389 dwellings
- 11.5 du/net acre

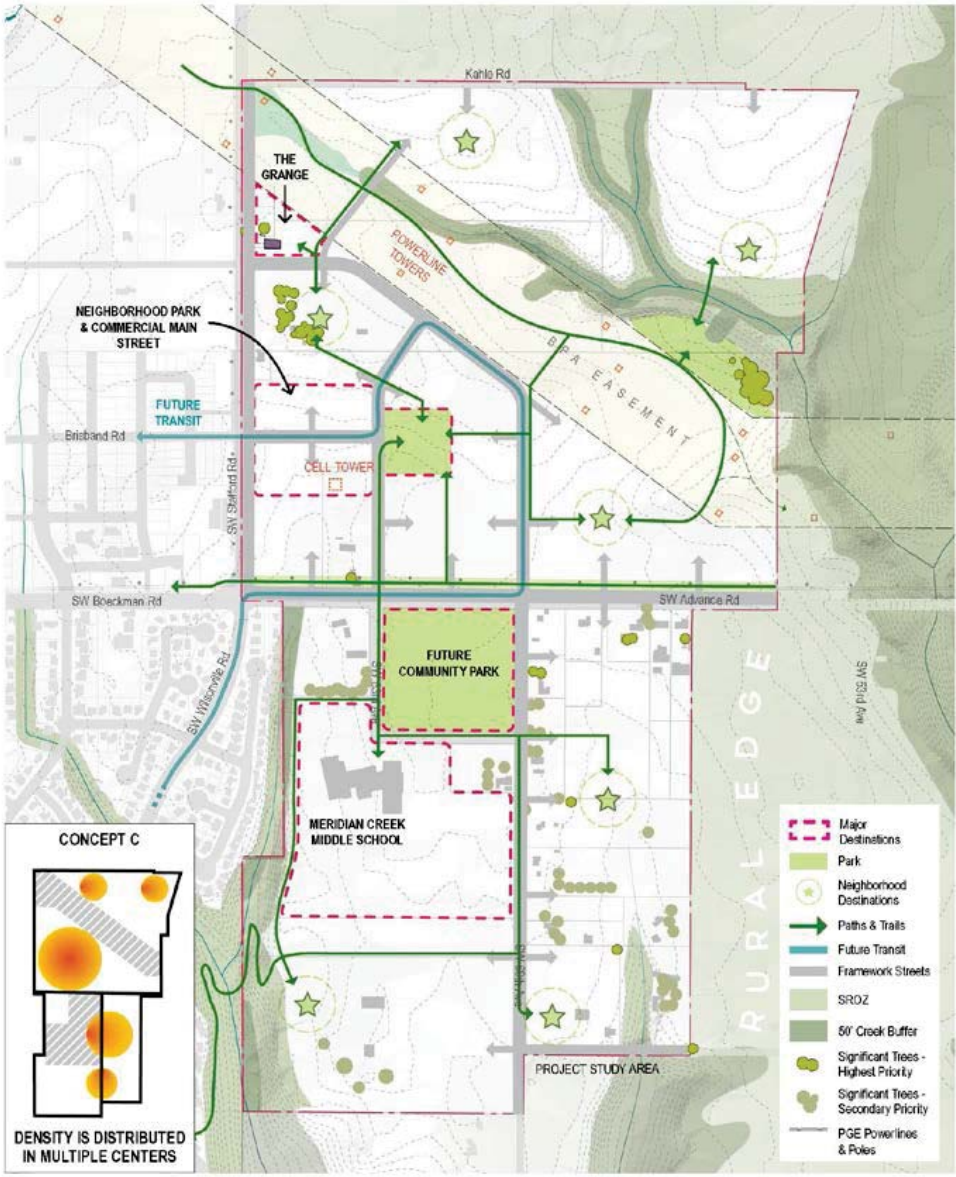
Mix of Units



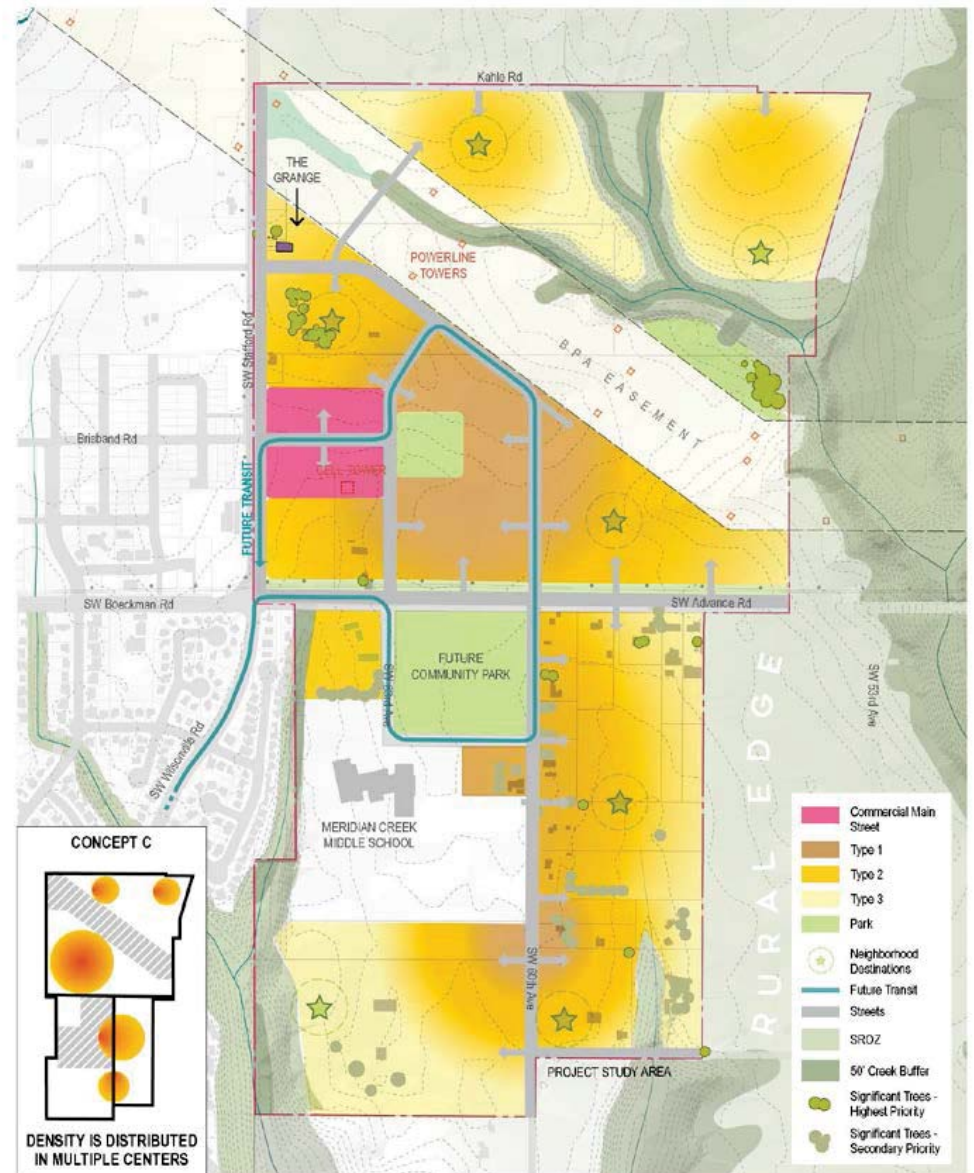
Mix of Acres



Alternative C



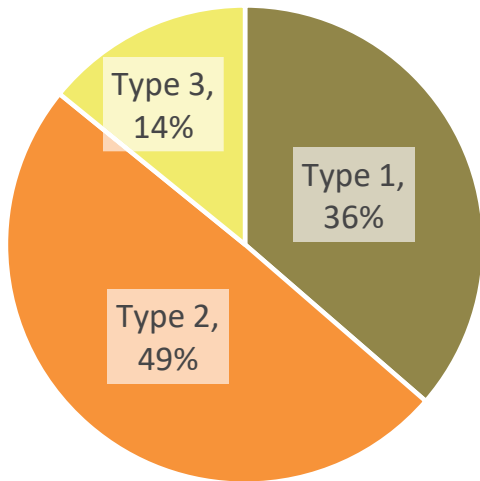
Alternative C



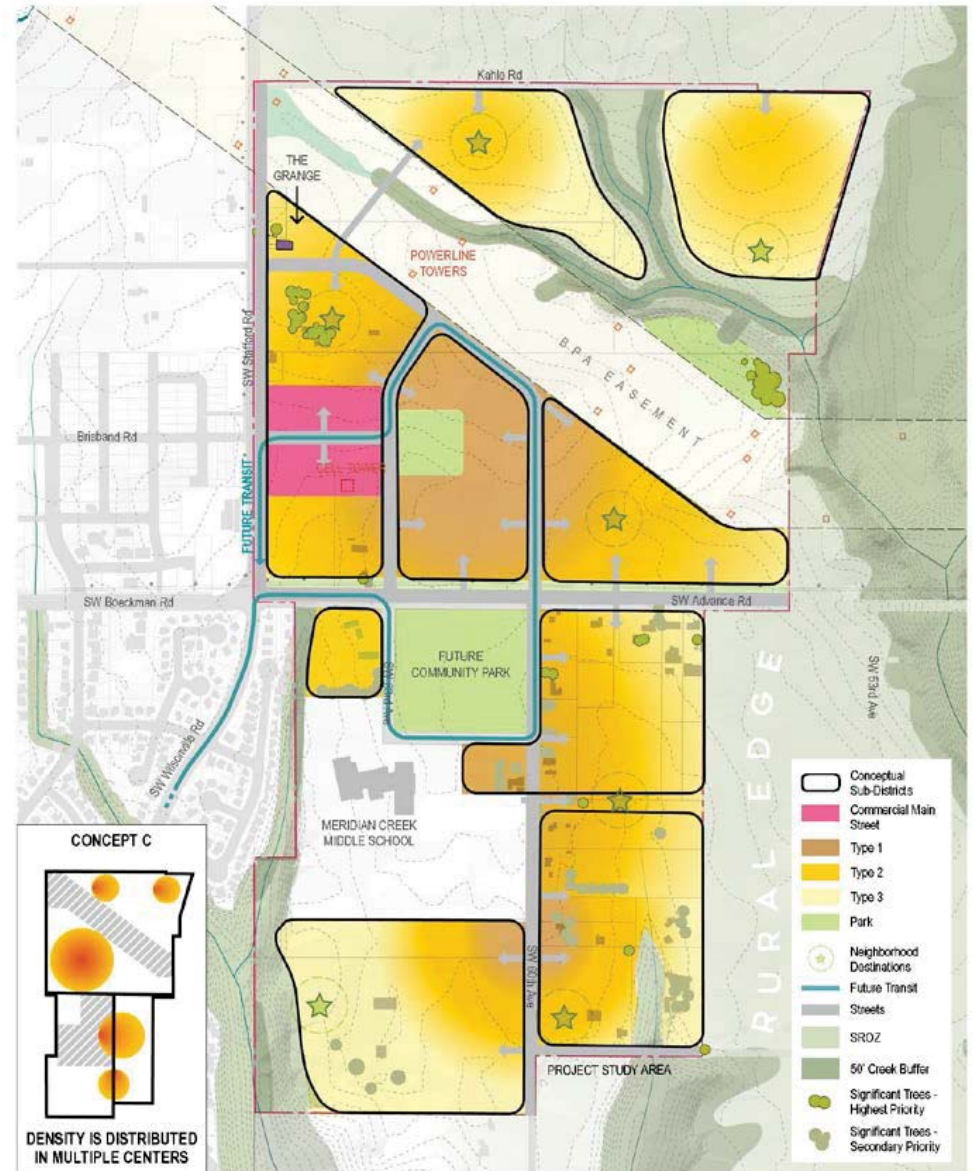
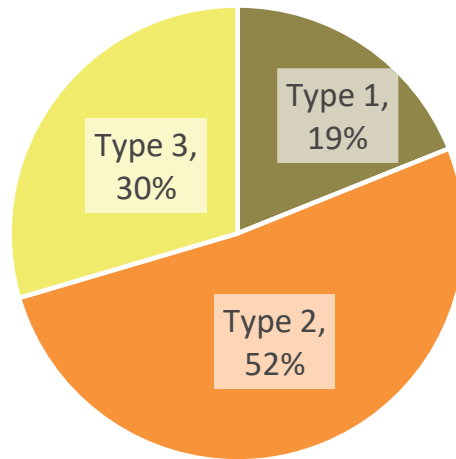
Alternative C

- 1803 dwellings
- 14.7 du/net acre

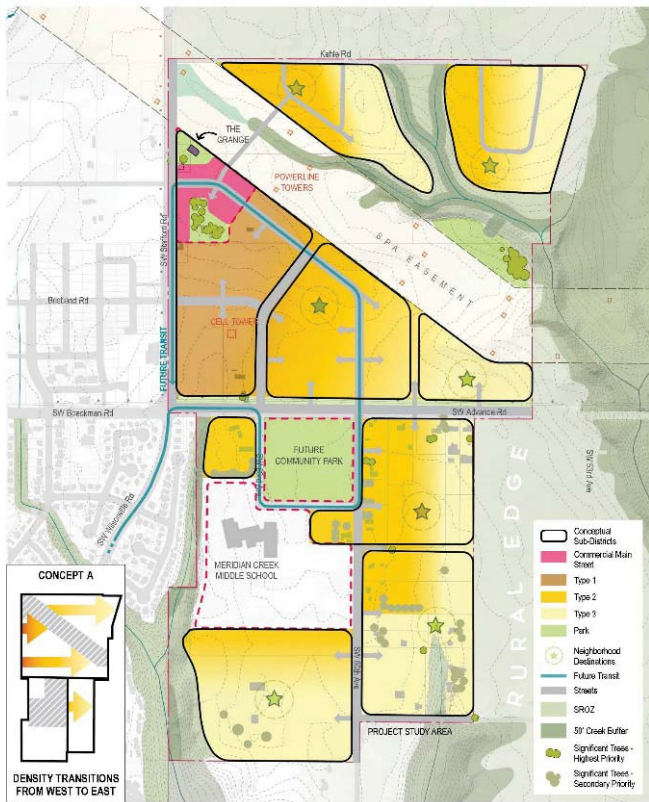
Mix of Units



Mix of Acres

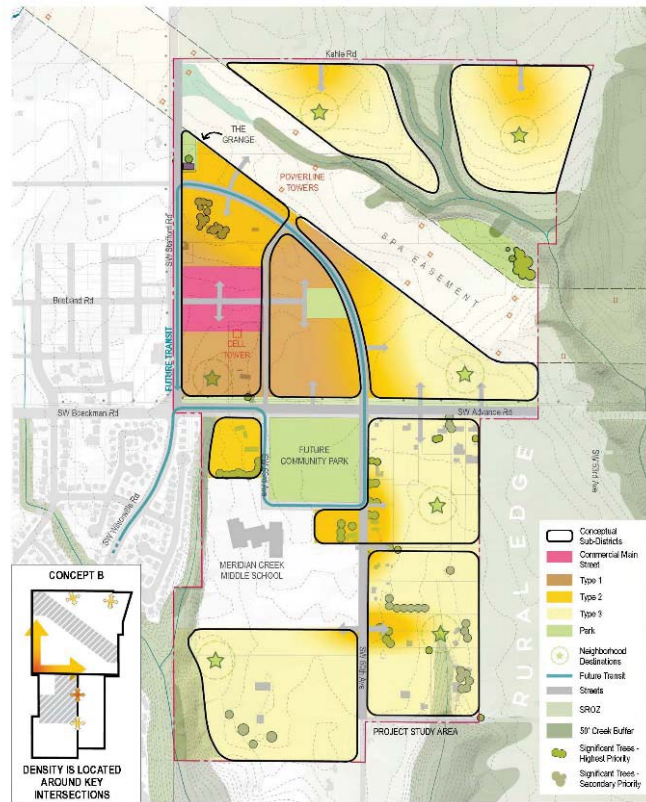


Draft Alternatives



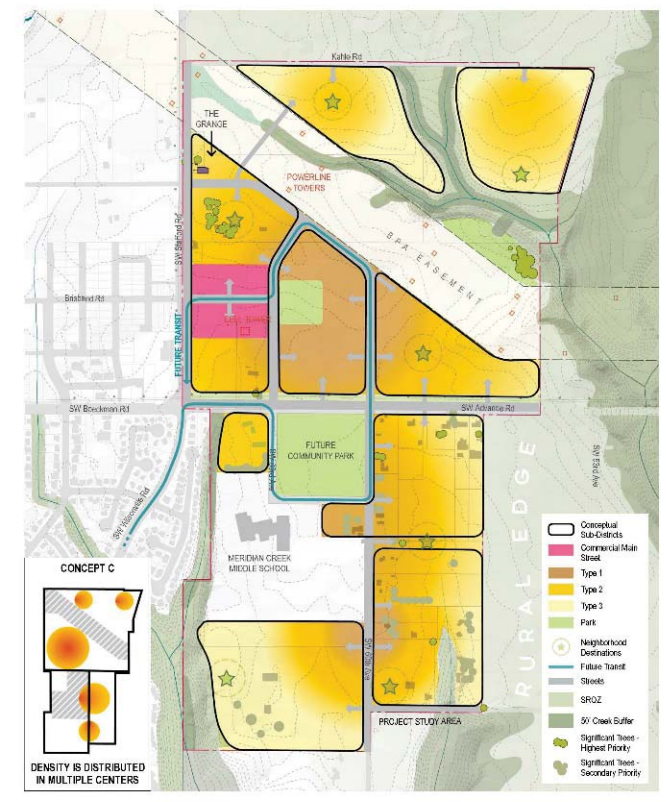
EAST & SOUTH ALTERNATIVE A: SUB-DISTRICTS

0' 150' 300' 600' N



EAST & SOUTH ALTERNATIVE B: SUB-DISTRICTS

0' 150' 300' 600' N



EAST & SOUTH ALTERNATIVE C: SUB-DISTRICTS

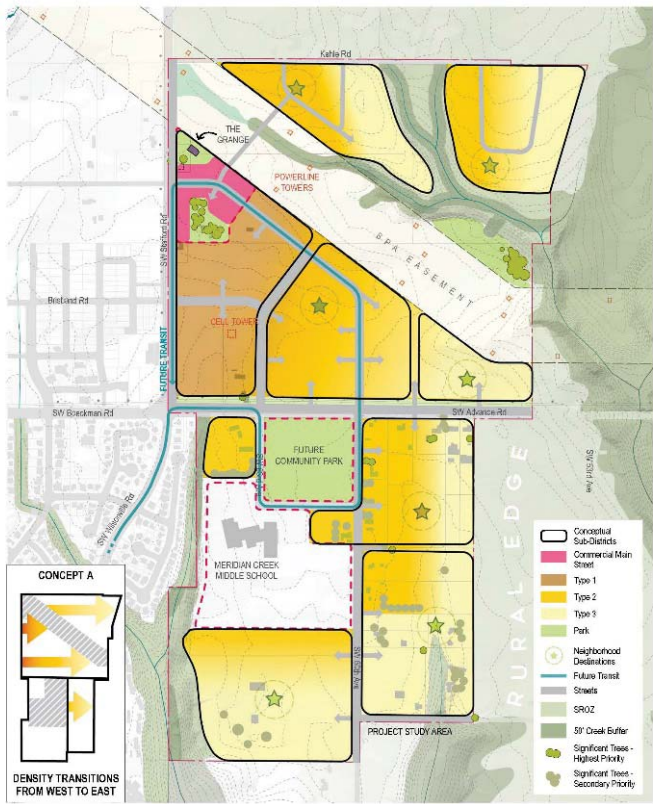
0' 150' 300' 600' N

Discussion Questions

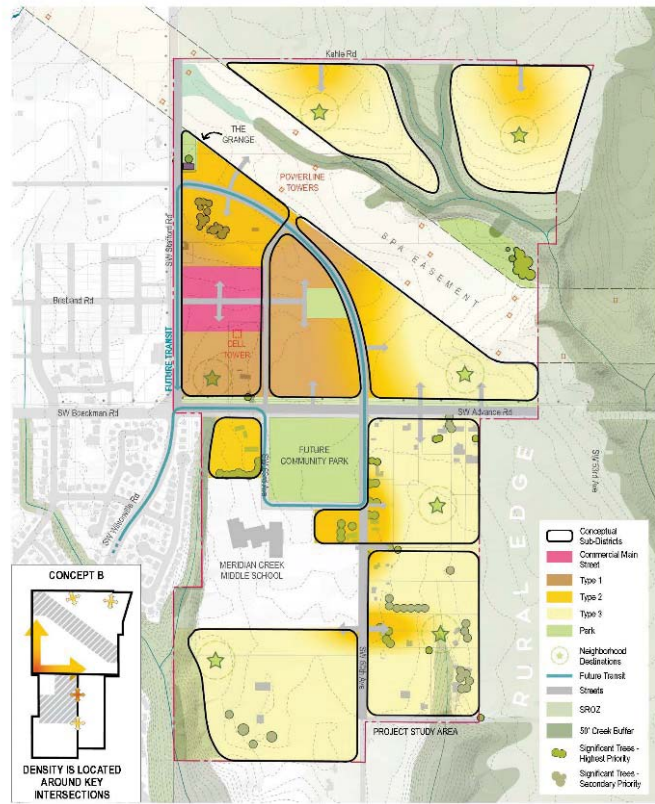
1. What additional questions does the Commission have about the alternatives?
2. Which elements of the alternatives do you favor for the Preferred Alternative, considering:
 - The foundational framework of the Frog Pond Area Plan
 - The Equitable Housing Strategic Plan
 - The Affordable Housing Analysis completed for this Master Planning effort
 - Design concepts discussed in the last work session
 - Public input received to date



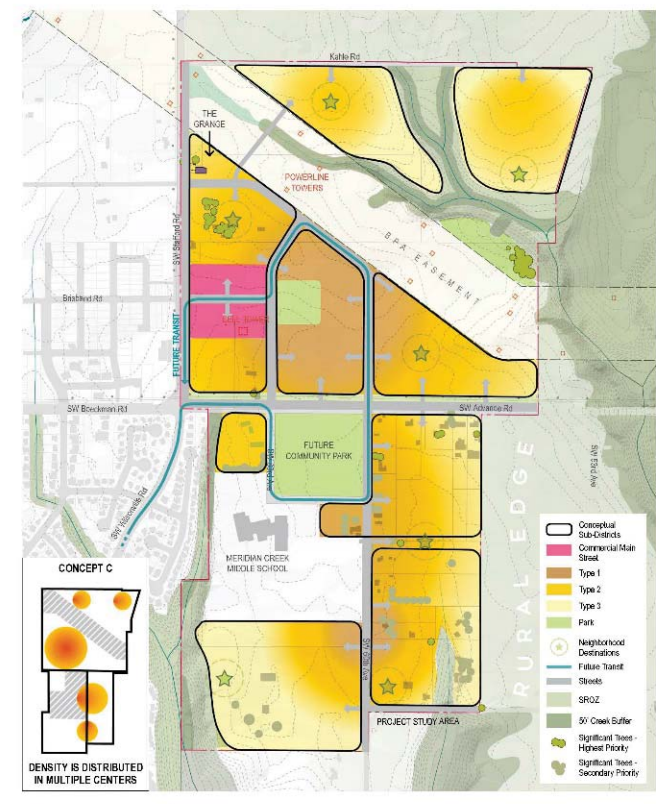
Preferred elements for: Commercial, Residential, East Park, Streets?



EAST & SOUTH ALTERNATIVE A: SUB-DISTRICTS 0 150 300 600' N



EAST & SOUTH ALTERNATIVE B: SUB-DISTRICTS 0 150 300 600' N



EAST & SOUTH ALTERNATIVE C: SUB-DISTRICTS 0 150 300 600' N



PLANNING COMMISSION MEETING MINUTES

June 8, 2022 at 6:00 PM

City Hall Council Chambers & Remote Video Conferencing

Draft PC Minutes were reviewed and approved at the July 13, 2022 PC Meeting.

CALL TO ORDER - ROLL CALL

A regular meeting of the Wilsonville Planning Commission was held at City Hall beginning at 6:00 p.m. on Wednesday, June 8, 2022. Chair Heberlein called the meeting to order at 6:02 p.m., followed by roll call. Those present:

Planning Commission: Ron Heberlein, Jennifer Willard, Aaron Woods, Breanne Tusinski, Olive Gallagher, and Andrew Karr. Kamran Mesbah was absent.

City Staff: Miranda Bateschell, Amanda Guile-Hinman, Daniel Pauly, Amy Pepper, Kimberly Rybold, Georgia McAlister, and Mandi Simmons.

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was recited.

CITIZEN'S INPUT

This is an opportunity for visitors to address the Planning Commission on items not on the agenda.

Mimi Doukas, AKS Engineering, stated she was working with West Hills Development on Frog Pond East, noting they preferred Alternative A because the road network worked best, and the commercial concept was the most viable option. Moving the commercial farther south involved real physical limitations due to the land being more parcelized and the existence of wetlands. Commercial is a challenging type of land use, particularly in newer areas as a lot of rooftops were needed to make it work, so any additional challenge could make the use not viable. Putting the commercial adjacent to the Grange, as presented in Alternative A, was likely the best chance for success.

ADMINISTRATIVE MATTERS

1. Consideration of the May 11, 2022 Planning Commission Minutes

The May 11, 2022 Planning Commission Minutes were accepted as presented.

WORK SESSION

2. Frog Pond East and South Master Plan (Pauly)

Dan Pauly, Planning Manager, presented the ongoing work on the Frog Pond East and South Master Plan via PowerPoint, reviewing the existing conditions for infrastructure beyond streets with additional comments from Development Engineering Manager Amy Pepper.

Staff addressed questions from the Commission as follows:

- The new water storage facility would be located on a City-owned parcel outside the city limits east of Villebois between Wilsonville and Sherwood. The City was revamping an old land use decision with the County. The facility was for the overall capacity of the city in general.
 - With the 2026-2027 timeframe, the storage deficit would not impact the timing of development in Frog Pond East and South. The deficit regarded city development overall as a lot of increased water needs were anticipated throughout the city. Frog Pond East and South were just a small component of those needs. The indication was water storage would not be a critical path item for development at this point, and that would be verified as the infrastructure work continued in the coming months.
- While there were multiple connections into the water grid, all the wastewater from Frog Pond East and South would go through Boeckman Rd down to the Memorial Park pump station. If the line broke in an earthquake, for example, it would be a single point of failure for this neighborhood. To improve efficiencies and flow rates, water systems were looped so water came from multiple directions. With sewer, the only goal was to get it to a disposal point of one system using gravity.
 - Stormwater was completely dispersed into the creeks and the City's MS4 Phase 1 permit required the City to prioritize low impact development (LID) to get stormwater to mimic more natural flows and how it got into the earth. Staff anticipated stormwater facilities would be dispersed and had learned lessons from Frog Pond West, where a lot more green streets with the street side swales were assumed, but because of the number of conflicts, there were more ponds than anticipated. The lessons learned from Frog Pond West helped with accommodating stormwater management into future development area.
 - For the Master Plan level of review, because stormwater was treated more at the source, closer to development, no creek or infrastructure needs were identified, and no problems were identified in this area.
- When testing the "what if" scenario involved the difference in density from what was likely to be built versus what additional infrastructure would be required if it were built to accommodate 20 dwelling units per acre (du/acre). The idea was to test what additional infrastructure might be needed across the planning area. (Slide 9)

Joe Dills, MIG|APG, continued the PowerPoint, describing the purpose of the engagement, noting the importance of involving community members who might not participate in planning, and highlighting the activities that had occurred. Georgia McAlister, Assistant Planner, described the work done with the housing focus groups, providing a quick overview of the key responses received from those involved.

Commissioner comments and responses to Commissioner questions from Staff were as follows:

- No housing preferences were expressed in the community workshops because cottage clusters and the plexes were comingled into the types presented.
 - In the focus groups, single-family homes were the number one preference, then cottage cluster were mentioned more frequently than expected, and then town home/duplex spaces that still felt independent; shared side walls and ceilings were a concern.
 - One survey question directly asked what the preference was if one could not afford to buy a single-family home and townhouses were the top choice. A vast majority of respondents were

current Wilsonville homeowners, and some currently rented apartments or had other arrangements.

- The focused effort to gather input from a variety of backgrounds and opinions provided a more accurate picture of what the community as a whole needed, as well as a better ability to weigh all the different voices.
 - The survey respondents were primarily existing homeowners, who preferred single-family housing because that was what they had. The team was commended for making the extra effort to seek input from beyond the standard homeowner and involve renters, who would likely consider an alternative to an apartment building, such as duplexes or townhouses.
- Some people within the affordable housing group were looking to buy their first home and financing was discussed a bit, including working with Proud Ground and Family Support to get funding. Many people in the group were at the beginning phase, trying to learn about the options available. There is certainly a thirst for financing options, particularly down payment assistance and being able to bridge that gap to get started as a homeowner. Additional work was needed to see what the City might be able to do with different partners and Staff would continue to pursue options.
 - Financing was a major concern given the cost of homes. The team was strongly encouraged to spend time on creative, financing options to provide financing options to potential homeowners so people could stay in Wilsonville.

Mr. Dills continued the PowerPoint, reviewing the Community Design Concepts shared during community meetings as well as the housing types and input received on housing type locations with additional comments from Mr. Pauly. Mr. Dills noted that affordability and affordable housing choices discussed in tonight's presentation regarded providing opportunity within the array and range of housing types and what could be put on the land. Regulated affordability that served the lower ends of the spectrum and discussed in a memo in February was an implementation strategy that involved a different level of involvement from the City. The input received from the workshop break out groups on the housing type locations helped inform the draft alternatives. (Slide 20)

- Mr. Pauly clarified that tiny homes, which were less than 800 sq ft, could be accessory dwelling units (ADUs), which were allowed throughout the city, including with all types of town houses; therefore, tiny homes could be incorporated within any of the three housing types.

Mr. Dills and Soumya Kini, Walker Macy, continued the presentation reviewing the three Draft Master Plan alternatives, describing the destinations and connections, land uses, and the housing subdistricts of each proposal, as well as opportunities for community design and various options for circulation and connectivity both within the neighborhoods and to surrounding destinations. (Slides 22-31)

- Mr. Dills noted that with regard to the pros and cons of the various commercial sites, Leland Consulting Group had stated the Brisbane location for the main street commercial was more feasible from a market perspective. If more localized mapping was available to see the site conditions in that area, the team would love to see it. He added the team was also discussing with the transportation group how left turns would work at the Brisbane location.

The project team addressed clarifying questions about the presented alternatives as follows:

- In theory, a cluster of tiny homes could be put in the upper right quadrant of Frog Pond East, subject to how the regulations were framed as further details were addressed. (Alternative A, Slide 24)
- Mr. Pauly confirmed there had been no discussion with the property owners about relocating the cell tower and the team did not assume the cell tower would move at this point. As the finer points of the plan were implemented, the team would be thoughtful about the existing cell tower and property lines.
- Mr. Dills explained that the dwelling estimates for the alternatives did not assume a level of future infill via HB2001. For example, under the Middle Housing rules any detached lots within Type 3 could have duplexes, triplexes, and quadplexes on them, but no assumptions were made about that infill. HB2001 was not infused in the proposed alternatives other than providing lots of opportunity for middle housing.
- Mr. Pauly stated the team had not gone back to determine how many dwellings the Area Plan would have had if HB2001 was in place at the time. The approach was to take the Area Plan and add in the Equitable Housing Strategic Plan and additional understanding received through the Middle Housing project, as well as the public comments received through the Middle Housing process and this Draft Master Plan process; all those layers were added to the original Area Plan to inform the alternatives being presented to the Commission tonight.
- Chair Heberlein noted that some segments of the population would choose Alternative B because it was closest to the Area Plan so if the number of dwellings was higher than the 1320 dwellings defined in the Area Plan, a clear and concise explanation as to why should be provided to the community.
 - Mr. Dills noted the short answer at this point was to provide more affordable choices.
- As far as the logical transition of size and density, was any further development anticipated to the west, north or south of this area? Whether those areas were expected to grow or that was the final city boundary would determine how impactful the transition of density was.
 - Mr. Pauly explained the subject area was different from Frog Pond West, where the area to the north was an urban reserve and expected to be pulled into the urban boundary and developed. Most of the area around Frog Pond East and South was rural reserve, which was expected to remain rural for 50 years after adoption, so the assumption was that the edge of the area would remain rural for decades.
 - He clarified the homes being built to the east and south were being developed at a rural level on large lots with septic systems and not at an urban density.
- Mr. Pauly noted future transit was shown extending onto Brisband Rd, but there was no talk of transit going into Frog Pond West so that future transit line should curve back onto Stafford Rd. (Alternative C, Slide 28)
- Could the subdistricts be mixed and matched between the alternatives, exchanging or replacing subdistricts amongst the alternatives?
 - Mr. Pauly clarified input was not requested by subdistrict, but the team did ask for preferences on East and South, what was preferred north and south of Advance Rd. Further mixing and matching could be discussed during the roundtable after the polling was complete.

The Commissioners were polled on their preferences for five elements of the alternatives with the following results:

1. Which alternative(s) show(s) the preferred commercial location?
Alternative A-Frog Pond Lane at Stafford = 1
Alternatives B/C-Brisband Street at Stafford = 5
None of the above/something else = 0

2. Which alternative shows the preferred residential pattern for Frog Pond East (area north of Advance Road)?
Alternative A = 1
Alternative B = 2
Alternative C = 2
None above/something else = 1

3. Which alternative shows the preferred residential pattern for Frog Pond South (area south of Advance Road)?
Alternative A=0
Alternative B=0
Alternative C= 6
None above/something else = 0

4. Which alternative shows the preferred location of an East Neighborhood park?
Alternative A = 1
Alternative B = 1
Alternative C = 4
None above/something else = 0

5. Which alternative shows the preferred layout of streets in Frog Pond East (north of Advance), particularly the Frog Pond Lane to 60th connection?
Alternative A-straight lines offset from BPA easement = 1
Alternative B-curvilinear = 3
Alternative C-straight lines with segment adjoining BPA easement = 2
None above/something else = 0

Roundtable

The Commissioners addressed the Discussion Questions (Slide 32) and explained why voted for the alternative options in the poll.

Commissioner Tusinski said she was undecided about Alternative A or C being her preference. Though Alternative B had the lowest density, it did not have as much room to integrate the different neighborhoods and densities that had been discussed during the planning process. Alternative A was most preferred, but she liked the commercial and park locations in Alternative C better. Based on summaries from the community engagement, it was good to have Type 1 and Type 2 options, since it

seemed like townhouses and cottage clusters would be the most affordable and the second choice to standard detached housing. Alternative C was probably her favorite.

- She liked the centralized radiation element of Alternative C and had voted for Alternative B for the street layout, but Alternative A or B was her choice for the street layout.

Commissioner Karr said he preferred the commercial section by the Grange, noting the focus groups revealed commercial developers preferred Alternative A. Unless the City could find a way to own the land and not make it an expense to the developers while the project was built out, since the commercial section would not be viable until closer to build-out, there would be a blank plot of land. This could be used as a community park, together with the Grange, until there were enough rooftops to warrant a commercial build-out. Alternative C was preferred for the street layout, because someone with a house backing up to the green space would put up a fence due to the trails and people, detracting from the beauty of having the easement and the area being an open space. The south side of Alternative C was also preferred because of the density. He also liked the park up by the Grange because of the 10-acre community park south of Advance Rd. Perhaps, 15 acres of park were not needed since little neighborhood parks would be incorporated in each of the segments. He preferred Alternative A with the commercial at the Grange for Frog Pond East but liked Alternative C for Frog Pond South density as well as for the street layout for both East and South.

Commissioner Woods liked a lot of elements of Alternative B, but preferred Alternative C more because of the park's separate location, adding he did not like it being near the Grange although he understood the reason behind that location. With the focal point on Stafford and Advance Rds, a larger scope of Type 1 dwellings radiated out from there to Type 2s and 3s, but it also allowed for additional mixing of land use types. A key piece was having units for more potential affordable housing, which was a major target. The radiating of the streets was also preferable, so Alternative C was his favorite overall.

Commissioner Gallagher stated she gravitated toward Alternative B because of the flow, placement of the park, and because the park and commercial area were a bit more centrally available to both parts of the development, rather than at the top. Did having the park a little bit separated from the commercial area provide a safety corridor for playing children away from what could be a very busy street? There was not enough information to make an informed judgment regarding the density and would leave it to the experts to see where it went. She complimented the project team for the look and feel all that had been presented tonight.

Commissioner Willard stated her preference was Alternative C because the park and the Grange were separated, which created different and separate points of interest. The larger park embedded around the dense area would get used a lot, as opposed to the location in Alternative A. The configuration where the commercial hits a road and then there was a big park is the same configuration as in Orenco Station in Hillsboro where she often walked during lunch, so she believed that configuration worked well. The suggestion by a community member to have a senior center in the "thumb," the place between the middle school and future community park, sounded like a lovely idea and was probably why she preferred Alternative C for Frog Pond south. She also liked that the road was adjacent to the easement, which would create access points for people that did not live in the neighborhood and only knew of the smaller, more narrow access points.

Chair Heberlein stated that in general, he preferred Alternative C. He had voted 'none of the above' on the residential pattern for Frog Pond East primarily because he had a two specific changes. In Frog Pond East, he preferred to have Type 1 housing around the commercial center, so that generally, the higher density was near the commercial center and then radiated into Type 2 going east. Essentially shifting Type 1 (brown) to be more like Alternative A, but with the same density as Alternative C. Second, he recommended Type 2 housing on the south side of the two subdistricts north of the BPA Easement and then transitioning to Type 3 moving toward Kahle Rd, rather than having it clustered in the center. From a commercial development perspective, he liked the idea of having some type of green area near the commercial center, whether across the street, as shown in Alternative C, or by creating an L-shaped commercial area in the locations identified in Alternatives B or C, and make the lower, right-hand quadrant the park area to provide some integration into the commercial street for a Piazza type development with more space. If the Brisband alignment was better for commercial development, that was where the commercial center should be located, even if he preferred the park area configuration shown in Alternative A. He wanted to ensure the commercial center was commercially viable first to give it the highest probability of success.

Commissioner Willard added with all the development in Beaverton and Sherwood, the areas with denser product along the road resulted in a very abrupt experience for people on the roadway. Placing higher density along the road would create a very abrupt experience when people entered Wilsonville.

Chair Heberlein noted if the Type 1 was moved to around the commercial center, there could still be a north/south transition with Type 1 in the lower right-hand corner around commercial area and then transition out near the Grange at Type 2, so it would not be straight to Type 1 coming into the neighborhood.

Chair Heberlein called for public comment.

Sparkle Anderson stated the power line easement was not being used for anything, which had been her gripe all the way along. At a prior meeting, someone had said they would not want to be under the lines; however, new lines were installed about 6 years ago that no longer snapped or popped or make your hair raise up when you are underneath them. Hardly any noise was heard except in the fall when the rain starts. The area under the power lines was no longer an unpleasant place to be and she was sorry to see that large expanse of land not being used for infrastructure. Noting parkland was shown on her property, she asked who purchases park land.

Mr. Pauly noted the diagrams did not show anything under the powerlines, however, there was still potential for parking to support commercial or residential uses and street connections, such as from the Grange to the portions of Ms. Anderson's property along Kahle Rd. There were several scenarios related to park purchases, the developer could donate parkland, which could also be purchased by one or a group of developers.

Commissioner Karr stated he lived within 1,000 ft of the powerlines and confirmed Ms. Anderson's comments that the crackling and popping had diminished. A park was located under the powerlines in front of his house, so it was possible to do something on that land, though the BPA easement likely had restrictions about what development would be allowed. Between agricultural property east of his

house and the city park in front of his house was a wasteland, which the BPA maintained. He would prefer that the land area be more unified rather than left to the wild.

Mr. Pauly believed adding some stormwater features might also be possible as much of the land in the area naturally sloped toward the BPA easement.

INFORMATIONAL

3. City Council Action Minutes (May 2 & 16, 2022) (No staff presentation)
4. 2022 PC Work Program (No staff presentation)

Miranda Bateschell, Planning Director, noted due to ongoing construction of the front counter at City Hall, the Planning Commission would not meet in person in July; however, an in-person meeting could be possible in August. She believed supply chain issues were part of the problem, along with the coordination of contractors' schedules.

ADJOURNMENT

Commissioner Willard moved to adjourn the regular meeting of the Wilsonville Planning Commission at 7:57 p.m. Commissioner Karr seconded the motion, which passed unanimously.

Respectfully submitted,

By Paula Pinyerd, ABC Transcription Services, LLC. for
Mandi Simmons, Planning Administrative Assistant



CITY COUNCIL
MONDAY, MAY 2, 2022

WORK SESSION

Frog Pond East and South Master Plan (Pauly)



CITY COUNCIL MEETING STAFF REPORT

Meeting Date: May 2, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development, Planning Division	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input type="checkbox"/> Not Applicable	
		Comments: The alternatives and recommendations have been reviewed by and received positive support from the Planning Commission during work sessions	
Staff Recommendation: Provide input regarding the neighborhood commercial center and key concepts to base land use and urban design alternatives on for Frog Pond East and South.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE COUNCIL:

Provide feedback and input on components of the master planning for Frog Pond East and South, specifically regarding a neighborhood commercial center and key concepts to base land use and urban design alternatives on.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified local housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a Master Plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the subject land. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process also identifies water, sewer, stormwater, and transportation infrastructure needs and funding sources.

The City Council held their first work session on the master plan in October focusing on overall project scope and the outreach plan. A second work session in January asked for initial feedback on the needs and opportunities for affordable housing and housing variety. A third work session in March continued the topic of housing needs for more detailed feedback and direction as well as briefly introduced the neighborhood commercial evaluation. This fourth work session will further discuss the neighborhood commercial center as well as discuss recommended design concepts for development of land use and urban design alternatives, including incorporation of concepts from the previous housing discussion.

Following public outreach, during the next couple of months, to gather input on different alternatives, the project team will bring recommended land use and urban design alternative(s) to the Planning Commission in June and subsequently to City Council in July. The recommended land use and urban design alternative will then be the basis of infrastructure and public realm planning to occur over the summer, and other master planning work during the fall.

Neighborhood Commercial

The Frog Pond Area Plan presented the idea of a neighborhood commercial center in Frog Pond East. Part of the scope of the Frog Pond East and South Master Plan is to further evaluate a neighborhood commercial center. Building on the initial information presented at the last work session, the evaluation includes: an overview of information from the Frog Pond Area Plan, input from stakeholders, retail market trends, demographic data that would be relevant for retail in Frog Pond, a retail market analysis, discussion of potential types of retail, site location considerations, and case studies and precedents (Attachment 1). The memo concludes with a recommended development program of "hybrid main street" approach with up to 44,000 square feet of flexible retail/office space on up to 4 acres of land. During their April 13 meeting,

the Planning Commission supported this recommendation. The Planning Commission expressed how the proposed location allowed for the necessary high visibility for retail while helping create a desirable gathering space.

Discussion questions:

1. Based on the analysis and Planning Commission feedback does the City Council support the recommended development program described on pages 25-26 of Attachment 1?
2. What additional feedback does the City Council have on the recommended development program?

Recommended Design Concepts for Master Plan Alternatives

Over the next couple of months the project team will be gathering public input on a number of options and ideas to help decision makers arrive at a preferred alternative for the land use and urban design patterns in Frog Pond East and South. There are a number of base assumption design concepts the project team plans on reflecting in each alternative. In this work session the project team seeks the City Council's feedback on the base assumption design concepts below, and further described in Attachment 2. The project team has based the base assumption design concepts on input received to date, both during the 2015 Frog Pond Area Plan process and the East and South Master Plan process; data and information gathered to date, and professional practices in the field of land use planning and urban design. During their April 13 work session, the Planning Commission expressed unanimous support for the design concepts. Additional considerations expressed by the Planning Commission are keeping the Grange building as close to the current location as possible if it needs to be moved for road construction and being mindful of potential health concerns from the high-voltage power lines.

Housing Variety Throughout: All alternatives will include an approach to creating a wide variety of housing types in the East and South Neighborhoods. This concept focuses on mixing and integrating different housing types throughout each subdistrict and block rather than having separate areas for separate housing types. This includes single-family, middle housing, and multi-family. For all housing types there remains a focus on removing barriers to ownership, especially for lower-cost home ownership consistent with City Council's Goal.

Affordable Housing Integration: At least one alternative will include affordable housing fully consistent with affordable housing "targets" described by ECONorthwest and guided by the Planning Commission and City Council during previous work sessions. Other alternatives may include various types and amounts of affordable housing, considering the housing forms described in the Affordable Housing Analysis previously reviewed by City Council.

Transect of Densities: The Area Plan shows densities transitioning from higher densities nearer to Stafford Road and the neighborhood commercial to lower densities to the east and south. This concept will continue to be shown in the alternatives, however, in the context of middle housing rules and the design concept of variety, it will be more of an urban design concept than

an actual numerical density transect. For example, different densities may be determined by typical height of buildings and length of building frontage.

Neighborhood Commercial Center: Alternatives will show a neighborhood commercial center based on Leland Consulting Group's recommendation and Planning Commission and City Council feedback regarding location and style of development (i.e. main street style versus corner cluster).

Street Connectivity: Key street connectivity from the Area Plan will be shown in the alternatives, including a connection from Frog Pond Lane to 60th Avenue and Brisband Street to 63rd Avenue, though orientations will vary (i.e. curvilinear vs straight with sharper turns).

Bike and Pedestrian Connectivity: The framework concepts for pedestrian and bicycle connectivity from the Area Plan will be in the alternatives, including off-street trails.

Natural Areas: The roles of natural areas as preservation of nature, amenities for residents, focal points for urban design, and barriers to connectivity will be incorporated in the alternatives.

Preservation of Important Trees: Trees have been inventoried to identify important trees for priority in preservation. Preservation of these important trees will be incorporated into alternative designs.

Active Parks: Meridian Creek Middle School has existing sports fields and the City owns land south of Advance Road between 60th and 63rd Avenue for a future park. An additional neighborhood park space is assumed in Frog Pond East. These parks are important amenities in considering alternatives for adjacent land uses and urban design.

BPA Easement Corridor: The BPA powerline easement corridor is a major feature of Frog Pond East. Interaction with the easement corridor, from both an urban design perspective and use perspective is important. In addition to including a major trail connection through the corridor, consideration will be given to providing views into the corridor between towers and placing uses near the corridor that could benefit from parking areas or other amenities placed in the corridor.

Civic Amenity Focused on Historic Grange: The Area Plan shows preservation of the historic grange as a civic amenity. Street improvements may require moving the grange building, but the plan is to preserve it even if moved. This concept will be carried forward through the alternatives.

Use of Subdistricts: A geography called a subdistrict will be a tool used for neighborhood planning. Each subdistrict, while having a variety of housing types, is expected to have a cohesive look and feel centered on a gathering spot or focal point.

The subdistrict concept for Frog Pond East and South builds off concepts used in Frog Pond West and Villebois planning. In Frog Pond West, subdistricts are used to identify the different residential lot sizes and are primarily used for zoning implementation rather than urban design. Villebois used a system of sub-geographies called Specific Area Plans (SAPs). While also used for zoning implementation like Frog Pond West subdistricts, Villebois SAPs had an important urban design and housing variety aspect. They were centered on walkable distances focused around gathering spaces and included a variety of housing types in each. With an urban design focus and planned housing variety, the subdistricts for Frog Pond East and South will be more similar to Villebois SAPs than Frog Pond West subdistricts. However, the size of each subdistrict will generally be smaller than Villebois SAPs, similar to the size of Frog Pond West subdistricts. There is not a fixed size of subdistricts. Rather, subdistrict size can vary and is determined based on the context and placemaking opportunities.

The project team has set example boundaries for the subdistricts as shown on page 16 of Attachment 2. Considerations used to draft the boundaries include items that influence the sequence of development and connectivity: property ownership and lot lines, natural features like riparian corridors, existing and planned collector and arterial streets, existing destination buildings like the Grange and Meridian Creek Middle School, walkable distance and power line easements.

Discussion questions:

1. Does the City Council support the base assumption design concepts recommended by the project team, and supported by the Planning Commission, for integration into land use and urban design alternatives?
 - Housing Variety Throughout
 - Affordable Housing Integration
 - Transect of Densities
 - Neighborhood Commercial Center
 - Street Connectivity
 - Bicycle and Pedestrian Connectivity
 - Natural Areas
 - Preservation of Important Trees
 - Active Parks and Open Space
 - BPA Easement Corridor
 - Civic Amenity Focused on Historic Grange
 - Use of Subdistricts
2. Are there other considerations the project team should use to help determine subdistrict boundaries?

EXPECTED RESULTS:

Feedback and input on components of the master planning for Frog Pond East and South, specifically regarding a neighborhood commercial center and key concepts to base land use and urban design alternatives on.

TIMELINE:

This is the fourth in a series of work sessions for the City Council. The next work session is planned for June. Most components of the project must be adopted by December 2022.

CURRENT YEAR BUDGET IMPACTS:

The main consultant contract is for \$350,000 funded through a Metro grant. Work began during FY 20/21. Unused portions have been rolled over and the City anticipates spending \$154,000 by the end of FY 21/22. The remaining \$196,000 is planned to be budgeted during FY 22/23 to conclude the project. Staff is in the process of incorporating an additional \$162,000 in State grants into the contract and work program for additional affordable housing analysis and work related to infrastructure funding and SDCs. Staff, with City Council's support, submitted the grant requests to further enhance the depth of the affordable housing and infrastructure project components.

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which lays out a robust public engagement program that will include meaningful and impactful involvement of people who identify with historically marginalized communities. In addition, City staff continues work with consultants and the DEI committee to establish a framework for broad community involvement.

POTENTIAL IMPACTS OR BENEFIT TO THE COMMUNITY:

Furthering of the City's Equitable Housing Strategic Plan and Council's goal of affordable home ownership, while creating Wilsonville next great neighborhoods.

ALTERNATIVES:

The City Council may provide a range of alternatives for the project team to consider. The alternatives being presented are those recommended by the project team and supported by the Planning Commission.

CITY MANAGER COMMENT:

N/A

ATTACHMENTS:

1. Frog Pond East and South Neighborhood Commercial Area Evaluation Draft (March 28, 2022)
2. Frog Pond East and South Recommended Community Design Concepts (dated April 1, 2022)

Frog Pond East Master Plan

Commercial Area Evaluation DRAFT

Date March 28, 2022
To APG
From Chris Zahas and Sam Brookham, Leland Consulting Group

Introduction

This commercial area evaluation is one component of the Frog Pond East and South Master Plan, which the City of Wilsonville has initiated in order to create the regulatory framework and implementation strategies for the future development of the area.

The real estate market is of critical importance to the future of the entire Frog Pond Area since this new community will be shaped by both the private sector (e.g., landowners, developers, new residents, retail tenants) and the public sector (through planning, regulation, provision of infrastructure, annexation, and other actions).

Leland Consulting Group (LCG), the authors of this report, is part of a consultant team led by MIG | APG, which has been engaged by the City of Wilsonville to develop the Master Plan.

This memorandum includes:

- A summary of key takeaways from broker, developer, and public input
- An analysis of the commercial development market including commercial supply and demand, and opportunities for commercial tenant types, square footage, acreage, parking demands, etc.
- Summaries of case studies of comparable commercial centers with relevant comparisons to the subject site based on the surrounding population, employment, traffic counts, and other metrics that drive commercial development.
- A draft commercial land use program, including location, acres of land required, square feet of development, potential configuration, and considerations regarding visibility, access, connectivity, and the relationship to the surrounding neighborhoods.

The vision for future Frog Pond commercial is for a small commercial node that provides neighborhood amenities for local residents. It is not envisioned as a major commercial center or employment center.

Background and Trends

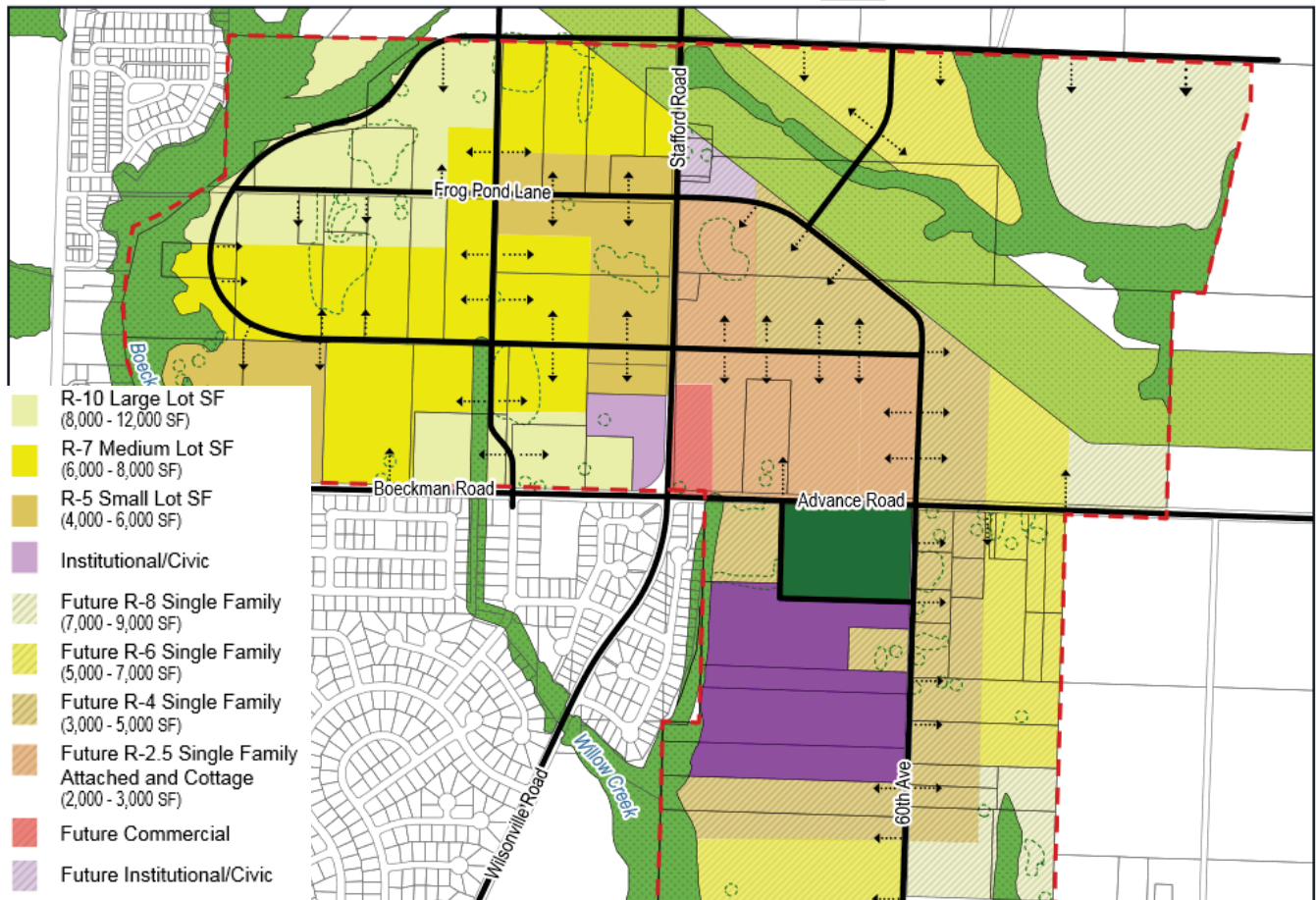
2015 Area Plan Overview

This memorandum builds on the analytical work conducted for the 2015 Frog Pond Area Plan. That plan outlines a vision for the neighborhood commercial center, describing it as a place that provides local goods and services with easy access to the local neighborhoods, with high quality and pedestrian-oriented design, and serves as a gathering place for the community. The focus should be on establishing a retail/commercial hub development that provides some goods and services for local residents, while also creating a center, sense of place, and social hub for the area.

The 2015 work included a market study to evaluate the demand and rationale for neighborhood-scale retail in Frog Pond. The study found that Frog Pond could potentially support an unanchored neighborhood retail center of approximately 38,000 square feet requiring about 3.5 acres of land at full project build-out in approximately 2035. Tenants would likely include retail, small office, and neighborhood services such as a daycare center.

The following map from the 2015 Area Plan shows the proposed location for the commercial area at the northeast corner of the Boeckman/Advance Road and Stafford/Wilsonville Road intersection. This area is central to all three new Frog Pond neighborhoods, is accessible to existing Wilsonville residents, is currently served by transit, is highly visible, has some of the highest pass-by traffic, and is complementary to the planned community park and school.

Figure 1. Frog Pond Area Plan – Land Use Framework



Source: Frog Pond Area Plan (2015)

Stakeholder Engagement

LCG conducted several interviews with retail developers and brokers to understand the opportunities and constraints of the Frog Pond location for future retail, as well as to determine any particular unmet community needs that could be satisfied in Frog Pond East and South. The takeaways and themed notes from these outreach efforts are summarized below. It is important to note that these notes reflect the developers' and brokers' opinions and are not recommendations by LCG.

Current Wilsonville Market. Developers generally agree that Wilsonville is an attractive market, primarily due to its demographics and balance of population and jobs. However, they also agree that there is limited excess demand given

the saturated nature of the retail market in the region. The old rule of thumb for commercial developments: if there are full shopping centers in the area, it is time to build another; the Wilsonville retail market is currently close to fully leased up and performing well.

Project Examples. Several retail precedents were discussed to explore opportunities and recommendations for Frog Pond. These included East Padden Square in Vancouver, WA, a master-planned 200-acre greenfield development in Ridgefield, WA, and Cascade Summit in West Linn, OR.

- The Ridgefield master-planned development shares many similarities with Frog Pond in terms of its size, development program, and location on the edge of the urban growth boundary, although the retail component will be visible and accessible from I-5. Killian Pacific is planning to build a core retail center—potentially grocery-anchored—surrounded by a limited amount of mixed-use, dependent on development feasibility nearer the time of construction. This area in Ridgefield has been undergoing planning for many years and was originally conceived as big box retail, but it is indicative of market trends that the program has changed so dramatically.
- Cascade Summit Town Square in West Linn is a larger neighborhood center on the edge of the UGB anchored by a 48,000 square foot Safeway store. It was developed as part of the residential master plan, which allowed the developer and property owner to offer below-market lease rates in order to fill the retail spaces before they might otherwise have been attractive to tenants. Additionally, the center includes a substantial portion of non-retail tenants, including West Linn City Hall, USPS, an animal hospital, banks, and a Montessori daycare center.
- East Padden Square is a pharmacy-anchored neighborhood center on the urban edge of Vancouver, WA. It includes a 14,000 square foot Walgreens and a 12,000 square foot multitenant building. While nearby households and jobs were important to the developer, access, visibility, and a lack of nearby competition were the driving forces behind their decision to locate the center. Average daily traffic counts are 15,000 to 18,000—much higher than those currently and projected in Frog Pond. A grocery store was originally planned for the center, but it never took hold.

Frog Pond Locational Assessment. Two approaches were discussed with developers: a traditional retail center and a main street approach. Developers provided the following insights:

- Retail survives by having drive-by visibility; main streets need to be planned and designed in a way that maximizes visibility while being accessible and oriented to the customer base that makes up the majority. For Frog Pond, this is likely to remain an auto-oriented area, so the front door (main access) of retailers need to be oriented to the parking lot. This configuration works better for conventional retail centers.
- Average daily traffic counts (ADT) of up to 10,000 will be unlikely to attract national tenants and may not be enough to sustain long-term leases. Developers typically look for ADTs of nearer 20,000. Developers recognize that people like to shop both in their immediate neighborhood and on their way home.
- Proximity to the Frog Pond elementary school is not a determinant of success for future commercial space.
- Developing apartments and other higher-density residential uses (e.g., townhomes) next to a commercial area will improve its chances of success by creating more demand, encouraging walkability, and making it “feel larger.”
- Over the next 10 to 15 years, a center no more than four acres in size appears realistic. Over a longer time frame as other UGB areas are built out, there may be opportunities for more commercial development.

Parking. Developers generally recommend a parking ratio of no less than four (4.0) parking spaces per 1,000 square feet of gross leasable space. For smaller centers and centers with a higher percentage of restaurants (that generally have higher parking demands than most retailers), the ratio should be more like five to six spaces per 1,000 square feet. This allows for necessary overflow capacity for peak parking demand. Shared parking agreements and on-street parking can help mitigate the impact that parking might have on the “neighborhood feel” of commercial areas.

Main Street Retail. Successful main street retail is difficult to successfully achieve, especially in suburban locations and where it is planned on minor streets. Jurisdictions often require the main doors fronting the street (i.e., on Stafford Road or Brisband Road/Frog Pond Lane with only on-street parking in front), which is detrimental to tenancing the commercial spaces. In suburban locations where about 90% of the customer base arrives by car, tenants want to locate where the most customers park. Creating the main street may need Wilsonville to require no more than 60% window glazing on the street frontages and permit entries oriented towards the customer parking.

Developers claim that when they are required by jurisdictions to provide doors along the street frontages, they advocate for limiting the number of doors on the structure and recommend only at either end of the structure to allow the corner tenant another option if they can take advantage of it. The reality is that the tenants create the street frontage as the back-of-house in the tenant layout plans, so the street sides contain storage rooms, bathrooms, utility rooms, etc.

A true main street would require all of the doors and 70% to 80% glazing on the street frontages, but for Frog Pond this would likely result in a situation where the developer would not be able to secure leases, and therefore not be able to obtain financing to build the structures. So the project never happens or it fails after the shell building is constructed.

Likely Development Challenges.

- A retail center below 50,000 square feet may not attract significant developer attention (especially larger developers), but a larger center will not likely be supported by demand.
- Financial conditions are currently the primary barrier to new investment. New retail construction currently requires rents near \$40 per square foot per year. Developers think Frog Pond will likely achieve rents between \$20 to \$25 per square foot, so retail development may need to be subsidized to be feasible. Potential solutions include SDC waivers and below-market land costs (if acquired by the city). While mixed-use development will likely face similar feasibility challenges because of the higher construction costs, efforts should be made to encourage it over the long term. Additionally, ensure the retail component is protected in the mixed-use zones; otherwise, it will be cast aside by the strength of the residential market.
- Frog Pond commercial tenants will likely be convenience-based, including restaurants, convenience stores, salons, sandwich shops, and gas stations. Services and health-based offices may comprise a significant share of the tenant mix.
- A grocery store will be challenging in Frog Pond. Grocers typically want to have access to at least 10,000 people (meaning there is such excessive demand that 10,000 people could be attracted to a new store), and many will not consider building a new grocery store without 8,000 households within a one-mile radius. Further, Wilsonville is saturated with high-quality grocery tenants. A grocery store may be feasible once construction begins in the residential components in the other UGB areas to the north.
- A master-planned development where the primary homebuilder takes on the responsibility of the commercial will likely result in more commercial space in a quicker timeframe.

Retail Market Trends

This section provides an overview of retail market trends and explores the potential impact on future Frog Pond commercial development. Some trends have been gradual, like the shifting consumer focus from malls to neighborhood-centric shopping, while some have been more rapid, as with the growing market capture of eCommerce (accelerated by the COVID-19 pandemic). Specific trends and the related impacts are summarized in the table below.

Table 1. Commercial Trends and Impacts

Commercial Trend	Impact on Future Frog Pond Commercial
Growing eCommerce market share, especially for specialty products and merchandise.	⬇️ Less overall demand for brick-and-mortar stores; limited opportunities for general merchandise.
The COVID-19 Pandemic is the “great retail reset,” with retail experiencing years’ worth of change in just months, including dramatic changes to people’s daily habits and professional and personal routines and significant impacts on real estate development patterns.	⬇️ The pandemic will likely accelerate the trends towards less retail and office space per capita, and boost demand for suburban residential locations. The era of unpredictability and risk (only one top 10 retailers from 1980 is still in the top 10)
The shift toward enjoying experiences more than purchasing goods (commodity vs. specialty) will continue to move retail stores toward selling experiences rather than selling goods.	⬆️ Potential to provide more diverse and compelling tenant mixes, health-based retail, and food and beverage.
Growing demand for convenience-based retail (e.g., neighborhood-based grocery-anchored centers with essential services), walkability, and 20-minute neighborhoods.	⬆️ Frog Pond may be able to provide walkable access to a mix of commercial goods and services, employment opportunities, and other amenities.
Shifting consumer focus from malls and high-street retail to more mixed-use centers and “neighborhood-centric” shopping	⬆️ “Hyper-local” retail orientation; more diverse and compelling tenant mixes with retailers operating smaller portfolios than before
Ageing demographics driving demand for smaller health-based commercial spaces.	⬆️ Medical-related commercial spaces (including offices) comprise a growing share of the commercial tenant mix.

Source: LCG

Retail is typically built in a series of standard formats, and while these vary somewhat, they maintain general consistency in terms of anchor tenants, size (square footage), trade area, and other features. Several types of retail centers are summarized in the table below. The 2015 Area Plan described the most appropriate types of retail for Frog Pond as a corner store, convenience center, or neighborhood center.

Table 2. Types of Retail Centers

Retail Center Type	Gross Retail Area (sf)	Dwellings Necessary to Support	Average Trade Area	Anchor Tenants
Corner Store	1,500 – 3,000	1,000	Neighborhood	Corner store
Convenience Center	10,000 – 30,000	2,000	1 mile radius	Specialty food <u>or</u> pharmacy
Neighborhood Center	60,000 – 90,000	6,000 – 8,000	2 mile radius	Supermarket <u>and</u> pharmacy
Community Center	100,000 – 400,000	20,000 +	5 mile radius	Junior department store

Sources: Urban Land Institute, Leland Consulting Group.

Parking Trends

Parking demand and need depends on a commercial area's tenant mix, its size, its location and how people are likely to travel to it, and the surrounding uses.

The Institute of Transportation Engineers (ITE) Parking Generation Manual compiles peak parking demand rates, typically by gross leasable area (GLA), for various land uses for weekdays and Saturdays. Using data collected from more than 140 surveys at all types of shopping centers ranging in size from 25,000 to 1,400,000 square feet of GLA, ITE found that the average peak parking rate was 3.23 and 3.97 vehicles per 1,000 square feet on weekdays and Saturdays, respectively.

The Urban Land Institute (ULI) has also investigated the impact of many variables including shopping center size, types of uses (retail or non-retail), and shopping center location. The ULI recommendations for providing adequate parking at shopping centers are four (4.0) spaces per 1,000 square feet of GLA for centers between 25,000 and 400,000 square feet.

This ratio may be impacted by a higher-than-average percentage of offices or restaurants.

- Commercial areas with more food service and drinking establishments (i.e., restaurants and bars) tend to have higher parking demand. Small centers and unanchored commercial areas tend to have a greater percentage of restaurants and, therefore, tend to require more parking. Smaller centers may also need more parking to accommodate peak demand.
- Commercial areas with professional, medical, and financial offices typically have slightly lower parking demand (3/1,000 sq. ft.).

Stakeholder interviews suggest a parking ratio of 5 spaces per 1,000 square feet of gross leasable commercial space (GLA), especially for a smaller (i.e., 30,000 to 50,000 square feet) suburban center where most people are likely to drive to and from it.

It should be noted that commercial centers are notoriously overparked and more futuristic trends in automation may diminish demand for traditional parking and increase demand for pick up and drop off zones. By 2035, new technologies, changing consumer behavior, or other factors may greatly impact parking demand and needs.

Demographic Context

Demographics are fundamental to estimating the market demand for commercial real estate. The types of commercial goods forecasted to be in demand in the future in Wilsonville and Frog Pond will depend on the types of people and households who live there both today and in the future.

Some highlights from the previous demographic analysis and relevant updates based on the most recent available data are described in the table below.

Table 3. Demographic Updates to the 2015 Area Plan

2015 Area Plan (2014 Data)		2021 Data
Age	Wilsonville has a higher percentage of young adult residents (aged 24 to 34) and older residents (aged 65+) than the market area or region. Conversely, a slightly smaller percentage of Wilsonville's population is middle-aged (aged 35 to 64) than the market area or region.	Wilsonville's age demographics have remained similar relative to the region; however, the market area has a much higher percentage of young adult residents (aged 24 to 34), a lower percentage of older residents (aged 65+) than the City and region, and a similar percentage of middle-aged residents (aged 35 to 64) than the market area and region.
Family Households	Fifty-nine percent of Wilsonville's households are "family households"—those with two or more related family members living together—compared with 68 and 64 percent in the market area and region, respectively.	Fifty-nine percent of Wilsonville's households are "family households", compared with 64 and 63 percent in the market area and region, respectively. The biggest change has occurred within the market area, where the percentage of non-family households has been increasing.
Household Size	Wilsonville has a larger share (68%) of one and two-person households than the market area or region.	Wilsonville still has a larger share (68%) of one- and two-person households than the market area (65%) or region (62%).

Source: LCG, ESRI Business Analyst

The following tables summarize demographic, economic, and socio-economic conditions for a series of comparative areas, including 0.5-, 1-, and 2- mile radii, the primary trade area, and the City of Wilsonville. Households in the immediate area are generally more renter-oriented, and younger than the broader Wilsonville market and metro region. While these conditions are generally attractive to retailers, as Frog Pond builds out, households will likely become larger, wealthier, and more owner-occupied.

Table 4. Comparative Demographic Characteristics

	0.5 miles	1 mile	2 miles	PTA	Wilsonville	Metro	USA
Household Size	3.07	2.44	2.25	2.59	2.30	2.53	2.58
% Renter	57.2%	63.8%	60.1%	60.6%	45.6%	37.2%	35.3%
Median Age	33.0	33.8	35.8	33.0	37.4	38.7	38.8
% w Bachelor's + (25+ y/o)	41.4%	47.8%	48.1%	45.0%	48.1%	41.3%	33.6%
Household Income	\$69,954	\$69,228	\$70,246	\$72,578	\$73,923	\$78,432	\$64,730
% HHs Earning <\$35K	12.5%	16.7%	19.7%	12.7%	20.9%	19.7%	26.4%
Per Capita Income	\$38,458	\$41,153	\$41,669	\$39,833	\$43,928	\$40,131	\$35,106

Source: ESRI Business Analyst (Derived from ACS Census Data)

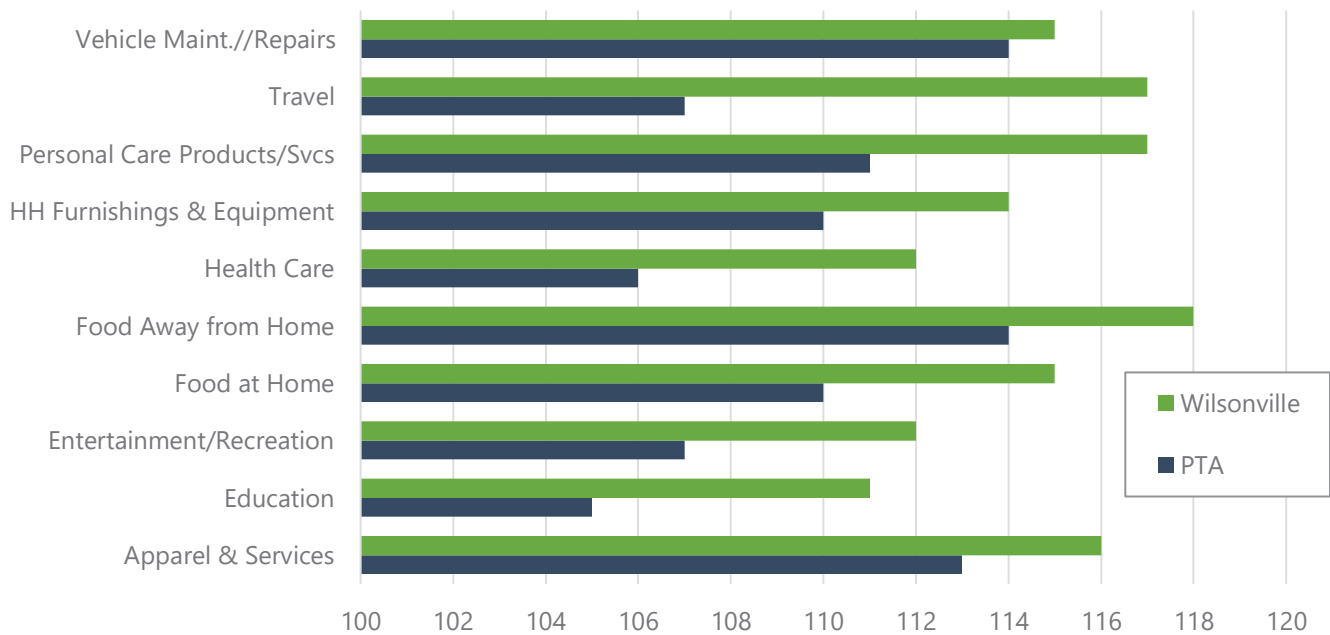
Table 5. Comparative Age Data

Age	0.5 miles	1 mile	2 miles	PTA	Wilsonville	Metro	USA
<18	22.2%	22.8%	21.6%	22.9%	20.0%	21.5%	21.7%
18-34	31.2%	29.1%	27.2%	30.4%	26.4%	23.1%	23.2%
35-44	14.1%	14.5%	14.4%	14.5%	14.1%	14.1%	12.8%
45-54	11.0%	11.7%	11.7%	11.4%	11.4%	12.5%	12.1%
55-64	11.5%	11.2%	11.6%	11.1%	11.6%	12.7%	13.0%
65+	10.0%	10.7%	13.5%	9.7%	16.5%	16.1%	17.2%

Source: ESRI Business Analyst (Derived from ACS Census Data)

Households in both the primary trade area and the City of Wilsonville have a higher spending index across all retail categories than the average U.S. household (an index of 100 indicates the average). Every index point above 100 indicates a one percent increase beyond the average. Retail categories with the highest spending index that could translate to commercial square footage include personal care projects/services, food away from home (i.e., restaurants), food at home (i.e., grocery), and apparel and services.

Figure 2. Spending Index by Retail Category



Source: ESRI Business Analyst (Derived from ACS Census Data)

Existing and Future Customer Base

Household growth is a key driver of demand for commercial development. Wilsonville is projected to continue growing quickly. The previous analysis highlighted that the number of households in Wilsonville is projected to grow at a rate of 1.8 percent annually between 2010 and 2035—faster than many of the nearby cities and the region overall. Updated forecasts from Metro (summarized below for Wilsonville and some of the neighboring cities) show slightly more conservative growth estimates through 2030 and significantly slower growth estimates through 2045.

Table 6. Updated Demographic Forecasts for Wilsonville and the Metro Region

Jurisdiction	2020	2030	2045	10-Yr Annual % Growth	25-Yr Annual % Growth
Wilsonville	25,945	29,756	30,566	1.4%	0.7%
Tualatin	27,278	27,598	27,565	0.1%	0.0%
Tigard	54,591	63,813	71,611	1.6%	1.1%
Sherwood	19,747	20,118	20,662	0.2%	0.2%
Canby	17,161	19,582	19,681	1.3%	0.5%
West Linn	26,060	26,579	26,990	0.2%	0.1%
Oregon City	36,457	42,665	49,009	1.6%	1.2%
Clackamas County	428,614	493,892	593,665	1.4%	1.3%
Washington County	622,082	718,412	809,312	1.5%	1.1%

Source: Metro 2045 distributed population and household forecasts, adopted Feb. 25, 2021, URL

Wilsonville is projected to grow by about 3,800 households between 2020 and 2030. Much of this growth is expected in peripheral growth areas like Frog Pond and will be the primary driver of commercial demand. Growth in other parts of the City is unlikely to make a significant difference to the development prospects of the future Frog Pond commercial area given the likelihood of the land use mix and program being neighborhood-serving and locally-focused. Frog Pond residential counts are described below.

As the following summary table shows, there are currently approximately 2,250 dwellings within one mile of the main intersection (Stafford, Advance, Boeckman, Wilsonville Rd) in Frog Pond, including about 1,250 single-family households and 1,000 apartments.

The 2015 Area Plan includes plans for 610 households in the West Neighborhood, about 200 of which are currently built or close to completion (including the 2,250 current units described above), and 1,322 units in the East and South Neighborhoods.

Upon the expected buildout of Frog Pond residential development in 2035, the number of households within one mile of Frog Pond (the area including the household customer base most likely to support future Frog Pond commercial development) is likely to total (and may exceed) 4,000 dwelling units. To put this number in context, retail developers will often claim 8,000 households within one mile are needed to support a grocery store.

Table 7. Estimated Household Counts

	West	South / East	One-mile Total
Currently Built	200	0	2,250
Total Projected/Planned	610	1,322+	4,000+

Source: ESRI, Frog Pond Area Plan

LCG understands that the total number of dwelling units planned for the may East and South neighborhoods may increase slightly depending on the housing density. Additional multifamily projects and/or mixed-use development may increase the planned total to 1,600 or more, enhancing commercial prospects. In addition to increasing the overall demand for new retail, residents of higher-density departments are less likely to have cars than those living in lower-density, single-family homes and more likely to walk to nearby amenities and services. LCG, therefore, recommends planning higher density residential development near commercial.

Case studies/Precedents

This section includes brief case studies summarizing different projects whose stories have some relevance to the study areas. All of the projects are greenfield projects (built on land that was mostly previously undeveloped); were built within a surrounding suburban context; were thoughtfully planned with an emphasis on quality of place and community; and were intended as neighborhood commercial centers surrounded by housing, quality streets, open spaces, and other features. While each is unique in its own way, each also has unique and context-specific takeaways for the City to consider for the implementation of commercial development in Frog Pond.

A summary table of several is provided on the following page. LCG selected six commercial developments to study based on stakeholder interview input, industry expertise, and background research. Three of these are smaller, unanchored commercial centers, one is a commercial main street, and two are larger anchored centers with main street elements (provided primarily as points of comparison). The arrows for the rows identifying the housing units and jobs within one mile of each area and the traffic counts on nearby streets indicate whether the numbers are less than (red downward arrow), roughly equal to (blue sideways arrow), or more than (green upwards arrow) the households, jobs, and traffic counts projected for Frog Pond by 2035. A full narrative case study of Northwest Crossing in Bend, Oregon is provided following the summary table.

Specific takeaways from LCG's case study research include:

- Many developers seek to build and lease commercial and employment space within several years of land acquisition; for them, having some vacant land after 20 years of development represents an opportunity cost—the land could have been zoned for another use (typically housing) and been rented or sold in earlier years. Likewise, renters and homeowners could have had homes to live in. However, from a policy point of view, if a city or other authority is seeking to ensure adequate land for commercial and employment development, and associated jobs, this can be seen as a success.
- Creating a strong sense of place is possible with a small amount of commercial development when it is carefully and deliberately built.
- A commercial main street is one important amenity that can make the rest of the community more desirable. While commercial space needs exposure to high-traffic arterials, pedestrian-oriented places should be created on main streets that are perpendicular to the arterials. It is often not comfortable for pedestrians to walk and talk or dine outside, along arterial roads, so creating a pedestrian-friendly environment is easier on perpendicular streets.
- Commercial development takes time in less traditional locations (i.e., those without large populations and traffic counts). Housing was faster to build out at NorthWest Crossing—commercial and employment followed.
- Northwest Crossing emphasizes the placemaking benefits of linking retail with open space. As a master-planned development, the developer could afford to choose this orientation and link the two spaces. Notably, none of the smaller unanchored centers documented below include a larger open space other than seating immediately outside of the storefronts. Larger commercial developments can flexibly design the site to accommodate smaller public gathering and open spaces that provide a community amenity and serves its tenants. A well-designed site that encourages the movement of people on foot between parks/open space and retail development will likely require either a master developer that sees value in this approach or a deliberate decision by the City to acquire and preserve land for these uses.

le 8. Case Study Summary

	Forest Heights	Village on Scholls	East Padden Square	Northwest Crossing	Central Village	Cascade Summit Town Square
General Location	NW Metro (UGB edge)	Tigard (SW UGB edge)	Vancouver (NE edge of City)	Bend (western edge of City)	West Linn, Highway 43	West Linn, Salamo Road (adjacent to preserved land)
Type	Unanchored convenience center	Unanchored convenience center	Pharmacy anchored n'hood center	Main Street Commercial	Grocery anchored n'hood center	Grocery anchored n'hood center
Tenant Mix	Natural Market, café, salon, cleaners, pizzeria, coffee shop	Café, restaurants, professional offices, Salon	Pharmacy, dental office, H&R Block, fast-casual and sit down restaurants	Bars, salons, restaurants, book store, medical/ prof. offices, bike shop, boutique clothing,	Retailers, restaurants, medical and professional services office space, West Linn Public Library	Safeway, offices, City Hall, banks, liquor store, gym, USPS, other misc., Montessori School
% Non-Retail	15%	50%	15%	26%	15%	30%
Year Built	1994	2008	2006	2006-2021 (ongoing)	2007	2000
1-mi Hsg. Units	4,600 ↻	6,000 🟢	4,000 ↻	2,700 🟡	3,700 ↻	4,100 ↻
1 mile Jobs	1,030 ↻	1,150 ↻	1,200 ↻	2,270 🟢	5,160 🟢	1,530 ↻
Traffic Counts	5,000 🟡	18,900 🟢	19,000 🟢	9,000 ↻	17,000 🟢	8-10,000 ↻
Site Acreage	1.6	2.9	3.2	6.0 (2 acres recently developed)	7.9	12.6
Building Sq Ft	24,000	32,000	31,000	84,600 (33,000 recently added)	104,715	131,660
Floor Area Ratio	0.34	0.25	0.22	0.28	0.30	0.24

Source: LCG

Northwest Crossing, Bend

Northwest Crossing is a 500-acre master-planned neighborhood in Bend, Oregon, located about 1.5 miles west of downtown. It is composed of a wide variety of housing types (single-family, cottages, townhomes, and apartments), over

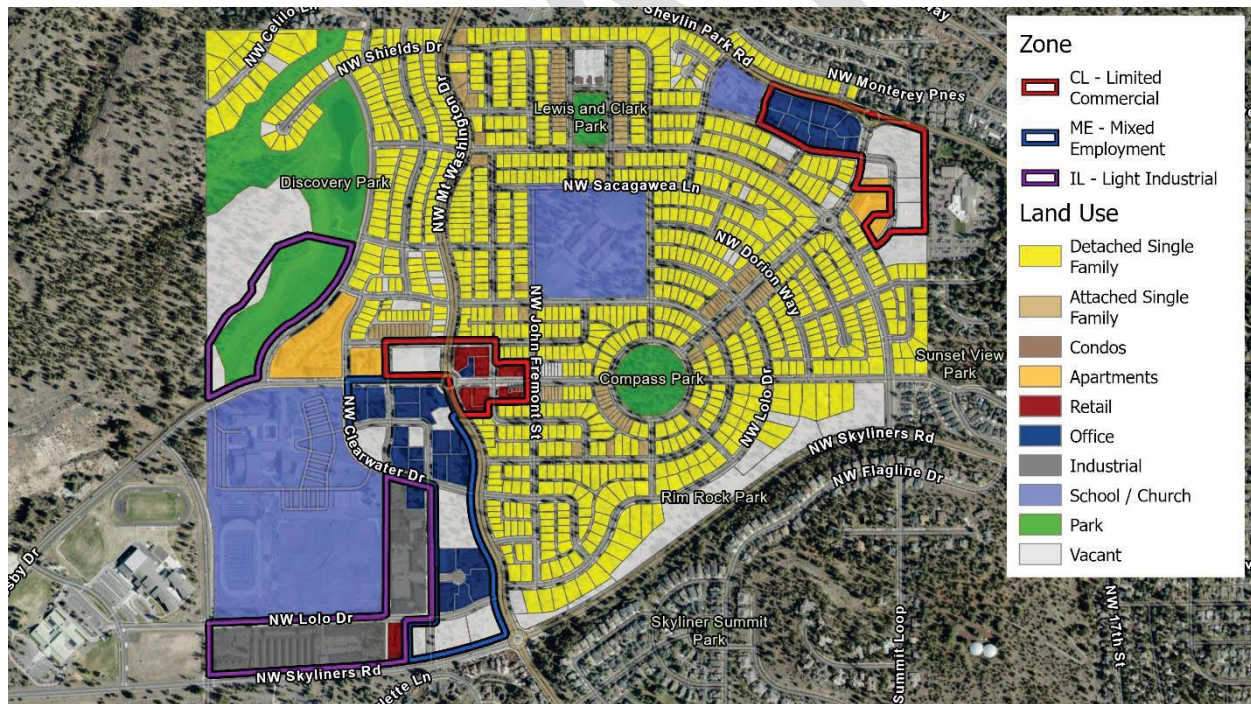
80 businesses representing a range of sectors (retail, medical, professional services, manufacturing), and a highly walkable network of streets and trails.

NorthWest Crossing is one of the best models of a successful neighborhood node or main street development within a master-planned community in the Pacific Northwest. It creates a great sense of place within a small core commercial area (less than 5 acres), and its design shows how a pedestrian-oriented main street can coexist with adjacent high traffic arterials. LCG recommends that Frog Pond consider this model of neighborhood node-scale commercial development, with an emphasis on food, lifestyle, personal and professional services, and other commercial activities that serve as an amenity to residents and create a sense of place.

Commercial uses primarily center along 400 feet of Northwest Crossing Drive (spilling east from Washington Drive). This commercial heart of the town center is approximately three to five acres, depending on the extent to which surrounding roads, sidewalks, and parking lots are included in the count. There is a small amount of retail, yet the project creates a powerful sense of place, with both residents and visitors going out of their way to gather, shop, and stroll on the “main street.” The street is connected to Compass Park, 500 feet to the east.

Northwest Crossing Drive and the park both host a range of events around the year including Saturday Farmers Market, music, tree lighting, movies, and various festivals. Together, the commercial space, park, street network, range of housing, and other features create something distinctive and elusive—community and sense of place. While these attributes may seem conceptual, they drive financial returns, particularly through very strong home sales throughout the community’s twenty-year history, including during the recession, when home sales in other parts of Bend suffered.

Figure 3. Northwest Crossing Land Use Map



Northwest Crossing has had relative success in attracting significant employment development. Capitalizing on Bend’s quality of life characteristics, concentration in outdoor recreation and “maker” industries, and emerging start-up culture, Northwest Crossing has been able to attract several small manufacturing and mid-size headquarters to its employment area. In total, about 16 acres of office development and 15 acres of industrial development have been built. This makes it one of the most successful greenfield communities in Oregon in terms of attracting employment uses.

NorthWest Crossing was led by master developer Brooks Resources, who purchased the entire 500 acres in the 1990s, used a phased buildout approach for the residential component, and was willing to be very patient on the development of commercial and employment sites. LCG cannot say at this point whether this will be the case at Frog Pond. Most of the land, including the proposed site of the commercial center, is currently held in numerous disparate ownerships and no master developer is known. One reason that a master developer is significant is that they are more likely to “over-invest” in amenities such as commercial centers, because, at least in theory, a desirable commercial center will make the entire neighborhood more attractive and desirable and enable the master developer to “internalize” the greater revenue generated by faster home sales and more valuable homes—even if the commercial center is expensive to develop and has a low return on investment. When a property is controlled by many owners, each owner has far less incentive to view commercial and employment areas as loss leaders that drive the success of the overall community.

Market Analysis

A retail market analysis provides quantitative information about the opportunities for new retail space based on existing and future supply and demand. This section describes the competitive retail environment facing future commercial in Frog Pond and the households expected to drive most of the demand for new space.

The 2015 Area Plan described the most appropriate types of retail for Frog Pond as a corner store, convenience center, or neighborhood center. This analysis reevaluates these assumptions and identifies the most appropriate retail format and size for Frog Pond based on new data and updated information.

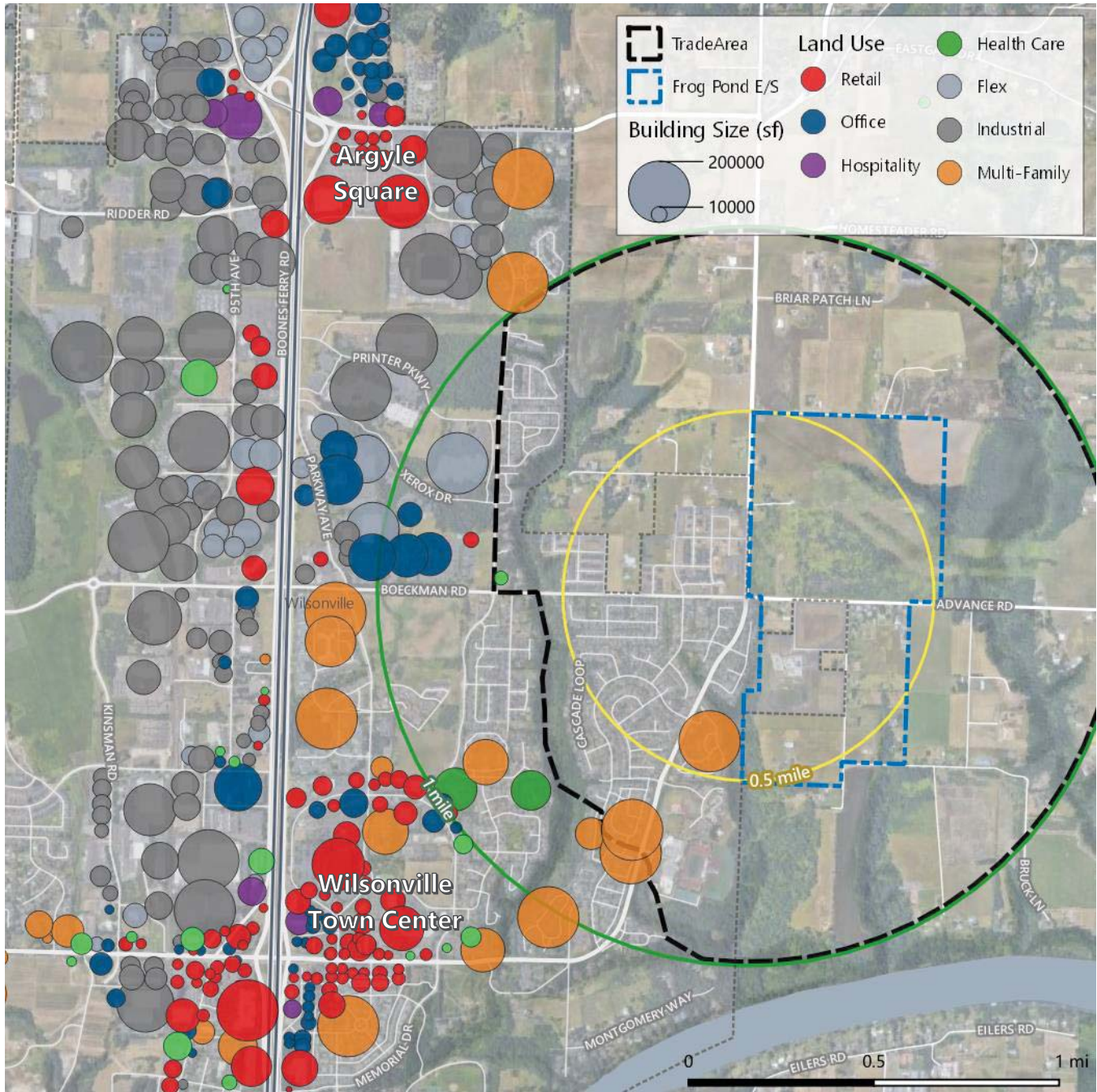
Primary Trade Area

The primary trade area is the geographic region from which 50 to 80 percent of total demand and sales are expected. Identifying and analyzing this trade area is critical to understanding the demand for retail commercial space and the potential market capture of the Frog Pond area.

The size of the trade area differs based on the type of commercial space. The size of the trade area generally correlates with the size of the commercial center or store and the total square footage occupied by its tenants. For example, tenants offering neighborhood goods and services and food and beverage are typically more locally-focused, occupy smaller store footprints, and have a much smaller trade area than general merchandisers and other larger-format stores that have a more regional draw.

The following map shows the Frog Pond primary trade area in relation to existing commercial and multifamily developments.

Figure 4. Frog Pond Primary Trade Area



Source: LCG

The primary trade area for Frog Pond will likely be within one mile of the future commercial area, consistent with the typical trade area for a convenience center. Future commercial in Frog Pond is unlikely to draw many customers from beyond one mile away unless it becomes a destination that can attract visitors with a unique retail experience. The boundary shifts inward in places that are impacted by:

- Physical and environmental barriers, particularly to the west and south along the wetland/vegetative corridor. New households west of this corridor will more likely be consumers of commercial to the west,

- The proximity of large retail centers, including Argyle Square, Wilsonville Town Center, and others, and
- Major arterials offer quick access to these well-established commercial concentrations.

This trade area excludes approximately 680 dwelling units that are within one mile of the center (330 single-family homes and 350 apartments). These households—and households further afield—will also support Future Frog Pond commercial, but proximity to more established retail in and around the Wilsonville Town Center will likely be a more significant draw.

Commercial Supply and Competition

This section summarizes the existing and future retailers that are likely to compete for customers with future Frog Pond commercial. Given its location on the eastern edge of Wilsonville, commercial demand and development prospects are most likely impacted by commercial spaces located east of I-5. These spaces include those within the Wilsonville Town Center and the Argyle Square regional shopping center at Elligsen Road; both commercial centers offer a wide variety of goods and services. One benefit that both of these centers have over Frog Pond, as shown in the table below, is the very high traffic, visibility, and access that comes with their location near I-5, and along major high volume arterial roads.

Each of the centers is relatively high-performing despite the challenges facing the retail sector due to ecommerce and the COVID-19 pandemic. Vacancies at Argyle Square continue to be very low (<5%), rents average more than \$30 per square foot, and annual rent growth has exceeded three percent for the past decade. Rents at the Wilsonville Town Center are slightly lower on average at \$25 per square foot, reflecting the older building stock.

The Wilsonville Town Center (WTC) is the focus of a recent master plan that envisions widespread changes over the planning horizon for the Frog Pond Master Plan. Plans include a more pedestrian-oriented environment, additional commercial development, a shift to more experiential retail, mixed-use development, and a greater intensity of uses. Frog Pond Commercial will compete with WTC for experiential retail, including neighborhood goods and services and food and beverage.

Retailers at Frog Pond will need to consider these retail centers and establish an effective role and niche to compete effectively.

Table 9. Property Characteristics of Competing Commercial Centers (East of I-5)

Average/Total	Wilsonville Town Center	Argyle Square Regional Center
Center Type	Community Center	Regional Center
Major Tenants	Safeway, Goodwill, Dollar Tree, Ace Hardware, Regal Cinema, Clackamas Community College	Target, Costco, PetSmart, Office Depot
Leasable Space (SF)	1,091,000 (664,000 sf retail buildings)	370,000
Site Area (SF)	6,332,544	1,850,267
FAR	0.17	0.20
Total Vacant SF	157,000 (includes 146,500 sf building formerly occupied by Fry's Electronics)/	10,500
Avg. Vacancy Percent	15% total / 24% retail only	<1%
Avg. Traffic Counts	27,000	15,000
Households w/in 1 mi	4,711	1,005
Planned Development	1+ million square feet	Nothing planned

Source: ESRI, LCG

Demand for New Commercial Space

The demand for commercial space, and ultimately land that needs to be planned for future development is a function of many interrelated factors. Each commercial real estate sector—including office, retail, industrial, hospitality, and healthcare—consider certain factors more important than others, as summarized below.

Table 10. Factors Influencing Demand and Development Prospects

Factor & Description	Sector Impacted	Frog Pond Considerations
<p>Spending Leakage. Leakage occurs when locals spend a larger amount of money on goods than the number of sales reported by local businesses. Retail leakage implies that locals are traveling outside of the local market area to buy retail goods and can indicate unsatisfied demand within the PTA.</p>	<p>Retail, medical and professional office, lodging</p>	<p>There is leakage across all retail categories; Frog Pond may recapture spending leakage in neighborhood retail, goods and services. Leakage for the primary trade area is shown in the chart that follows.</p>
<p>Existing and Future Consumer Base. Consumers include shoppers, workers, tenants, and other users. A fast-growing area will create demand for services and development quicker than slow-growing areas because of the needs of new households. High-growth areas will attract development interest.</p>	<p>Retail, office, industrial, lodging</p>	<p>Frog Pond is impacted by household growth primarily, with at least 4,000 units expected by 2035.</p>
<p>Purchasing Power of Base. Households with higher incomes generally have more disposable incomes and, therefore, consume more goods and services and generate demand for more commercial development. Households with certain demographic profiles tend to spend more in certain categories than others. Retailers are interested in targeting clusters of households that fit the goods and services on offer.</p>	<p>Retail</p>	<p>The “Spending Index” for households living in Wilsonville is higher than the metro and U.S. average, indicating strong purchasing power. This index is expected to be similar for the trade area as Frog Pond builds out.</p>
<p>Local Demographics. Characteristics of residents and workers, such as education, household composition, age, and income, play a factor in consumer behavior, employment demands and trends, and hotel use.</p>	<p>Retail, office, industrial, lodging</p>	<p>Frog Pond and the surrounding areas appear to have attracted younger, educated, wealthy families. These demographics support neighborhood-serving retail and other specialized uses, such as daycare.</p>
<p>Unique Differentiators. Placemaking and walkability can create unique destinations that people want to live, work, and play in. These places pull people from outside the typical trade area and generate more development interest than traditional locations.</p>	<p>Retail, office, lodging</p>	<p>In lieu of major differentiators, Frog Pond can drive interest and pull customers to the area by encouraging higher density development near commercial uses, on-street parking, connections to open spaces, and promoting neighborhood-centric tenant mixes.</p>
<p>Access and Visibility. While neither of these characteristics generates demand in itself, highly accessible and visibility areas will be more likely to attract development interest because of the ability to draw from a wider market area and capture passing traffic (auto, pedestrian, tourism, etc.).</p>	<p>Retail, office, industrial, lodging</p>	<p>Stafford Road carries the most traffic, with northbound evening commuters providing opportunities for Frog Pond East. Traffic on Brisband Road and Frog Pond Lane and other east-west connections may arise later.</p>

Source: LCG

As noted above, there is leakage in all retail categories—a positive indicator for commercial prospects. In theory, the total sum of the leakage across all categories could be met with more than 175,000 square feet of new retail development. In reality, only a small fraction of existing leakage might be recaptured within the PTA in the form of new development. This is because most of the retail “gravity” is to the west, with several large centers that draw customers from a much larger trade area because of the substantial range of goods and services on offer. New commercial in the Frog Pond area can expect to see the highest capture rates among neighborhood goods and services (e.g., the categories of food and beverage, health and personal care, and building materials/garden equipment) and low recapture rates in the categories of general merchandisers (such as Target, Walmart), clothing, sporting goods, furniture, and electronics.

Figure 5. Spending Gap Analysis, Primary Trade Area, Current Spending Leakage



Source: LCG

Demand Analysis

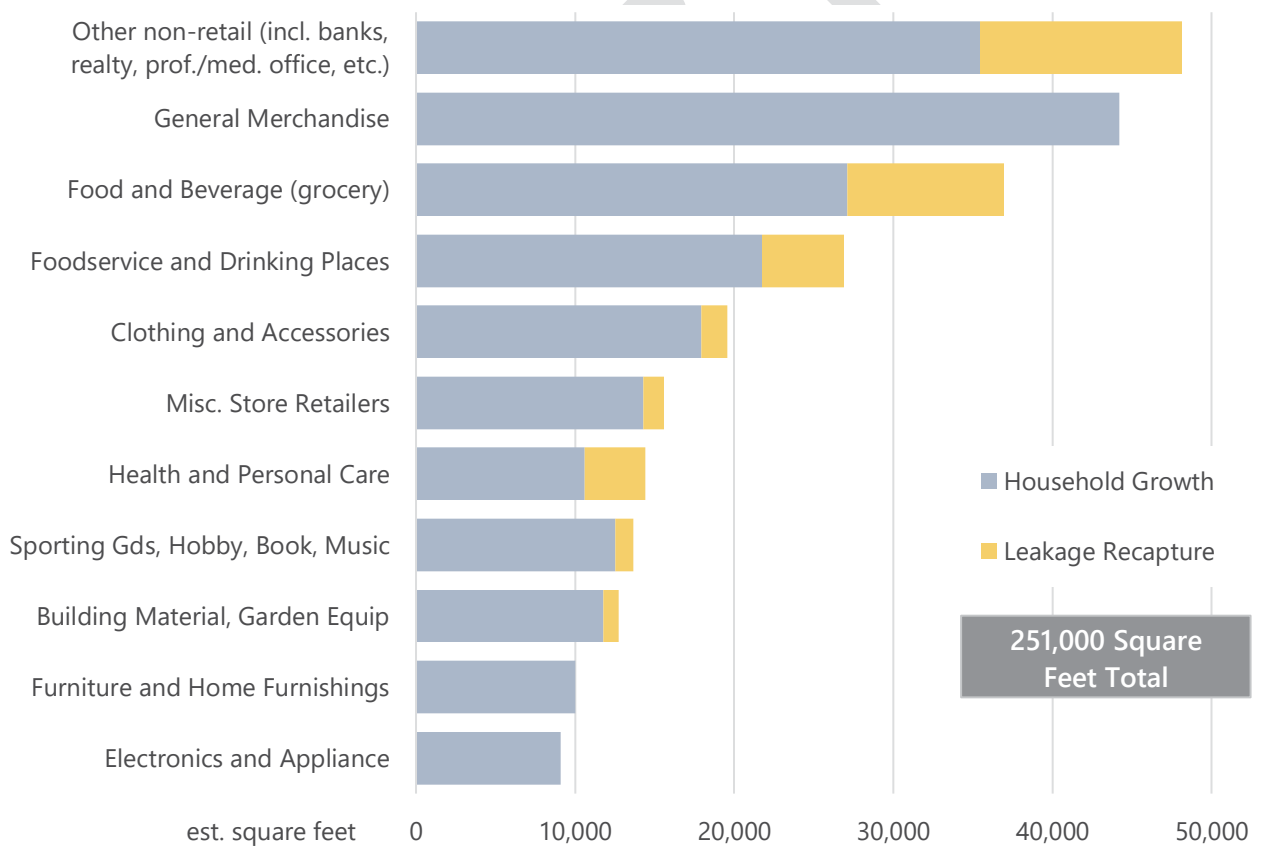
Commercial demand is calculated by applying the following key metrics to existing and future households within the primary trade area.

- **Expenditures by household.** Household expenditures are collected through a survey by a U.S. Bureau of Labor Statistics (BLS) and reported as average and summed expenditures by subcategory.
- **Market Capture.** Capture Rates are the percentage likelihood that the expenditures will be assumed by the development. Analysts assign capture rates as a factor of competition, location, and other market factors.
- **Leakage Recapture.** As noted above, a fraction of existing leakage might be recaptured within the PTA in the form of new development
- **Sales per Square Foot.** Sales per square foot are otherwise known as productivity and enable a calculation of supportable square footage at the product. Each region, neighborhood, and development has a different set of sales figures.

LCG evaluated retail demand using these metrics through 2035 when the Frog Pond area is expected to be near completion. Demand is driven by existing and future households within the primary trade area, as well as spending from drive-by shoppers. Taking into account the existing stock of about 2,250 households and the approximately 1,800 new households likely to ultimately reside at Frog Pond, there will likely be more than 4,000 households in the primary market area at full project build-out in 2035.

Based on these household counts, and the metrics identified above, demand for new retail space from existing and future households totals 226,000 square feet through 2035. Demand does not translate to viable square feet of development, however, and the market capture varies for each retail category. The majority of households will continue to shop in areas outside of the primary trade area and other existing and new retail developments will capture a significant share of total commercial demand. Among these areas is the Wilsonville Town Center—the closest retail concentration—that may add more than one million square feet of new development over the next 20+ years and draw customers from the Frog Pond area.

Figure 6. Primary Trade Area Retail Demand by 2035, Net New Square Feet



Source: LCG

Projected Demand and Potential Market Capture

This section outlines the possible site program for Frog Pond based on the market capture of the demand totals described above. LCG estimates the market potential for between 31,000 and 56,000 square feet of new commercial space. This would require between 2.8 and 5.1 acres of land at a standard floor area ratio (FAR) of 0.25 (consistent with the case studies documented in the following section). The higher threshold largely depends on the area’s ability to attract a pharmacy or medium-sized grocer, which may not be feasible within the planning horizon.

The following table details the estimated range of gross leasable space (in square feet) for various retail types based on LCG's demand analysis. Future Frog Pond commercial is expected to comprise primarily of food and beverage stores (including grocery, specialty markets, delicatessens, butchers, etc.), health and personal care (including salons, pharmacy, fitness centers), foodservice and drinking places (restaurants, cafes, bars), and other non-retail stores ((banking, realty, financial and medical offices, educational tenants, etc.). As the case studies show, non-retail tenants typically account for between 15 and 30 percent of gross leasable space in commercial areas. This is captured in the table below in the "Other" retail category type.

Table 11. Primary Trade Area Retail Demand and Supportable Retail Area: 2035

Retail Category Type	Future Growth in Demand (Retail Potential) \$	2035 New Demand from HH Growth (s.f.)	Leakage Recap- ture (s.f.)	Total New 20- yr Demand (s.f.)	Capture Rate (low)	Capture Rate (high)	Net New Demand Square Feet (low)	Net New Demand Square Feet (high)
Furniture & Home Furnishings	\$2,254,435	10,020	0	10,020	0%	0%	0	0
Electronics & Appliance	\$2,270,950	9,084	0	9,084	0%	0%	0	0
Bldg. Material, Garden	\$4,115,742	11,759	994	12,761	10%	15%	1,300	1,900
Food/Beverage (grocery)	\$11,519,008	27,104	9,837	36,941	15%	50%	5,500	18,500
Health & Personal Care	\$3,969,016	10,584	3,841	14,425	35%	50%	5,000	7,200
Clothing & Accessories	\$3,584,158	17,921	1,626	19,547	5%	10%	1,000	2,000
Sporting Gds, Hobby, Book, Music	\$2,504,784	12,524	1,136	13,660	10%	15%	1,400	2,000
General Merchandise	\$12,151,776	44,188	0	44,188	0%	0%	0	0
Misc. Store Retailers	\$3,213,690	14,283	1,296	15,579	10%	15%	1,600	2,300
Foodservice & Drinking	\$7,612,294	21,749	5,166	26,930	20%	28%	5,400	7,500
Other non-retail (banks, prof./med. office, etc.)	\$5,319,585	35,464	12,683	48,153	20%	30%	9,600	14,400
Total	\$58,515,438	214,680	36,580	251,288	12%	22%	30,800	55,800
Acreage Required							2.8	5.1

Sources: ESRI Business Analyst, LCG

The feasibility of this commercial development will also depend on what if any retail is developed in other locations. For example, a new retail center located to the west of the Frog Pond Area on Boeckman Road would absorb demand from Frog Pond and potentially preclude new development in the study area. However, this analysis assumes that no new retail is built within a one-mile radius of Frog Pond East.

With projected 4,000 households within one mile of the main intersection, Frog Pond will likely support a convenience center at the lower range (around 30,000 square feet), but a larger retail center at the upper range (around 50,000 square feet) may be challenging.

Within two miles, there are *currently* about 6,000 housing units and additional growth in this area will exceed the average number of dwellings necessary to support a neighborhood center. However, such a large trade area is unlikely in this case given this area includes more than 2.0 million square feet of existing competitive retail space.

Site Location Considerations

This section includes a discussion of potential locations for future commercial development and the advantages and disadvantages of each.

When selecting commercial development sites, several core characteristics attract commercial developers and brokers to certain locations, including access and visibility, traffic counts, and the customer base. The previous pages have described Frog Pond's general competitiveness as a commercial location; this section now provides an overview of the potential internal locations for this commercial development within Frog Pond East and South.

Potential locations are limited to the east side of Stafford Road. Stafford is and will remain the primary route through Frog Pond (with 6,000 average daily traffic counts) and is therefore visible and accessible to the greatest number of people in the area. It should be noted that retail developers typically want ADTs of more than 15,000 for most commercial centers, and while the City's Transportation System Plan forecasts that ADTs on Stafford will reach approximately 10,000 by 2035, reaching the upper 50,000 square feet threshold may not be feasible given these and other challenges. Over a long-term planning horizon (20+ years), other areas in the region will develop, including those to the immediate north, and employment will grow, driving up densities and ADTs to levels that are more likely to support a larger commercial center.

Along the Stafford Corridor, there are three potential locations for commercial development. The first, at the northeast corner of the existing main intersection of Stafford and Advance roads, has been documented in detail and remains an opportunity site. The second potential location is at the planned extension of Brisband Road along Stafford Road. This extension will likely be the primary alternative route through Frog Pond, bringing more customers and traffic past this potential location. Similarly, the third location is at the planned extension of Frog Pond Lane adjacent near the Frogpond Grange. More details about the pros and cons of each location are provided in the table below.

Table 12. Location and Development Type (Main Street Retail Versus Commercial Centers) Options: Advantages and Disadvantages

Location	Likely Commercial Type / Location	Advantages	Disadvantages
1. NE Corner of Advance/ Stafford Intersection	Commercial center with access from both Stafford and Advance roads. Large central parking lot.	<p>Most “developer-friendly” option.</p> <p>Best opportunity for a pharmacy on the corner.</p> <p>Likely to develop the quickest.</p> <p>Tried and tested development type.</p> <p>Anchor tenant opportunity.</p>	<p>Least pedestrian-oriented location and development type.</p> <p>Few opportunities to tie into land uses to the south and west.</p> <p>May have the least community support.</p> <p>Commercial centers can age quickly and feel outdated.</p>
2. Brisband Road	“Main Street” with commercial space on the north and south sides of Brisband Road, as well as space fronting Stafford Road. Parking is likely located on street and behind buildings.	<p>Most balanced option (market-driven versus experience/amenity-based).</p> <p>May have the most traffic once Frog Pond residential is complete.</p> <p>Main street retail feels “fresher” for longer, maintaining vibrancy.</p> <p>May have the most community support.</p> <p>Long-term potential to develop a flexible mixed-use program that fully surrounds the commercial area: program may also increase in size with the Elligsen UGB area housing growth to the north.</p>	<p>Typically unanchored; may take longer to build and fill with tenants.</p> <p>May require public subsidy given the greater development complexity, especially if mixed-use (upper stories are not required).</p> <p>Challenging tenant/parking configuration.</p> <p>Power easement through connection may be critical to bringing more local customers to the site.</p>
2. Frog Pond Lane Extension	“Main Street” with commercial space on one or both sides of Frog Pond Lane, as well as space fronting Stafford Road. Parking is likely located on street and behind buildings.	<p>Opportunities to tie into existing community asset at the Frogpond Grange.</p> <p>Main street retail feels “fresher” for longer, maintaining vibrancy.</p> <p>May have the most community support.</p> <p>Long-term potential to develop a flexible mixed-use program that partially surrounds the commercial area: program may also increase in size with the Elligsen UGB area housing growth to the north.</p> <p>More central to both future Frog Pond and Elligsen UGB area households, albeit over a much longer timeframe.</p>	<p>Same as Option 2.</p> <p>North side development may be challenging given the existing location of the Grange.</p> <p>Not centrally location: one-sided market area (most of new residential construction will be constructed to the south) may limit customer base/tenanting opportunities.</p>

Source: LCG

Location number two (and three, to a lesser extent) offers the opportunity to develop a main street retail development type that likely offers the greatest community benefit and experience. However, if the City of Wilsonville chooses to

pursue the Main Street approach, it should be aware of the potential challenges, including parking complexities, site design, building orientation, access, and whether the development will include upper story offices or residential units. If the City and its development partners can address these challenges, a commercial main street can make the rest of the community more desirable. Main streets require slow vehicle speeds, sidewalks, street parking, retail on both sides of the streets, and the streets should ideally go somewhere rather than into an inner neighborhood. Sisters, Oregon is one such example.

Phasing

Retail development in edge locations such as Frog Pond is challenging and requires the right mix of pass-by traffic and visibility, a dearth of strong competition in the primary market area, and an adequate population. This also underscores the adage that “retail follows rooftops” and gets developed only when there is sufficient housing to support it. A larger development program may provide more neighborhood amenities, but it will also take longer to develop and land may sit vacant and undeveloped for many years.

Retail developers may decide to wait until after 2035 to build significant retail, when additional Urban Reserve Areas such as the Elligsen Urban Reserve Area to the north may enter the UGB (although the build-out of these areas will likely take more than 20 years).

Ultimately, the City of Wilsonville will need to decide whether it wants to see commercial development in the shortest timeframe possible or hold the land until a larger program might be feasible or a master developer is interested in developing the site. Alternatively, the City could plan for commercial development in the future Elligsen Urban Reserve as it will have greater access to more households, thereby—at least theoretically—supporting a larger development program.

Recommended Development Program

The primary goal of this memo is to recommend a commercial development program that includes site acreage, development square feet, likely tenant mix, parking demands, access requirements, and other considerations.

The market analysis for the 2015 Area Plan found that Frog Pond could potentially support an unanchored neighborhood retail center of approximately 38,000 square feet requiring about 3.5 acres of land at full project build-out in approximately 2035. Tenants would likely include retail, small office, and neighborhood services such as a daycare center.

This updated market analysis finds that a slightly larger development program of **44,000 square feet on 4.0 acres of land** may be feasible. If the City can attract a pharmacy or medium-sized grocer (a full-service grocery store is not likely), this program could be 56,000 square feet on 5.1 acres of land, so flexibility should be incorporated into the plan in order for the City to be able to respond to opportunities as they arise. A summary of LCG’s recommended development program is as follows.

Bldg. Square Feet	Up to 44,000 square feet
Site Acreage	Up to 4.0 acres
Tenant Mix	Commercial development today is flexible and accommodates a wide range of activities, including food and beverage, retail, general commercial, professional services/office, healthcare, fitness, daycare, banks, and more. Specific retail tenants may include cafes and restaurants, a specialty food product store, a pharmacy, and other miscellaneous stores like laundromats, salons, hobby/boutique stores, and medical, professional, and financial offices.

There are few region-wide examples of developers building commercial centers that are smaller than 30,000 square feet and may wait until a center between 30,000 and 55,000 square feet or larger is feasible, especially if the retail market again shifts dramatically in the next decade. Another approach is to encourage a greater percentage of non-retail uses to create a larger and potentially more profitable center. Some of these non-retail tenants include medical/health services (dental offices, veterinary clinics), financial services (banks, real estate brokerage, insurance offices), realtors, personal care (salons, fitness centers), and household services (childcare facilities, education, coworking spaces).

Development Type

"Hybrid" Main Street, with buildings on both sides of the planned Brisband Street or Frog Pond Lane extension on the east side of Stafford Road. Buildings can be split up (see Northwest Crossing) to address parking challenges. The corners present an opportunity to attract a pharmacy or larger anchor tenant.

The main street approach, if done correctly, creates an authentic experience that promotes placemaking, creates a community amenity, and can have a positive impact on the surrounding residential uses and other commercial spaces (e.g., driving rent premiums and increasing values, improving the attractiveness of the area for new residents and customers, etc.).

In keeping with other regional centers, initial construction is most likely to be at a 0.25 to 0.30 floor-area ratio (FAR).

Parking

Parking ratios of 4.0 to 5.0 per thousand square feet of gross leasable commercial space are common. Most parking in the near term will be at the surface level, though shared parking and on-street parking can reduce the need for large fields of surface parking. A higher percentage of food and beverage-based tenants will create more demand for parking, while a higher percentage of non-retail tenants will likely create less demand.

Location

From a pure market perspective, the northeast corner of the Stafford Road and Advance Road intersection makes the most sense. This location requires the least new infrastructure and can be built out independently of the rest of Frog Pond.

However, Main Street retail provides the greatest experience and offers an opportunity for the commercial area to be prosperous over a longer timeframe. Main street retail feels "fresher" for longer than conventional retail centers and would be more accessible to a greater number of people traveling by car, foot, and bike.

A pharmacy or similar small anchor tenant may be possible in either location but would want to locate on street corners, yet with a setback for their customer parking.

Other Recommendations

Plan for higher-density residential, including apartments, townhomes, and live/work spaces, surrounding the commercial center. Most case studies of successful commercial areas are surrounded by higher-density housing.

Many desirable communities and commercial centers are mixed-use, and allow housing, live-work, educational, and institutional, within or adjacent to the centers. In the near term, horizontal mixed-use is possible and can create a great sense of place. Opportunities for vertical mixed-use in the near term may be very limited or nonexistent, though possible in the long term (10+ years). While the market for live-work space is modest, stakeholders may want to encourage or incentivize it.

Recognize the constraints imposed by market and development economics related to height, density, and vertical mixed-use.



RECOMMENDED COMMUNITY DESIGN CONCEPTS

TO: Planning Commission
FROM: Project Team
DATE: April 1, 2022

OVERVIEW

The purpose of this memorandum is to introduce community design concepts and potential “subdistricts” for the Frog Pond East and South Master Plan. As used here, subdistricts are subareas of the East and South Neighborhoods that will have cohesive building form, public realm features, or other characteristics that give them a particular identity. The subdistricts are an urban design tool to support ongoing community dialogue and Master Plan layout.

This memorandum is the first of several steps in creating Master Plan alternatives. Those steps are:

1. Planning Commission review of this material and guidance (April 13th meeting)
2. Community outreach through workshops and focus groups in (April and May)
3. Preparation of alternatives based on community input (late May)
4. Planning Commission review of alternatives and a recommended alternative (June 6th meeting)

THE FROG POND AREA PLAN “FRAMEWORKS”- A STARTING PLACE

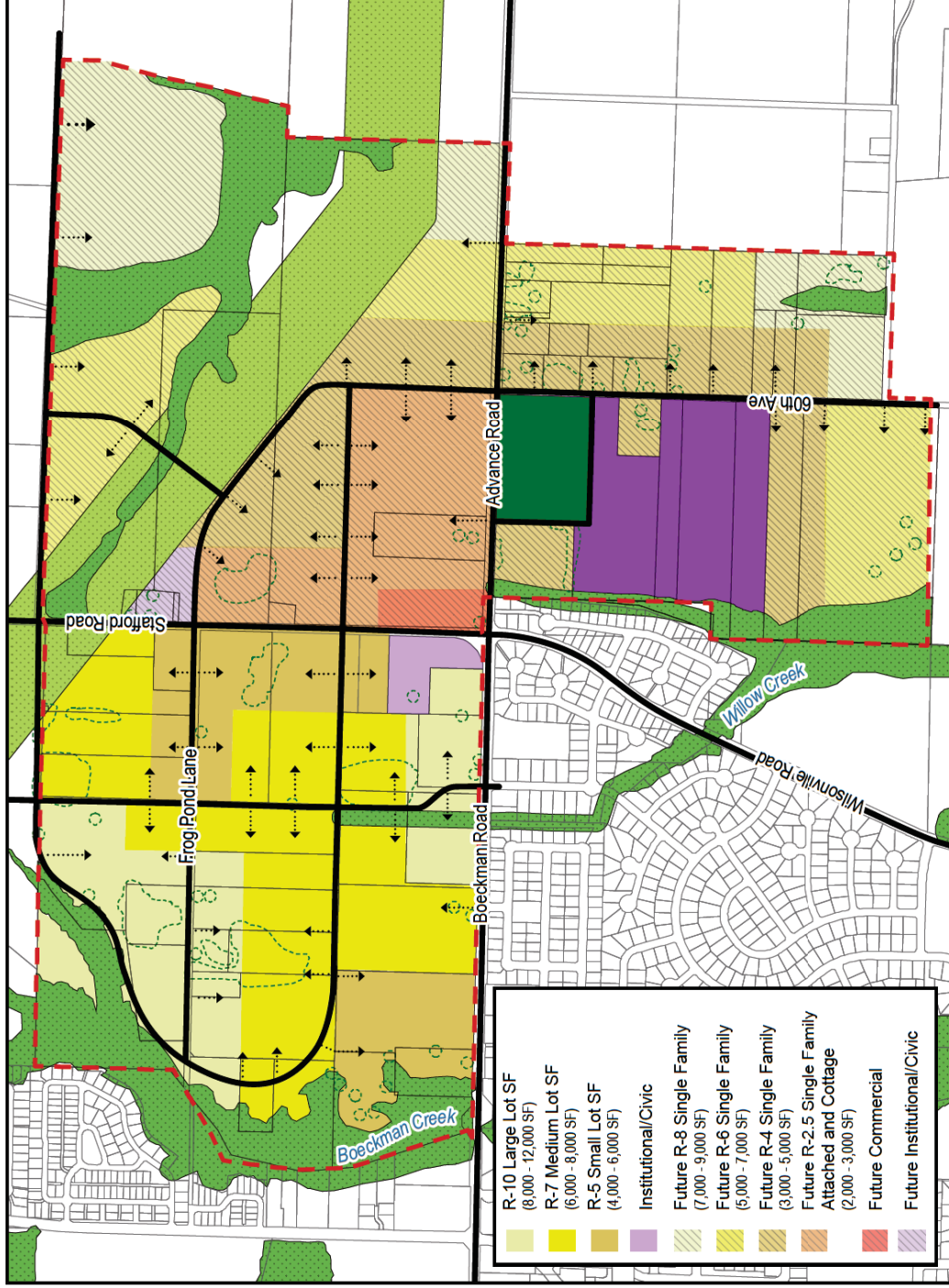
The Frog Pond East and South Master Plan builds is an outgrowth and refinement of the Frog Pond Area Plan, which was adopted by the City of Wilsonville in 2015. At its core, the Frog Pond Area Plan is a vision and plan for three walkable neighborhoods. The plan uses the term “frameworks” to emphasize its role in defining key design concepts, with few site-specific details. The Area Plan is not a regulatory document; it is a starting point reflecting previous community discussion and decision-making in the Frog Pond area. The current planning effort is expected to involve both reaffirmation of some of the Area Plan’s concepts as well as new ideas. Framework-level design concepts in the East and South Neighborhoods include:

Land Use – The plan transitions from higher densities (townhomes and smaller lots) nearer to Stafford Road to lower densities to the east and south. A variety of medium- and smaller-lot housing types were envisioned, grouped into a simplified zoning scheme of three zones. A neighborhood commercial center, serving all three Frog Pond neighborhoods is illustrated in the SW corner of the East Neighborhood. The Frog Pond Grange is noted as a Institutional/Civic node.



EAST & SOUTH MASTER PLAN

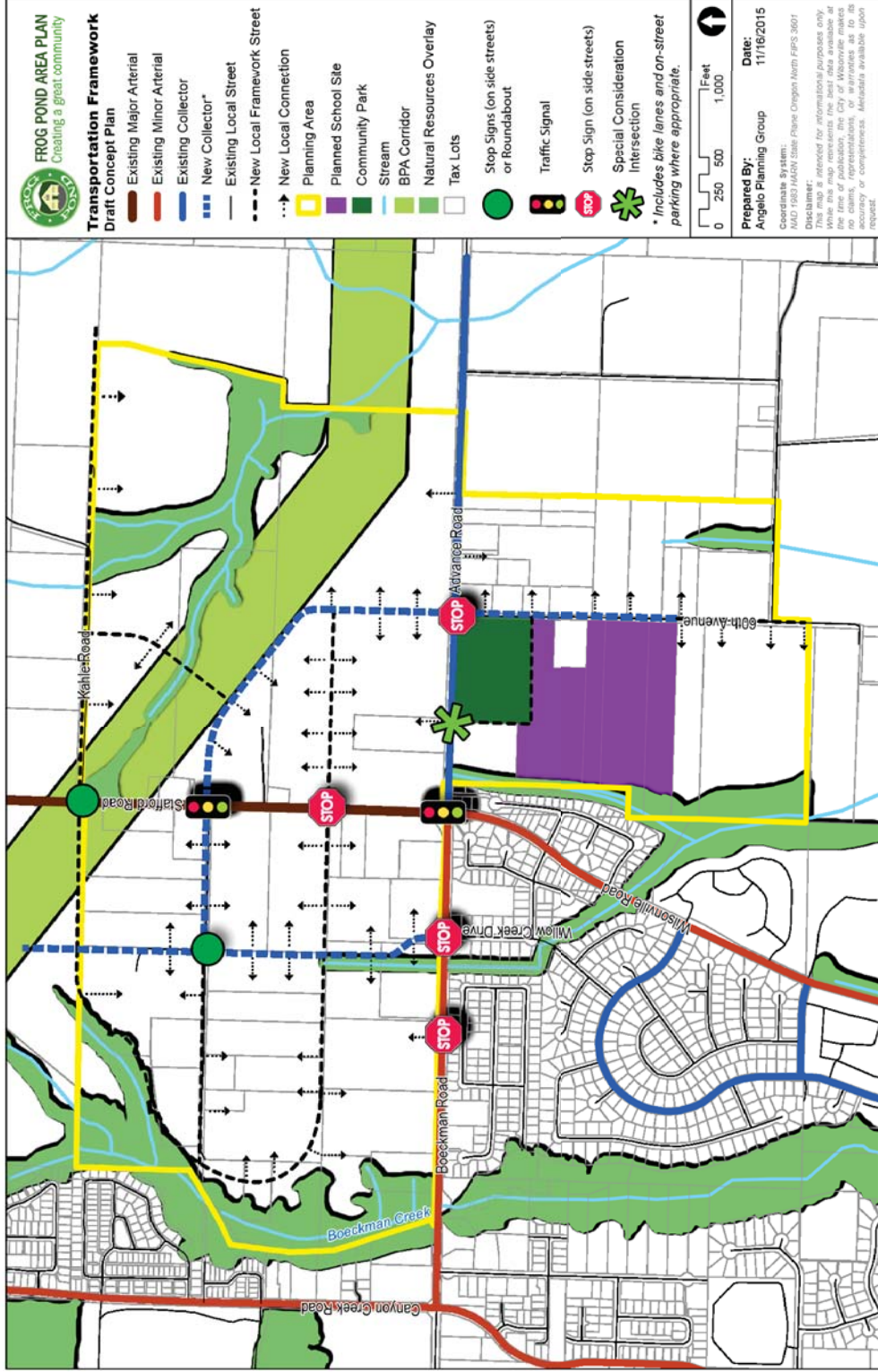
Figure 1. Area Plan Land Use Framework Map





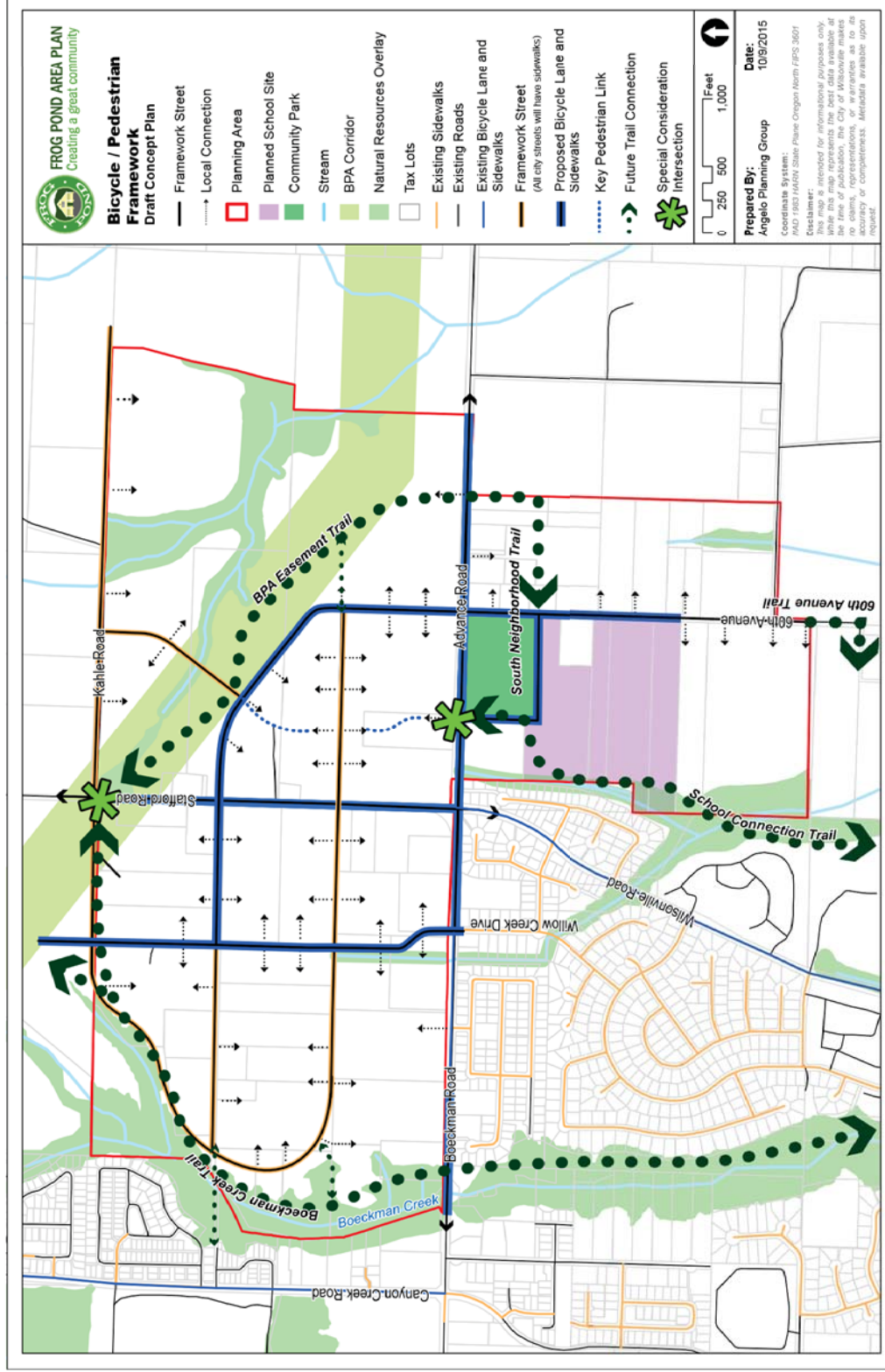
Transportation – Key framework-level connections include: Frog Pond Lane to 60th Avenue; a new east-west street, now called SW Brisband Street, connecting the West and East Neighborhoods; a connection to SW Kahle Road; and an access street, now called SW Hazel Street, to Meridian Creek Middle School that will connect to SW 60th Avenue. Intersection types are shown and a pedestrian tunnel under SW Advance Road was studied.

Figure 2. Area Plan Transportation Framework



Bicycle/Pedestrian Framework – The emphasis of this framework plan is the trail loop from Boeckman Creek to the BPA Easement to the South Neighborhood and Wilsonville High School. On-street and off-street connections are also shown.

Figure 3. Bicycle and Pedestrian Framework

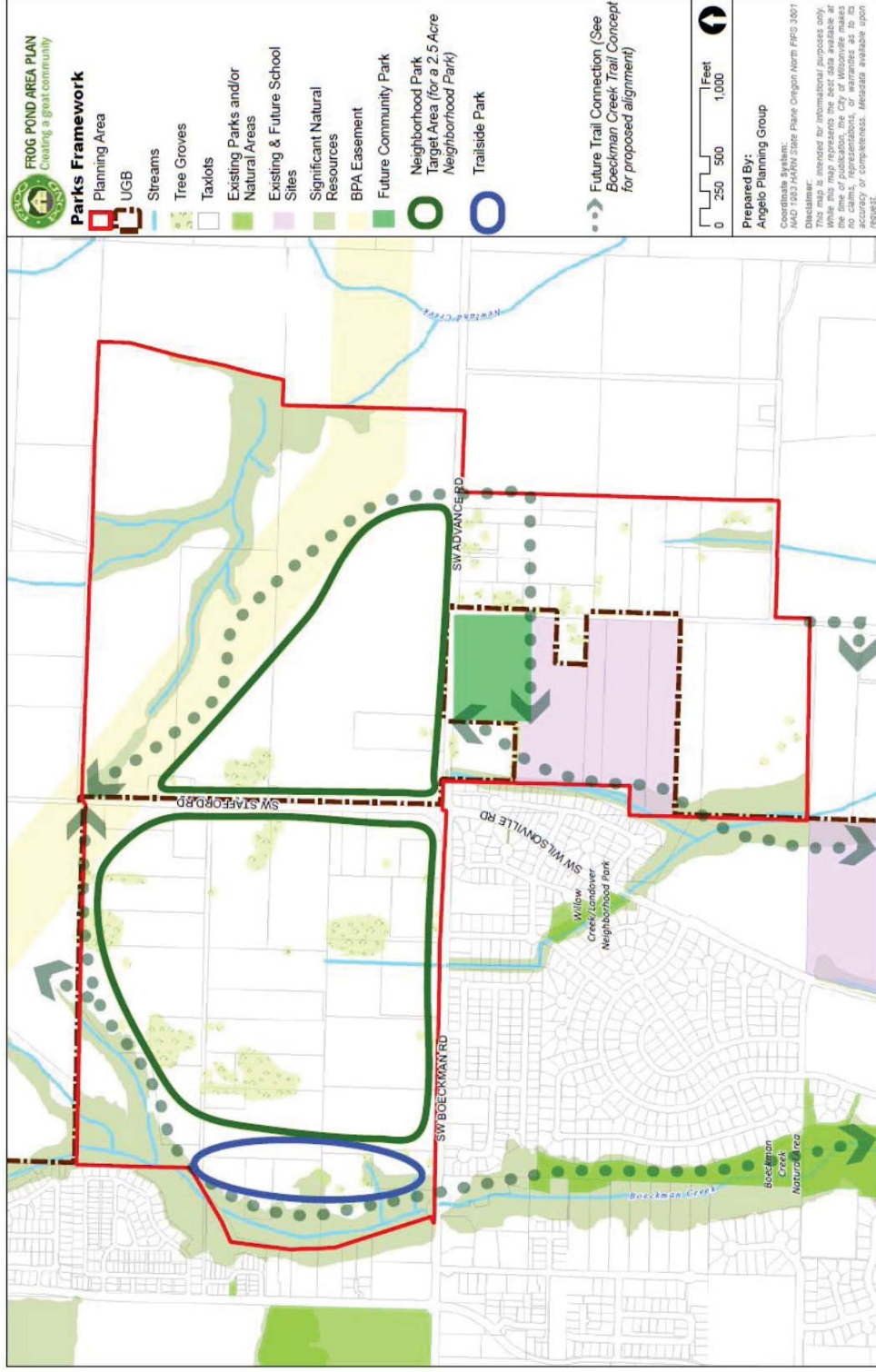




EAST & SOUTH MASTER PLAN

Parks Framework – The Parks Framework recommends one new neighborhood park in the East Neighborhood. The South Neighborhood’s community park and school grounds serve that area. The parks are envisioned to be connected with a robust trail network.

Figure 4. Area Plan Parks Framework





COMMUNITY DESIGN CONCEPTS

The maps and diagrams on the following pages provide information and conceptual community design concepts that have emerged from discussions and worksessions to date. They include:

- The context around the planning area, both rural and urban
- On-site conditions
- Concepts for community design that identify:
 - Potential “places” within the East and South Neighborhoods
 - Conceptual ways to connect destinations
 - Alignments of framework streets and trails
 - A potential mixed-use center and other centers and nodes
 - Subdistricts

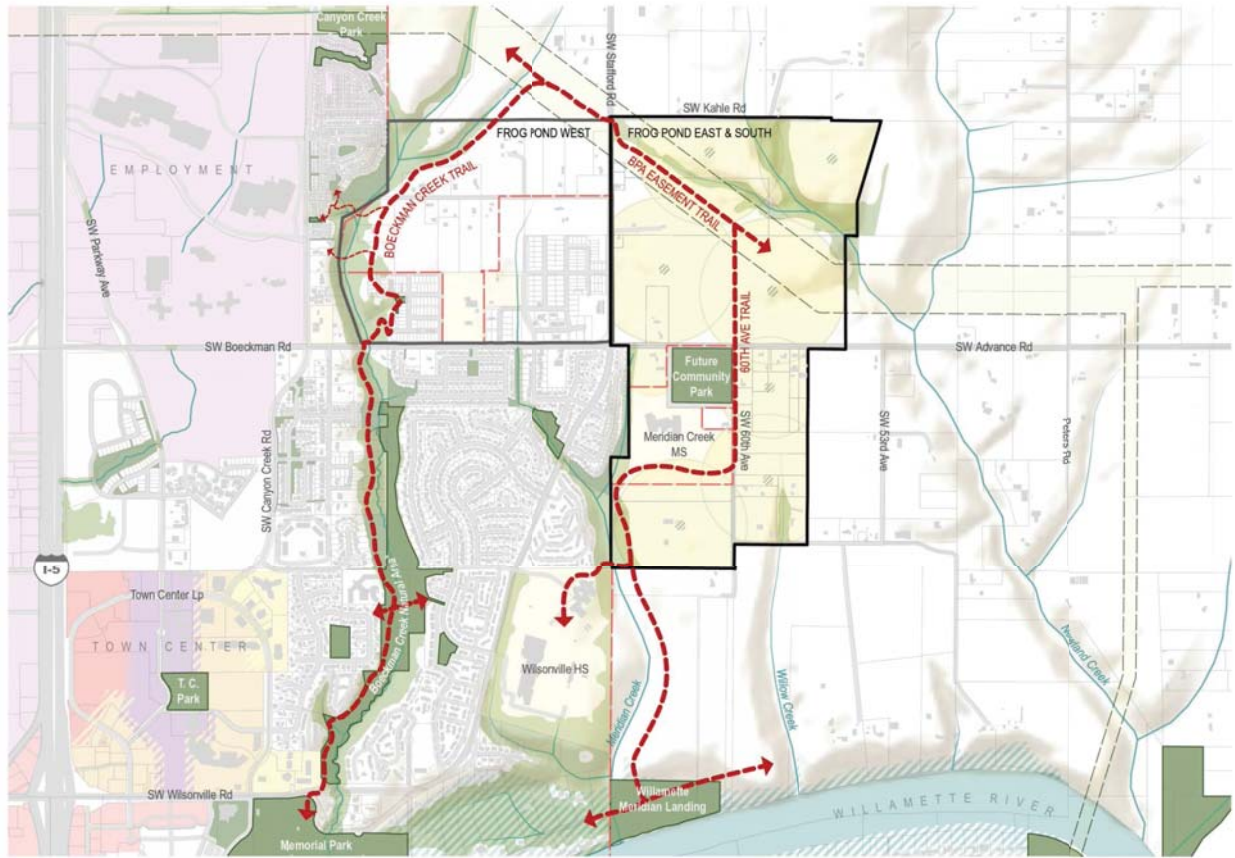
The above concepts will be used to locate plan streets, trails, walkable and connected neighborhoods, housing variety, a neighborhood commercial center and other elements of the plan.

Figure 5. Study Area

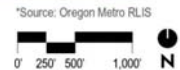




Figure 6. Conceptual Trails



CONCEPTUAL TRAILS

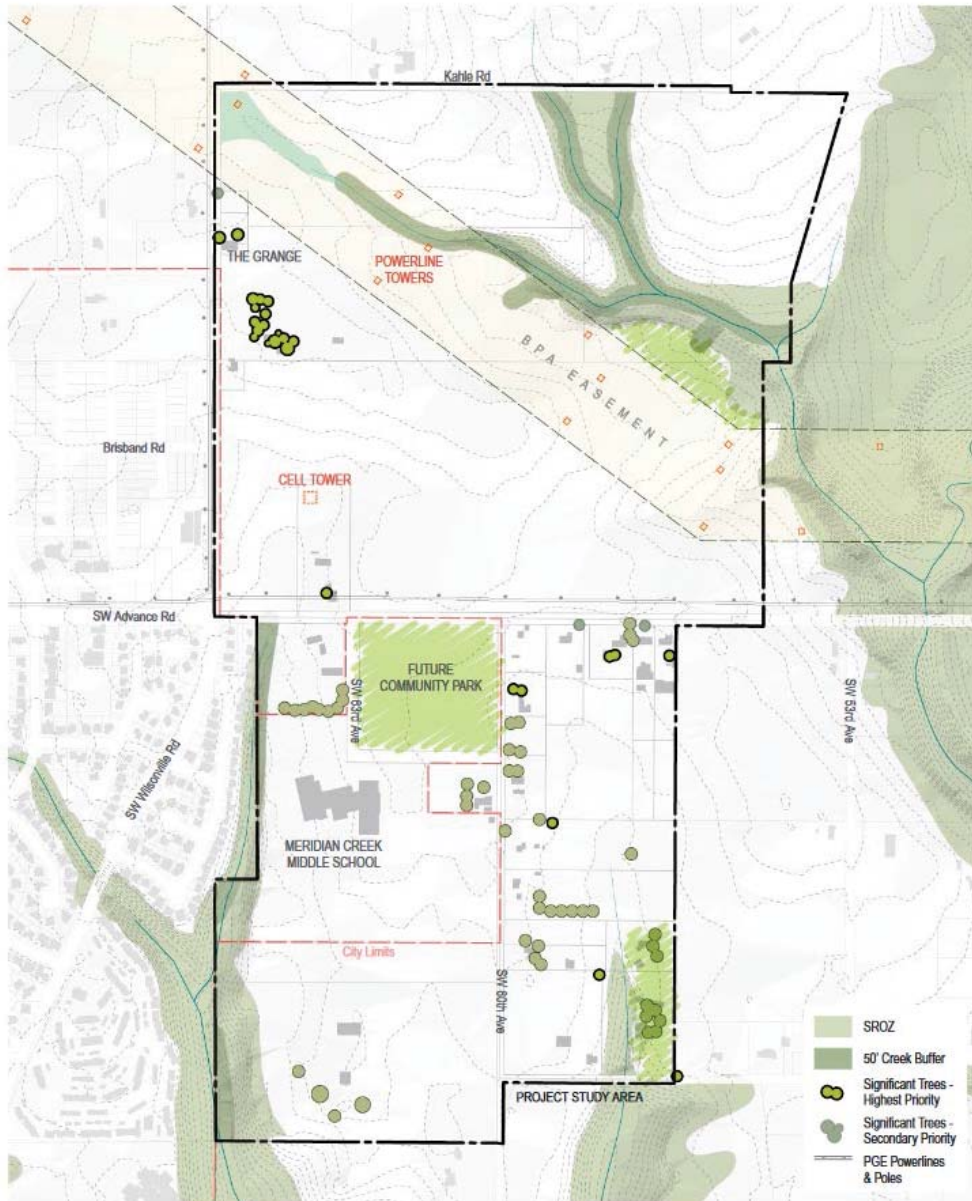


Key points about Frog Pond East and South’s context include:

- **Rural edge** – The planning area is adjacent lands designated “rural reserves” and “undesigned” by Metro. There will be a rural and agricultural edge to the East and South Neighborhoods for many decades to come.
- **Proximity to natural and city open space** – The nearby open spaces – Newland Creek, Meridian Creek, the BPA easement (see below), a future neighborhood park, a future community park, Meridian Creek Middle School – are great amenities. Future residents in the East and South neighborhoods will always be “just a block or two” from the nearest open space.
- **A significant barrier and/or opportunity of the BPA Easement** – On the plus side, the BPA easement is open area and can be used for recreation, community gardens, parking and other uses. Negatives include the towers, electrical “buzz”, and limitations for planting and structures.
- **Connectivity to adjacent areas of Wilsonville** – Street connectivity to adjacent parts of Wilsonville is extremely limited. The Frog Pond area is very reliant on SW Boeckman Road, SW Wilsonville Road, and SW Stafford Road. Existing and new trails, shown on the above map, will help supplement the street network and increase connectivity by foot and bike.
- **Potential for internal connectivity** – There is excellent potential for safe, direct and convenient street and path connectivity within and between the three Frog Pond neighborhoods.



Figure 7. Base Map

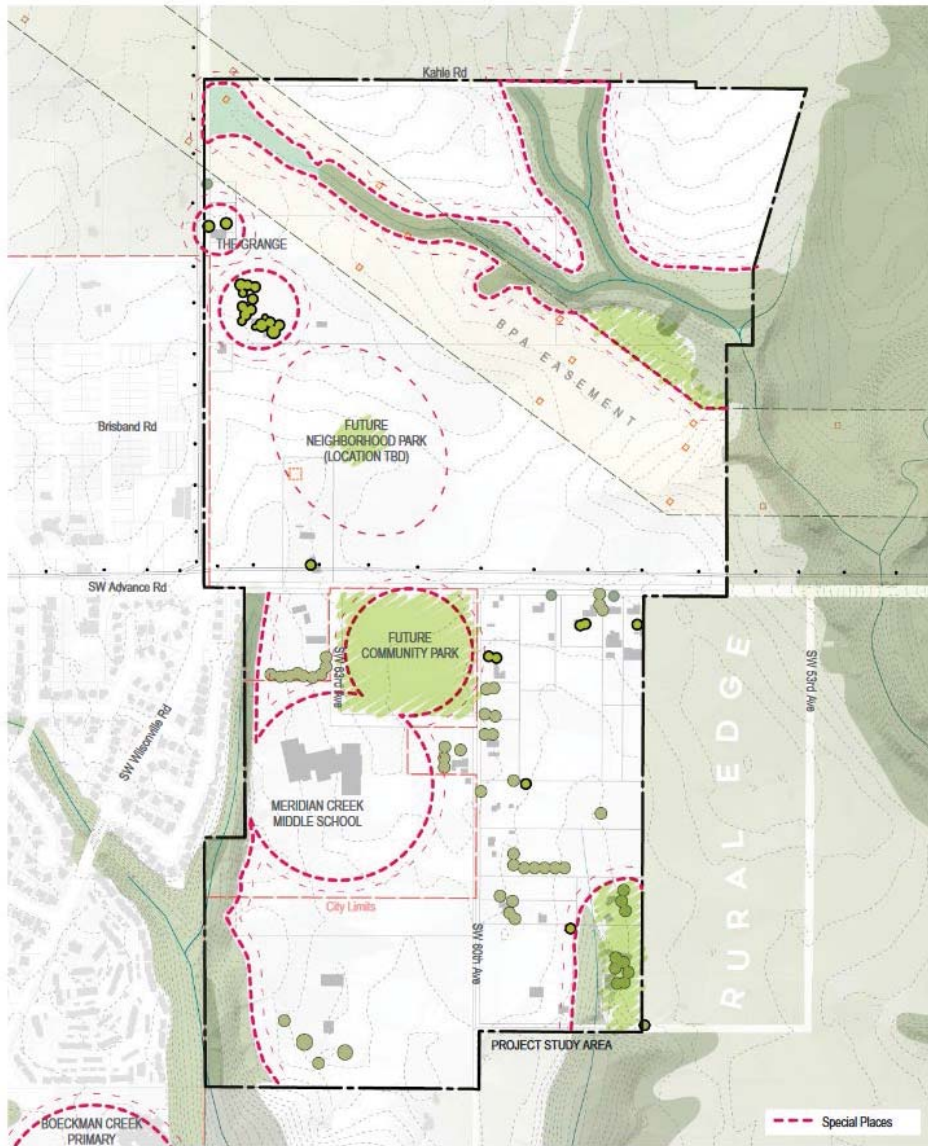


Key points from the Base Map include:

- Total acreage = 255 acres
- 31 parcels, 20 existing homes
- Unbuildable areas include developed sites, natural resources, the BPA Easement, and existing right-of-way. After deducting for developed areas and future streets, the net buildable area is estimated to be 138.5 acres (54% of the total area).
- Significant trees have been inventoried (supplemental work is in-progress)



Figure 8. Special Places



SPECIAL PLACES

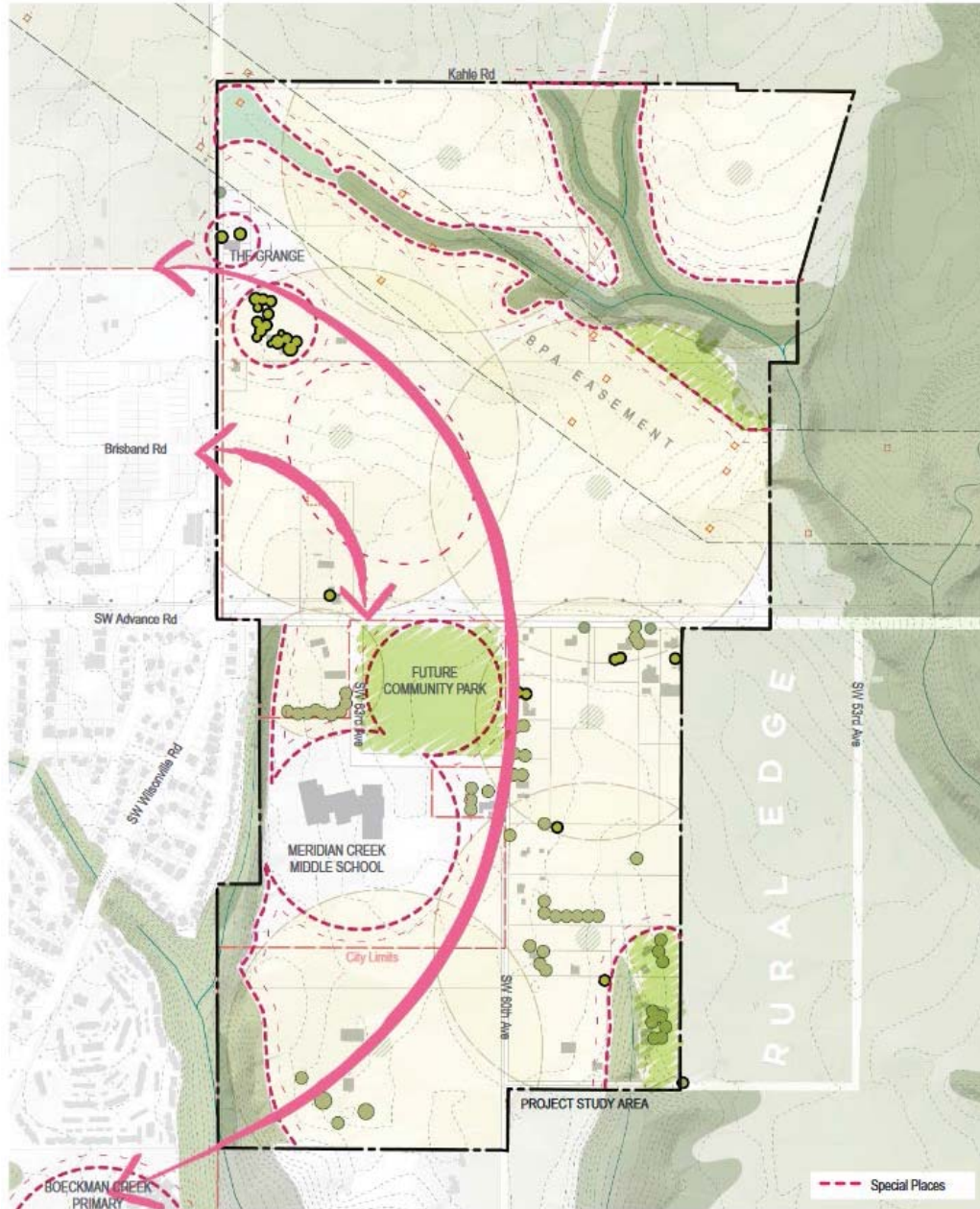


This diagram shows “Special Places” within the planning area, which are existing and future locations that are potential community destinations or key visual amenities, or both. They include:

- The Frog Pond Grange
- Newland Creek and Meridian Creek
- Significant tree groves
- A future neighborhood park in the East Neighborhood
- Meridian Creek Middle School and the future community park
- Boeckman Creek Primary School and Wilsonville High School (just off the map)



Figure 9. Connecting Destinations



This conceptual diagram illustrates the area’s potential for connected neighborhood destinations, including the Special Places. The Master Plan is an opportunity to organize and coordinate land use, transportation, and open space to support these connections.

The diagrams on the following pages show ideas for creating connected destinations with framework-level streets and trails.



Figure 10. Connections - Idea 1

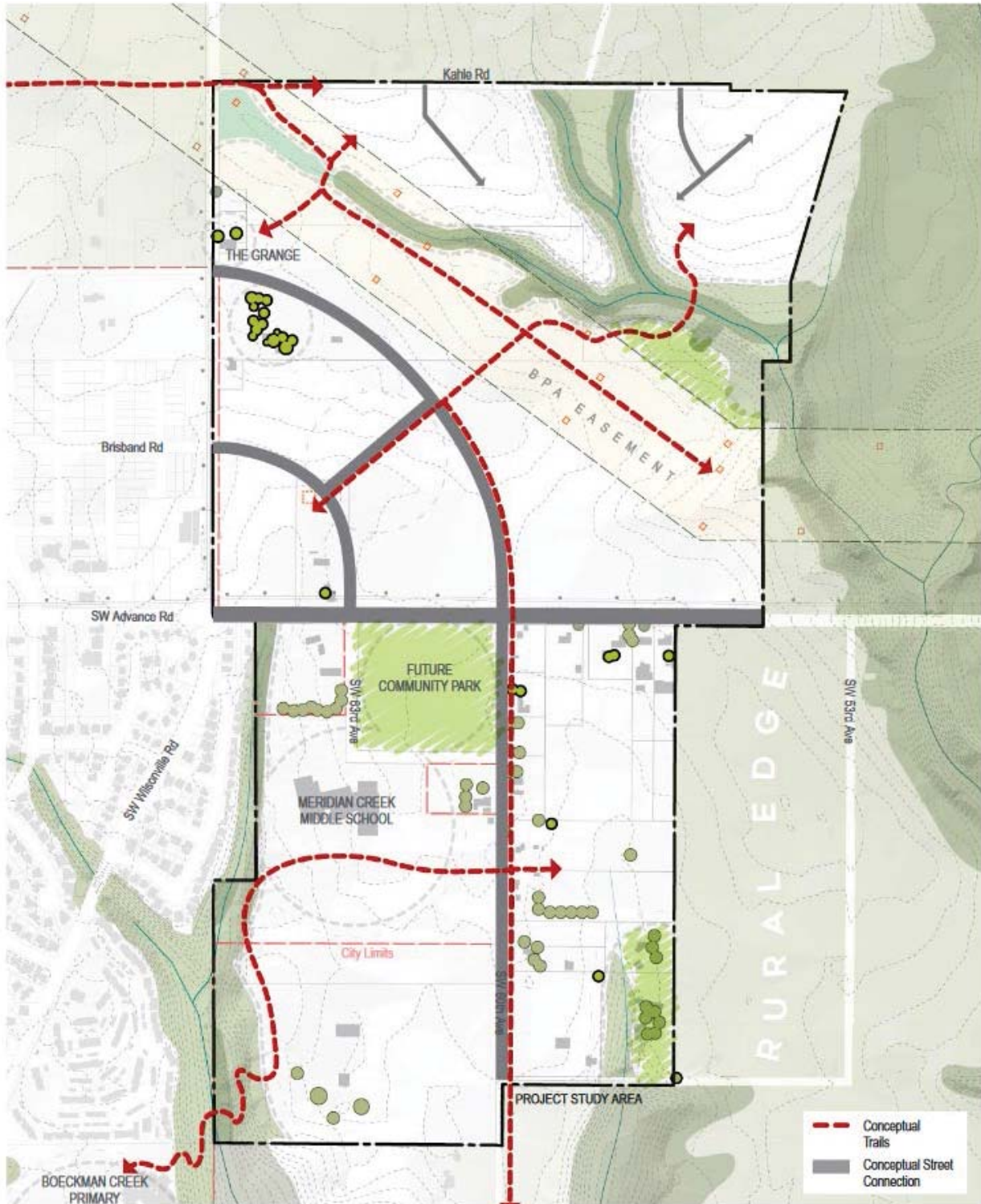




Figure 11. Connections - Idea 2

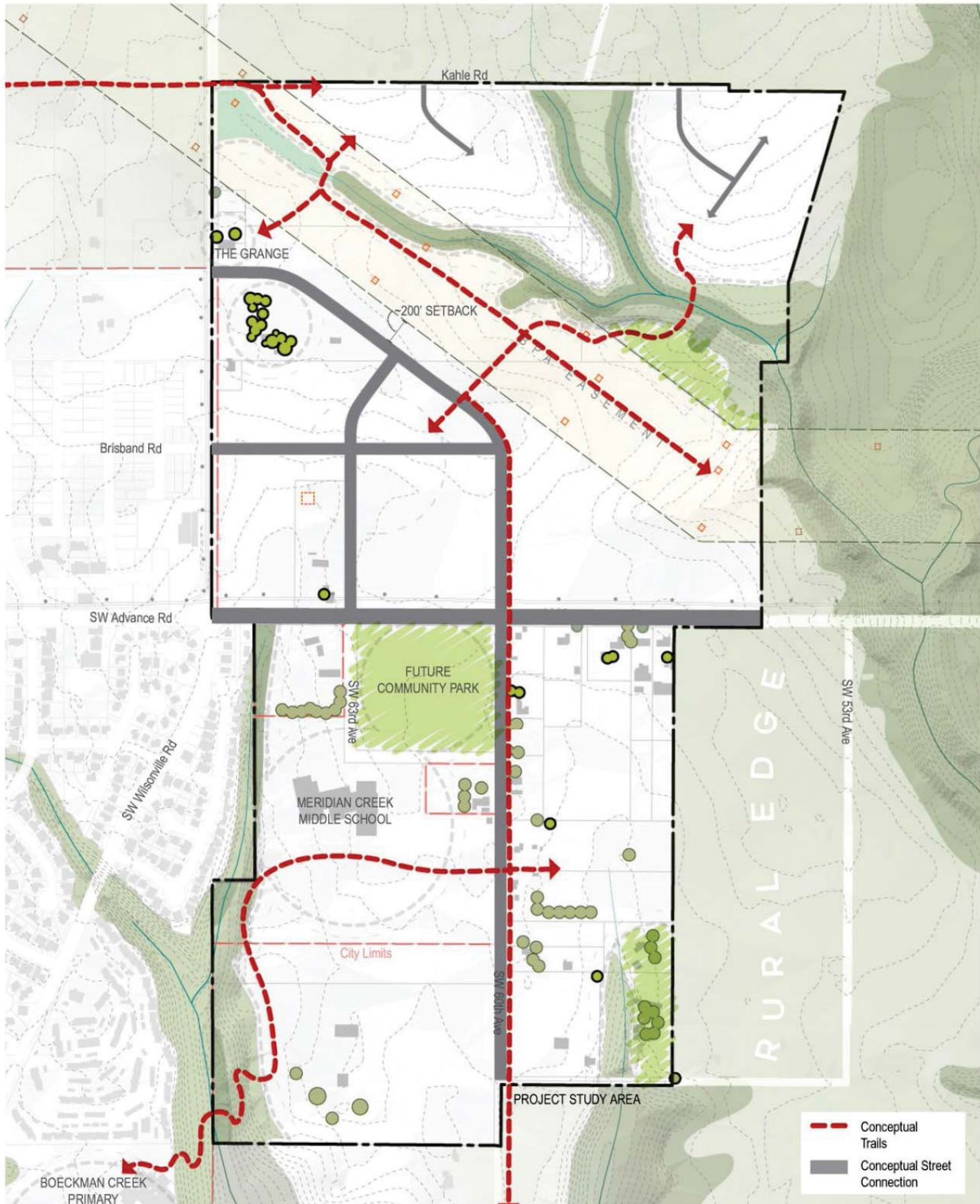




Figure 12. Conceptual Centers



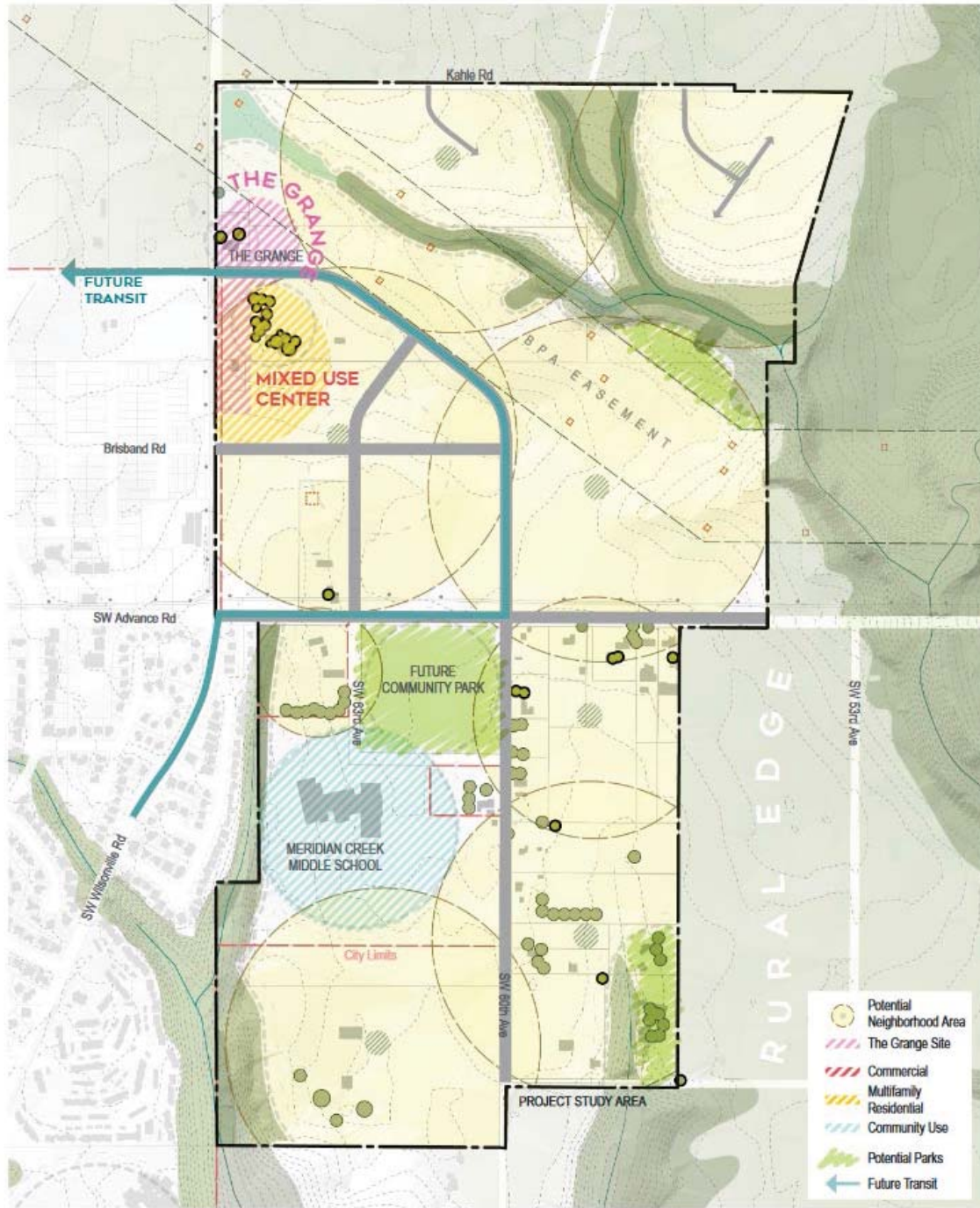
This diagram illustrates the idea of centers within the planning area. There are three types shown, each with their unique scale and role within the plan:

- Mixed Use Center – A potential 3- to 5-acre commercial center with shops, restaurants, local services and community gathering spaces. Residential uses would be allowed within mixed –use buildings. Whether mixed use will be vertically or horizontally located is yet to be determined.
- Frog Pond Grange – A location for a civic or community use.
- Small neighborhood nodes – These are yet to be fully defined, but the concept is to have small open spaces between the Special Places. They might be a signature tree, a viewpoint, a storm water facility, or a small open space that is part of a development.

Note that the diagram includes a potential loop for SMART transit service.



Figure 13. Conceptual Centers - 2



CONCEPTUAL CENTERS - 2
CONNECTIONS OPT. B



This diagram has the same hierarchy of centers but places the Mixed-Use Center just south of the Grange.



Figure 14. Conceptual Centers - 3



CONCEPTUAL CENTERS - 3
CONNECTIONS OPT. B



This diagram has the same hierarchy of centers but places the Mixed-Use Center along the extension of SW Brisband Street. It would be developed as a “Main Street”: wide sidewalks, pedestrian scale lighting and benches, parking located behind or to the side of shops, buildings oriented to the street, public art, etc.



Figure 15. Conceptual Subdistricts



CONCEPTUAL SUB-DISTRICTS



This diagram shows “subdistricts” - subareas of the East and South Neighborhoods that will have cohesive building form, public realm features, or other characteristics that give them identity. The subdistricts will be used in the next step of the design process to evaluate the types and locations for various residential uses.



ASSUMPTIONS FOR THE ALTERNATIVES

Based on the community design concepts and conceptual sub-districts presented, the project team recommends a set of guiding assumptions for the Master Plan alternatives. The assumptions will be shared with the community and integrated into the workshops and outreach discussions in April and May. Using the community's feedback, the assumptions will be illustrated in the plans brought back for Planning Commission review in June. The project team looks for the Planning Commission's support or further guidance on these assumptions.

The suggested land use assumptions are:

1. **One neighborhood commercial center** – All alternatives will include a neighborhood commercial center generally consistent with the guidance from Leland Consulting Group and the Planning Commission. Participants may of course suggest new and innovative ideas to be considered for the center.
2. **Affordable housing** –
 - a. At least one alternative will include affordable housing fully consistent with affordable housing “targets” described by ECONorthwest and guided by the Planning Commission.
 - b. Other alternatives may include various types and amounts of affordable housing, considering the housing forms described in the Affordable Housing Analysis.
3. **Variety** – All alternatives will include an approach to creating a wide variety of housing types in the East and South Neighborhoods.
4. **Density Transect** – The density transect from the Area Plan will continue to be shown. However, in the context of middle housing rules and the variety assumption above, it will be more of an urban design concept than an actual numerical density transect.
5. **Neighborhood Park** – All alternatives will include at least one neighborhood park in the East neighborhood.
6. **Framework streets, trails, and open space** – The alternatives will illustrate the framework streets, trails, and open spaces intended for their plans.

Using the community feedback, the team will prepare plan alternatives, a recommended alternative and supporting information for housing mix, amount, and density as part of the reporting in June. Density will be estimated based on assumptions for the implemented housing types, recognizing that the City's middle housing regulations provide flexibility in what can ultimately be developed.

Frog Pond East and South Master Plan

City Council

Work Session May 2, 2022



WILSONVILLE
OREGON

Agenda for Tonight's Work Session

- Recommended Base Design Concepts
- Neighborhood Commercial Center



Recommended Base Community Design Concepts



Design Concept: Housing Variety Throughout

- Housing variety in all portions of plan area and oriented to streets and greenspaces
- Integrated within:
 - Subdistricts and Blocks



Design Concept: Affordable Housing Integration

- At least one alternative will reflect targets PC discussed last work session
- Others will include various types and amounts

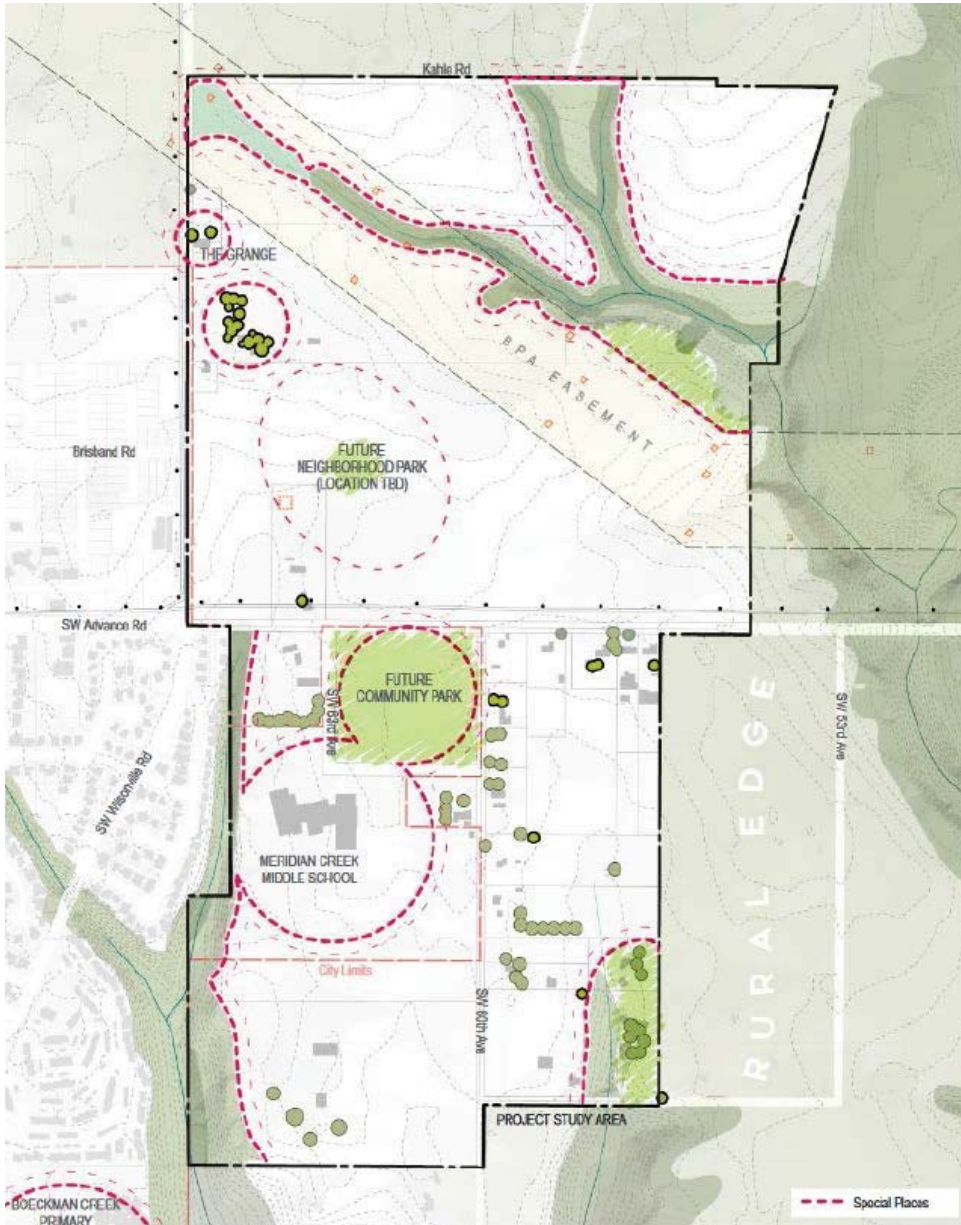


Design Concept: Form-based Design and Transect

- Urban design is based on “look and feel” (building form and public realm) rather than numerical “units per acre”
- Initial ideas: Larger building types towards Stafford Road with smaller building types on edge of rural reserves
 - Reflective of Frog Pond Area Plan



Design Concepts: Unique Elements and Destinations

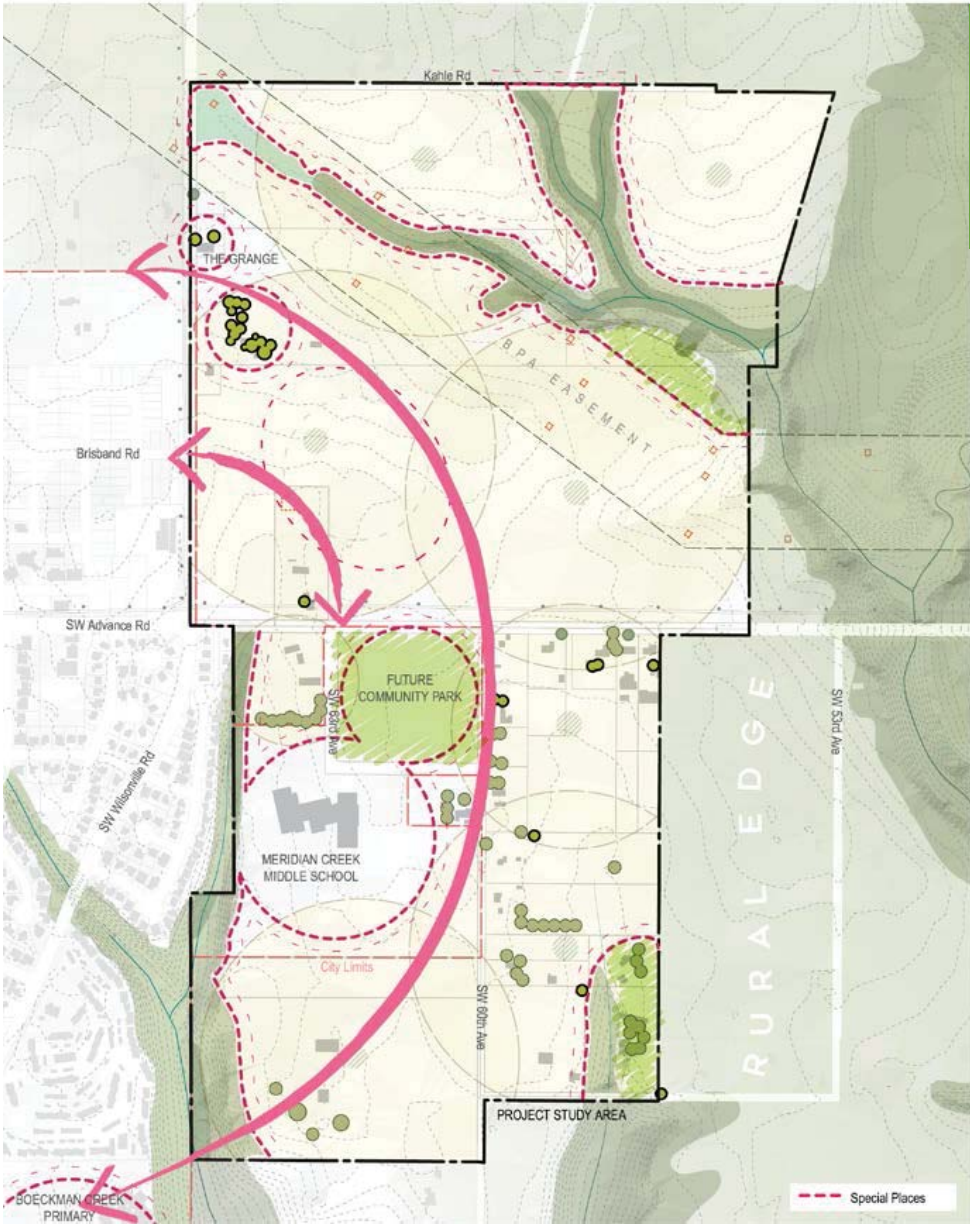


- What elements give the site character and identity today?
E.g. mature trees, creek corridors, the Grange
- What places will become neighborhood destinations?
E.g. parks, schools

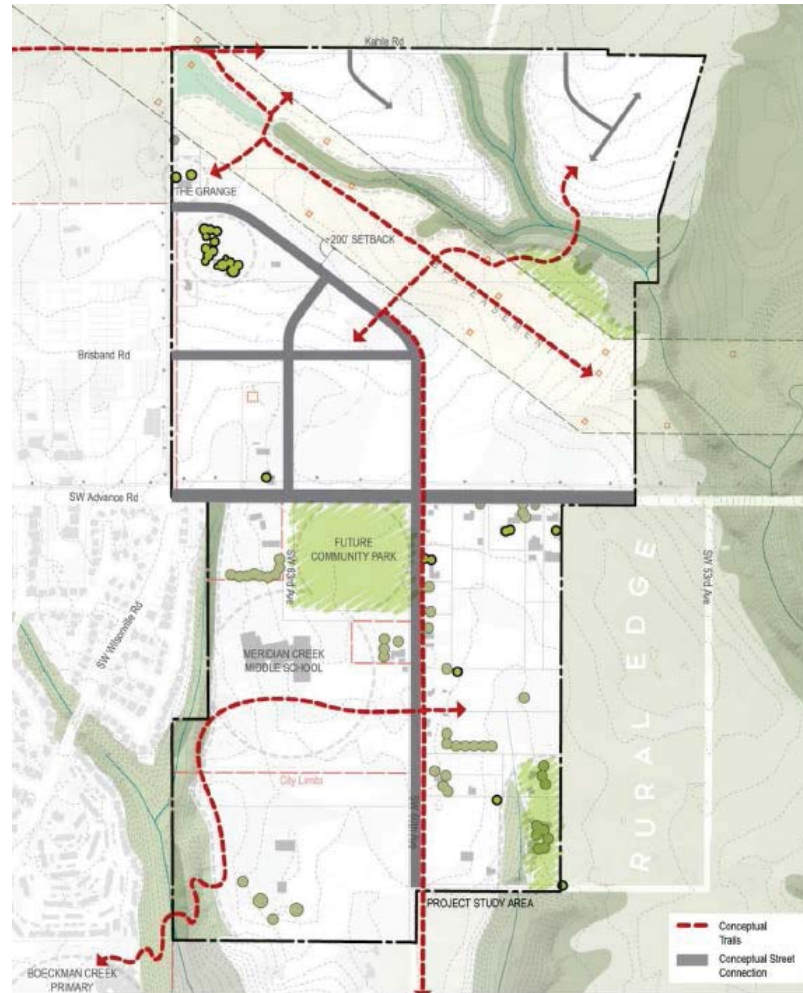
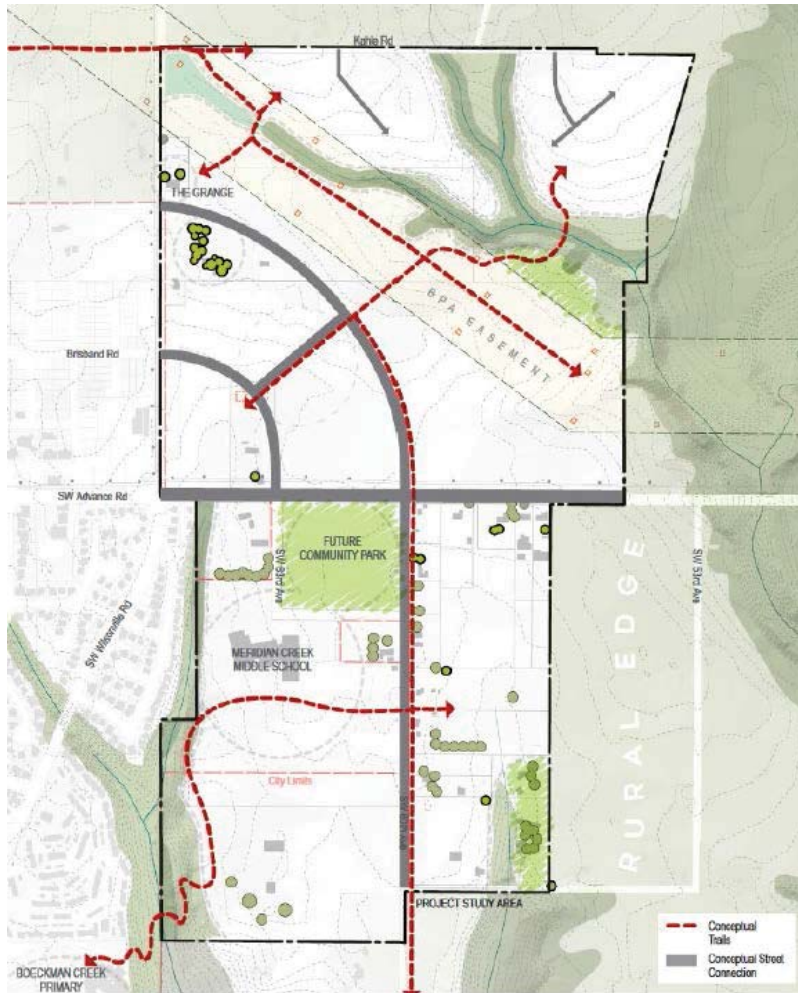


Design Concepts: Connecting Destinations

- Celebrating unique site elements and connecting people to destinations through walkable community design



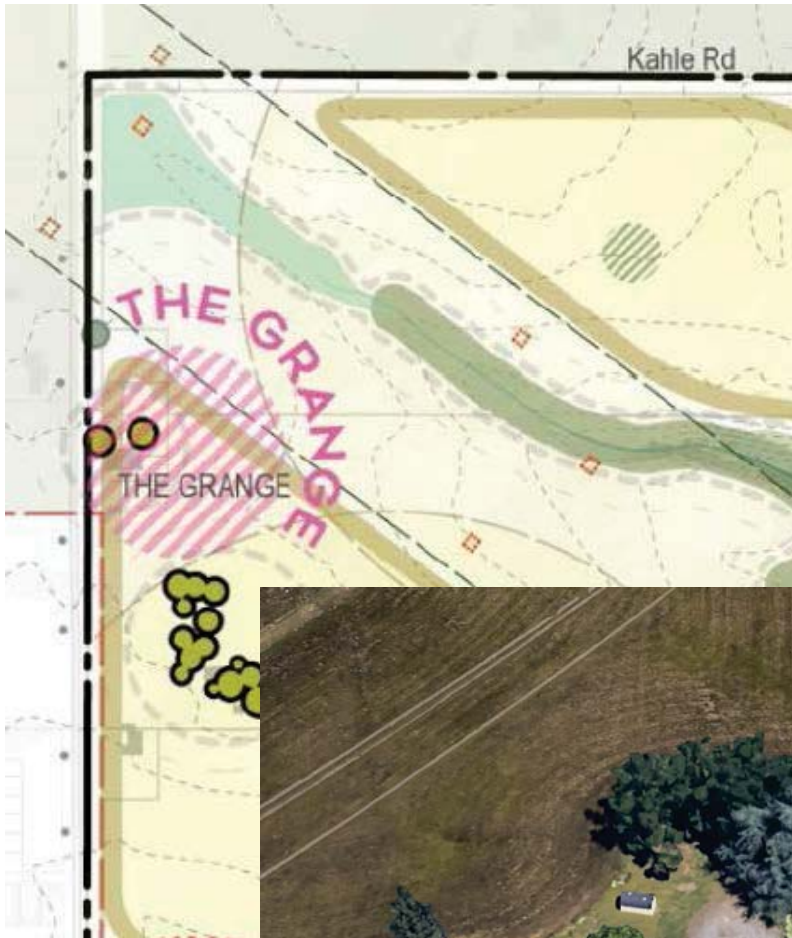
Design Concepts: Multi-modal Connectivity



Design Concept: BPA Easement Corridor



Design Concept: Civic Amenity/Grange



- Both building and site offer opportunities for community identity and gathering space
- Trailhead to BPA corridor with preserved trees, possible environmental learning, community gardens, etc.
- Widening of SW Stafford Road a challenge – requires further study



Design Concept: Use of Subdistricts



- This diagram is an example of how subdistricts might be organized
- Subdistricts will be shown as part of the plan alternatives



Questions/ Discussion

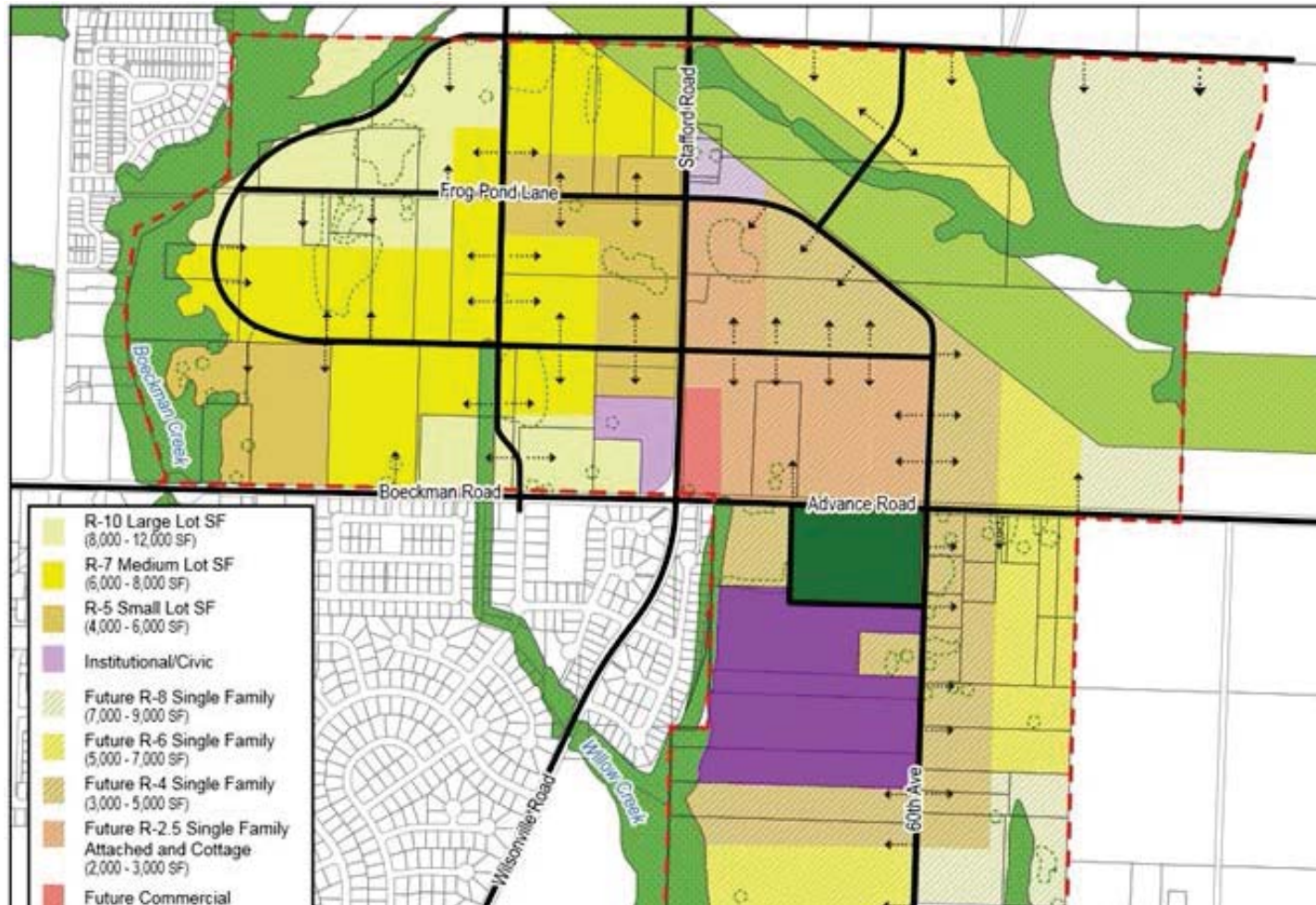
- Does the City Council support the base assumption design concepts recommended by the project team, and supported by the Planning Commission, for integration into land use and urban design alternatives?
- Are there other considerations the project team should use to help determine subdistrict boundaries?



Neighborhood Commercial Center



2015 Area Plan



Recommended Location

- Max visibility, traffic, and access to future households
- Opportunity for "Main Street" retail
- Design standards, building orientation, and parking critical to success
- Opportunity for corner anchors

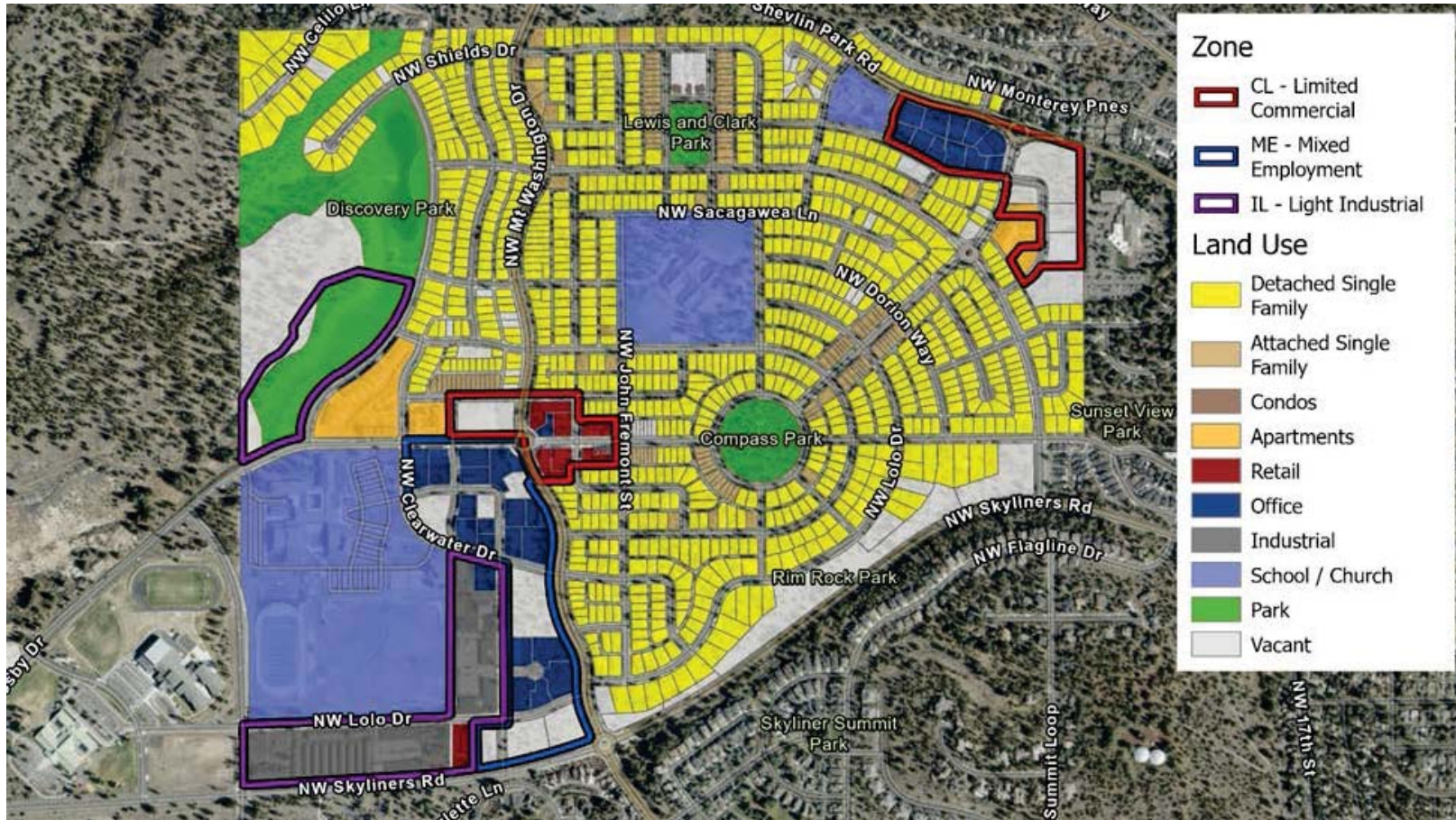


Recommended Development Program

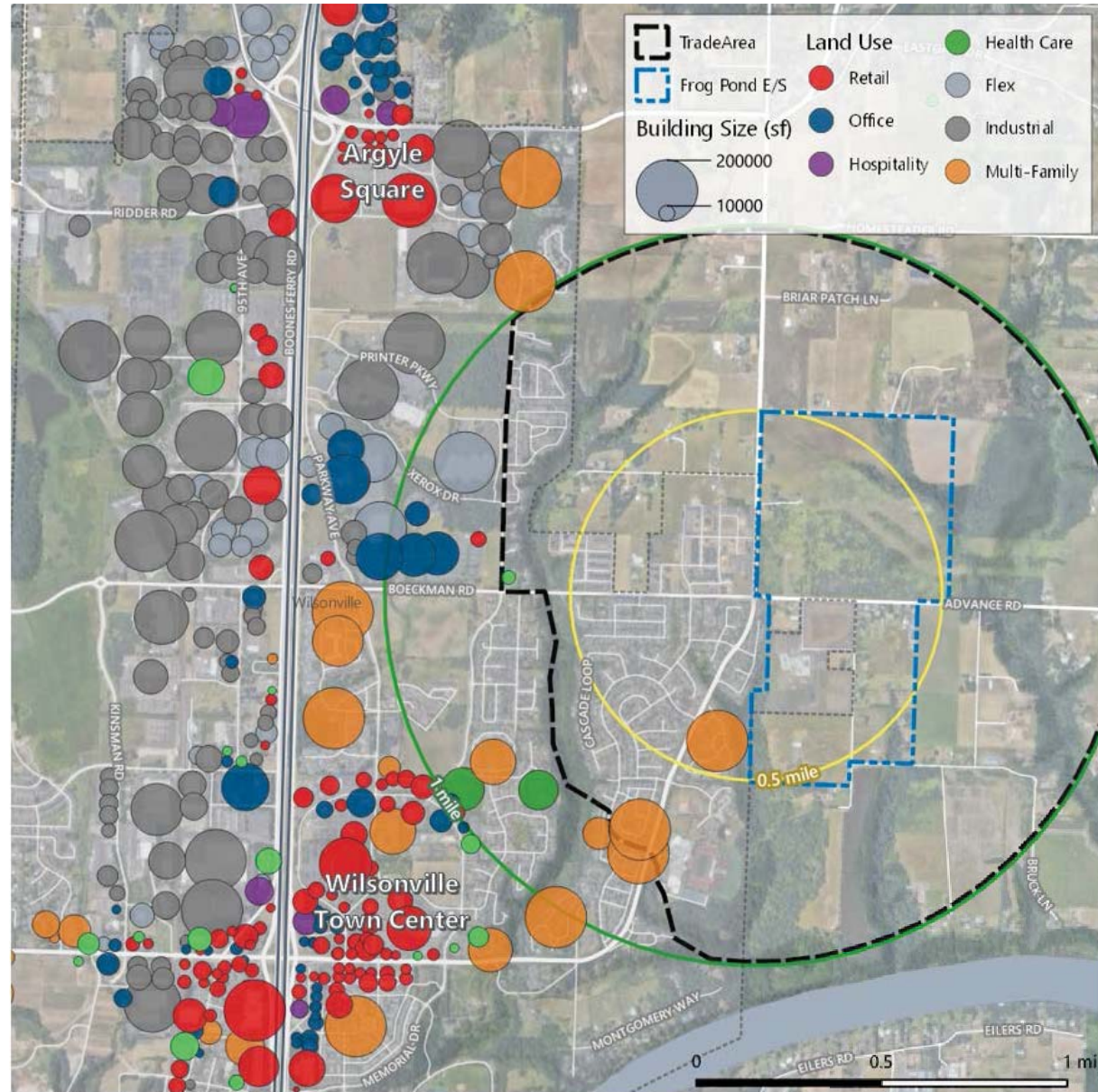
Bldg. Sq. Ft.	Up to 44,000 square feet
Site Acreage	Up to 4.0 acres
Tenant Mix	Cafes/restaurants, specialty food stores, pharmacy, other miscellaneous commercial tenants, e.g., fitness, banks, laundromats, salons, hobby/boutique stores, and medical, professional, and financial offices
Other	Plan for higher-density residential, including apartments, townhomes, and live/work spaces, surrounding the commercial center. Most case studies of successful commercial areas are surrounded by higher-density housing.



Example: Northwest Crossing



Primary Trade Area



Factors Influencing Commercial Demand

- Spending Leakage
- Existing and Future Customer Base
- Purchasing Power of Base
- Local Demographics
- Unique Differentiators
- Access and Visibility



Questions/ Discussion

- Based on the analysis and Planning Commission feedback does the City Council support the recommended location and development program?
- What additional feedback does the City Council have?



City Council Meeting Action Minutes
May 2, 2022

City Council members present included:

Mayor Fitzgerald
Council President Akervall
Councilor Lehan
Councilor West - Excused
Councilor Linville

Dustin Schull, Parks Supervisor
Kimberly Veliz, City Recorder
Jeanna Troha, Assistant City Manager
Beth Wolf, Senior Systems Analyst
Zoe Mombert, Assistant to the City Manager
Dan Pauly, Planning Manager
Cindy Luxhoj, Associate Planner
Zach Weigel, City Engineer
Mike Nacrelli, Civil Engineer
Kimberly Rybold, Senior Planner
Bill Evans, Communications & Marketing Manager
Matt Lorenzen, Economic Development Manager

Staff present included:

Bryan Cosgrove, City Manager
Amanda Guile-Hinman, City Attorney
Ryan Adams, Assistant City Attorney

AGENDA ITEM	ACTIONS
WORK SESSION	START: 5:00 p.m.
A. Frog Pond East and South Master Plan	Council provided input to staff on components of the Frog Pond East and South Master Plan.
B. Airport Good-Neighbor Policies	Consultants sought Council’s direction on the Airport Good-Neighbor Policies drafted to provide direction for elected officials and staff advocating on the City’s behalf during regional planning efforts related to the Aurora Airport.
C. Guaranteed Maximum Price (GMP) for Willamette River Water Treatment Plant (WRWTP) Expansion	Staff briefed Council on Resolution No. 2970, which authorizes the City Manager to execute an amendment to the CM/GC contract with Kiewit Infrastructure West Co. for a GMP to construct the WRWTP Expansion Project (CIP# 1144).
REGULAR MEETING	
<u>Mayor’s Business</u>	
A. Upcoming Meetings	Upcoming meetings were announced by the Mayor as well as the regional meetings she attended on behalf of the City. The Mayor appointed Councilor Linville to be the City’s representative to the Clackamas Workforce Partnership Board.

<p><u>Communications</u></p> <p>A. Mero Update</p> <p>B. Stump Grinding Community Enhancement Program Update</p>	<p>Councilor Gerritt Rosenthal provided a snapshot of Metro’s progress on several regional policy initiatives.</p> <p>Staff briefed Council on the Stump Grinding project funded by the Wilsonville-Metro Community Enhancement Program.</p>
<p><u>Consent Agenda</u></p> <p>A. <u>Minutes of the April 18, 2022 City Council Meeting.</u></p> <p>B. <u>Resolution No. 2970</u> A Resolution Of The City Of Wilsonville Authorizing The City Manager To Execute An Amendment To The Construction Manager/General Contractor(CM/GC) Contract With Kiewit Infrastructure West Co. For A Guaranteed Maximum Price To Construct The Willamette River Water Treatment Plant Expansion Project (Capital Improvement Project 1144).</p>	<p>The Consent Agenda was approved 4-0.</p>
<p><u>New Business</u></p> <p>A. <u>Resolution No. 2971</u> A Resolution Of The City Of Wilsonville Establishing The Wilsonville Vertical Housing Development Zone (VHDZ) Program And Local Criteria.</p>	<p>Resolution No. 2971 was adopted 4-0.</p>
<p><u>Continuing Business</u></p> <p>A. <u>Ordinance No. 859</u> An Ordinance Of The City Of Wilsonville Annexing Approximately 13.24 Acres Of Property Located Between SW Boeckman Road and SW Frog Pond Lane at 7070 SW Frog Pond Lane and 7151 SW Boeckman Road; The Land Is More Particularly Described As Tax Lot 1501, Section 12D, And Tax Lot 4500, Section 12DC, Township 3 South, Range 1 West, Willamette Meridian, Clackamas County, Oregon. Kathy Ludwig, Amy Thurmond, Gregory Cromwell, Matthew Hall, Matthew Kirkendall, Gary Moon, Jaelene Moon, Kurt Moon, Laurel Moon, Petitioners.</p> <p>B. <u>Ordinance No. 860</u> An Ordinance Of The City Of Wilsonville Approving A Zone Map Amendment From The Clackamas County Rural Residential Farm Forest 5-Acre (RRFF-5) Zone To The Residential Neighborhood (RN) Zone On Approximately 4.06 Acres, And To The Public Facility (PF) Zone On Approximately 9.18 Acres Located Between SW Boeckman Road and SW Frog</p>	<p>Ordinance No. 859 was adopted on second reading by a vote of 4-0.</p> <p>Ordinance No. 860 was adopted on second reading by a vote of 4-0.</p>

Pond Lane At 7070 SW Frog Pond Lane and 7151 SW Boeckman Road; The Land Is More Particularly Described As Tax Lot 1501, Section 12D, And Tax Lot 4500, Section 12DC, Township 3 South, Range 1 West, Willamette Meridian, Clackamas County, Oregon. West Hills Land Development LLC, Applicant.

C. Ordinance No. 861

An Ordinance Of The City Of Wilsonville Annexing Approximately 10.46 Acres Of Property Located West Of SW Stafford Road North Of SW Frog Pond Lane at 6725 SW Frog Pond Lane; The Land Is More Particularly Described As Tax Lots 401 And 402, Section 12D, Township 3 South, Range 1 West, Willamette Meridian, Clackamas County, Oregon. Sheri Miller, James Mehus, Jeremiah Kreilich, Brian Powell, Petitioners.

Ordinance No. 861 was adopted on second reading by a vote of 4-0.

D. Ordinance No. 862

An Ordinance Of The City Of Wilsonville Approving A Zone Map Amendment From The Clackamas County Rural Residential Farm Forest 5-Acre (RRFF-5) Zone To The Residential Neighborhood (RN) Zone On Approximately 10.46 Acres Located West Of SW Stafford Road North Of SW Frog Pond Lane at 6725 SW Frog Pond Lane; The Land Is More Particularly Described As Tax Lots 401 And 402, Section 12D, Township 3 South, Range 1 West, Willamette Meridian, Clackamas County, Oregon. West Hills Land Development LLC, Applicant.

Ordinance No. 862 was adopted on second reading by a vote of 4-0.

Public Hearing

A. Ordinance No. 863

An Ordinance Of The City of Wilsonville Annexing Approximately 8.72 Acres of Property Generally Located Between SW Garden Acres Road And SW Grahams Ferry Road Into The City Limits Of The City Of Wilsonville, Oregon; The Land Is More Particularly Described As Tax Lot 100 and A Portion Of SW Grahams Ferry Road Right-Of-Way, Section 3D, Township 3 South, Range 1 West, Willamette Meridian, Washington County, Oregon. Gary S. Rychlick As Trustee Of The Eileen Rychlick Trust, Gary S. And Susan M. Rychlick, As Individuals, Petitioners.

After a public hearing was conducted, Ordinance No. 863 was approved on first reading by a vote of 4-0.

<p>B. <u>Ordinance No. 864</u> An Ordinance Of The City Of Wilsonville Approving A Zone Map Amendment From The Washington County Future Development - 20 Acre (FD-20) Zone To The Planned Development Industrial - Regionally Significant Industrial Area (PDI-RSIA) Zone On Approximately 8.17 Acres Generally Located Between SW Garden Acres Road and SW Grahams Ferry Road; The Land Is More Particularly Described As Tax Lot 100, Section 3D, Township 3 South, Range 1 West, Willamette Meridian, Washington County, Oregon. BTC III Grahams Ferry IC LLC, Applicant.</p>	<p>After a public hearing was conducted, Ordinance No. 864 was approved on first reading by a vote of 4-0.</p>
<p><u>City Manager's Business</u></p>	<p>No report.</p>
<p><u>Legal Business</u></p>	<p>Announced that the City Attorney and Assistant City Attorney planned to attend the Oregon City Attorney's annual conference on May 13-14, 2022.</p>
<p>ADJOURN</p>	<p>9:12 p.m.</p>



PLANNING COMMISSION

WEDNESDAY, APRIL 13, 2022

WORK SESSION

3. Frog Pond East and South Master Plan (Pauly) (60 minutes)



PLANNING COMMISSION WORK SESSION STAFF REPORT

Meeting Date: April 13, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable Comments: N/A	
Staff Recommendation: Provide requested input regarding the neighborhood commercial center and recommended design concepts for developing land use and urban design alternatives.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE PLANNING COMMISSION:

Provide feedback and input on components of the master planning for Frog Pond East and South, specifically regarding a neighborhood commercial center and recommended design concepts for development of land use and urban design alternatives.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified local housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a Master Plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the subject land. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process also identifies water, sewer, stormwater, and transportation infrastructure needs and funding sources.

The Planning Commission held their first work session on the master plan in October focusing on overall project scope and the outreach plan. A second work session in December asked for initial feedback on the needs and opportunities for affordable housing and housing variety. A third work session in February continued the topic of housing needs for more detailed feedback and direction as well as introduced the neighborhood commercial evaluation. This fourth work session will further discuss the neighborhood commercial center as well as discuss recommended design concepts for development of land use and urban design alternatives. Following public outreach during the next couple months on different alternatives the project team will bring a recommended land use and urban design alternative to the Planning Commission in June. This recommended land use and urban design alternative will then be the basis of infrastructure and public realm planning to occur over the summer, and other master planning work in the fall.

Neighborhood Commercial

The Frog Pond Area Plan presented the idea of a neighborhood commercial center in Frog Pond East. Part of the scope of the Frog Pond East and South Master Plan is to further evaluate a neighborhood commercial center. Building on the initial information presented at the last work session, the evaluation includes: an overview of information from the area plan, input from stakeholders, retail market trends, demographic data that would be relevant for retail in Frog Pond, a retail market analysis, discussion of potential types of retail, site location considerations, and case studies and precedents (Attachment 1). The memo concludes with a recommended development program of "hybrid main street" approach with up to 44,000 square feet of flexible retail/office space on up to 4 acres of land.

Discussion questions:

1. Based on the analysis provided does the Planning Commission support the recommended development program described on pages 25-26 of Attachment 1? What additional

feedback does the Planning Commission have on the recommended development program?

2. What feedback would the Planning Commission like to see from the public related to the neighborhood commercial component?
3. Does the Planning Commission feel there is merit to exploring commercial in the urban reserve north of Frog Pond West when there are more rooftops in the area rather than planning commercial in Frog Pond East?

Recommended Design Concepts for Master Plan Alternatives

Over the next couple of months the project team will be gathering public input on a number of options and ideas to help decision makers arrive at a preferred alternative for the Frog Pond East and South land use and urban design patterns. As alternatives are explored there are a number of design concepts the project team plans on reflecting in each alternative. In this work session the project team seeks the Planning Commission's feedback on whether the recommended design concepts below and further described in Attachment 2 are appropriate. The project team has based the recommended design concepts on input received to date, both during the 2015 Frog Pond Area Plan process and the East and South Master Plan process; data and information gathered to date, and professional practices in the field of land use planning and urban design.

Housing Variety Throughout: All alternatives will include an approach to creating a wide variety of housing types in the East and South Neighborhoods. This concept focuses on mixing and integrating different housing types throughout each subdistrict and block rather than having separate areas for separate housing types.

Affordable Housing Integration: At least one alternative will include affordable housing fully consistent with affordable housing “targets” described by ECONorthwest and guided by the Planning Commission during the last work session. Other alternatives may include various types and amounts of affordable housing, considering the housing forms described in the Affordable Housing Analysis.

Transect of Densities: The Area Plan shows densities transitioning from higher densities nearer to Stafford Road to lower densities to the east and south. This concept will continue to be shown in the alternatives, however, in the context of middle housing rules and the design concept of variety, it will be more of an urban design concept than an actual numerical density transect.

Neighborhood Commercial Center: Alternatives will show one neighborhood commercial center based on Leland Consulting Group’s recommendation and Planning Commission and City Council feedback regarding location and nature. Based on feedback it is still a possibility the commercial center will not be included in the final preferred alternative.

Street Connectivity: Key street connectivity from the Area Plan will be shown in the alternatives, including a connection from Frog Pond Lane to 60th Avenue and Brisband Street to 63rd Avenue, though orientations will vary.

Bike and Pedestrian Connectivity: The framework concepts for pedestrian and bicycle connectivity from the Area Plan will be in the alternatives, including off-street trails.

Natural Areas: The roles of natural areas as preservation of nature, amenities for residents, focal points for urban design, and barriers to connectivity will be incorporated in the alternatives.

Preservation of Important Trees: Trees have been inventoried to identify important trees for priority in preservation. Preservation of these important trees will be incorporated into alternative designs.

Active Parks and Open Space: Meridian Creek Middle School has existing sports fields and the City owns land south of Advance Road between 60th and 63rd Avenue for a future park. An additional neighborhood park space is assumed in Frog Pond East. These parks are important amenities in considering adjacent land uses and urban design.

BPA Easement Corridor: The BPA powerline easement corridor is a major feature of Frog Pond East. Interaction with the easement corridor, from both an urban design perspective and use perspective is important. In addition to including a major trail connection through the corridor, consideration will be given to providing views into the corridor between towers and placing uses near the corridor that could benefit from parking areas or amenities placed in the corridor.

Civic Amenity Focused on Historic Grange: The Area Plan shows preservation of the historic grange as a civic amenity. This concept will be carried forward through the alternatives.

Use of Subdistricts: A geography called a subdistrict will be a tool used for neighborhood planning. Each subdistrict, while having a variety of housing types, is expected to have a cohesive look and feel centered on a gathering spot or focal point.

The subdistrict concept for Frog Pond East and South builds off concepts used in Frog Pond West and Villebois planning. In Frog Pond West, subdistricts are used to identify the different residential lot sizes and are primarily used for zoning implementation rather than urban design. Villebois used a system of sub-geographies called Specific Area Plans (SAPs). While also used for zoning implementation like Frog Pond West subdistricts, Villebois SAPs had an important urban design and housing variety aspect. They were centered on walkable distances focused around gathering spaces and included a variety of housing types in each. With an urban design focus and planned housing variety, the subdistricts for Frog Pond East and South will be more similar to Villebois SAPs than Frog Pond West subdistricts. However, the size of each subdistrict will generally be smaller than Villebois SAPs, similar to the size of Frog Pond West subdistricts. There is not a fixed size of subdistricts. Rather, subdistrict size can vary and is determined based on the context and placemaking opportunities.

The project team has set conceptual boundaries for the subdistricts as shown on page 16 of Attachment 2. Considerations used to draft the boundaries include items that influence the sequence of development and connectivity: property ownership and lot lines, natural features like riparian corridors, existing and planned collector and arterial streets, walkable distance and power line easements.

Discussion question:

1. Does the Planning Commission support the following design concepts recommended by the project team for integration into land use and urban design alternatives?
 - Housing Variety Throughout
 - Affordable Housing Integration
 - Transect of Densities
 - Neighborhood Commercial Center
 - Street Connectivity
 - Bicycle and Pedestrian Connectivity
 - Natural Areas
 - Preservation of Important Trees
 - Active Parks and Open Space
 - BPA Easement Corridor
 - Civic Amenity Focused on Historic Grange
 - Use of Subdistricts
2. Are the conceptual boundaries of subdistricts presented reasonable based on the considerations used in their determination? Are there other considerations the project team should use to help determine subdistrict boundaries?

EXPECTED RESULTS:

Feedback and direction from the Planning Commission on a neighborhood commercial center and the determination of the appropriate subdistrict geographies in Frog Pond East and South Master Plan project.

TIMELINE:

This is the fourth in a series of work sessions for the Planning Commission. The next work session is planned for June. Most components of the project must be completed by December 2022.

CURRENT YEAR BUDGET IMPACTS:

The main consultant contract is for \$350,000 funded through a Metro grant. Work began during FY 20/21. Unused portions have been rolled over and the City anticipates spending \$154,000 by the end of FY 21/22. The remaining \$196,000 is planned to be budgeted during FY 22/23 to conclude the project. Staff is in the process of incorporating an additional \$162,000 in State grants into the contract and work program for additional affordable housing analysis and work related to infrastructure funding and SDCs. Staff, with City Council's support, submitted the grant requests to further enhance the depth of the affordable housing and infrastructure project components.

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which lays out a robust public engagement program that will include meaningful and impactful involvement of people who identify with historically marginalized communities. In addition, City staff continues work with consultants and the DEI committee to establish a framework for broad community involvement.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY:

Well-designed neighborhoods with a variety of housing options for current and future Wilsonville residents.

ALTERNATIVES:

At this early point in the project, the Planning Commission may provide a range of alternatives for the project team to consider.

ATTACHMENTS:

Attachment 1 Frog Pond East and South Neighborhood Commercial Area Evaluation Draft
(dated March 28, 2022)

Attachment 2 Frog Pond East and South Recommended Community Design Concepts
(dated April 1, 2022)

Frog Pond East Master Plan

Commercial Area Evaluation DRAFT

Date March 28, 2022
To APG
From Chris Zahas and Sam Brookham, Leland Consulting Group

Introduction

This commercial area evaluation is one component of the Frog Pond East and South Master Plan, which the City of Wilsonville has initiated in order to create the regulatory framework and implementation strategies for the future development of the area.

The real estate market is of critical importance to the future of the entire Frog Pond Area since this new community will be shaped by both the private sector (e.g., landowners, developers, new residents, retail tenants) and the public sector (through planning, regulation, provision of infrastructure, annexation, and other actions).

Leland Consulting Group (LCG), the authors of this report, is part of a consultant team led by MIG | APG, which has been engaged by the City of Wilsonville to develop the Master Plan.

This memorandum includes:

- A summary of key takeaways from broker, developer, and public input
- An analysis of the commercial development market including commercial supply and demand, and opportunities for commercial tenant types, square footage, acreage, parking demands, etc.
- Summaries of case studies of comparable commercial centers with relevant comparisons to the subject site based on the surrounding population, employment, traffic counts, and other metrics that drive commercial development.
- A draft commercial land use program, including location, acres of land required, square feet of development, potential configuration, and considerations regarding visibility, access, connectivity, and the relationship to the surrounding neighborhoods.

The vision for future Frog Pond commercial is for a small commercial node that provides neighborhood amenities for local residents. It is not envisioned as a major commercial center or employment center.

Background and Trends

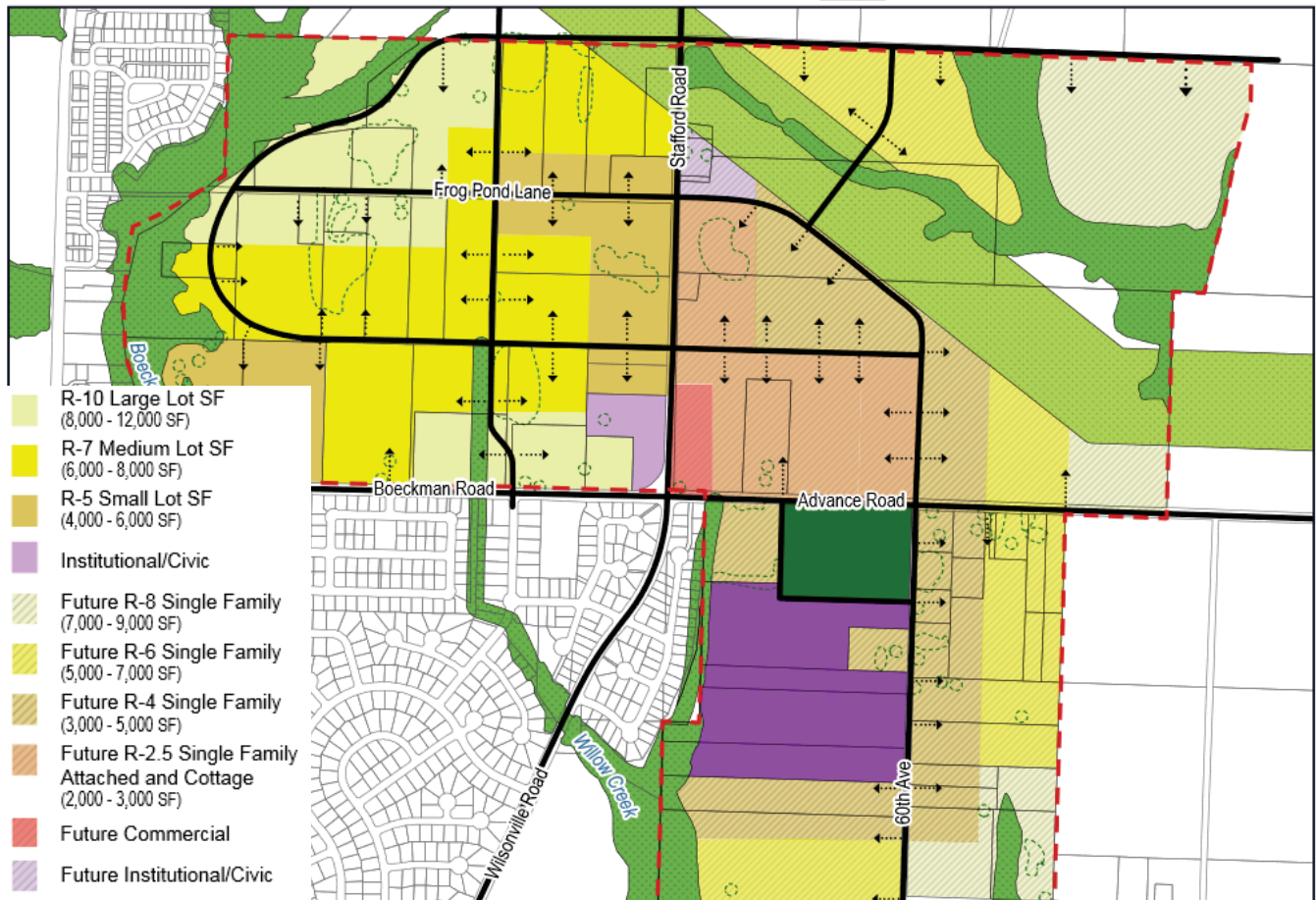
2015 Area Plan Overview

This memorandum builds on the analytical work conducted for the 2015 Frog Pond Area Plan. That plan outlines a vision for the neighborhood commercial center, describing it as a place that provides local goods and services with easy access to the local neighborhoods, with high quality and pedestrian-oriented design, and serves as a gathering place for the community. The focus should be on establishing a retail/commercial hub development that provides some goods and services for local residents, while also creating a center, sense of place, and social hub for the area.

The 2015 work included a market study to evaluate the demand and rationale for neighborhood-scale retail in Frog Pond. The study found that Frog Pond could potentially support an unanchored neighborhood retail center of approximately 38,000 square feet requiring about 3.5 acres of land at full project build-out in approximately 2035. Tenants would likely include retail, small office, and neighborhood services such as a daycare center.

The following map from the 2015 Area Plan shows the proposed location for the commercial area at the northeast corner of the Boeckman/Advance Road and Stafford/Wilsonville Road intersection. This area is central to all three new Frog Pond neighborhoods, is accessible to existing Wilsonville residents, is currently served by transit, is highly visible, has some of the highest pass-by traffic, and is complementary to the planned community park and school.

Figure 1. Frog Pond Area Plan – Land Use Framework



Source: Frog Pond Area Plan (2015)

Stakeholder Engagement

LCG conducted several interviews with retail developers and brokers to understand the opportunities and constraints of the Frog Pond location for future retail, as well as to determine any particular unmet community needs that could be satisfied in Frog Pond East and South. The takeaways and themed notes from these outreach efforts are summarized below. It is important to note that these notes reflect the developers' and brokers' opinions and are not recommendations by LCG.

Current Wilsonville Market. Developers generally agree that Wilsonville is an attractive market, primarily due to its demographics and balance of population and jobs. However, they also agree that there is limited excess demand given

the saturated nature of the retail market in the region. The old rule of thumb for commercial developments: if there are full shopping centers in the area, it is time to build another; the Wilsonville retail market is currently close to fully leased up and performing well.

Project Examples. Several retail precedents were discussed to explore opportunities and recommendations for Frog Pond. These included East Padden Square in Vancouver, WA, a master-planned 200-acre greenfield development in Ridgefield, WA, and Cascade Summit in West Linn, OR.

- The Ridgefield master-planned development shares many similarities with Frog Pond in terms of its size, development program, and location on the edge of the urban growth boundary, although the retail component will be visible and accessible from I-5. Killian Pacific is planning to build a core retail center—potentially grocery-anchored—surrounded by a limited amount of mixed-use, dependent on development feasibility nearer the time of construction. This area in Ridgefield has been undergoing planning for many years and was originally conceived as big box retail, but it is indicative of market trends that the program has changed so dramatically.
- Cascade Summit Town Square in West Linn is a larger neighborhood center on the edge of the UGB anchored by a 48,000 square foot Safeway store. It was developed as part of the residential master plan, which allowed the developer and property owner to offer below-market lease rates in order to fill the retail spaces before they might otherwise have been attractive to tenants. Additionally, the center includes a substantial portion of non-retail tenants, including West Linn City Hall, USPS, an animal hospital, banks, and a Montessori daycare center.
- East Padden Square is a pharmacy-anchored neighborhood center on the urban edge of Vancouver, WA. It includes a 14,000 square foot Walgreens and a 12,000 square foot multitenant building. While nearby households and jobs were important to the developer, access, visibility, and a lack of nearby competition were the driving forces behind their decision to locate the center. Average daily traffic counts are 15,000 to 18,000—much higher than those currently and projected in Frog Pond. A grocery store was originally planned for the center, but it never took hold.

Frog Pond Locational Assessment. Two approaches were discussed with developers: a traditional retail center and a main street approach. Developers provided the following insights:

- Retail survives by having drive-by visibility; main streets need to be planned and designed in a way that maximizes visibility while being accessible and oriented to the customer base that makes up the majority. For Frog Pond, this is likely to remain an auto-oriented area, so the front door (main access) of retailers need to be oriented to the parking lot. This configuration works better for conventional retail centers.
- Average daily traffic counts (ADT) of up to 10,000 will be unlikely to attract national tenants and may not be enough to sustain long-term leases. Developers typically look for ADTs of nearer 20,000. Developers recognize that people like to shop both in their immediate neighborhood and on their way home.
- Proximity to the Frog Pond elementary school is not a determinant of success for future commercial space.
- Developing apartments and other higher-density residential uses (e.g., townhomes) next to a commercial area will improve its chances of success by creating more demand, encouraging walkability, and making it “feel larger.”
- Over the next 10 to 15 years, a center no more than four acres in size appears realistic. Over a longer time frame as other UGB areas are built out, there may be opportunities for more commercial development.

Parking. Developers generally recommend a parking ratio of no less than four (4.0) parking spaces per 1,000 square feet of gross leasable space. For smaller centers and centers with a higher percentage of restaurants (that generally have higher parking demands than most retailers), the ratio should be more like five to six spaces per 1,000 square feet. This allows for necessary overflow capacity for peak parking demand. Shared parking agreements and on-street parking can help mitigate the impact that parking might have on the “neighborhood feel” of commercial areas.

Main Street Retail. Successful main street retail is difficult to successfully achieve, especially in suburban locations and where it is planned on minor streets. Jurisdictions often require the main doors fronting the street (i.e., on Stafford Road or Brisband Road/Frog Pond Lane with only on-street parking in front), which is detrimental to tenanting the commercial spaces. In suburban locations where about 90% of the customer base arrives by car, tenants want to locate where the most customers park. Creating the main street may need Wilsonville to require no more than 60% window glazing on the street frontages and permit entries oriented towards the customer parking.

Developers claim that when they are required by jurisdictions to provide doors along the street frontages, they advocate for limiting the number of doors on the structure and recommend only at either end of the structure to allow the corner tenant another option if they can take advantage of it. The reality is that the tenants create the street frontage as the back-of-house in the tenant layout plans, so the street sides contain storage rooms, bathrooms, utility rooms, etc.

A true main street would require all of the doors and 70% to 80% glazing on the street frontages, but for Frog Pond this would likely result in a situation where the developer would not be able to secure leases, and therefore not be able to obtain financing to build the structures. So the project never happens or it fails after the shell building is constructed.

Likely Development Challenges.

- A retail center below 50,000 square feet may not attract significant developer attention (especially larger developers), but a larger center will not likely be supported by demand.
- Financial conditions are currently the primary barrier to new investment. New retail construction currently requires rents near \$40 per square foot per year. Developers think Frog Pond will likely achieve rents between \$20 to \$25 per square foot, so retail development may need to be subsidized to be feasible. Potential solutions include SDC waivers and below-market land costs (if acquired by the city). While mixed-use development will likely face similar feasibility challenges because of the higher construction costs, efforts should be made to encourage it over the long term. Additionally, ensure the retail component is protected in the mixed-use zones; otherwise, it will be cast aside by the strength of the residential market.
- Frog Pond commercial tenants will likely be convenience-based, including restaurants, convenience stores, salons, sandwich shops, and gas stations. Services and health-based offices may comprise a significant share of the tenant mix.
- A grocery store will be challenging in Frog Pond. Grocers typically want to have access to at least 10,000 people (meaning there is such excessive demand that 10,000 people could be attracted to a new store), and many will not consider building a new grocery store without 8,000 households within a one-mile radius. Further, Wilsonville is saturated with high-quality grocery tenants. A grocery store may be feasible once construction begins in the residential components in the other UGB areas to the north.
- A master-planned development where the primary homebuilder takes on the responsibility of the commercial will likely result in more commercial space in a quicker timeframe.

Retail Market Trends

This section provides an overview of retail market trends and explores the potential impact on future Frog Pond commercial development. Some trends have been gradual, like the shifting consumer focus from malls to neighborhood-centric shopping, while some have been more rapid, as with the growing market capture of eCommerce (accelerated by the COVID-19 pandemic). Specific trends and the related impacts are summarized in the table below.

Table 1. Commercial Trends and Impacts

Commercial Trend	Impact on Future Frog Pond Commercial
Growing eCommerce market share, especially for specialty products and merchandise.	⬇️ Less overall demand for brick-and-mortar stores; limited opportunities for general merchandise.
The COVID-19 Pandemic is the “great retail reset,” with retail experiencing years’ worth of change in just months, including dramatic changes to people’s daily habits and professional and personal routines and significant impacts on real estate development patterns.	⬇️ The pandemic will likely accelerate the trends towards less retail and office space per capita, and boost demand for suburban residential locations. The era of unpredictability and risk (only one top 10 retailers from 1980 is still in the top 10)
The shift toward enjoying experiences more than purchasing goods (commodity vs. specialty) will continue to move retail stores toward selling experiences rather than selling goods.	⬆️ Potential to provide more diverse and compelling tenant mixes, health-based retail, and food and beverage.
Growing demand for convenience-based retail (e.g., neighborhood-based grocery-anchored centers with essential services), walkability, and 20-minute neighborhoods.	⬆️ Frog Pond may be able to provide walkable access to a mix of commercial goods and services, employment opportunities, and other amenities.
Shifting consumer focus from malls and high-street retail to more mixed-use centers and “neighborhood-centric” shopping	⬆️ “Hyper-local” retail orientation; more diverse and compelling tenant mixes with retailers operating smaller portfolios than before
Ageing demographics driving demand for smaller health-based commercial spaces.	⬆️ Medical-related commercial spaces (including offices) comprise a growing share of the commercial tenant mix.

Source: LCG

Retail is typically built in a series of standard formats, and while these vary somewhat, they maintain general consistency in terms of anchor tenants, size (square footage), trade area, and other features. Several types of retail centers are summarized in the table below. The 2015 Area Plan described the most appropriate types of retail for Frog Pond as a corner store, convenience center, or neighborhood center.

Table 2. Types of Retail Centers

Retail Center Type	Gross Retail Area (sf)	Dwellings Necessary to Support	Average Trade Area	Anchor Tenants
Corner Store	1,500 – 3,000	1,000	Neighborhood	Corner store
Convenience Center	10,000 – 30,000	2,000	1 mile radius	Specialty food <u>or</u> pharmacy
Neighborhood Center	60,000 – 90,000	6,000 – 8,000	2 mile radius	Supermarket <u>and</u> pharmacy
Community Center	100,000 – 400,000	20,000 +	5 mile radius	Junior department store

Sources: Urban Land Institute, Leland Consulting Group.

Parking Trends

Parking demand and need depends on a commercial area's tenant mix, its size, its location and how people are likely to travel to it, and the surrounding uses.

The Institute of Transportation Engineers (ITE) Parking Generation Manual compiles peak parking demand rates, typically by gross leasable area (GLA), for various land uses for weekdays and Saturdays. Using data collected from more than 140 surveys at all types of shopping centers ranging in size from 25,000 to 1,400,000 square feet of GLA, ITE found that the average peak parking rate was 3.23 and 3.97 vehicles per 1,000 square feet on weekdays and Saturdays, respectively.

The Urban Land Institute (ULI) has also investigated the impact of many variables including shopping center size, types of uses (retail or non-retail), and shopping center location. The ULI recommendations for providing adequate parking at shopping centers are four (4.0) spaces per 1,000 square feet of GLA for centers between 25,000 and 400,000 square feet.

This ratio may be impacted by a higher-than-average percentage of offices or restaurants.

- Commercial areas with more food service and drinking establishments (i.e., restaurants and bars) tend to have higher parking demand. Small centers and unanchored commercial areas tend to have a greater percentage of restaurants and, therefore, tend to require more parking. Smaller centers may also need more parking to accommodate peak demand.
- Commercial areas with professional, medical, and financial offices typically have slightly lower parking demand (3/1,000 sq. ft.).

Stakeholder interviews suggest a parking ratio of 5 spaces per 1,000 square feet of gross leasable commercial space (GLA), especially for a smaller (i.e., 30,000 to 50,000 square feet) suburban center where most people are likely to drive to and from it.

It should be noted that commercial centers are notoriously overparked and more futuristic trends in automation may diminish demand for traditional parking and increase demand for pick up and drop off zones. By 2035, new technologies, changing consumer behavior, or other factors may greatly impact parking demand and needs.

Demographic Context

Demographics are fundamental to estimating the market demand for commercial real estate. The types of commercial goods forecasted to be in demand in the future in Wilsonville and Frog Pond will depend on the types of people and households who live there both today and in the future.

Some highlights from the previous demographic analysis and relevant updates based on the most recent available data are described in the table below.

Table 3. Demographic Updates to the 2015 Area Plan

2015 Area Plan (2014 Data)		2021 Data
Age	Wilsonville has a higher percentage of young adult residents (aged 24 to 34) and older residents (aged 65+) than the market area or region. Conversely, a slightly smaller percentage of Wilsonville's population is middle-aged (aged 35 to 64) than the market area or region.	Wilsonville's age demographics have remained similar relative to the region; however, the market area has a much higher percentage of young adult residents (aged 24 to 34), a lower percentage of older residents (aged 65+) than the City and region, and a similar percentage of middle-aged residents (aged 35 to 64) than the market area and region.
Family Households	Fifty-nine percent of Wilsonville's households are "family households"—those with two or more related family members living together—compared with 68 and 64 percent in the market area and region, respectively.	Fifty-nine percent of Wilsonville's households are "family households", compared with 64 and 63 percent in the market area and region, respectively. The biggest change has occurred within the market area, where the percentage of non-family households has been increasing.
Household Size	Wilsonville has a larger share (68%) of one and two-person households than the market area or region.	Wilsonville still has a larger share (68%) of one- and two-person households than the market area (65%) or region (62%).

Source: LCG, ESRI Business Analyst

The following tables summarize demographic, economic, and socio-economic conditions for a series of comparative areas, including 0.5-, 1-, and 2- mile radii, the primary trade area, and the City of Wilsonville. Households in the immediate area are generally more renter-oriented, and younger than the broader Wilsonville market and metro region. While these conditions are generally attractive to retailers, as Frog Pond builds out, households will likely become larger, wealthier, and more owner-occupied.

Table 4. Comparative Demographic Characteristics

	0.5 miles	1 mile	2 miles	PTA	Wilsonville	Metro	USA
Household Size	3.07	2.44	2.25	2.59	2.30	2.53	2.58
% Renter	57.2%	63.8%	60.1%	60.6%	45.6%	37.2%	35.3%
Median Age	33.0	33.8	35.8	33.0	37.4	38.7	38.8
% w Bachelor's + (25+ y/o)	41.4%	47.8%	48.1%	45.0%	48.1%	41.3%	33.6%
Household Income	\$69,954	\$69,228	\$70,246	\$72,578	\$73,923	\$78,432	\$64,730
% HHs Earning <\$35K	12.5%	16.7%	19.7%	12.7%	20.9%	19.7%	26.4%
Per Capita Income	\$38,458	\$41,153	\$41,669	\$39,833	\$43,928	\$40,131	\$35,106

Source: ESRI Business Analyst (Derived from ACS Census Data)

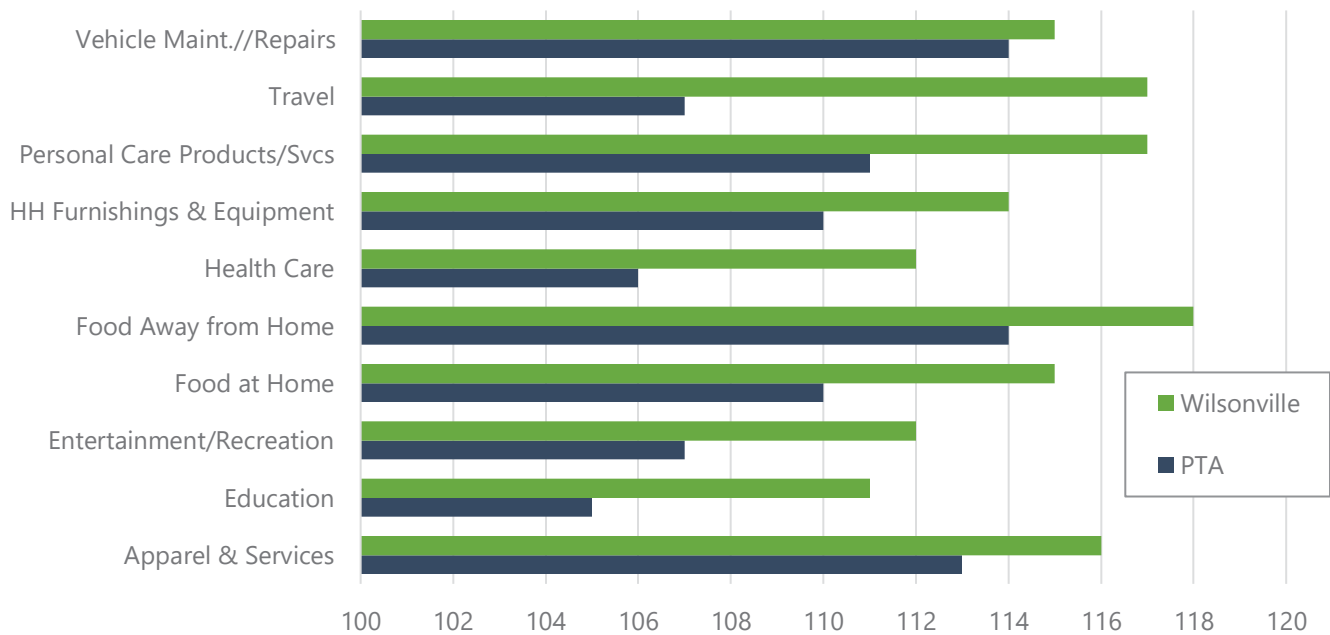
Table 5. Comparative Age Data

Age	0.5 miles	1 mile	2 miles	PTA	Wilsonville	Metro	USA
<18	22.2%	22.8%	21.6%	22.9%	20.0%	21.5%	21.7%
18-34	31.2%	29.1%	27.2%	30.4%	26.4%	23.1%	23.2%
35-44	14.1%	14.5%	14.4%	14.5%	14.1%	14.1%	12.8%
45-54	11.0%	11.7%	11.7%	11.4%	11.4%	12.5%	12.1%
55-64	11.5%	11.2%	11.6%	11.1%	11.6%	12.7%	13.0%
65+	10.0%	10.7%	13.5%	9.7%	16.5%	16.1%	17.2%

Source: ESRI Business Analyst (Derived from ACS Census Data)

Households in both the primary trade area and the City of Wilsonville have a higher spending index across all retail categories than the average U.S. household (an index of 100 indicates the average). Every index point above 100 indicates a one percent increase beyond the average. Retail categories with the highest spending index that could translate to commercial square footage include personal care projects/services, food away from home (i.e., restaurants), food at home (i.e., grocery), and apparel and services.

Figure 2. Spending Index by Retail Category



Source: ESRI Business Analyst (Derived from ACS Census Data)

Existing and Future Customer Base

Household growth is a key driver of demand for commercial development. Wilsonville is projected to continue growing quickly. The previous analysis highlighted that the number of households in Wilsonville is projected to grow at a rate of 1.8 percent annually between 2010 and 2035—faster than many of the nearby cities and the region overall. Updated forecasts from Metro (summarized below for Wilsonville and some of the neighboring cities) show slightly more conservative growth estimates through 2030 and significantly slower growth estimates through 2045.

Table 6. Updated Demographic Forecasts for Wilsonville and the Metro Region

Jurisdiction	2020	2030	2045	10-Yr Annual % Growth	25-Yr Annual % Growth
Wilsonville	25,945	29,756	30,566	1.4%	0.7%
Tualatin	27,278	27,598	27,565	0.1%	0.0%
Tigard	54,591	63,813	71,611	1.6%	1.1%
Sherwood	19,747	20,118	20,662	0.2%	0.2%
Canby	17,161	19,582	19,681	1.3%	0.5%
West Linn	26,060	26,579	26,990	0.2%	0.1%
Oregon City	36,457	42,665	49,009	1.6%	1.2%
Clackamas County	428,614	493,892	593,665	1.4%	1.3%
Washington County	622,082	718,412	809,312	1.5%	1.1%

Source: Metro 2045 distributed population and household forecasts, adopted Feb. 25, 2021, URL

Wilsonville is projected to grow by about 3,800 households between 2020 and 2030. Much of this growth is expected in peripheral growth areas like Frog Pond and will be the primary driver of commercial demand. Growth in other parts of the City is unlikely to make a significant difference to the development prospects of the future Frog Pond commercial area given the likelihood of the land use mix and program being neighborhood-serving and locally-focused. Frog Pond residential counts are described below.

As the following summary table shows, there are currently approximately 2,250 dwellings within one mile of the main intersection (Stafford, Advance, Boeckman, Wilsonville Rd) in Frog Pond, including about 1,250 single-family households and 1,000 apartments.

The 2015 Area Plan includes plans for 610 households in the West Neighborhood, about 200 of which are currently built or close to completion (including the 2,250 current units described above), and 1,322 units in the East and South Neighborhoods.

Upon the expected buildout of Frog Pond residential development in 2035, the number of households within one mile of Frog Pond (the area including the household customer base most likely to support future Frog Pond commercial development) is likely to total (and may exceed) 4,000 dwelling units. To put this number in context, retail developers will often claim 8,000 households within one mile are needed to support a grocery store.

Table 7. Estimated Household Counts

	West	South / East	One-mile Total
Currently Built	200	0	2,250
Total Projected/Planned	610	1,322+	4,000+

Source: ESRI, Frog Pond Area Plan

LCG understands that the total number of dwelling units planned for the may East and South neighborhoods may increase slightly depending on the housing density. Additional multifamily projects and/or mixed-use development may increase the planned total to 1,600 or more, enhancing commercial prospects. In addition to increasing the overall demand for new retail, residents of higher-density departments are less likely to have cars than those living in lower-density, single-family homes and more likely to walk to nearby amenities and services. LCG, therefore, recommends planning higher density residential development near commercial.

Case studies/Precedents

This section includes brief case studies summarizing different projects whose stories have some relevance to the study areas. All of the projects are greenfield projects (built on land that was mostly previously undeveloped); were built within a surrounding suburban context; were thoughtfully planned with an emphasis on quality of place and community; and were intended as neighborhood commercial centers surrounded by housing, quality streets, open spaces, and other features. While each is unique in its own way, each also has unique and context-specific takeaways for the City to consider for the implementation of commercial development in Frog Pond.

A summary table of several is provided on the following page. LCG selected six commercial developments to study based on stakeholder interview input, industry expertise, and background research. Three of these are smaller, unanchored commercial centers, one is a commercial main street, and two are larger anchored centers with main street elements (provided primarily as points of comparison). The arrows for the rows identifying the housing units and jobs within one mile of each area and the traffic counts on nearby streets indicate whether the numbers are less than (red downward arrow), roughly equal to (blue sideways arrow), or more than (green upwards arrow) the households, jobs, and traffic counts projected for Frog Pond by 2035. A full narrative case study of Northwest Crossing in Bend, Oregon is provided following the summary table.

Specific takeaways from LCG's case study research include:

- Many developers seek to build and lease commercial and employment space within several years of land acquisition; for them, having some vacant land after 20 years of development represents an opportunity cost—the land could have been zoned for another use (typically housing) and been rented or sold in earlier years. Likewise, renters and homeowners could have had homes to live in. However, from a policy point of view, if a city or other authority is seeking to ensure adequate land for commercial and employment development, and associated jobs, this can be seen as a success.
- Creating a strong sense of place is possible with a small amount of commercial development when it is carefully and deliberately built.
- A commercial main street is one important amenity that can make the rest of the community more desirable. While commercial space needs exposure to high-traffic arterials, pedestrian-oriented places should be created on main streets that are perpendicular to the arterials. It is often not comfortable for pedestrians to walk and talk or dine outside, along arterial roads, so creating a pedestrian-friendly environment is easier on perpendicular streets.
- Commercial development takes time in less traditional locations (i.e., those without large populations and traffic counts). Housing was faster to build out at NorthWest Crossing—commercial and employment followed.
- Northwest Crossing emphasizes the placemaking benefits of linking retail with open space. As a master-planned development, the developer could afford to choose this orientation and link the two spaces. Notably, none of the smaller unanchored centers documented below include a larger open space other than seating immediately outside of the storefronts. Larger commercial developments can flexibly design the site to accommodate smaller public gathering and open spaces that provide a community amenity and serves its tenants. A well-designed site that encourages the movement of people on foot between parks/open space and retail development will likely require either a master developer that sees value in this approach or a deliberate decision by the City to acquire and preserve land for these uses.

le 8. Case Study Summary

	Forest Heights	Village on Scholls	East Padden Square	Northwest Crossing	Central Village	Cascade Summit Town Square
General Location	NW Metro (UGB edge)	Tigard (SW UGB edge)	Vancouver (NE edge of City)	Bend (western edge of City)	West Linn, Highway 43	West Linn, Salamo Road (adjacent to preserved land)
Type	Unanchored convenience center	Unanchored convenience center	Pharmacy anchored n'hood center	Main Street Commercial	Grocery anchored n'hood center	Grocery anchored n'hood center
Tenant Mix	Natural Market, café, salon, cleaners, pizzeria, coffee shop	Café, restaurants, professional offices, Salon	Pharmacy, dental office, H&R Block, fast-casual and sit down restaurants	Bars, salons, restaurants, book store, medical/ prof. offices, bike shop, boutique clothing,	Retailers, restaurants, medical and professional services office space, West Linn Public Library	Safeway, offices, City Hall, banks, liquor store, gym, USPS, other misc., Montessori School
% Non-Retail	15%	50%	15%	26%	15%	30%
Year Built	1994	2008	2006	2006-2021 (ongoing)	2007	2000
1-mi Hsg. Units	4,600 ↻	6,000 🟢	4,000 ↻	2,700 🟡	3,700 ↻	4,100 ↻
1 mile Jobs	1,030 ↻	1,150 ↻	1,200 ↻	2,270 🟢	5,160 🟢	1,530 ↻
Traffic Counts	5,000 🟡	18,900 🟢	19,000 🟢	9,000 ↻	17,000 🟢	8-10,000 ↻
Site Acreage	1.6	2.9	3.2	6.0 (2 acres recently developed)	7.9	12.6
Building Sq Ft	24,000	32,000	31,000	84,600 (33,000 recently added)	104,715	131,660
Floor Area Ratio	0.34	0.25	0.22	0.28	0.30	0.24

Source: LCG

Northwest Crossing, Bend

Northwest Crossing is a 500-acre master-planned neighborhood in Bend, Oregon, located about 1.5 miles west of downtown. It is composed of a wide variety of housing types (single-family, cottages, townhomes, and apartments), over

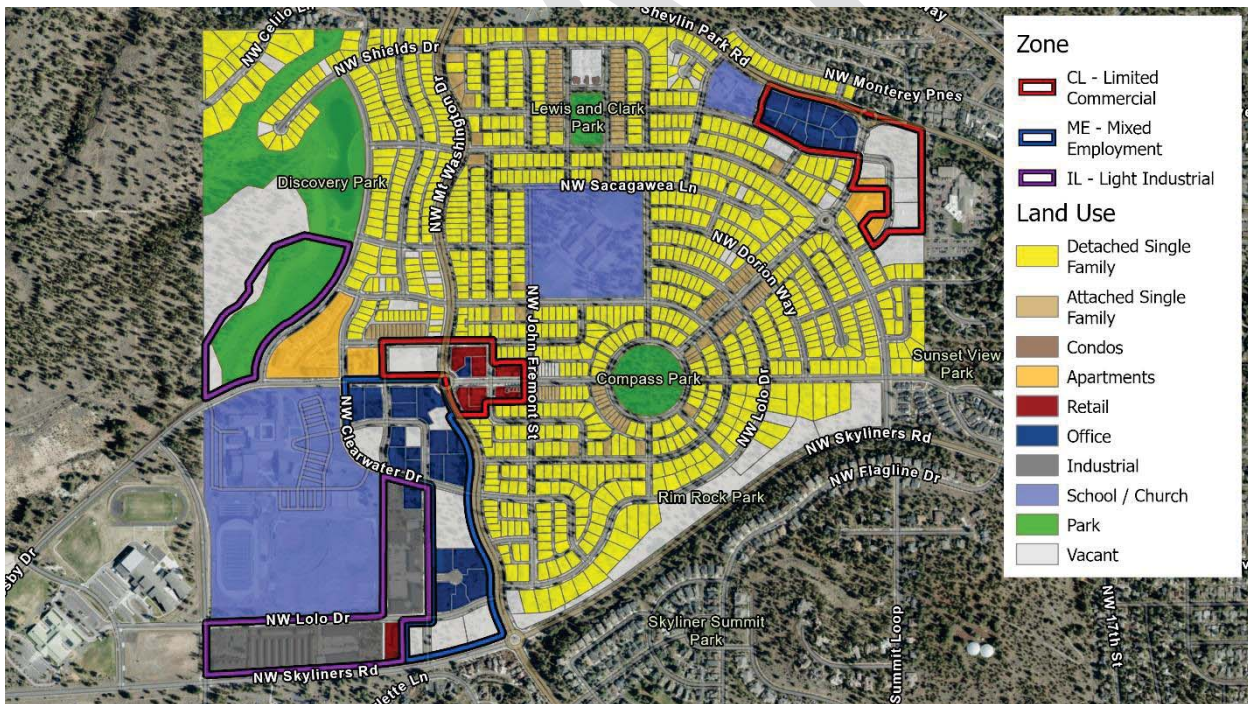
80 businesses representing a range of sectors (retail, medical, professional services, manufacturing), and a highly walkable network of streets and trails.

NorthWest Crossing is one of the best models of a successful neighborhood node or main street development within a master-planned community in the Pacific Northwest. It creates a great sense of place within a small core commercial area (less than 5 acres), and its design shows how a pedestrian-oriented main street can coexist with adjacent high traffic arterials. LCG recommends that Frog Pond consider this model of neighborhood node-scale commercial development, with an emphasis on food, lifestyle, personal and professional services, and other commercial activities that serve as an amenity to residents and create a sense of place.

Commercial uses primarily center along 400 feet of Northwest Crossing Drive (spilling east from Washington Drive). This commercial heart of the town center is approximately three to five acres, depending on the extent to which surrounding roads, sidewalks, and parking lots are included in the count. There is a small amount of retail, yet the project creates a powerful sense of place, with both residents and visitors going out of their way to gather, shop, and stroll on the “main street.” The street is connected to Compass Park, 500 feet to the east.

Northwest Crossing Drive and the park both host a range of events around the year including Saturday Farmers Market, music, tree lighting, movies, and various festivals. Together, the commercial space, park, street network, range of housing, and other features create something distinctive and elusive—community and sense of place. While these attributes may seem conceptual, they drive financial returns, particularly through very strong home sales throughout the community’s twenty-year history, including during the recession, when home sales in other parts of Bend suffered.

Figure 3. Northwest Crossing Land Use Map



Northwest Crossing has had relative success in attracting significant employment development. Capitalizing on Bend’s quality of life characteristics, concentration in outdoor recreation and “maker” industries, and emerging start-up culture, Northwest Crossing has been able to attract several small manufacturing and mid-size headquarters to its employment area. In total, about 16 acres of office development and 15 acres of industrial development have been built. This makes it one of the most successful greenfield communities in Oregon in terms of attracting employment uses.

NorthWest Crossing was led by master developer Brooks Resources, who purchased the entire 500 acres in the 1990s, used a phased buildout approach for the residential component, and was willing to be very patient on the development of commercial and employment sites. LCG cannot say at this point whether this will be the case at Frog Pond. Most of the land, including the proposed site of the commercial center, is currently held in numerous disparate ownerships and no master developer is known. One reason that a master developer is significant is that they are more likely to “over-invest” in amenities such as commercial centers, because, at least in theory, a desirable commercial center will make the entire neighborhood more attractive and desirable and enable the master developer to “internalize” the greater revenue generated by faster home sales and more valuable homes—even if the commercial center is expensive to develop and has a low return on investment. When a property is controlled by many owners, each owner has far less incentive to view commercial and employment areas as loss leaders that drive the success of the overall community.

Market Analysis

A retail market analysis provides quantitative information about the opportunities for new retail space based on existing and future supply and demand. This section describes the competitive retail environment facing future commercial in Frog Pond and the households expected to drive most of the demand for new space.

The 2015 Area Plan described the most appropriate types of retail for Frog Pond as a corner store, convenience center, or neighborhood center. This analysis reevaluates these assumptions and identifies the most appropriate retail format and size for Frog Pond based on new data and updated information.

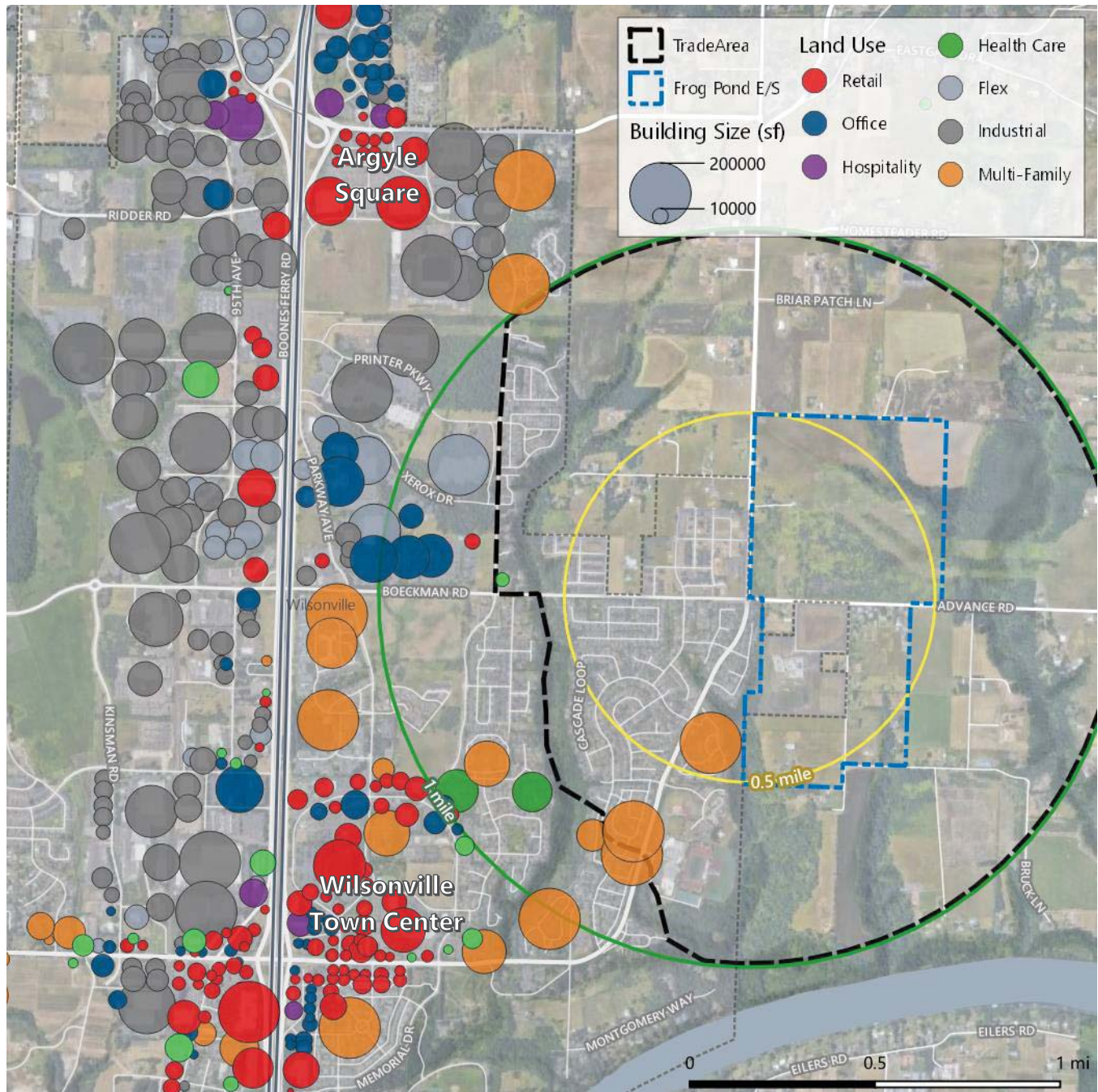
Primary Trade Area

The primary trade area is the geographic region from which 50 to 80 percent of total demand and sales are expected. Identifying and analyzing this trade area is critical to understanding the demand for retail commercial space and the potential market capture of the Frog Pond area.

The size of the trade area differs based on the type of commercial space. The size of the trade area generally correlates with the size of the commercial center or store and the total square footage occupied by its tenants. For example, tenants offering neighborhood goods and services and food and beverage are typically more locally-focused, occupy smaller store footprints, and have a much smaller trade area than general merchandisers and other larger-format stores that have a more regional draw.

The following map shows the Frog Pond primary trade area in relation to existing commercial and multifamily developments.

Figure 4. Frog Pond Primary Trade Area



Source: LCG

The primary trade area for Frog Pond will likely be within one mile of the future commercial area, consistent with the typical trade area for a convenience center. Future commercial in Frog Pond is unlikely to draw many customers from beyond one mile away unless it becomes a destination that can attract visitors with a unique retail experience. The boundary shifts inward in places that are impacted by:

- Physical and environmental barriers, particularly to the west and south along the wetland/vegetative corridor. New households west of this corridor will more likely be consumers of commercial to the west,

- The proximity of large retail centers, including Argyle Square, Wilsonville Town Center, and others, and
- Major arterials offer quick access to these well-established commercial concentrations.

This trade area excludes approximately 680 dwelling units that are within one mile of the center (330 single-family homes and 350 apartments). These households—and households further afield—will also support Future Frog Pond commercial, but proximity to more established retail in and around the Wilsonville Town Center will likely be a more significant draw.

Commercial Supply and Competition

This section summarizes the existing and future retailers that are likely to compete for customers with future Frog Pond commercial. Given its location on the eastern edge of Wilsonville, commercial demand and development prospects are most likely impacted by commercial spaces located east of I-5. These spaces include those within the Wilsonville Town Center and the Argyle Square regional shopping center at Elligsen Road; both commercial centers offer a wide variety of goods and services. One benefit that both of these centers have over Frog Pond, as shown in the table below, is the very high traffic, visibility, and access that comes with their location near I-5, and along major high volume arterial roads.

Each of the centers is relatively high-performing despite the challenges facing the retail sector due to ecommerce and the COVID-19 pandemic. Vacancies at Argyle Square continue to be very low (<5%), rents average more than \$30 per square foot, and annual rent growth has exceeded three percent for the past decade. Rents at the Wilsonville Town Center are slightly lower on average at \$25 per square foot, reflecting the older building stock.

The Wilsonville Town Center (WTC) is the focus of a recent master plan that envisions widespread changes over the planning horizon for the Frog Pond Master Plan. Plans include a more pedestrian-oriented environment, additional commercial development, a shift to more experiential retail, mixed-use development, and a greater intensity of uses. Frog Pond Commercial will compete with WTC for experiential retail, including neighborhood goods and services and food and beverage.

Retailers at Frog Pond will need to consider these retail centers and establish an effective role and niche to compete effectively.

Table 9. Property Characteristics of Competing Commercial Centers (East of I-5)

Average/Total	Wilsonville Town Center	Argyle Square Regional Center
Center Type	Community Center	Regional Center
Major Tenants	Safeway, Goodwill, Dollar Tree, Ace Hardware, Regal Cinema, Clackamas Community College	Target, Costco, PetSmart, Office Depot
Leasable Space (SF)	1,091,000 (664,000 sf retail buildings)	370,000
Site Area (SF)	6,332,544	1,850,267
FAR	0.17	0.20
Total Vacant SF	157,000 (includes 146,500 sf building formerly occupied by Fry's Electronics)/	10,500
Avg. Vacancy Percent	15% total / 24% retail only	<1%
Avg. Traffic Counts	27,000	15,000
Households w/in 1 mi	4,711	1,005
Planned Development	1+ million square feet	Nothing planned

Source: ESRI, LCG

Demand for New Commercial Space

The demand for commercial space, and ultimately land that needs to be planned for future development is a function of many interrelated factors. Each commercial real estate sector—including office, retail, industrial, hospitality, and healthcare—consider certain factors more important than others, as summarized below.

Table 10. Factors Influencing Demand and Development Prospects

Factor & Description	Sector Impacted	Frog Pond Considerations
<p>Spending Leakage. Leakage occurs when locals spend a larger amount of money on goods than the number of sales reported by local businesses. Retail leakage implies that locals are traveling outside of the local market area to buy retail goods and can indicate unsatisfied demand within the PTA.</p>	<p>Retail, medical and professional office, lodging</p>	<p>There is leakage across all retail categories; Frog Pond may recapture spending leakage in neighborhood retail, goods and services. Leakage for the primary trade area is shown in the chart that follows.</p>
<p>Existing and Future Consumer Base. Consumers include shoppers, workers, tenants, and other users. A fast-growing area will create demand for services and development quicker than slow-growing areas because of the needs of new households. High-growth areas will attract development interest.</p>	<p>Retail, office, industrial, lodging</p>	<p>Frog Pond is impacted by household growth primarily, with at least 4,000 units expected by 2035.</p>
<p>Purchasing Power of Base. Households with higher incomes generally have more disposable incomes and, therefore, consume more goods and services and generate demand for more commercial development. Households with certain demographic profiles tend to spend more in certain categories than others. Retailers are interested in targeting clusters of households that fit the goods and services on offer.</p>	<p>Retail</p>	<p>The “Spending Index” for households living in Wilsonville is higher than the metro and U.S. average, indicating strong purchasing power. This index is expected to be similar for the trade area as Frog Pond builds out.</p>
<p>Local Demographics. Characteristics of residents and workers, such as education, household composition, age, and income, play a factor in consumer behavior, employment demands and trends, and hotel use.</p>	<p>Retail, office, industrial, lodging</p>	<p>Frog Pond and the surrounding areas appear to have attracted younger, educated, wealthy families. These demographics support neighborhood-serving retail and other specialized uses, such as daycare.</p>
<p>Unique Differentiators. Placemaking and walkability can create unique destinations that people want to live, work, and play in. These places pull people from outside the typical trade area and generate more development interest than traditional locations.</p>	<p>Retail, office, lodging</p>	<p>In lieu of major differentiators, Frog Pond can drive interest and pull customers to the area by encouraging higher density development near commercial uses, on-street parking, connections to open spaces, and promoting neighborhood-centric tenant mixes.</p>
<p>Access and Visibility. While neither of these characteristics generates demand in itself, highly accessible and visibility areas will be more likely to attract development interest because of the ability to draw from a wider market area and capture passing traffic (auto, pedestrian, tourism, etc.).</p>	<p>Retail, office, industrial, lodging</p>	<p>Stafford Road carries the most traffic, with northbound evening commuters providing opportunities for Frog Pond East. Traffic on Brisband Road and Frog Pond Lane and other east-west connections may arise later.</p>

Source: LCG

As noted above, there is leakage in all retail categories—a positive indicator for commercial prospects. In theory, the total sum of the leakage across all categories could be met with more than 175,000 square feet of new retail development. In reality, only a small fraction of existing leakage might be recaptured within the PTA in the form of new development. This is because most of the retail “gravity” is to the west, with several large centers that draw customers from a much larger trade area because of the substantial range of goods and services on offer. New commercial in the Frog Pond area can expect to see the highest capture rates among neighborhood goods and services (e.g., the categories of food and beverage, health and personal care, and building materials/garden equipment) and low recapture rates in the categories of general merchandisers (such as Target, Walmart), clothing, sporting goods, furniture, and electronics.

Figure 5. Spending Gap Analysis, Primary Trade Area, Current Spending Leakage



Source: LCG

Demand Analysis

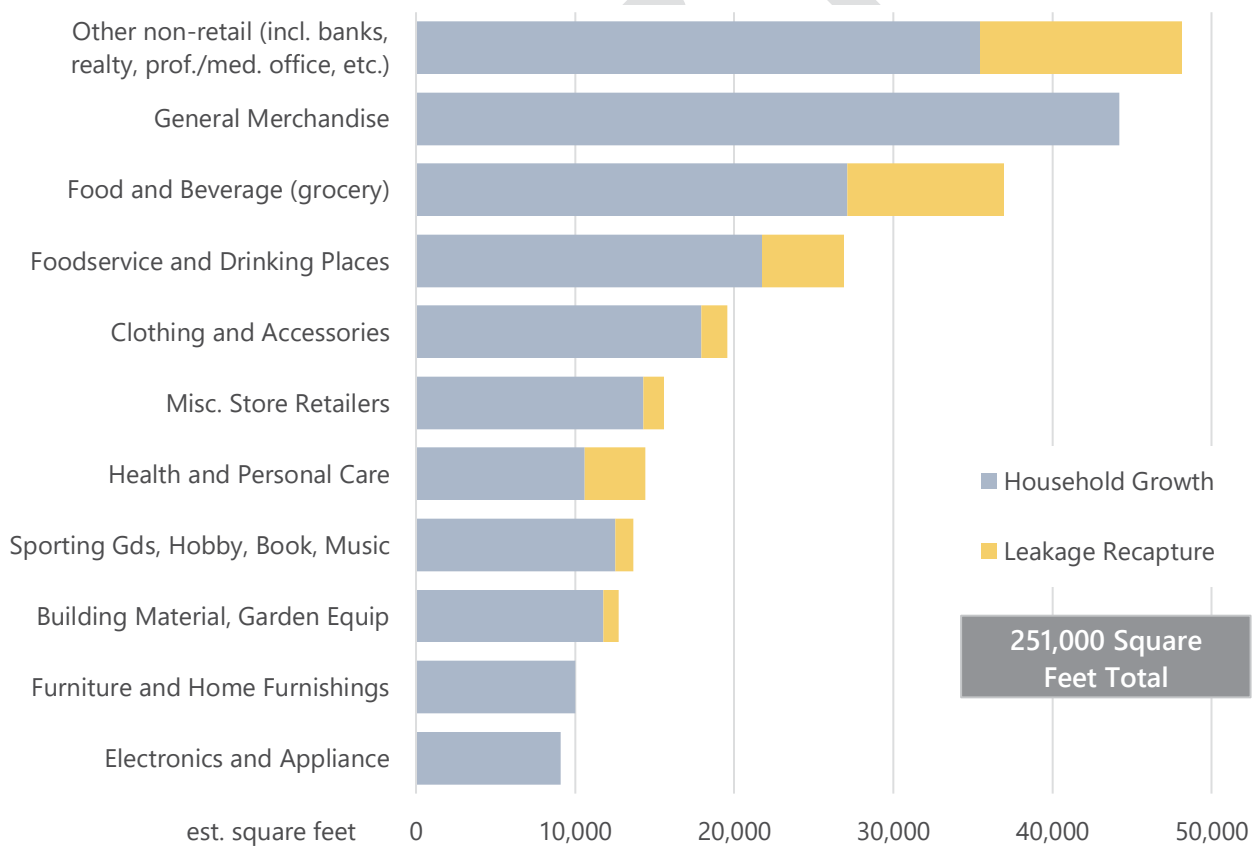
Commercial demand is calculated by applying the following key metrics to existing and future households within the primary trade area.

- **Expenditures by household.** Household expenditures are collected through a survey by a U.S. Bureau of Labor Statistics (BLS) and reported as average and summed expenditures by subcategory.
- **Market Capture.** Capture Rates are the percentage likelihood that the expenditures will be assumed by the development. Analysts assign capture rates as a factor of competition, location, and other market factors.
- **Leakage Recapture.** As noted above, a fraction of existing leakage might be recaptured within the PTA in the form of new development
- **Sales per Square Foot.** Sales per square foot are otherwise known as productivity and enable a calculation of supportable square footage at the product. Each region, neighborhood, and development has a different set of sales figures.

LCG evaluated retail demand using these metrics through 2035 when the Frog Pond area is expected to be near completion. Demand is driven by existing and future households within the primary trade area, as well as spending from drive-by shoppers. Taking into account the existing stock of about 2,250 households and the approximately 1,800 new households likely to ultimately reside at Frog Pond, there will likely be more than 4,000 households in the primary market area at full project build-out in 2035.

Based on these household counts, and the metrics identified above, demand for new retail space from existing and future households totals 226,000 square feet through 2035. Demand does not translate to viable square feet of development, however, and the market capture varies for each retail category. The majority of households will continue to shop in areas outside of the primary trade area and other existing and new retail developments will capture a significant share of total commercial demand. Among these areas is the Wilsonville Town Center—the closest retail concentration—that may add more than one million square feet of new development over the next 20+ years and draw customers from the Frog Pond area.

Figure 6. Primary Trade Area Retail Demand by 2035, Net New Square Feet



Source: LCG

Projected Demand and Potential Market Capture

This section outlines the possible site program for Frog Pond based on the market capture of the demand totals described above. LCG estimates the market potential for between 31,000 and 56,000 square feet of new commercial space. This would require between 2.8 and 5.1 acres of land at a standard floor area ratio (FAR) of 0.25 (consistent with the case studies documented in the following section). The higher threshold largely depends on the area’s ability to attract a pharmacy or medium-sized grocer, which may not be feasible within the planning horizon.

The following table details the estimated range of gross leasable space (in square feet) for various retail types based on LCG's demand analysis. Future Frog Pond commercial is expected to comprise primarily of food and beverage stores (including grocery, specialty markets, delicatessens, butchers, etc.), health and personal care (including salons, pharmacy, fitness centers), foodservice and drinking places (restaurants, cafes, bars), and other non-retail stores ((banking, realty, financial and medical offices, educational tenants, etc.). As the case studies show, non-retail tenants typically account for between 15 and 30 percent of gross leasable space in commercial areas. This is captured in the table below in the "Other" retail category type.

Table 11. Primary Trade Area Retail Demand and Supportable Retail Area: 2035

Retail Category Type	Future Growth in Demand (Retail Potential) \$	2035 New Demand from HH Growth (s.f.)	Leakage Recap- ture (s.f.)	Total New 20- yr Demand (s.f.)	Capture Rate (low)	Capture Rate (high)	Net New Demand Square Feet (low)	Net New Demand Square Feet (high)
Furniture & Home Furnishings	\$2,254,435	10,020	0	10,020	0%	0%	0	0
Electronics & Appliance	\$2,270,950	9,084	0	9,084	0%	0%	0	0
Bldg. Material, Garden	\$4,115,742	11,759	994	12,761	10%	15%	1,300	1,900
Food/Beverage (grocery)	\$11,519,008	27,104	9,837	36,941	15%	50%	5,500	18,500
Health & Personal Care	\$3,969,016	10,584	3,841	14,425	35%	50%	5,000	7,200
Clothing & Accessories	\$3,584,158	17,921	1,626	19,547	5%	10%	1,000	2,000
Sporting Gds, Hobby, Book, Music	\$2,504,784	12,524	1,136	13,660	10%	15%	1,400	2,000
General Merchandise	\$12,151,776	44,188	0	44,188	0%	0%	0	0
Misc. Store Retailers	\$3,213,690	14,283	1,296	15,579	10%	15%	1,600	2,300
Foodservice & Drinking	\$7,612,294	21,749	5,166	26,930	20%	28%	5,400	7,500
Other non-retail (banks, prof./med. office, etc.)	\$5,319,585	35,464	12,683	48,153	20%	30%	9,600	14,400
Total	\$58,515,438	214,680	36,580	251,288	12%	22%	30,800	55,800
Acreage Required							2.8	5.1

Sources: ESRI Business Analyst, LCG

The feasibility of this commercial development will also depend on what if any retail is developed in other locations. For example, a new retail center located to the west of the Frog Pond Area on Boeckman Road would absorb demand from Frog Pond and potentially preclude new development in the study area. However, this analysis assumes that no new retail is built within a one-mile radius of Frog Pond East.

With projected 4,000 households within one mile of the main intersection, Frog Pond will likely support a convenience center at the lower range (around 30,000 square feet), but a larger retail center at the upper range (around 50,000 square feet) may be challenging.

Within two miles, there are *currently* about 6,000 housing units and additional growth in this area will exceed the average number of dwellings necessary to support a neighborhood center. However, such a large trade area is unlikely in this case given this area includes more than 2.0 million square feet of existing competitive retail space.

Site Location Considerations

This section includes a discussion of potential locations for future commercial development and the advantages and disadvantages of each.

When selecting commercial development sites, several core characteristics attract commercial developers and brokers to certain locations, including access and visibility, traffic counts, and the customer base. The previous pages have described Frog Pond's general competitiveness as a commercial location; this section now provides an overview of the potential internal locations for this commercial development within Frog Pond East and South.

Potential locations are limited to the east side of Stafford Road. Stafford is and will remain the primary route through Frog Pond (with 6,000 average daily traffic counts) and is therefore visible and accessible to the greatest number of people in the area. It should be noted that retail developers typically want ADTs of more than 15,000 for most commercial centers, and while the City's Transportation System Plan forecasts that ADTs on Stafford will reach approximately 10,000 by 2035, reaching the upper 50,000 square feet threshold may not be feasible given these and other challenges. Over a long-term planning horizon (20+ years), other areas in the region will develop, including those to the immediate north, and employment will grow, driving up densities and ADTs to levels that are more likely to support a larger commercial center.

Along the Stafford Corridor, there are three potential locations for commercial development. The first, at the northeast corner of the existing main intersection of Stafford and Advance roads, has been documented in detail and remains an opportunity site. The second potential location is at the planned extension of Brisband Road along Stafford Road. This extension will likely be the primary alternative route through Frog Pond, bringing more customers and traffic past this potential location. Similarly, the third location is at the planned extension of Frog Pond Lane adjacent near the Frogpond Grange. More details about the pros and cons of each location are provided in the table below.

Table 12. Location and Development Type (Main Street Retail Versus Commercial Centers) Options: Advantages and Disadvantages

Location	Likely Commercial Type / Location	Advantages	Disadvantages
1. NE Corner of Advance/ Stafford Intersection	Commercial center with access from both Stafford and Advance roads. Large central parking lot.	<p>Most “developer-friendly” option.</p> <p>Best opportunity for a pharmacy on the corner.</p> <p>Likely to develop the quickest.</p> <p>Tried and tested development type.</p> <p>Anchor tenant opportunity.</p>	<p>Least pedestrian-oriented location and development type.</p> <p>Few opportunities to tie into land uses to the south and west.</p> <p>May have the least community support.</p> <p>Commercial centers can age quickly and feel outdated.</p>
2. Brisband Road	“Main Street” with commercial space on the north and south sides of Brisband Road, as well as space fronting Stafford Road. Parking is likely located on street and behind buildings.	<p>Most balanced option (market-driven versus experience/amenity-based).</p> <p>May have the most traffic once Frog Pond residential is complete.</p> <p>Main street retail feels “fresher” for longer, maintaining vibrancy.</p> <p>May have the most community support.</p> <p>Long-term potential to develop a flexible mixed-use program that fully surrounds the commercial area: program may also increase in size with the Elligsen UGB area housing growth to the north.</p>	<p>Typically unanchored; may take longer to build and fill with tenants.</p> <p>May require public subsidy given the greater development complexity, especially if mixed-use (upper stories are not required).</p> <p>Challenging tenant/parking configuration.</p> <p>Power easement through connection may be critical to bringing more local customers to the site.</p>
2. Frog Pond Lane Extension	“Main Street” with commercial space on one or both sides of Frog Pond Lane, as well as space fronting Stafford Road. Parking is likely located on street and behind buildings.	<p>Opportunities to tie into existing community asset at the Frogpond Grange.</p> <p>Main street retail feels “fresher” for longer, maintaining vibrancy.</p> <p>May have the most community support.</p> <p>Long-term potential to develop a flexible mixed-use program that partially surrounds the commercial area: program may also increase in size with the Elligsen UGB area housing growth to the north.</p> <p>More central to both future Frog Pond and Elligsen UGB area households, albeit over a much longer timeframe.</p>	<p>Same as Option 2.</p> <p>North side development may be challenging given the existing location of the Grange.</p> <p>Not centrally location: one-sided market area (most of new residential construction will be constructed to the south) may limit customer base/tenanting opportunities.</p>

Source: LCG

Location number two (and three, to a lesser extent) offers the opportunity to develop a main street retail development type that likely offers the greatest community benefit and experience. However, if the City of Wilsonville chooses to

pursue the Main Street approach, it should be aware of the potential challenges, including parking complexities, site design, building orientation, access, and whether the development will include upper story offices or residential units. If the City and its development partners can address these challenges, a commercial main street can make the rest of the community more desirable. Main streets require slow vehicle speeds, sidewalks, street parking, retail on both sides of the streets, and the streets should ideally go somewhere rather than into an inner neighborhood. Sisters, Oregon is one such example.

Phasing

Retail development in edge locations such as Frog Pond is challenging and requires the right mix of pass-by traffic and visibility, a dearth of strong competition in the primary market area, and an adequate population. This also underscores the adage that “retail follows rooftops” and gets developed only when there is sufficient housing to support it. A larger development program may provide more neighborhood amenities, but it will also take longer to develop and land may sit vacant and undeveloped for many years.

Retail developers may decide to wait until after 2035 to build significant retail, when additional Urban Reserve Areas such as the Elligsen Urban Reserve Area to the north may enter the UGB (although the build-out of these areas will likely take more than 20 years).

Ultimately, the City of Wilsonville will need to decide whether it wants to see commercial development in the shortest timeframe possible or hold the land until a larger program might be feasible or a master developer is interested in developing the site. Alternatively, the City could plan for commercial development in the future Elligsen Urban Reserve as it will have greater access to more households, thereby—at least theoretically—supporting a larger development program.

Recommended Development Program

The primary goal of this memo is to recommend a commercial development program that includes site acreage, development square feet, likely tenant mix, parking demands, access requirements, and other considerations.

The market analysis for the 2015 Area Plan found that Frog Pond could potentially support an unanchored neighborhood retail center of approximately 38,000 square feet requiring about 3.5 acres of land at full project build-out in approximately 2035. Tenants would likely include retail, small office, and neighborhood services such as a daycare center.

This updated market analysis finds that a slightly larger development program of **44,000 square feet on 4.0 acres of land** may be feasible. If the City can attract a pharmacy or medium-sized grocer (a full-service grocery store is not likely), this program could be 56,000 square feet on 5.1 acres of land, so flexibility should be incorporated into the plan in order for the City to be able to respond to opportunities as they arise. A summary of LCG’s recommended development program is as follows.

Bldg. Square Feet	Up to 44,000 square feet
Site Acreage	Up to 4.0 acres
Tenant Mix	Commercial development today is flexible and accommodates a wide range of activities, including food and beverage, retail, general commercial, professional services/office, healthcare, fitness, daycare, banks, and more. Specific retail tenants may include cafes and restaurants, a specialty food product store, a pharmacy, and other miscellaneous stores like laundromats, salons, hobby/boutique stores, and medical, professional, and financial offices.

There are few region-wide examples of developers building commercial centers that are smaller than 30,000 square feet and may wait until a center between 30,000 and 55,000 square feet or larger is feasible, especially if the retail market again shifts dramatically in the next decade. Another approach is to encourage a greater percentage of non-retail uses to create a larger and potentially more profitable center. Some of these non-retail tenants include medical/health services (dental offices, veterinary clinics), financial services (banks, real estate brokerage, insurance offices), realtors, personal care (salons, fitness centers), and household services (childcare facilities, education, coworking spaces).

Development Type

"Hybrid" Main Street, with buildings on both sides of the planned Brisband Street or Frog Pond Lane extension on the east side of Stafford Road. Buildings can be split up (see Northwest Crossing) to address parking challenges. The corners present an opportunity to attract a pharmacy or larger anchor tenant.

The main street approach, if done correctly, creates an authentic experience that promotes placemaking, creates a community amenity, and can have a positive impact on the surrounding residential uses and other commercial spaces (e.g., driving rent premiums and increasing values, improving the attractiveness of the area for new residents and customers, etc.).

In keeping with other regional centers, initial construction is most likely to be at a 0.25 to 0.30 floor-area ratio (FAR).

Parking

Parking ratios of 4.0 to 5.0 per thousand square feet of gross leasable commercial space are common. Most parking in the near term will be at the surface level, though shared parking and on-street parking can reduce the need for large fields of surface parking. A higher percentage of food and beverage-based tenants will create more demand for parking, while a higher percentage of non-retail tenants will likely create less demand.

Location

From a pure market perspective, the northeast corner of the Stafford Road and Advance Road intersection makes the most sense. This location requires the least new infrastructure and can be built out independently of the rest of Frog Pond.

However, Main Street retail provides the greatest experience and offers an opportunity for the commercial area to be prosperous over a longer timeframe. Main street retail feels "fresher" for longer than conventional retail centers and would be more accessible to a greater number of people traveling by car, foot, and bike.

A pharmacy or similar small anchor tenant may be possible in either location but would want to locate on street corners, yet with a setback for their customer parking.

Other Recommendations

Plan for higher-density residential, including apartments, townhomes, and live/work spaces, surrounding the commercial center. Most case studies of successful commercial areas are surrounded by higher-density housing.

Many desirable communities and commercial centers are mixed-use, and allow housing, live-work, educational, and institutional, within or adjacent to the centers. In the near term, horizontal mixed-use is possible and can create a great sense of place. Opportunities for vertical mixed-use in the near term may be very limited or nonexistent, though possible in the long term (10+ years). While the market for live-work space is modest, stakeholders may want to encourage or incentivize it.

Recognize the constraints imposed by market and development economics related to height, density, and vertical mixed-use.



RECOMMENDED COMMUNITY DESIGN CONCEPTS

TO: Planning Commission
FROM: Project Team
DATE: April 1, 2022

OVERVIEW

The purpose of this memorandum is to introduce community design concepts and potential “subdistricts” for the Frog Pond East and South Master Plan. As used here, subdistricts are subareas of the East and South Neighborhoods that will have cohesive building form, public realm features, or other characteristics that give them a particular identity. The subdistricts are an urban design tool to support ongoing community dialogue and Master Plan layout.

This memorandum is the first of several steps in creating Master Plan alternatives. Those steps are:

1. Planning Commission review of this material and guidance (April 13th meeting)
2. Community outreach through workshops and focus groups in (April and May)
3. Preparation of alternatives based on community input (late May)
4. Planning Commission review of alternatives and a recommended alternative (June 6th meeting)

THE FROG POND AREA PLAN “FRAMEWORKS”- A STARTING PLACE

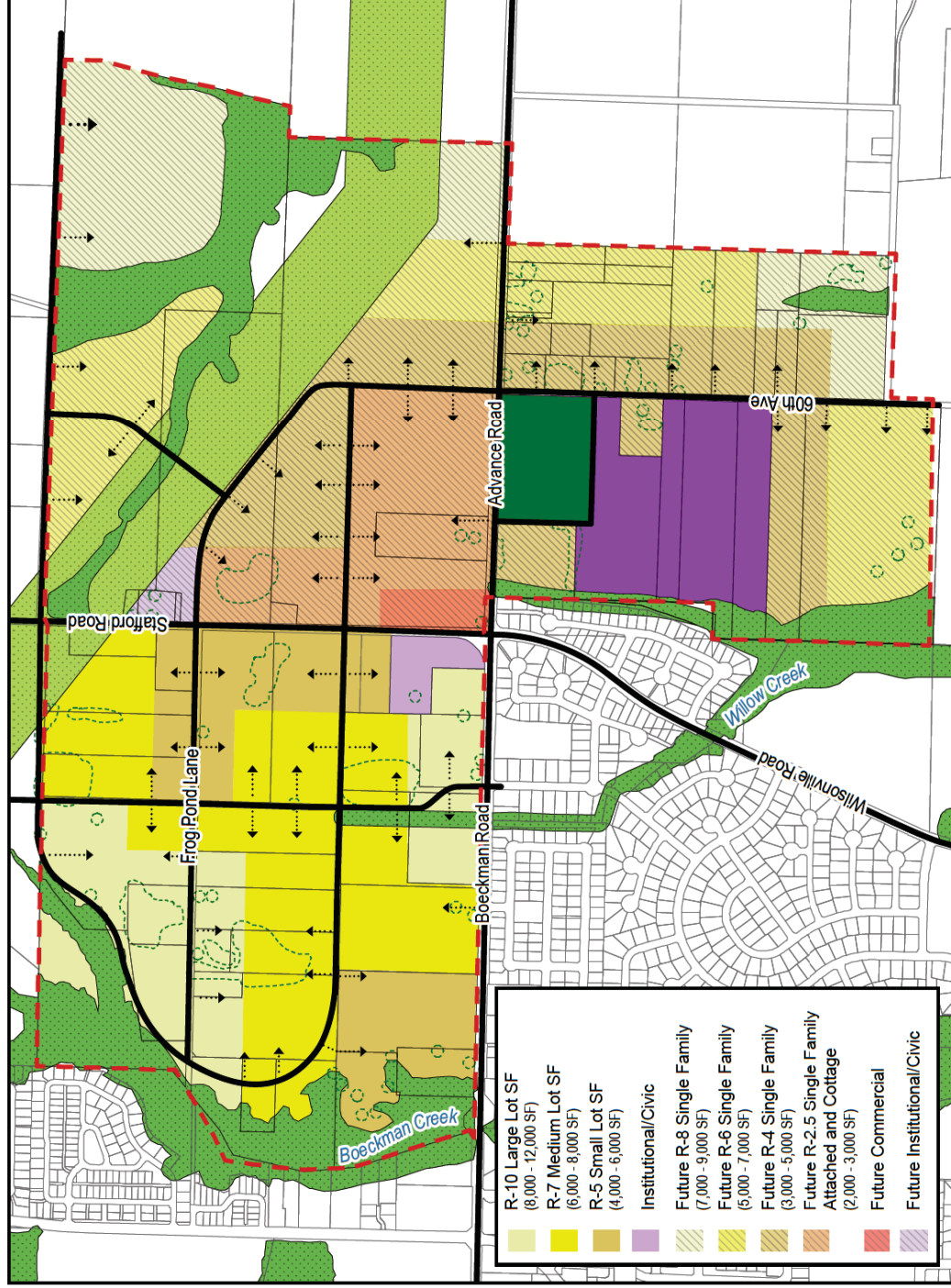
The Frog Pond East and South Master Plan builds is an outgrowth and refinement of the Frog Pond Area Plan, which was adopted by the City of Wilsonville in 2015. At its core, the Frog Pond Area Plan is a vision and plan for three walkable neighborhoods. The plan uses the term “frameworks” to emphasize its role in defining key design concepts, with few site-specific details. The Area Plan is not a regulatory document; it is a starting point reflecting previous community discussion and decision-making in the Frog Pond area. The current planning effort is expected to involve both reaffirmation of some of the Area Plan’s concepts as well as new ideas. Framework-level design concepts in the East and South Neighborhoods include:

Land Use – The plan transitions from higher densities (townhomes and smaller lots) nearer to Stafford Road to lower densities to the east and south. A variety of medium- and smaller-lot housing types were envisioned, grouped into a simplified zoning scheme of three zones. A neighborhood commercial center, serving all three Frog Pond neighborhoods is illustrated in the SW corner of the East Neighborhood. The Frog Pond Grange is noted as a Institutional/Civic node.



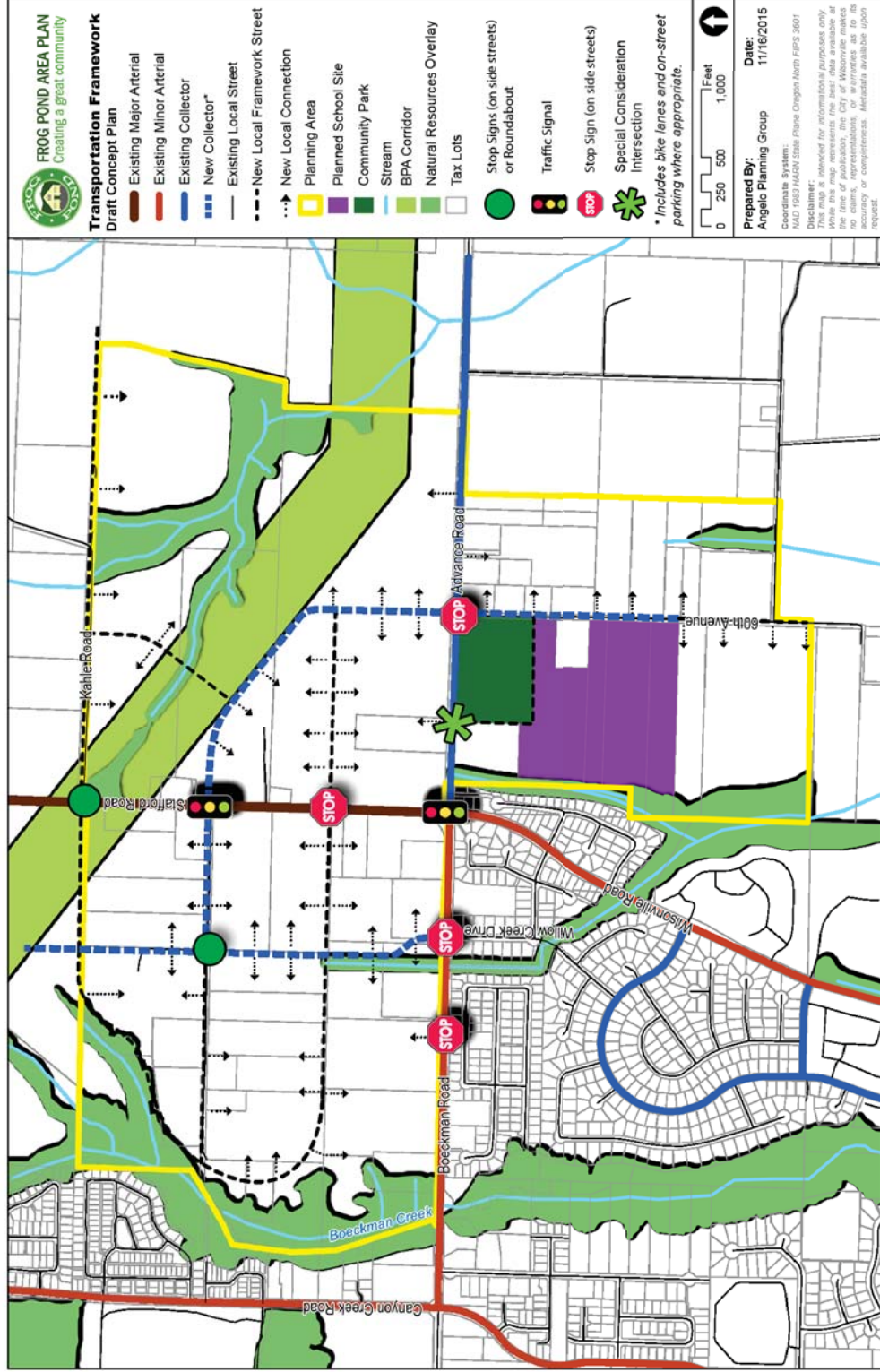
EAST & SOUTH MASTER PLAN

Figure 1. Area Plan Land Use Framework Map



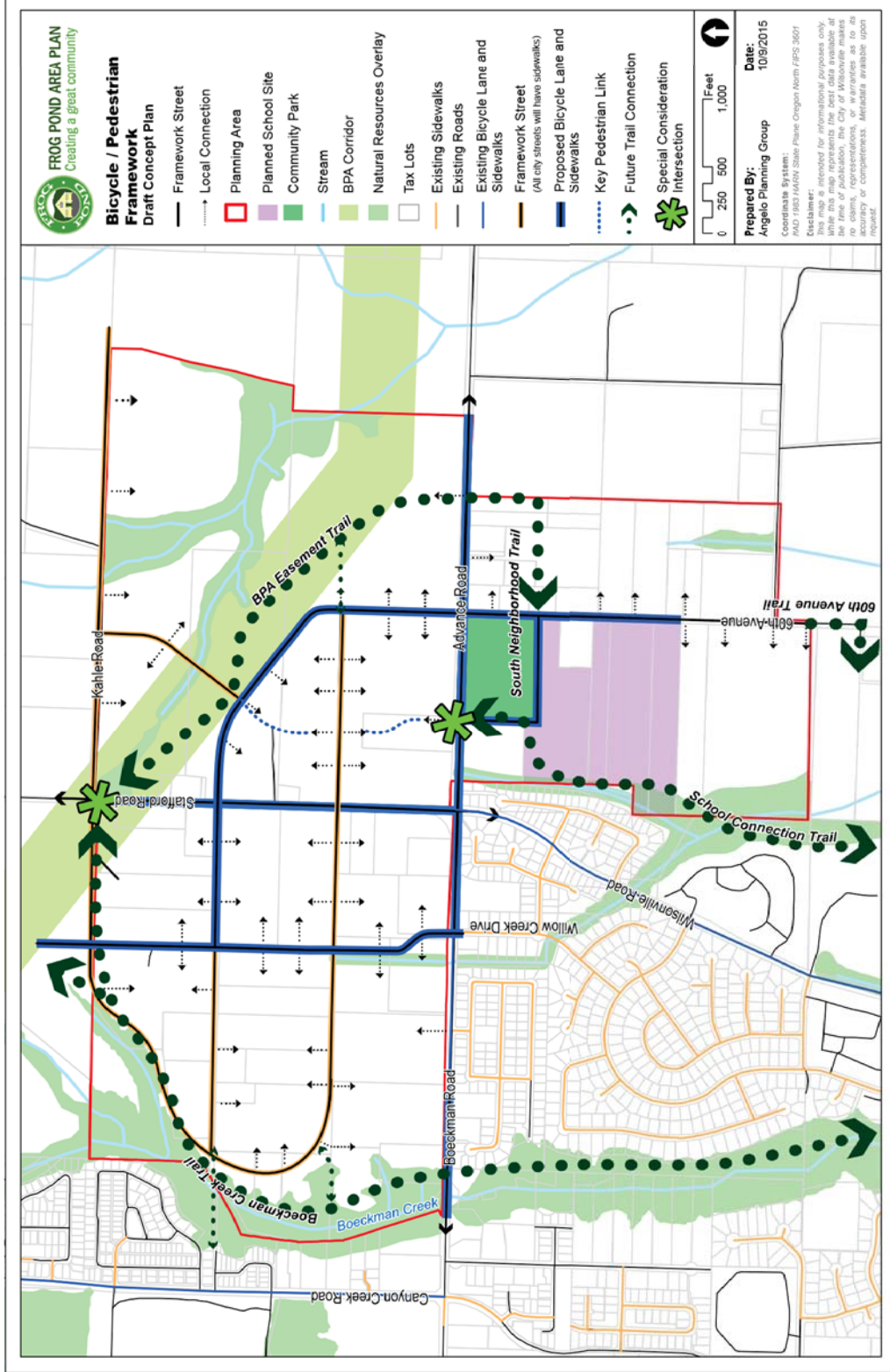
Transportation – Key framework-level connections include: Frog Pond Lane to 60th Avenue; a new east-west street, now called SW Brisband Street, connecting the West and East Neighborhoods; a connection to SW Kahle Road; and an access street, now called SW Hazel Street, to Meridian Creek Middle School that will connect to SW 60th Avenue. Intersection types are shown and a pedestrian tunnel under SW Advance Road was studied.

Figure 2. Area Plan Transportation Framework



Bicycle/Pedestrian Framework – The emphasis of this framework plan is the trail loop from Boeckman Creek to the BPA Easement to the South Neighborhood and Wilsonville High School. On-street and off-street connections are also shown.

Figure 3. Bicycle and Pedestrian Framework

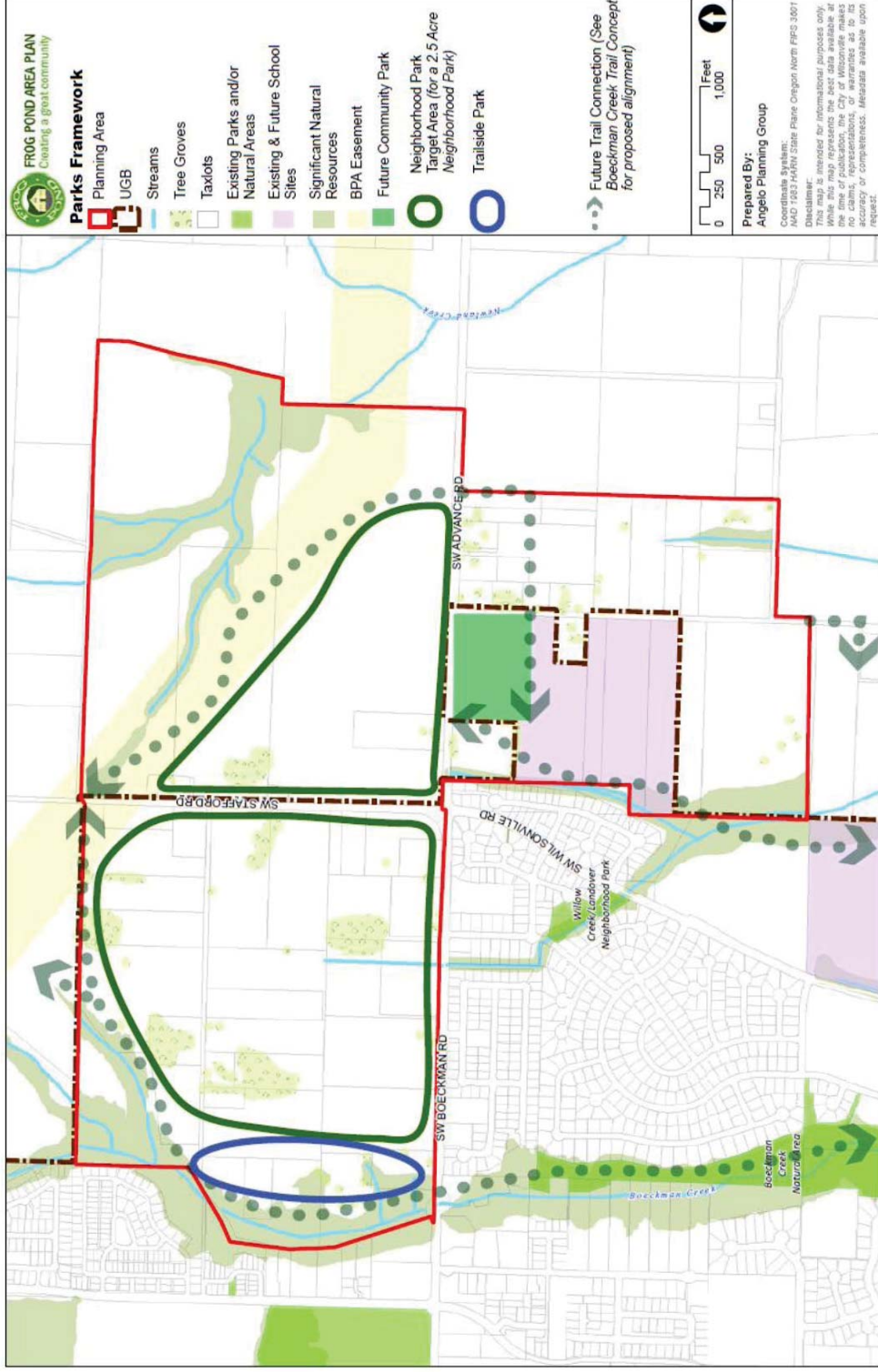




EAST & SOUTH MASTER PLAN

Parks Framework – The Parks Framework recommends one new neighborhood park in the East Neighborhood. The South Neighborhood’s community park and school grounds serve that area. The parks are envisioned to be connected with a robust trail network.

Figure 4. Area Plan Parks Framework





COMMUNITY DESIGN CONCEPTS

The maps and diagrams on the following pages provide information and conceptual community design concepts that have emerged from discussions and worksessions to date. They include:

- The context around the planning area, both rural and urban
- On-site conditions
- Concepts for community design that identify:
 - Potential “places” within the East and South Neighborhoods
 - Conceptual ways to connect destinations
 - Alignments of framework streets and trails
 - A potential mixed-use center and other centers and nodes
 - Subdistricts

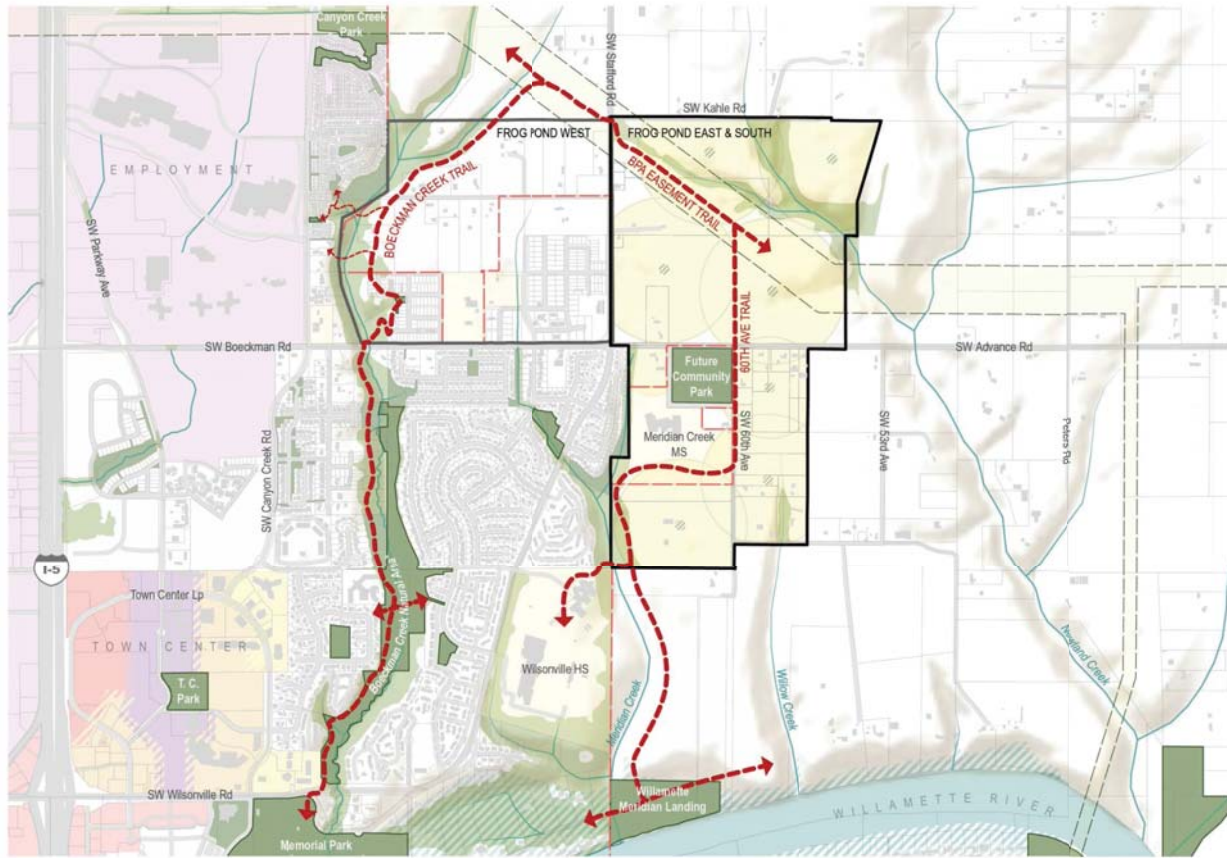
The above concepts will be used to locate plan streets, trails, walkable and connected neighborhoods, housing variety, a neighborhood commercial center and other elements of the plan.

Figure 5. Study Area

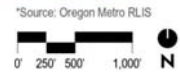




Figure 6. Conceptual Trails



CONCEPTUAL TRAILS

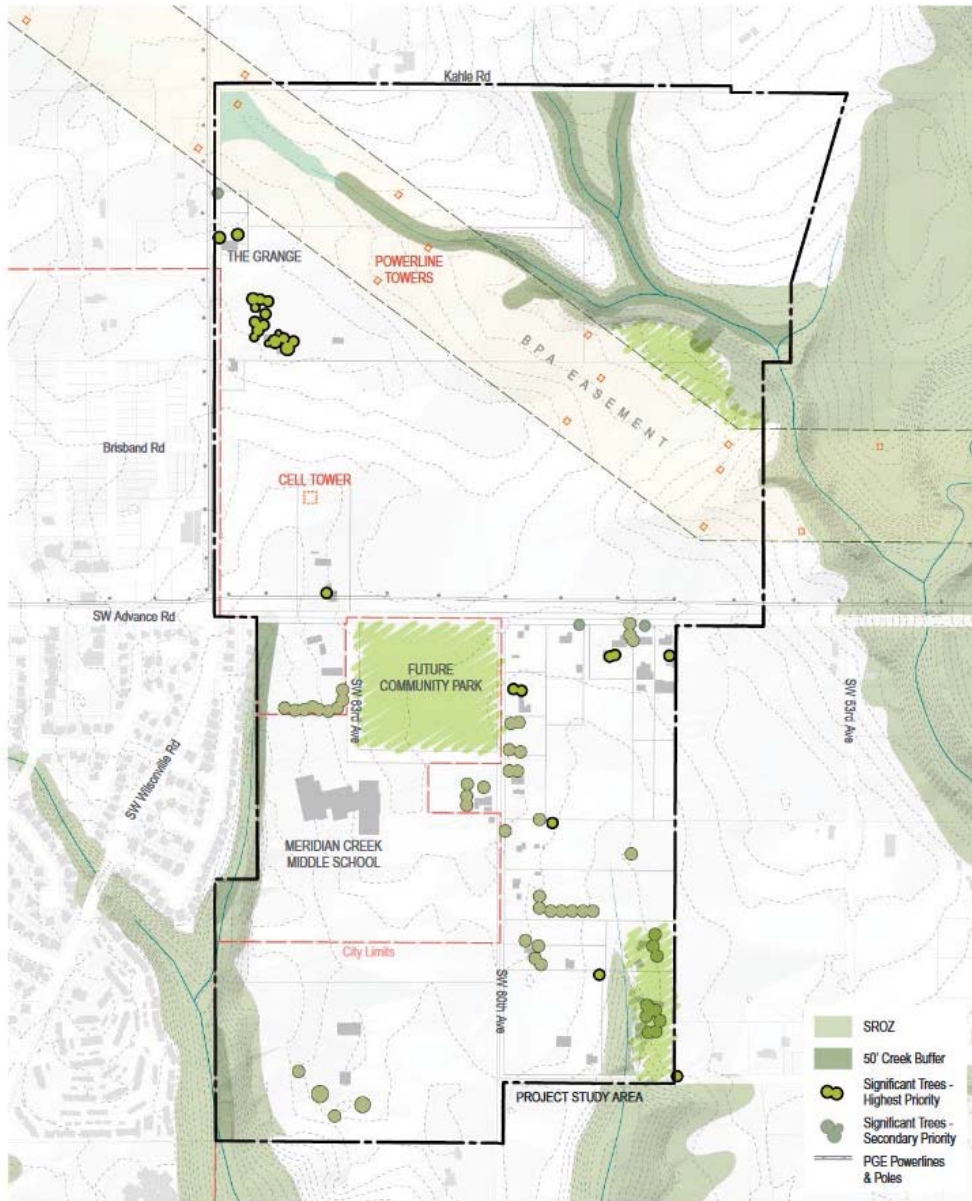


Key points about Frog Pond East and South’s context include:

- **Rural edge** – The planning area is adjacent lands designated “rural reserves” and “undesigned” by Metro. There will be a rural and agricultural edge to the East and South Neighborhoods for many decades to come.
- **Proximity to natural and city open space** – The nearby open spaces – Newland Creek, Meridian Creek, the BPA easement (see below), a future neighborhood park, a future community park, Meridian Creek Middle School – are great amenities. Future residents in the East and South neighborhoods will always be “just a block or two” from the nearest open space.
- **A significant barrier and/or opportunity of the BPA Easement** – On the plus side, the BPA easement is open area and can be used for recreation, community gardens, parking and other uses. Negatives include the towers, electrical “buzz”, and limitations for planting and structures.
- **Connectivity to adjacent areas of Wilsonville** – Street connectivity to adjacent parts of Wilsonville is extremely limited. The Frog Pond area is very reliant on SW Boeckman Road, SW Wilsonville Road, and SW Stafford Road. Existing and new trails, shown on the above map, will help supplement the street network and increase connectivity by foot and bike.
- **Potential for internal connectivity** – There is excellent potential for safe, direct and convenient street and path connectivity within and between the three Frog Pond neighborhoods.



Figure 7. Base Map

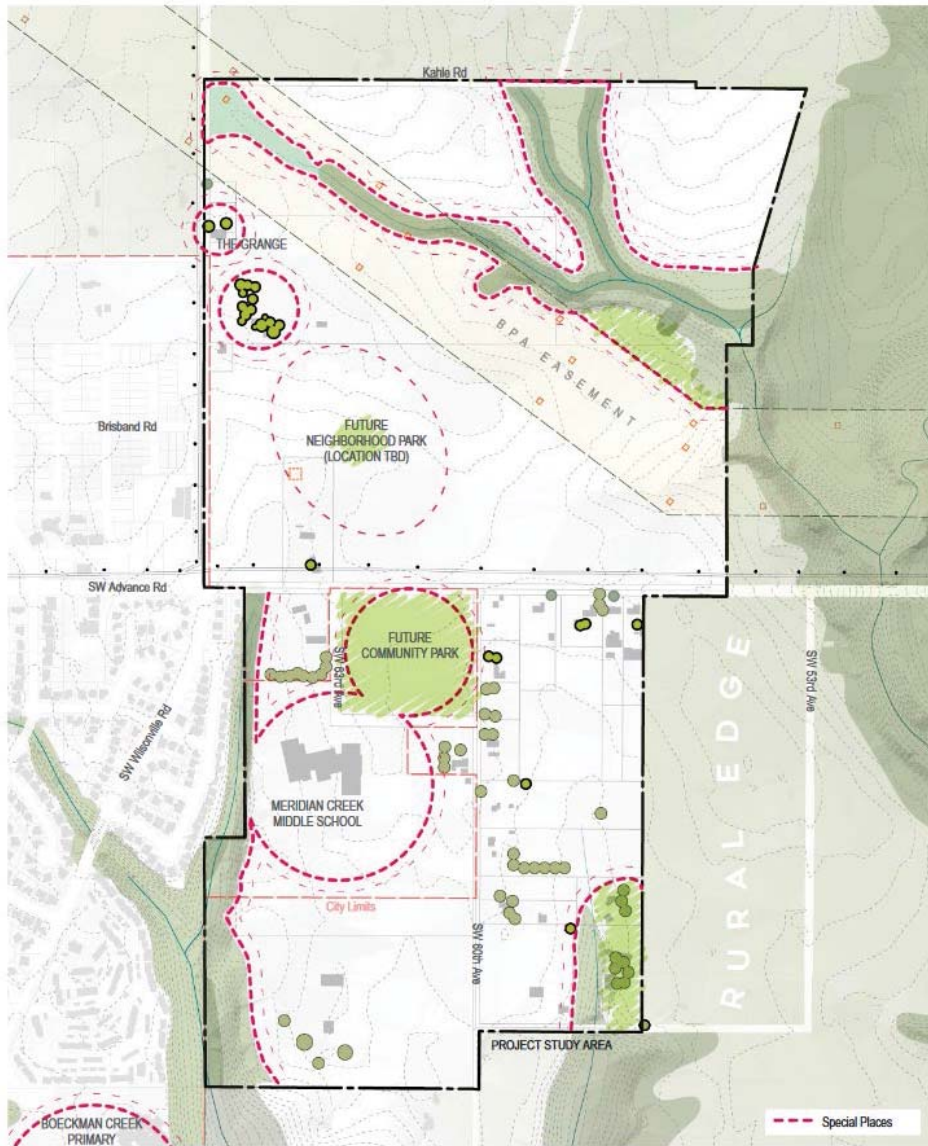


Key points from the Base Map include:

- Total acreage = 255 acres
- 31 parcels, 20 existing homes
- Unbuildable areas include developed sites, natural resources, the BPA Easement, and existing right-of-way. After deducting for developed areas and future streets, the net buildable area is estimated to be 138.5 acres (54% of the total area).
- Significant trees have been inventoried (supplemental work is in-progress)



Figure 8. Special Places



SPECIAL PLACES

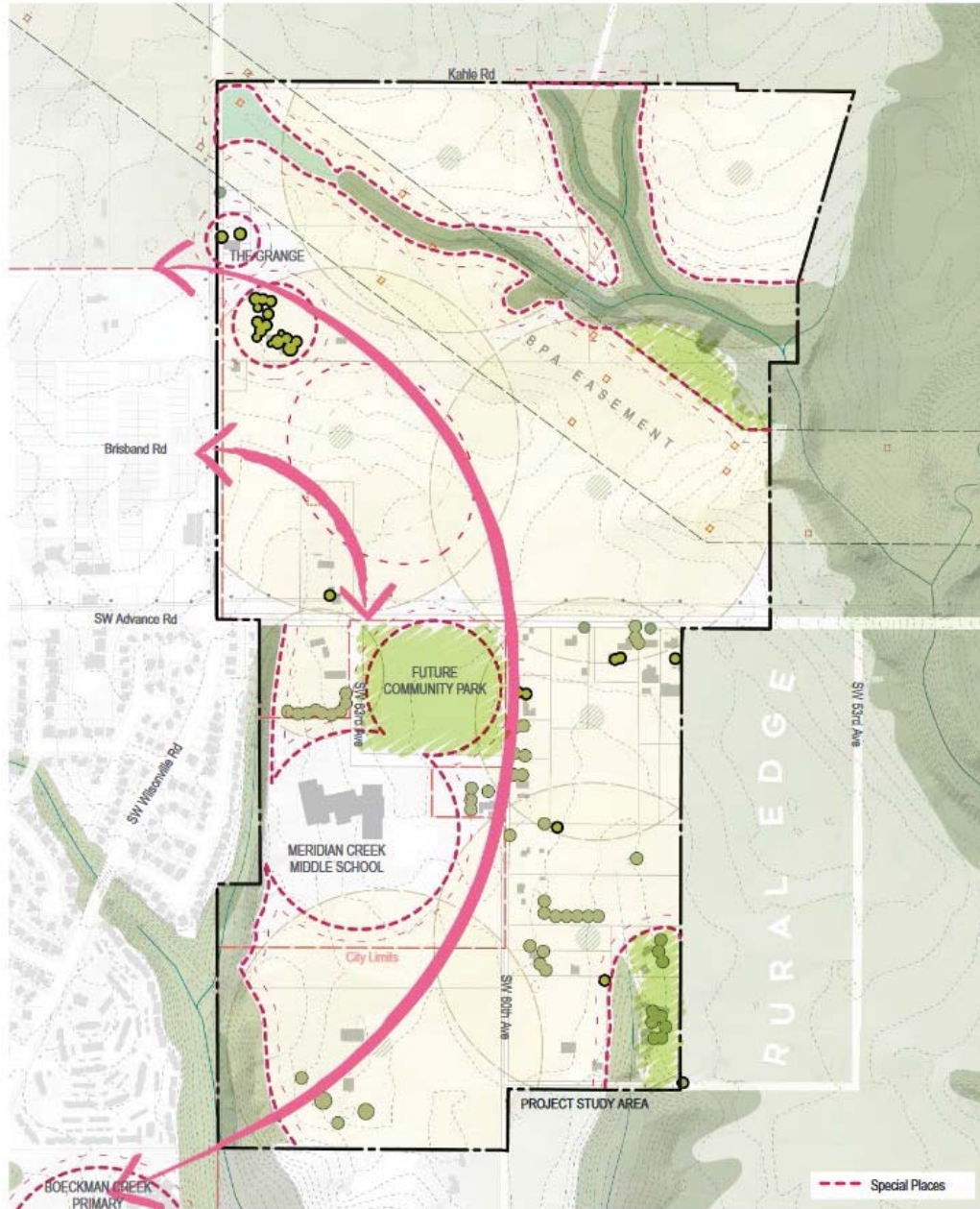


This diagram shows “Special Places” within the planning area, which are existing and future locations that are potential community destinations or key visual amenities, or both. They include:

- The Frog Pond Grange
- Newland Creek and Meridian Creek
- Significant tree groves
- A future neighborhood park in the East Neighborhood
- Meridian Creek Middle School and the future community park
- Boeckman Creek Primary School and Wilsonville High School (just off the map)



Figure 9. Connecting Destinations



This conceptual diagram illustrates the area’s potential for connected neighborhood destinations, including the Special Places. The Master Plan is an opportunity to organize and coordinate land use, transportation, and open space to support these connections.

The diagrams on the following pages show ideas for creating connected destinations with framework-level streets and trails.



Figure 10. Connections - Idea 1

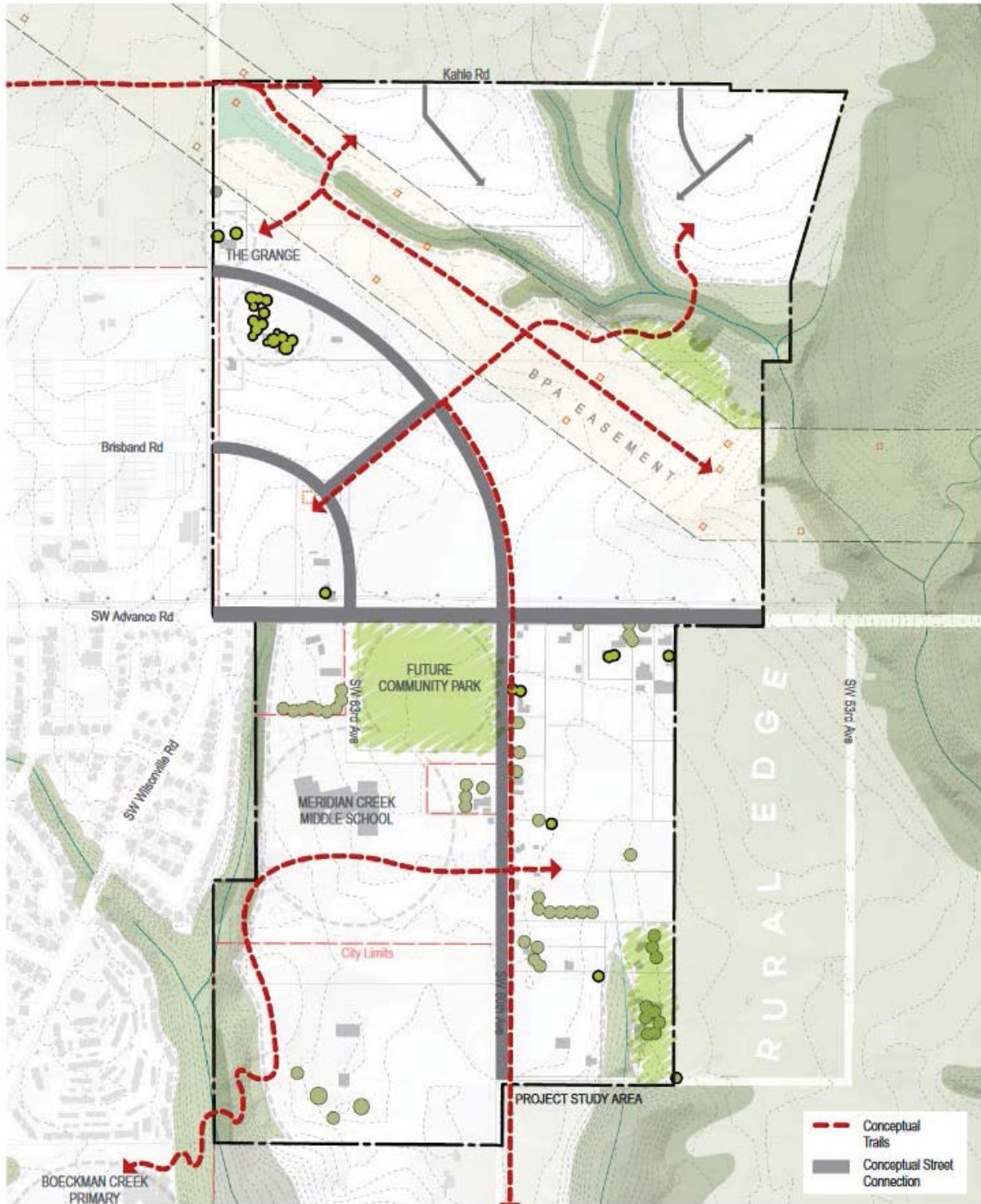




Figure 11. Connections - Idea 2

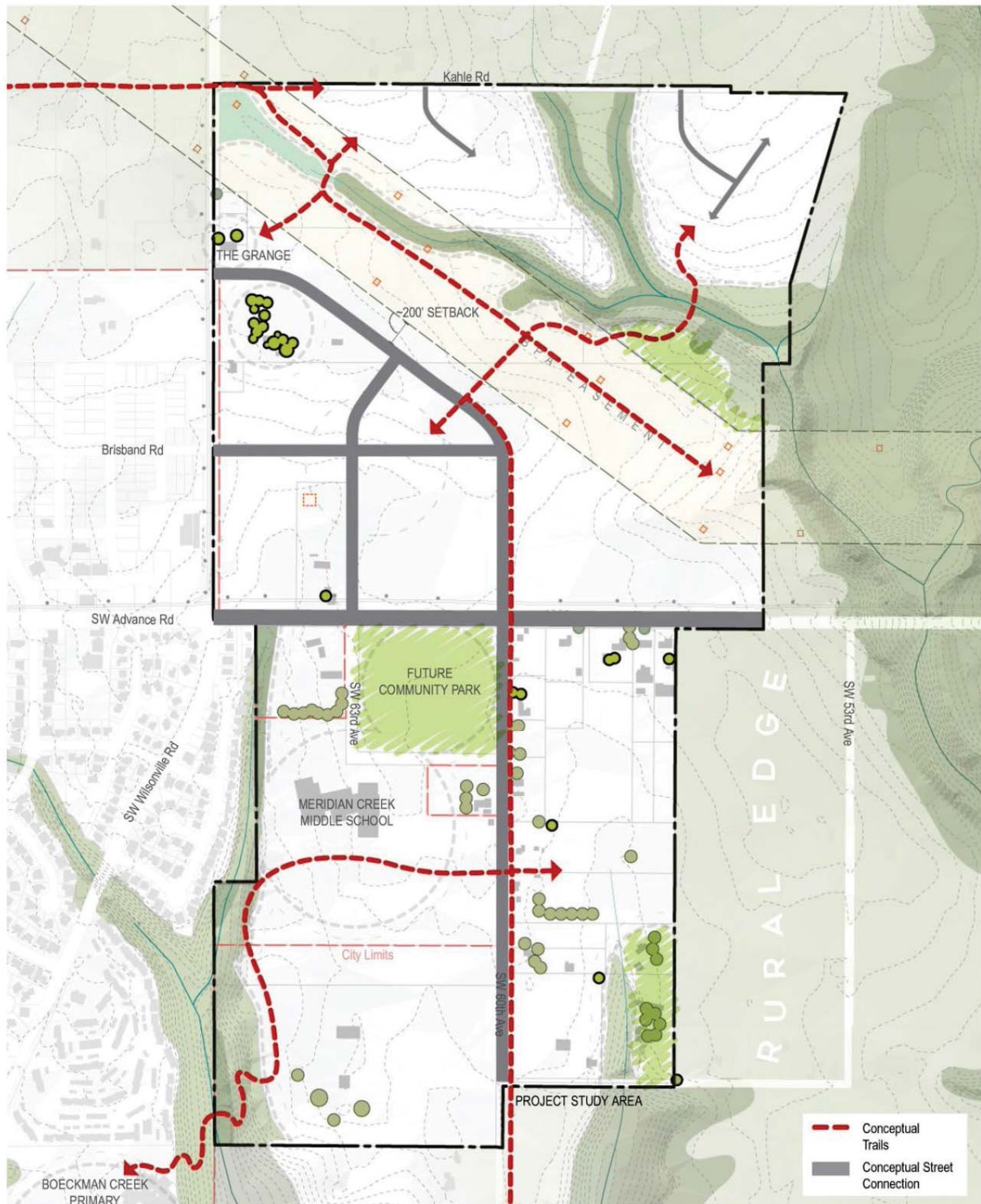




Figure 12. Conceptual Centers



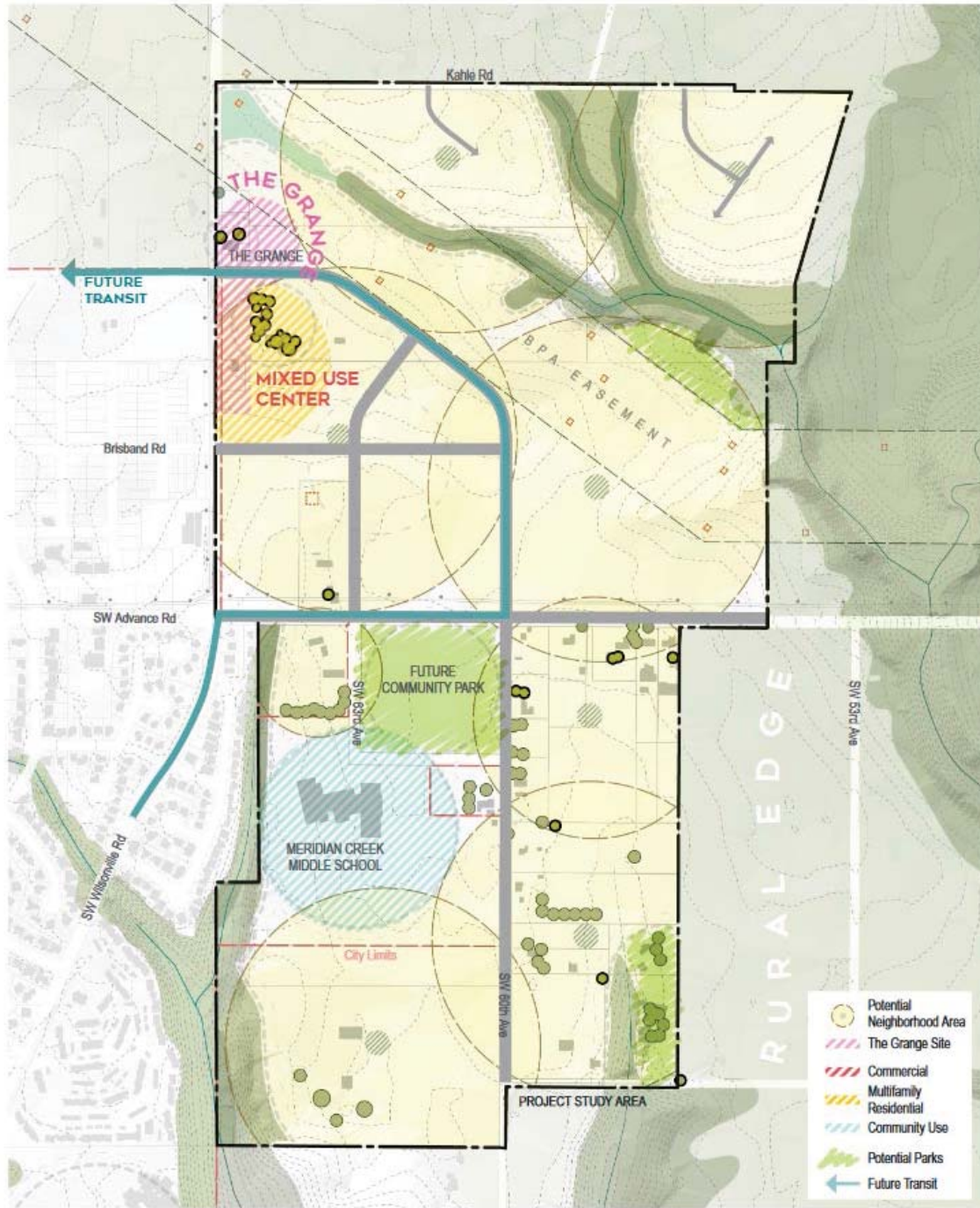
This diagram illustrates the idea of centers within the planning area. There are three types shown, each with their unique scale and role within the plan:

- Mixed Use Center – A potential 3- to 5-acre commercial center with shops, restaurants, local services and community gathering spaces. Residential uses would be allowed within mixed-use buildings. Whether mixed use will be vertically or horizontally located is yet to be determined.
- Frog Pond Grange – A location for a civic or community use.
- Small neighborhood nodes – These are yet to be fully defined, but the concept is to have small open spaces between the Special Places. They might be a signature tree, a viewpoint, a storm water facility, or a small open space that is part of a development.

Note that the diagram includes a potential loop for SMART transit service.



Figure 13. Conceptual Centers - 2



CONCEPTUAL CENTERS - 2 CONNECTIONS OPT. B



This diagram has the same hierarchy of centers but places the Mixed-Use Center just south of the Grange.



Figure 14. Conceptual Centers - 3



CONCEPTUAL CENTERS - 3
CONNECTIONS OPT. B



This diagram has the same hierarchy of centers but places the Mixed-Use Center along the extension of SW Brisband Street. It would be developed as a “Main Street”: wide sidewalks, pedestrian scale lighting and benches, parking located behind or to the side of shops, buildings oriented to the street, public art, etc.



Figure 15. Conceptual Subdistricts



CONCEPTUAL SUB-DISTRICTS



This diagram shows “subdistricts” - subareas of the East and South Neighborhoods that will have cohesive building form, public realm features, or other characteristics that give them identity. The subdistricts will be used in the next step of the design process to evaluate the types and locations for various residential uses.



ASSUMPTIONS FOR THE ALTERNATIVES

Based on the community design concepts and conceptual sub-districts presented, the project team recommends a set of guiding assumptions for the Master Plan alternatives. The assumptions will be shared with the community and integrated into the workshops and outreach discussions in April and May. Using the community's feedback, the assumptions will be illustrated in the plans brought back for Planning Commission review in June. The project team looks for the Planning Commission's support or further guidance on these assumptions.

The suggested land use assumptions are:

1. **One neighborhood commercial center** – All alternatives will include a neighborhood commercial center generally consistent with the guidance from Leland Consulting Group and the Planning Commission. Participants may of course suggest new and innovative ideas to be considered for the center.
2. **Affordable housing** –
 - a. At least one alternative will include affordable housing fully consistent with affordable housing “targets” described by ECONorthwest and guided by the Planning Commission.
 - b. Other alternatives may include various types and amounts of affordable housing, considering the housing forms described in the Affordable Housing Analysis.
3. **Variety** – All alternatives will include an approach to creating a wide variety of housing types in the East and South Neighborhoods.
4. **Density Transect** – The density transect from the Area Plan will continue to be shown. However, in the context of middle housing rules and the variety assumption above, it will be more of an urban design concept than an actual numerical density transect.
5. **Neighborhood Park** – All alternatives will include at least one neighborhood park in the East neighborhood.
6. **Framework streets, trails, and open space** – The alternatives will illustrate the framework streets, trails, and open spaces intended for their plans.

Using the community feedback, the team will prepare plan alternatives, a recommended alternative and supporting information for housing mix, amount, and density as part of the reporting in June. Density will be estimated based on assumptions for the implemented housing types, recognizing that the City's middle housing regulations provide flexibility in what can ultimately be developed.

Frog Pond East and South Master Plan

Planning Commission Work Session
April 13, 2022



WILSONVILLE
OREGON

Agenda for Tonight's Work Session

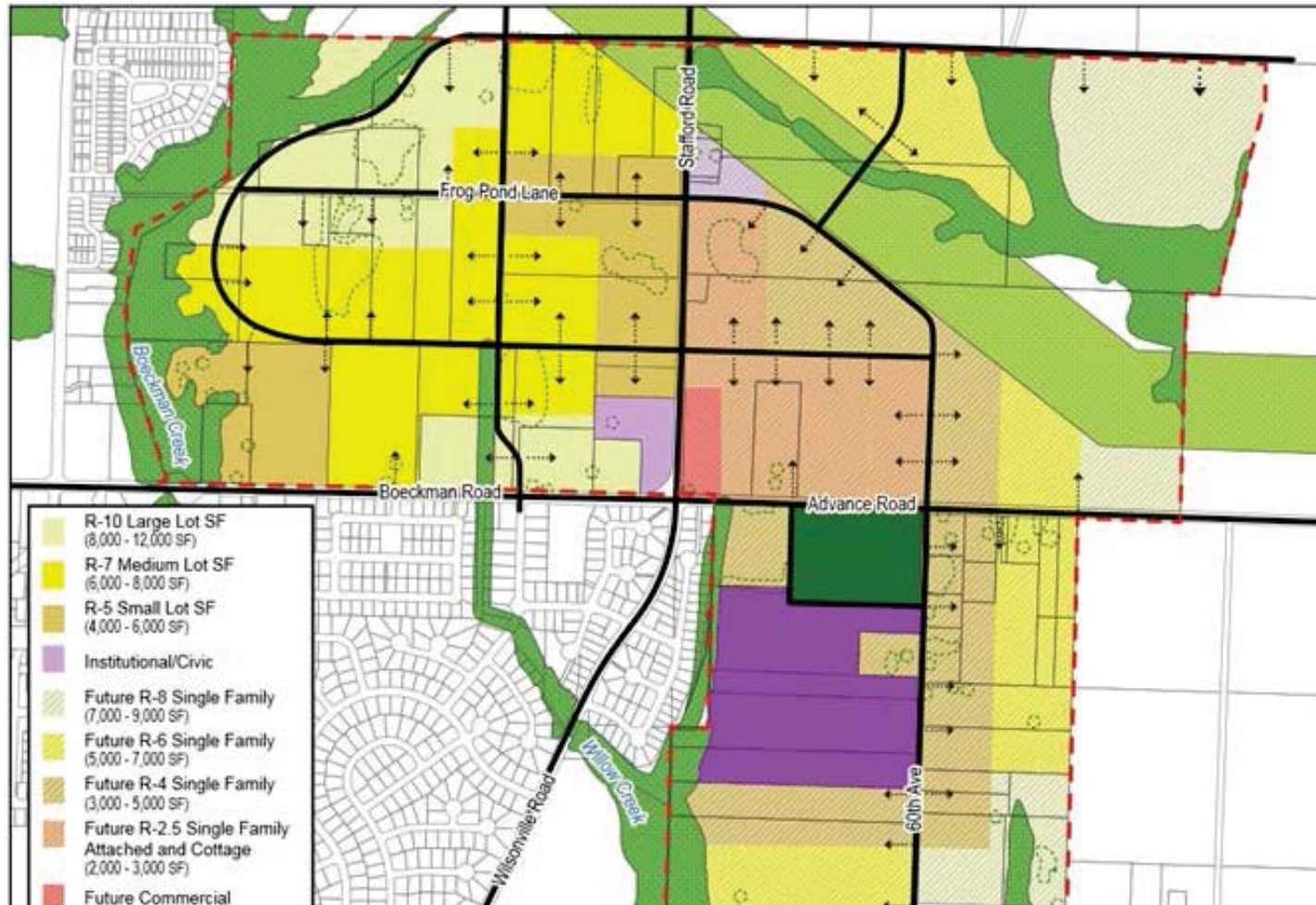
- Neighborhood Commercial Center
- Recommended Design Concepts
- Other brief project updates



Neighborhood Commercial Center



2015 Area Plan



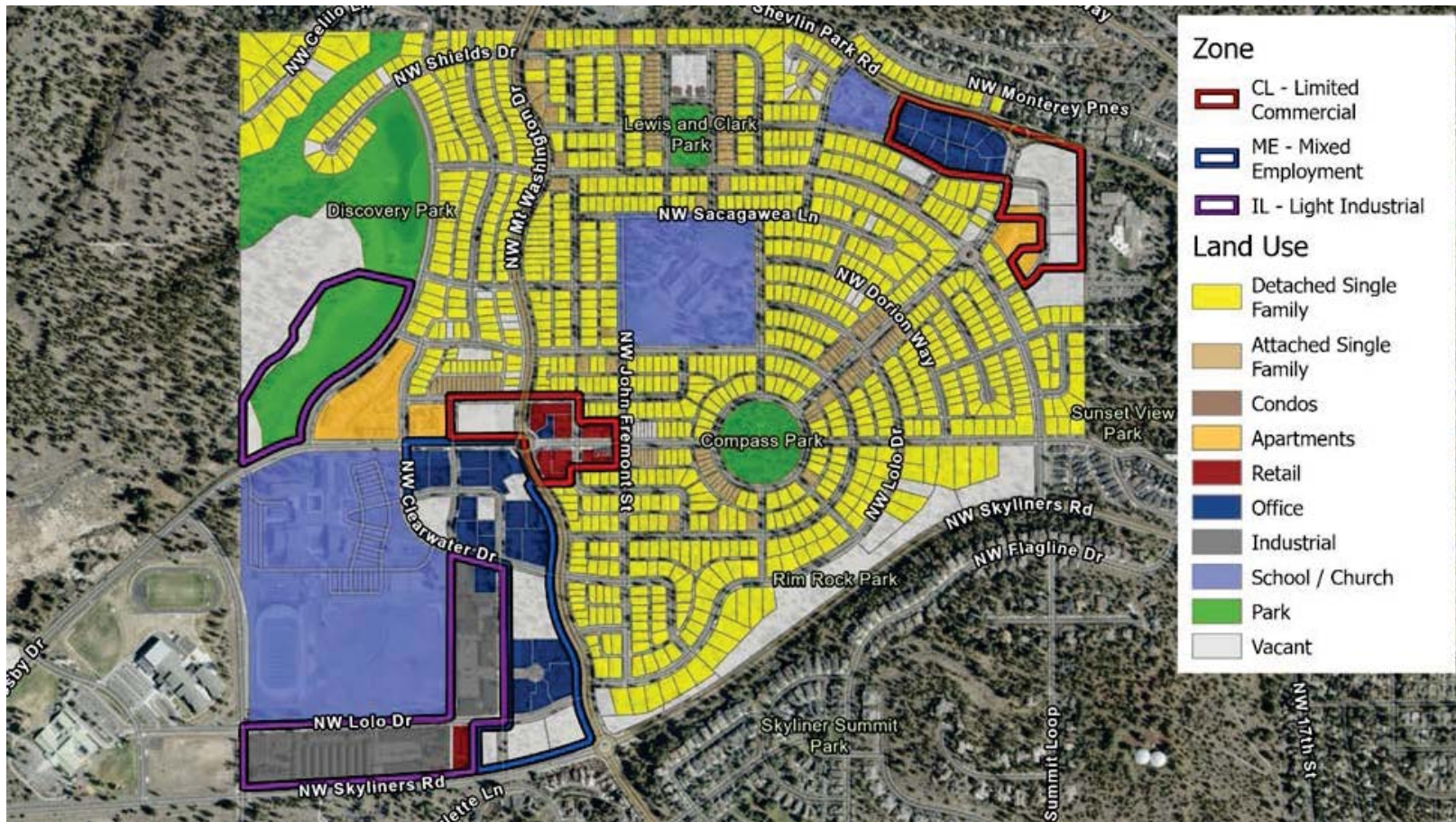
Case Studies

	Forest Heights	The Village on Scholls	East Padden Square	Northwest Crossing	Central Village	Cascade Summit Town Square
General Location	NW Metro (UGB edge)	Tigard (SW UGB edge)	Vancouver (NE edge of City)	Bend (western edge of City)	West Linn, Highway 43	West Linn, Salamo Road
Type	Unanchored convenience center	Unanchored convenience center	Pharmacy anchored n'hood center	Main Street Commercial	Grocery anchored n'hood center	Grocery anchored n'hood center
% Non-Retail	15%	50%	15%	26%	15%	30%
Year Built	1994	2008	2006	2006-2021 (ongoing)	2007	2000
1-mi Hsg. Units	4,600 ↗	6,000 ↗	4,000 ↗	2,700 ↘	3,700 ↗	4,100 ↗
1 mile Jobs	1,030 ↗	1,150 ↗	1,200 ↗	2,270 ↗	5,160 ↗	1,530 ↗
Traffic Counts	5,000 ↘	18,900 ↗	19,000 ↗	9,000 ↗	17,000 ↗	8-10,000 ↗
Site Acreage	1.6	2.9	3.2	6.0	7.9	12.6
Building Sq Ft	24,000	32,000	31,000	84,600	104,715	131,660
Floor Area Ratio	0.34	0.25	0.22	0.28	0.3	0.24

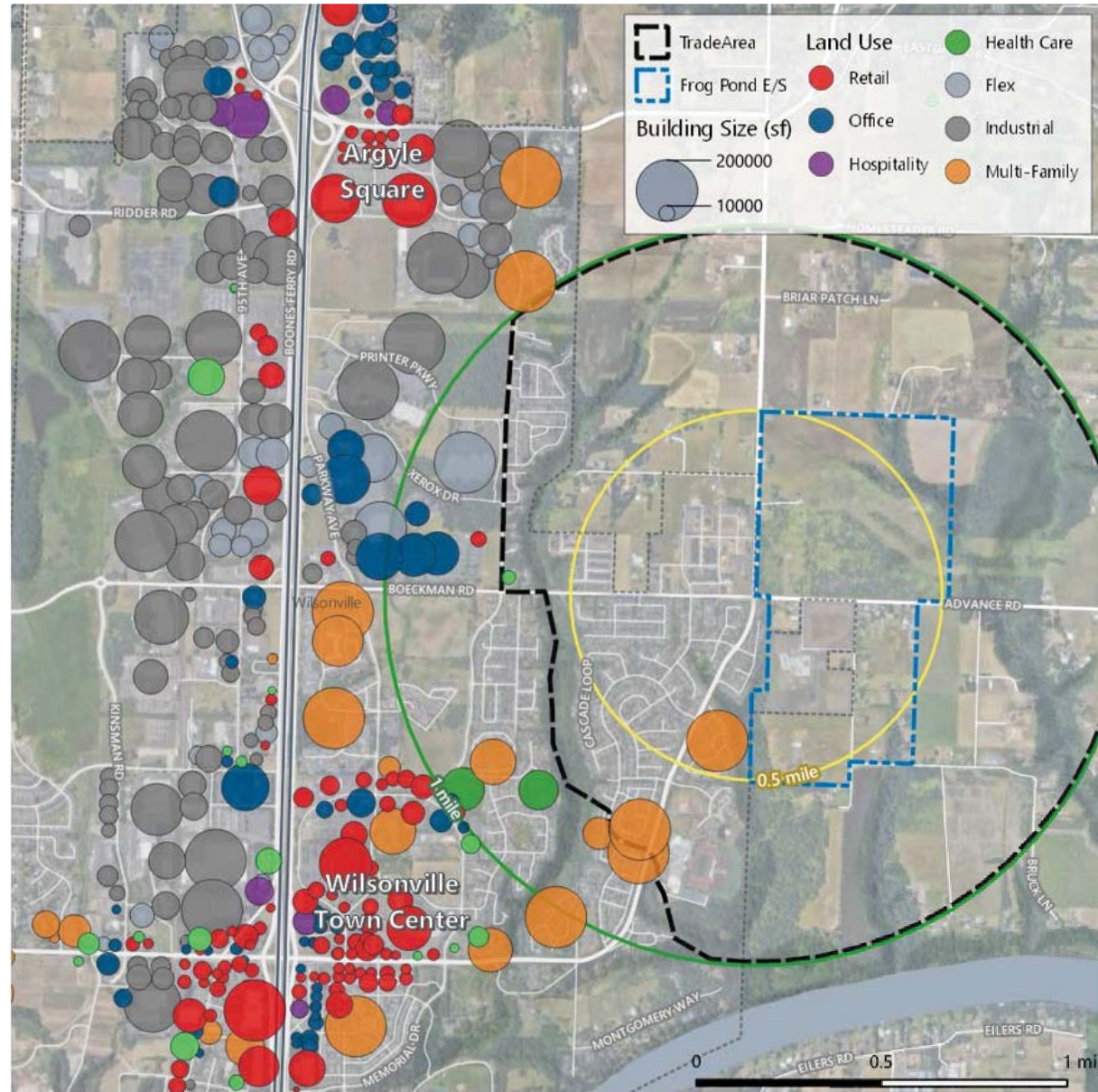
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1 mile Jobs	1,030 ↗	1,150 ↗	1,200 ↗	2,270 ↕	5,160 ↕	1,530 ↗
Traffic Counts	5,000 ↘	18,900 ↕	19,000 ↕	9,000 ↗	17,000 ↕	8-10,000 ↗
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Building Sq Ft	24,000	32,000	31,000	84,600	104,715	131,660
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Example: Northwest Crossing



Primary Trade Area



Factors Influencing Commercial Demand

- Spending Leakage
- Existing and Future Customer Base
- Purchasing Power of Base
- Local Demographics
- Unique Differentiators
- Access and Visibility



Supportable Retail Area: 2035

Retail Category Type	Future Growth in Demand (Retail Potential) \$	2035 New Demand from HH Growth (s.f.)	Leakage Recapture (s.f.)	Total New 20-year Demand (s.f.)	Capture Rate (low)	Capture Rate (high)	Net New Demand Square Feet (low)	Net New Demand Square Feet (high)
Furniture & Home Furnishings	\$2,254,435	10,020	0	10,020	0%	0%	0	0
Electronics & Appliance	\$2,270,950	9,084	0	9,084	0%	0%	0	0
Bldg. Material, Garden	\$4,115,742	11,759	994	12,761	10%	15%	1,300	1,900
Food/Beverage (grocery)	\$11,519,008	27,104	9,837	36,941	15%	50%	5,500	18,500
Health & Personal Care	\$3,969,016	10,584	3,841	14,425	35%	50%	5,000	7,200
Clothing & Accessories	\$3,584,158	17,921	1,626	19,547	5%	10%	1,000	2,000
Sporting Gds, Hobby, Book, etc.	\$2,504,784	12,524	1,136	13,660	10%	15%	1,400	2,000
General Merchandise	\$12,151,776	44,188	0	44,188	0%	0%	0	0
Misc. Store Retailers	\$3,213,690	14,283	1,296	15,579	10%	15%	1,600	2,300
Foodservice & Drinking	\$7,612,294	21,749	5,166	26,930	20%	28%	5,400	7,500
Other non-retail	\$5,319,585	35,464	12,683	48,153	20%	30%	9,600	14,400
Total	\$58,515,438	214,680	36,580	251,288	12%	22%	30,800	55,800
Acreage Required							2.8	5.1

Supportable Retail Area: 2035

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Total	\$58,515,438	214,680	36,580	251,288	12%	22%	30,800	55,800
Acreage Required							2.8	5.1

Developer Feedback

- Wilsonville is an attractive market but there is **limited excess commercial demand**.
- **Visibility** is most important; most commercial centers need ADTs of 20,000+.
- Surrounding a commercial area with higher density residential will improve development prospects.
- Conditions support up to a **four-acre site program**; a larger program requires areas to the north to develop.
- A **master developer** would improve the chances of main street retail and/or maximize the commercial development program.
- Attracting a grocery store will be challenging; a pharmacy anchor may be possible.
- Encourage non-retail tenants to maximize the square footage.



Recommended Location

- Max visibility, traffic, and access to future households
- Opportunity for "Main Street" retail
- Design standards, building orientation, and parking critical to success
- Opportunity for corner anchors



Recommended Development Program

Bldg. Sq. Ft.	Up to 44,000 square feet
Site Acreage	Up to 4.0 acres
Tenant Mix	Cafes/restaurants, specialty food stores, pharmacy, other miscellaneous commercial tenants, e.g., fitness, banks, laundromats, salons, hobby/boutique stores, and medical, professional, and financial offices
Development Type	Main Street retail at 0.25 to 0.30 FAR, with either standalone buildings or mixed-use development (with either accommodated through flexible zoning)
Parking	4-5 spaces per thousand square feet of leasable space + on-street parking
Location	Brisband Street Extension, with buildings on both sides of the street on the east side of Stafford Road
Other	Plan for higher-density residential, including apartments, townhomes, and live/work spaces, surrounding the commercial center. Most case studies of successful commercial areas are surrounded by higher-density housing.

Questions/Discussion

PC feedback on:

- Commercial Node
 - Acreage/Sq. Ft.
 - Tenant mix
 - Location
- Implementation
 - Development standards, parking, residential program
 - Partnerships, master developer, etc.



Recommended Community Design Concepts



Design Concept: Housing Variety Throughout

- Housing variety in all portions of plan area and oriented to streets and greenspaces
- Integrated within:
 - Subdistricts and Blocks



Design Concept: Affordable Housing Integration

- At least one alternative will reflect targets PC discussed last work session
- Others will include various types and amounts

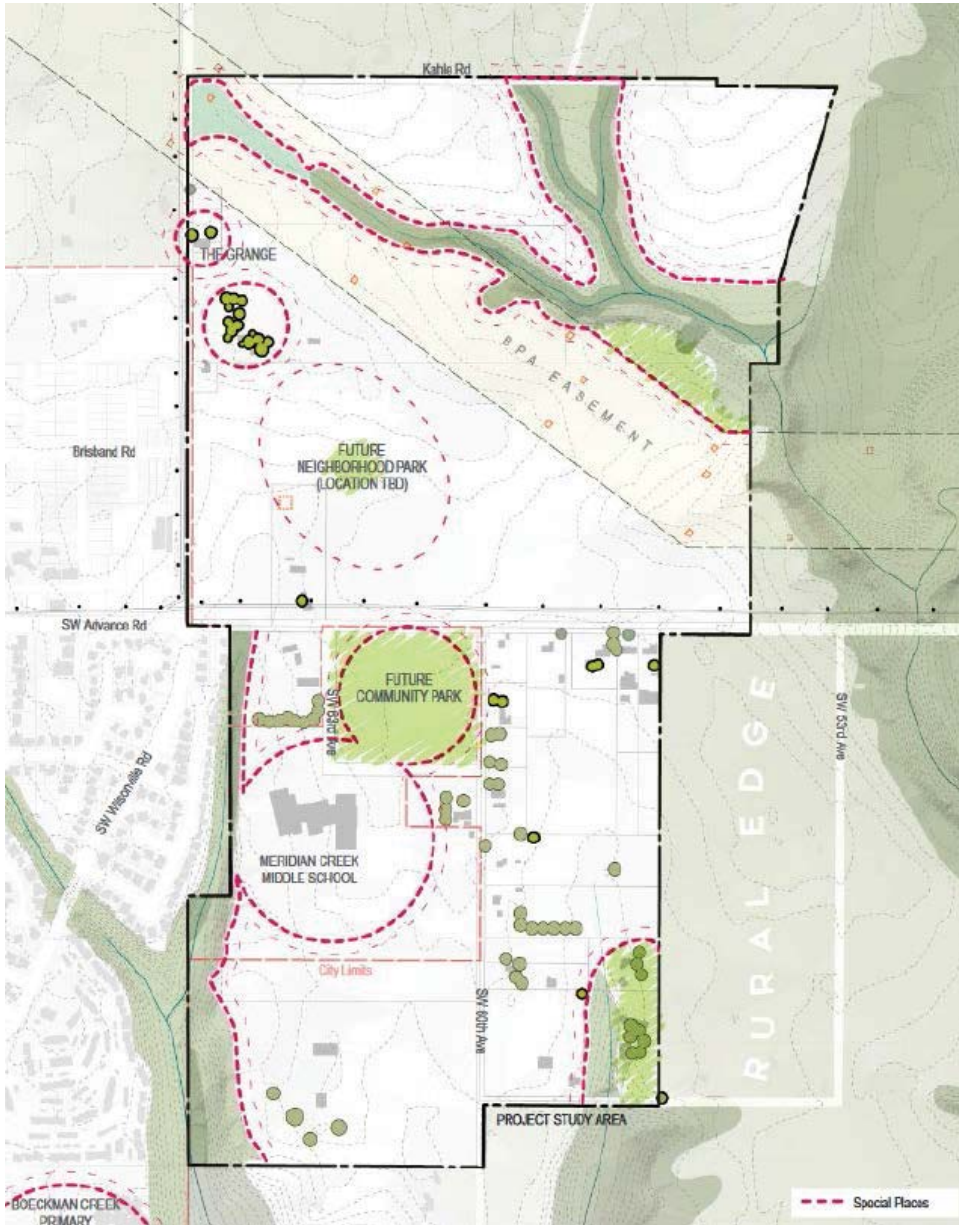


Design Concept: Form-based Design and Transect

- Urban design is based on “look and feel” (building form and public realm) rather than numerical “units per acre”
- Initial ideas: Larger building types towards Stafford Road with smaller building types on edge of rural reserves
 - Reflective of Frog Pond Area Plan



Design Concepts: Unique Elements and Destinations

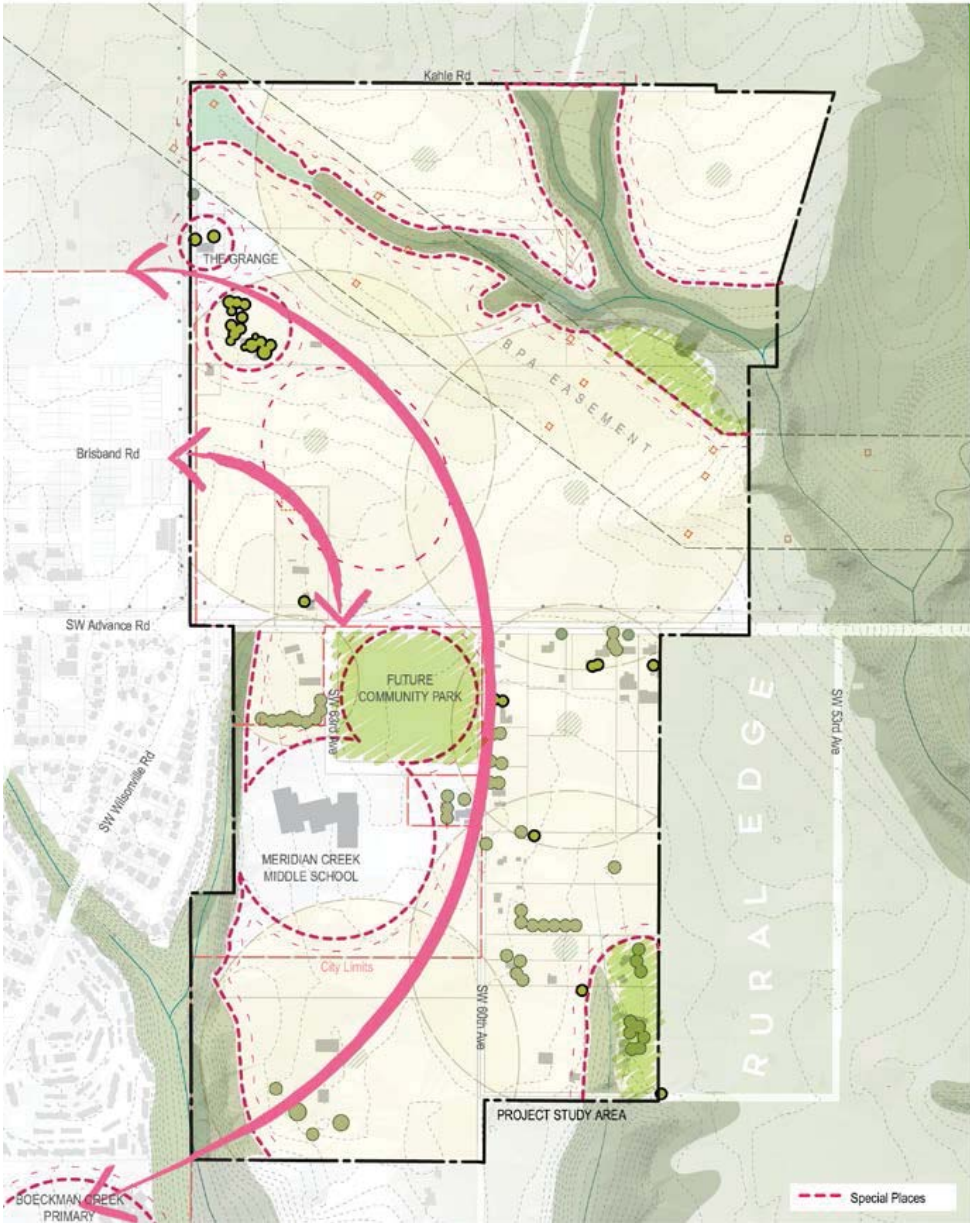


- What elements give the site character and identity today?
E.g. mature trees, creek corridors, the Grange
- What places will become neighborhood destinations?
E.g. parks, schools

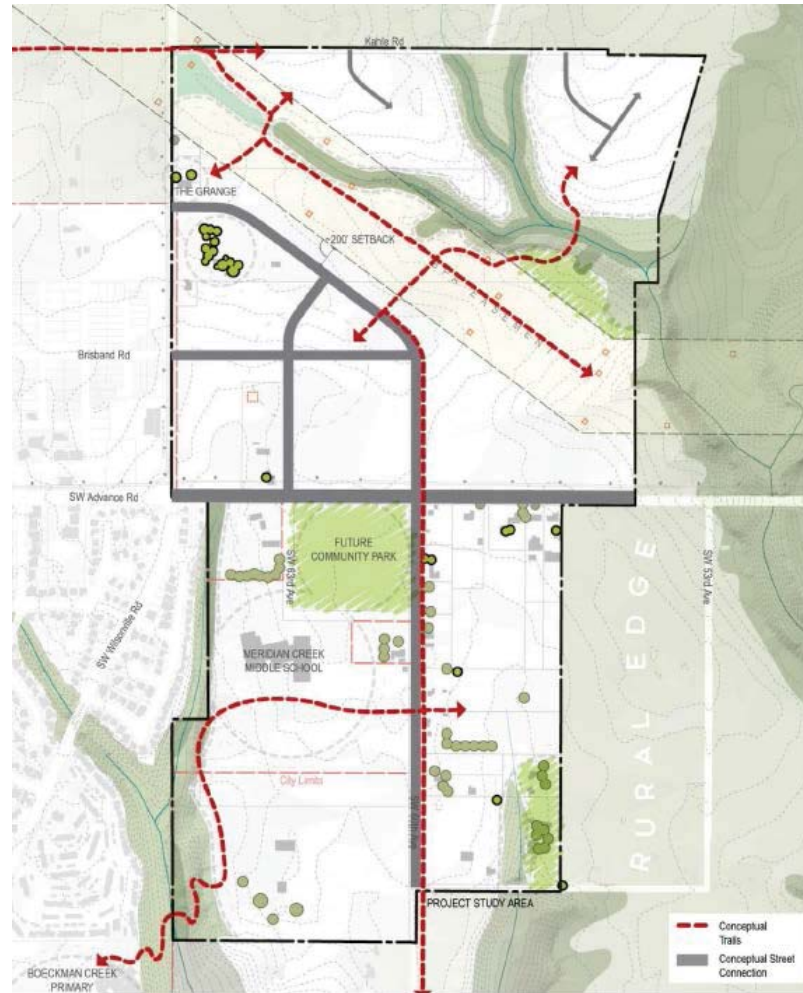
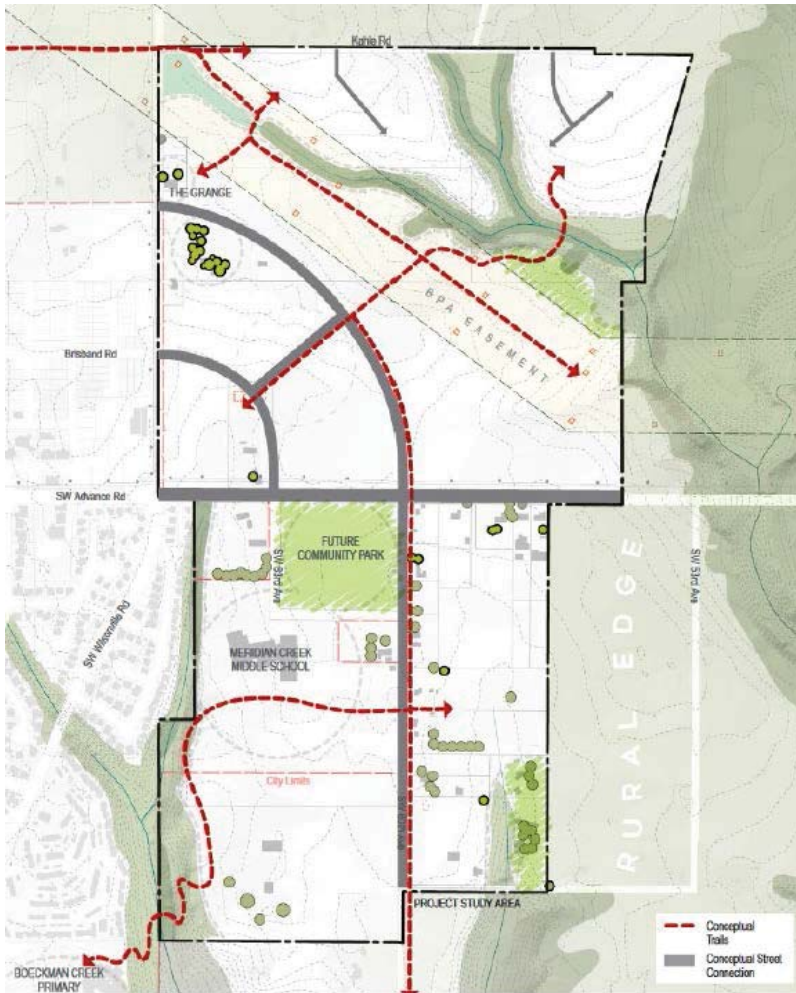


Design Concepts: Connecting Destinations

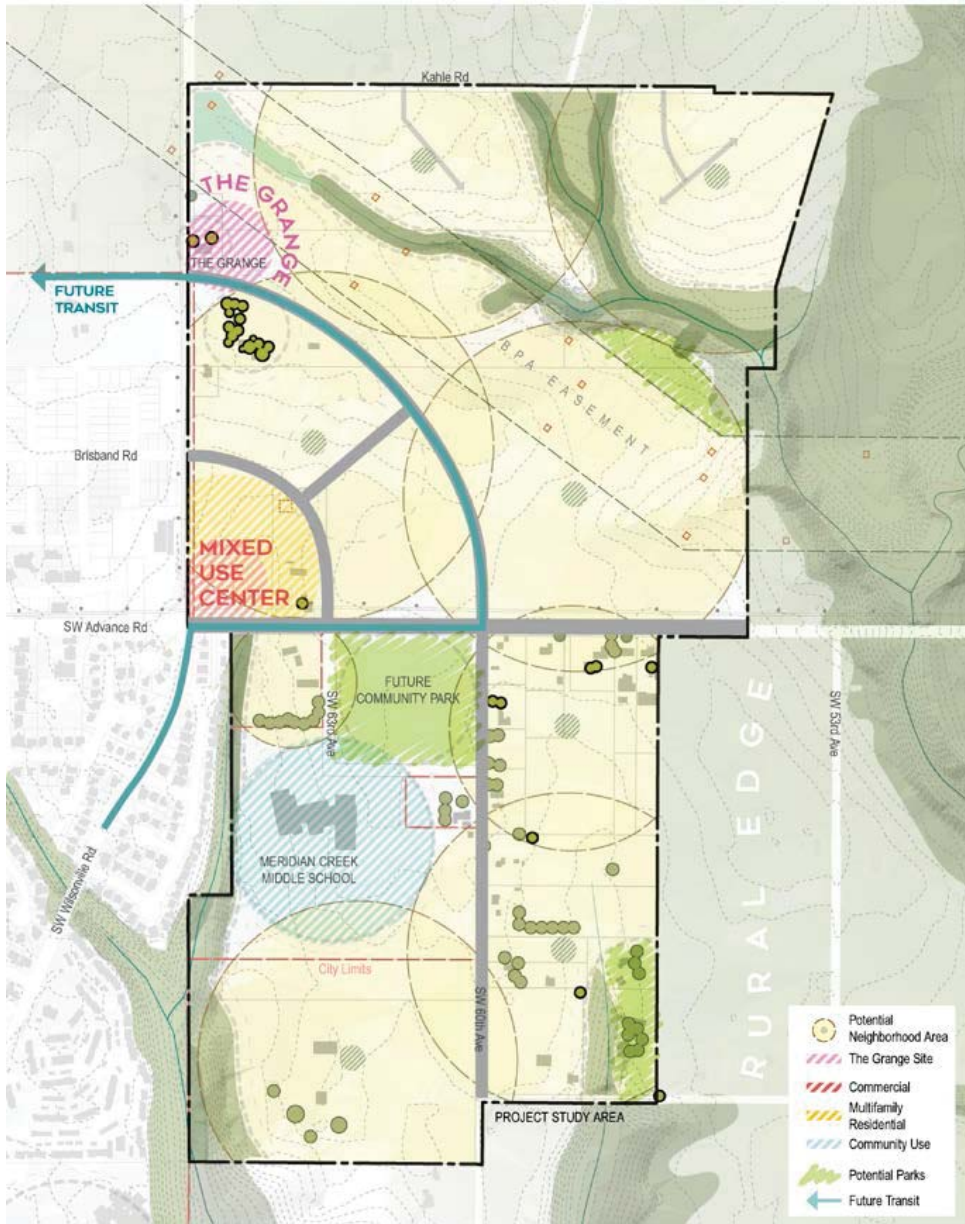
- Celebrating unique site elements and connecting people to destinations through walkable community design



Design Concepts: Multi-modal Connectivity



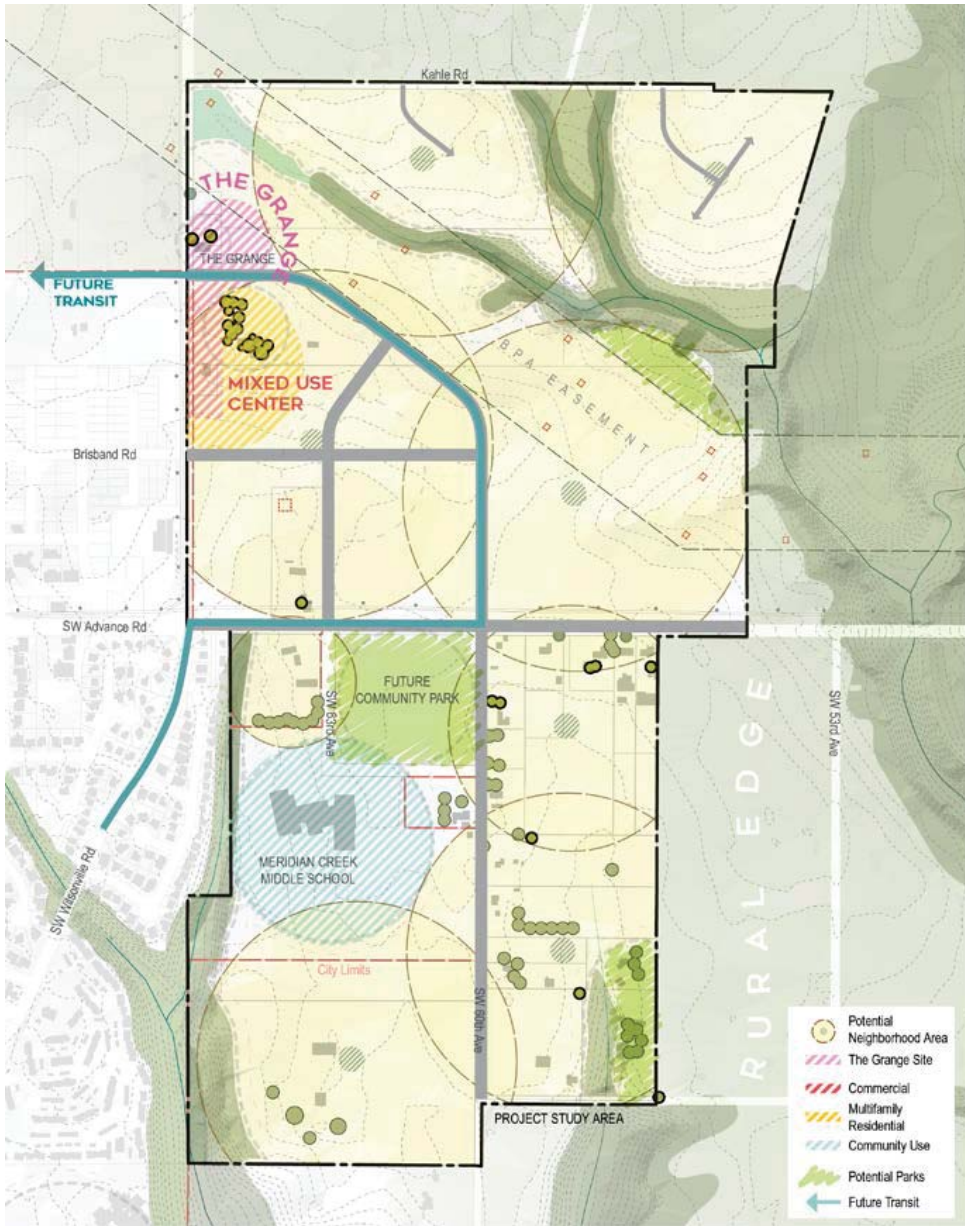
Design Concepts: Neighborhood Commercial Center Option 1



- Neighborhood Center at Boeckman & Stafford
- High visibility



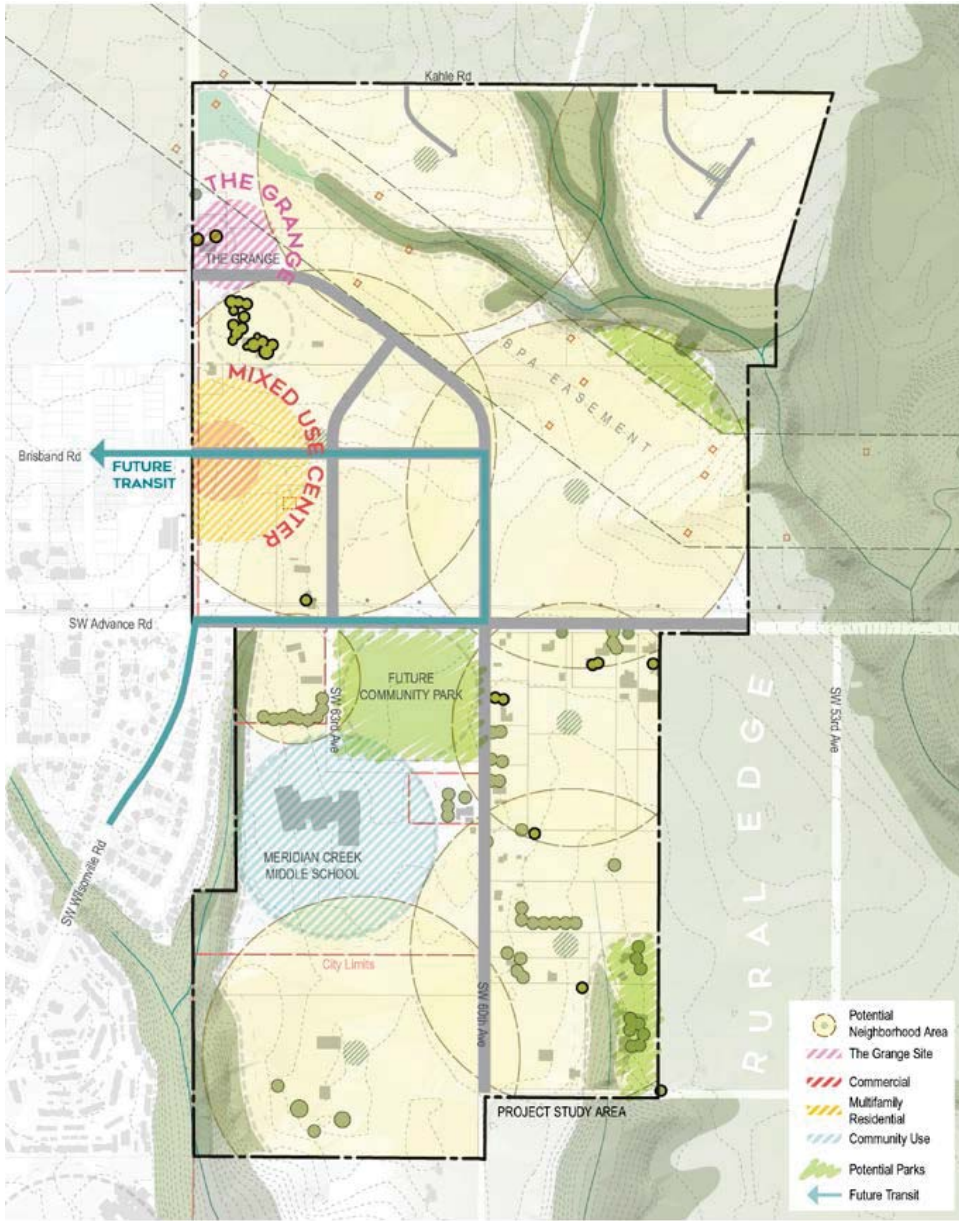
Design Concepts: Neighborhood Commercial Center Option 2



- Neighborhood Center at Stafford & Frog Pond Ln
- High visibility along Stafford
- Opportunity to integrate with Grange site



Design Concepts: Neighborhood Commercial Center Option 3



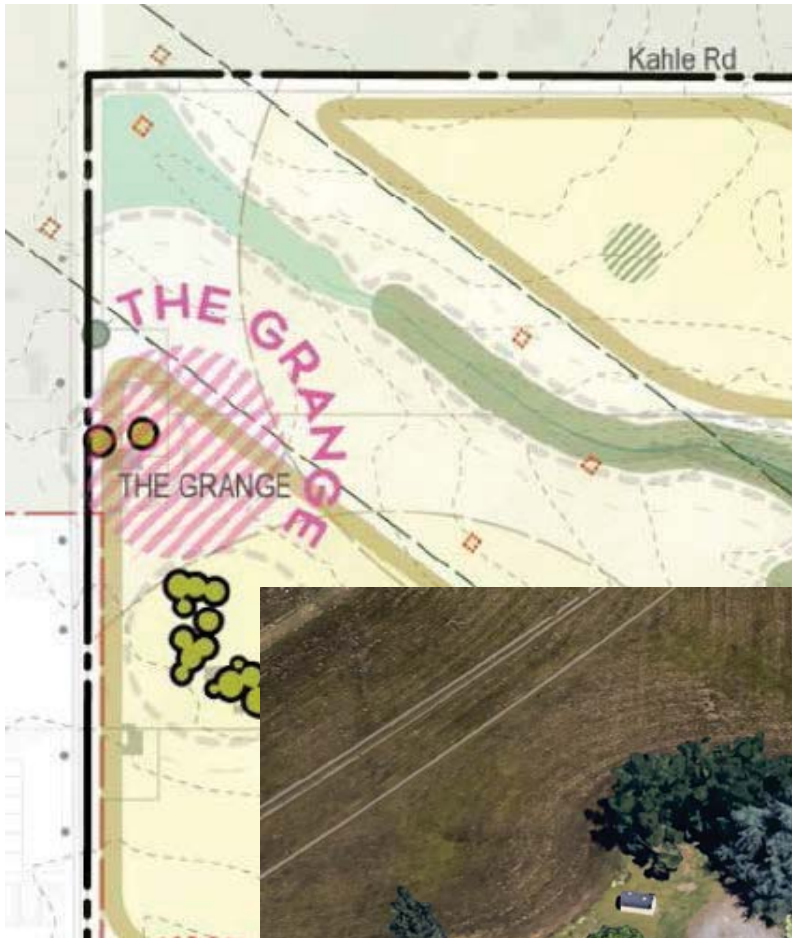
- Neighborhood Center at SW Boeckman & SW Brisband
- High visibility along SW Stafford
- Creates two-sided, pedestrian-oriented "main street" along SW Brisband



Design Concept: BPA Easement Corridor



Design Concept: Civic Amenity/Grange



- Both building and site offer opportunities for community identity and gathering space
- Trailhead to BPA corridor with preserved trees, possible environmental learning, community gardens, etc.
- Widening of SW Stafford Road a challenge – requires further study



Design Concept: Use of Subdistricts



- This diagram is an example of how subdistricts might be organized
- Subdistricts will be shown as part of the plan alternatives



Questions

- Does the Planning Commission support the design concepts recommended?
- Are the conceptual boundaries for subdistricts reasonable?
- Other considerations for subdistrict boundaries?



Questions

- Does the Planning Commission support the design concepts recommended?
 - Design variety throughout
 - Buildings oriented to streets and greenspaces
 - Affordable housing integrated (at least one plan reflects targets discussed in February)
 - Form based design and transect
 - Unique elements and connected destinations
 - Neighborhood commercial location
 - Explore uses for BPA easement
 - Use of subdistricts



Additional Project Updates



- With that in mind, the river was a logical boundary, although an urban green space buffer should be added because Pudding River flooded yearly and there would be a lot of floodplain that was undevelopable.

Responses to the project team's questions were as follows:

- Do the draft Comprehensive Plan policies reflect the community input?
 - The draft policies unequivocally reflected a broad spectrum of the community's input because all of the comments, including those that were open-ended, had been taken into consideration.
 - In looking at how the draft policies addressed the five areas of the survey, which were noise and pollution; surface transportation; fire, safety, and emergency management; environmental pollution and encroachment; and the urban growth boundary connection, not a lot was included about surface transportation, which was only mentioned in the economic development objectives. Nothing was included about congestion or the highway, so some policy additions were needed to strengthen the transportation aspect.
 - There had been talk of positive management, but there were no policies about protecting farmland. "Support mutually beneficial relationships between agricultural use in French Prairie and aviation." was cited, but strong policies were needed about protecting farmland in addition to the rural reserves.
 - While the draft policies reflected the majority of the community input, the large amount of feedback from people with airport related interests was not well shown. Generally, those with the most at risk provide comments, which could be a larger overall percentage than the actual population.
 - It would be good to understand what percentage of Wilsonville residents have a direct connection to the airport to make sure the draft policies aligned with community input. The draft policies would not be aligned with the citizen input if 25 percent of the city was airport oriented.
 - Mr. Kilby sought clarification on how to gather that kind of data. He agreed most of those who would respond would be people that may or may not be negatively impacted by the airport. The stakeholder outreach included larger employers that might benefit from the airport, and the team's findings indicated that the majority of the people and businesses at the airport today were the ones that benefited most from the airport.
 - Using information gleaned from previous surveys around employment or other matters could be helpful. It seemed like 25 percent having an airport connection was higher than what was expected to be real. How high or inflated was that number? If the percentage was only 20 percent, the City would want to view the policy discussion from a different perspective.
 - Mr. Kilby added 100 people was a very small sample for a community as large as Wilsonville.

Commissioner Woods believed the draft policies were consistent with existing policy direction in the Comprehensive Plan, though some things could be missing. As far as whether the draft policies missed the mark in some way, he would want clarification about the phrase "missing the mark." Due to the in-depth nature of the topic, it was possible that some policy objectives were missing, but he believed the key policy objectives had been included.

3. Frog Pond East and South Master Plan (Pauly)

Miranda Bateschell, Planning Director, noted the City was working on master planning the next great neighborhoods for the city and planning for additional, much needed residential growth. The Frog Pond Area Plan was being reviewed, as well as the policies put in place when it was adopted. Also being incorporated were new policy direction that had occurred in the last few years with the City's Equitable Housing Strategic Plan, State House Bill 2001, and world changes currently affecting retail and commercial uses. The Frog Pond Master Plan project continued to make great progress and was still on schedule, and tonight's presentation would be on overall neighborhood design concepts and how that related to existing development, the new neighborhood commercial area, and options for how the neighborhoods might build out over time.

Daniel Pauly, Planning Manager, introduced the project team, noting tonight's discussion was a continuation from the February work session as the team sought decisions and directions about the neighborhood commercial center and recommended design concepts. Other project updates would also be provided.

Sam Brookham, Leland Consulting Group (LCG), presented the neighborhood commercial center via PowerPoint, reviewing the background, case studies, market factors, forecasting, and developer feedback that led to the commercial center's location and recommended development program.

Discussion and feedback from the Commission on the neighborhood commercial center, its commercial node and implementation, was as follows with responses by the project team to Commissioner questions as noted:

- Brisband St was a good location because the main street look and feel would blend from Stafford Rd into a residential area more smoothly. The idea of a high-density residential surrounding the commercial development was good as previously discussed and would be similar to the Northwest Crossing development in Bend which had apartments nearby.
- What impact would the proposed Town Center rework have on any commercial development in the Frog Pond area? Considering the potential physical road barriers, perhaps more houses, residents, and spending dollars were being included in the analysis than should be. How would that impact the total acreage and square footage needed? While the UGB could extend north of Frog Pond by 2035 and beyond, people had to be there to build the commercial node. What was the timing for constructing the commercial center?
 - Mr. Brookham replied the trade area did not include the Wilsonville Town Center as the commercial center was neighborhood-to-neighborhood serving. There would be a lot of crossover, but not necessarily cannibalization. The project team only assumed 12 to 22 percent of demand created by the 4,000 households within the one-mile trade area would make up the majority of the customer base for Frog Pond. There was a conservative level that would not be impacted by the Town Center in such a way to greatly impact what was feasible in Frog Pond.
 - There was not a lot of difference between the recommended 4-acre program and 3- or 5-acre programs. It did not take a lot of households to support 30,000 sq ft of retail. Whether a developer would take on the 30,000 sq ft program was another question, but the only change would be the timeline; it could be 2035, or 2040. Northwest Crossing was considered a successful case study now, but it was still developing decades after the residential program was built. It all came back to flexibility.
 - An interested master developer would mitigate some of the risk, and the City could mitigate some risk by planning for much more density surrounding the project as mentioned. The

customer base could be created. He had talked to a number of developers who preferred walk-to traffic than drive-by traffic because a greater percentage of spending was captured. Ultimately, there was a lot of flexibility in the recommended program and no huge impact was expected from the Town Center.

- The project size, tenant mix, and location as described felt natural and organic based on some of the more modern developments, but a smaller project size would be preferred due to the difficulties in filling spaces, which often took years to fully develop. With the COVID-19 pandemic, the commercial real estate market was changing and was very dynamic, so opting for more housing and less commercial might be the right balance. Therefore, a partnership with a master developer cohort would be ideal because they would have better insight about future forecasts.
- The commercial opportunity in the project area was good because of the types of housing that would be developed, the walkability, and the proximity to Frog Pond West, East, and South as well as existing developments like Arbor Trail, Wilsonville Meadows, etc. and potential future development.
- Initially, the Advance/Stafford Rd intersection seemed best, the team's chart stated it was the most developer-friendly option and likely to be developed the quickest, but according to the analysis, the Brisband St option was the most balanced as it was market-driven. The traffic piece was also important once the Frog Pond residential area was complete.
 - The Brisband St option would have the most parking and more walkability. There was also potential to have a community type center for meetings in that part of Wilsonville, which would be a totally new area, even though there were potential challenges with the parking configuration and the potential need of more development subsidies. Long term, there was also potential for developing the mixed-use program.
 - It was not a 'build it and they will come'; having the commercial center would give residents an opportunity to feel that they had something of their own. Uncertainties connected with the commercial center would work themselves out in time and with the developers.
- The idea of the main street off Brisband St was better than the initial corner discussed previously. Having a smaller project size was also preferred.
- Initially, the commercial center was to be more convenience-based and less of a destination, with a coffee shop, small market, or pharmacy; for example, something one could walk to or stop by going in or out of the neighborhood, not a place where one would do their big shopping.
 - Having a main street felt a lot more organic and a lot more like a neighborhood, a place someone would want to live, as opposed to right next to a big shopping center, especially if it was higher density.
 - The project was going in the right direction and partnering with a master developer would help a lot.
- The Commission/City should not lose track of the fact that this was about quality-of-life planning. Was the Commission planning a suburban community where a car was required no matter what one needed or a neighborhood to make it easy for people to converge and enjoy their own neighborhood?
- The corner idea was never liked because a shopping center would be at the corner and would not have aged well, according to the analysis. The Brisband St option was good idea, and the thorough analysis and all the comparisons were appreciated.

- Urban activity centers were not being designed as part of town centers. The commercial center in Villebois had the square in front of it, which had some activity, like a coffee cart, and the Villebois green space was adjacent to it as well.
 - Parks and green spaces were too segregated from commercial centers, and they needed to be combined when looking at the quality of life and gathering spaces. Atlanta used its green space planning as an economic development vehicle because job and business opportunities were being created around green spaces. A high-density neighborhood center should be coupled with some green space to have a commercial center and a gathering place, like a piazza in Italy; a space where people want to hang out, and consequently, the surrounding commercial uses would prosper.
 - Could a park and open space area be coupled with the new neighborhood center proposed at the end of Brisband St? In the neighborhood plan, the neighborhood park was way south of Advance Rd and not near the project area, and the project area did not have a natural connection to the Grange, which was not far. Coupling these areas would result in a more creative and critical mass of activity that would benefit the commercial while creating gathering places and improve quality of life spaces.
- The concept of aiming small in terms of the project space seemed like a safer bet. The concept and potential for tying everything together to create more of a destination was an intriguing idea, but how that could be done effectively was uncertain, especially with a busy road bisecting the area. How could it be made safe so both sides could go there?
 - Brisband St was a good location, but it was surprising that the recommendation was not at the corner given the traffic counts and the much higher visibility expected at the intersection.
 - Mr. Brookham noted at the corner, given drivers' visibility on Advance Rd, east of Stafford Rd, the average daily traffic (ADT) drops off, so visibility was not that much more. In fact, the Brisband location got more visibility and more access versus the corner with the added walkshed and potential walkability, maximizing the number of cars and drive-by traffic, and visibility from the new households in Frog Pond East.
 - The project team was asked to emphasize that information in the City Council's presentation, because intuitively, Brisband St did not seem to be the higher, more viable area.
 - The proposed area would have much better visibility, depending on how it was designed. The area could open up to Stafford Rd, as opposed to its back to Stafford Rd, and could be a gateway into the neighborhood as a town center/commercial type of attraction.
- If a master developer was better equipped to do the project, the Planning Commission should push for it, and if not, the City should do the development, which was the alternative in the report, because otherwise, this precious opportunity would probably not be realized.
- If the City did the development, this open park area could start as an open space or gathering area that would be developed in the future. If there was no master developer, it would give developers a chance to build out the other residential areas, and then 10 to 15 years later, the City could build the commercial center because the houses to warrant a commercial space would exist. The City might have more acreage to work with and the size of the commercial space could then be determined by a more accurate study of the actual surrounding homes.

Mr. Pauly said he appreciated the Planning Commission's comments, adding that the project team was contemplating the possibility of a neighborhood park as a placemaking element. It might too early to know the feasibility of the park, but the Grange might have to move because of road improvements, so

there were some possibilities to explore. He noted the remaining presentation would build on previous discussions about commercial and housing, and quickly touching on other important concepts.

Mr. Pauly and Joe Dills, Senior Project Manager, MIG | APG, continued the PowerPoint presentation reviewing the recommended community design concepts, which focused on the character of the site, not the number of units per acre. The concepts reviewed included housing variety, affordable housing, and a form-based design integrated throughout Frog Pond East and South, as well as a focus on unique elements and destinations within the site, connecting destinations, and multi-modal connectivity. Three design concept options were presented for the neighborhood commercial center, as well as design concepts regarding the BPA Easement Corridor, the Grange site, and the use of subdistricts. As the project team moved to the next phase of outreach with the community, input was sought about any areas of concern or specific comments from the Commission.

Discussion and feedback from the Planning Commission were as follows, with responses by the project team to Commissioner questions as noted:

- Andrew Parish, MIG | APG, confirmed via Zoom chat that according to Metro's maps, the Rural Edge was a combination of Rural Reserve and "Undesignated" - so, not Urban Growth Reserve. Urban reserve areas were to the north.
- The project was headed in the right direction, the areas of concern were discussed earlier, and the design concepts looked good, as well as the connectedness, walkability, and opportunities the project team had mentioned.
- Mr. Dills confirmed regional, high-powered transmission lines ran through the BPA easement. He was not the best expert to speak to any concerns or issues regarding safety, etc. when working under the high-powered lines, but over the years he had heard research about the buzzing noise, which could be heard and was a bit of a concern, but he could not comment on any electromagnetic health problems. He noted it was very common throughout the Portland region that recreational uses and trails were part of the power line corridors, and he had not yet worked on a concept plan that did not have them running through. Other more passive components, like stormwater retention, would be at the low concern end of the spectrum, relative to the power lines.
- Being able to use the easement provided flexibility for people to have community gardens, etc. and more information was requested about any safety concerns or issues when under the power lines.
 - The BPA had did not allow uncontrolled growth beneath the power lines and there were no foreseeable problems for parks and maintained spaces. The easement would be great for a park area and walking trails.
- More information was wanted about the Grange and how it would be affected.
 - If widening the road impacted the building, could the building be pushed back, but still left in the same general vicinity? If the current location was not the original, historic location, then moving the Grange to a more convenient location was not a problem.
 - Mr. Pauly confirmed the Planning Commission was open to comments from the property owner of both large properties in Frog Pond East, who was in attendance.
- Integrating walking and the park was spot on. Concerns were expressed about the power lines and cancer clusters, so any health issues around power lines should be explored before developing underneath them. Understanding the scientific consensus around any potential impacts would be good.

- The more curving road structure of Option 1 seemed to be a more efficient use of the space. Integrated that option with the commercial node in the center would be a good combination.

Sparkle Anderson, Frog Pond East property owner, stated there had been a one-room schoolhouse on the current site of Grange Hall, and the Grange met in the attic for years. When the current building was built, she believed in the 1930s, the school was moved down the road and it become an extension building, so the existing Grange was the new building at the old site. She suggested pushing the Grange building back a bit off the road.

Staff confirmed there were no further public comments and noted the project team would return before the Commission in June with more on the Frog Pond East and South Master Plan.

INFORMATIONAL

4. City Council Action Minutes (March 7 & 21, 2022) (No staff presentation)

There were no comments.

5. 2022 PC Work Program (No staff presentation)

Miranda Bateschell, Planning Director, introduced Mandi Simmons as the Planning Division's new administrative assistant, noting she would be supporting the Planning Division and by extension, the Planning Commission. Ms. Simmons had a great background in senior administrative work and in teamwork as a Division I athlete in Michigan.

The Commissioners welcomed Ms. Simmons.

Ms. Bateschell confirmed the May meeting would remain virtual until the lobby construction was complete. The projected completion time of early May had been delayed by supply chain issues, and the City hoped to have construction complete in early June. An in-person meeting would likely be held in July to allow for sufficient notification time.

ADJOURNMENT

Chair Heberlein adjourned the regular meeting of the Wilsonville Planning Commission at 8:22 p.m.

Respectfully submitted,

By Paula Pinyerd of ABC Transcription Services, LLC. for
Mandi Simmons, Planning Administrative Assistant



CITY COUNCIL
MONDAY, MARCH 7, 2022

WORK SESSION

Frog Pond East and South Master Plan (Pauly)



CITY COUNCIL WORK SESSION STAFF REPORT

Meeting Date: March 7, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input type="checkbox"/> Not Applicable	
		Comments: The Planning Commission provided a substantial amount of guidance during their February 9 meeting, which is incorporated into the executive summary below.	
Staff Recommendation: Provide requested input regarding affordable housing, accessory dwelling units, and a neighborhood commercial center in the future Frog Pond East and South neighborhoods.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE CITY COUNCIL:

Provide feedback and input on components of the master planning for Frog Pond East and South, specifically regarding affordable housing, accessory dwelling units, and evaluating a neighborhood commercial center. In using the term affordable housing in this context, staff is referring broadly to both market-rate housing that is economically attainable for moderate-

income households as well as housing that is subsidized for lower-income households. Where the report refers to a specific sub-set of affordable housing it is indicated.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified local housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a Master Plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the subject land. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process also identifies water, sewer, stormwater, and transportation infrastructure needs and funding sources.

The City Council held their first work session on the master plan in October focusing on overall project scope and the outreach plan. A second work session in January asked for initial feedback on the needs and opportunities for affordable housing and housing variety in Frog Pond East and South. The March 7 work session returns to the topic of housing needs in order to obtain further direction from Council following review of the Affordable Housing Analysis (Attachment 1) and Planning Commission feedback. While housing will be the main topic of discussion for this third work session, the project team also seeks initial feedback on an evaluation of a neighborhood commercial center.

Housing

As discussed in the previous work session, the affordable housing efforts as part of the Frog Pond East and South Master Plan build upon the Equitable Housing Strategic Plan (EHSP) adopted by the City in June 2020. The EHSP includes a specific action item to define equitable housing approaches in new urban growth areas. The summary of the action item further explains, *"As part of the master planning requirements for Frog Pond East and South, the City will establish goals or targets for accessibility to services/amenities, unit types, and unit affordability levels. The targets for affordability levels (number of units and depth of affordability for those units) should be reasonably achievable, allowing for sufficient market-rate development to support key infrastructure investments. This approach will provide a methodology and framework that can be applied in other growth areas beyond Frog Pond."*

The Affordable Housing Analysis (Attachment 1) for Frog Pond East and South provides an important tool in fulfilling this action item by presenting information and analysis to assist City decision-makers in setting an informed affordability target for the planning area. This work

session will allow the City Council to provide feedback on the analysis and guidance to the project team on the target the City should pursue in Frog Pond East and South.

The conclusion of the analysis proposes an affordable housing target in Frog Pond East and South affordable for households with incomes under 80% MFI. This is significantly lower than the proportion of the City's and region's household makeup at this income level (see Section 5, Attachment 1, beginning on page 11). The expected market-rate demand for the land, coupled with the cost to develop the land, limits the ability of the City and affordable housing providers to purchase or control sites for affordable housing. This re-enforces the multi-pronged approach to affordable housing citywide as presented in the EHSP. The City needs to take a variety of actions which individually do not make huge impacts on the housing crisis, but collectively add up to significant progress. Examples of other equitable housing efforts the City has made progress on include the Middle Housing Project, vertical housing tax abatements, and the TOD project near the WES Station.

One important factor for the affordable housing target is affordable home ownership, as reflected in the current City Council goals and in comments by the City Council at the January work session. The Affordable Housing Analysis discusses a number of barriers and opportunities to support home ownership for households at different levels of income below 80% MFI. Barriers, beyond those applying to all affordable housing, include a lack of funding, especially federal, for ownership compared to rental programs; difficulty qualifying for mortgages, even with government support, for many households with incomes below 60% MFI; as well as legal and construction financing barriers to condos and co-op housing construction, which are housing types that would likely be most attainable for first-time homebuyers and households with incomes 60-80% MFI. As noted in the analysis, these are difficult barriers to overcome in the short to medium term and are generally beyond the City's control.

Opportunities noted include partnering with home ownership support programs such as community land trusts or Habitat for Humanity and the Homebuyers Opportunity Limited Tax Exemption (HOLTE) program. Additional strategies for the City's consideration that are likely to have the greatest impact in producing housing affordable for low to moderate income households for Frog Pond East and South, include:

- Zone for all housing types
- Acquire land for affordable housing
- Partner with a community land trust
- Waive, reduce, or defer SDCs for income-restricted affordable units
- Incentivize smaller and lower-cost middle housing
- Reduce multi-family parking requirements
- Incentivize housing with accessible or visitable units

Following review of the Affordable Housing Analysis during a February 9 work session, Planning Commission provided feedback for City Council consideration as follows:

- Some Commissioners expressed a desire to see more affordable housing, but Commissioners generally felt the discussed target was the right direction to be both assertive and "reasonably achievable."

- Commissioners acknowledged land cost is an important consideration in achievability of an affordable housing target.
- Commissioners commented on how the proposed target requires the City to do things it has not done before related to land control and other housing programs. The Commissioners inquired about the need for a City-wide housing program.
- Commissioners suggested the City needs to focus on what it must do to enable the discussed target to be met.
- Commissioners expressed a desire for housing not to be isolated by type, but to have mixed income neighborhoods and blocks throughout Frog Pond East and South.
- Commissioners stated multi-family rental housing is necessary to meet affordable housing targets and meet needs.
- A Commissioner suggested it would be helpful to compare the proposed target with the amount of affordable housing produced in Villebois.
- The Commission supported the list of strategies in the Affordable Housing Analysis.

Another strategy with the potential to provide affordable housing is the production of accessory dwelling units (ADUs). This includes affordable ownership opportunities, because the code updates adopted with the Middle Housing Project allow ADUs to be sold separately from the primary dwelling without going through a condo process. As the accessory dwelling unit memo (Attachment 2) outlines, the City already has policies in place in support of ADUs, including broad allowance of ADUs and waivers of SDC fees. The memo lists the following additional regulatory actions to explore that could further encourage ADU production in Frog Pond East and South and/or elsewhere in the City. City staff has not yet evaluated the feasibility of these actions, but would like the City Council’s feedback on whether to pursue further evaluation and feasibility investigation.

- Provide additional flexibility and exemptions to lot coverage and setbacks for ADUs.
- Allow ADUs with townhouses regardless of lot size. Currently the City code only allows ADUs with townhouses if the townhouse lot meets the minimum lot size for detached single-family units in the zone.
- Allow larger ADUs to provide more options for developers. Example changes could be to match the cottage cluster size of 900 square feet or slightly larger 1,000 square feet. The sizes are still less than would be built as typical single-unit on lot development or 2-unit cluster. However, 800 square feet is a limit consistent across many Oregon jurisdictions.

During their February 9 work session, the Planning Commission generally expressed support of ADUs. This included general support of being more permissive of ADUs integrated into the typical footprint of (i.e. ground floor ADU with a two-story larger unit above). There was some openness to looking at setback changes, but such changes should be specific and strategic. No strong preferences were expressed about expanding the allowed size of ADUs

Discussion questions

1. Does the City Council support an affordable housing target in line with that presented in the Affordable Housing Analysis memo? Is it reasonably achievable?
 - If yes, what refinements or additional guidance would the Council suggest?
 - If no, what affordable housing target would the Council recommend and why?

2. Does the proposed affordable housing target appropriately balance affordable rental and ownership opportunities based on what we know about available financing programs and other restraints?
3. Does the City Council agree the proposed affordable housing strategies help achieve desired housing outcomes and should be further pursued (Section 6, Attachment 1, beginning on page 21)? What is City Council's guidance, if any, for further refining these strategies?
4. Should the City pursue and refine any or all of the additional regulatory actions related to ADUs listed in Attachment 2? Are there any concerns with these actions?

Neighborhood Commercial (Preliminary Feedback)

The 2015 Frog Pond Area Plan presented the idea of a neighborhood commercial center in Frog Pond East. Part of the scope of the Frog Pond East and South Master Plan is to further evaluate a neighborhood commercial center. The evaluation includes such things size, location, types of potential retail, and whether to have residential above the retail. The Area Plan specifically calls for the location and level of mixed-use residential to be further evaluated. The size and type of retail is also necessary to evaluate to identify the amount of land to designate for this use in the plan. The Neighborhood Commercial Evaluation: Initial Feedback slide deck (Attachment 3) provides background and an overview of the intended evaluation.

At their February 9 work session, Planning Commission offered a few initial thoughts on the commercial center. The Commission expressed benefits of passerby traffic and a desire for it to be located near and accessible to existing homes, and thus, a general preference for the corner location at Advance and Stafford.. They remarked the importance of traffic and access considerations. Overall, the Planning Commission expressed a desire to make a thorough evaluation to make sure the neighborhood commercial center is done right.

The project team has the following questions for the City Council to get initial feedback and direction as the evaluation begins. The next City Council work session in May will provide more information and solicit additional feedback.

Discussion questions:

1. What thoughts does the City Council have on overall purpose and vision of the commercial center to provide small scale retail and be a community gathering place? Anything the City Council would suggest adding?
2. The location at the corner of Advance and Stafford is not set. What thoughts does the Council have about location of the commercial center? What should be considered in determining planned location?
3. What additional items does the City Council want included in the upcoming commercial center evaluation beyond (1) location, (2) size of retail, (3) type of retail, and (4) evaluation of mixed-use residential with retail?

EXPECTED RESULTS:

City Council guidance on affordable housing in Frog Pond East and South to guide development of land use alternatives and exploration of affordable housing strategies. Also, initial City

Council guidance on planning work around a neighborhood commercial center in Frog Pond East and South.

TIMELINE:

This is the third in a series of work sessions for the City Council. The next work session is planned for May. Most components of the project must be adopted by December 2022.

CURRENT YEAR BUDGET IMPACTS:

The main consultant contract is for \$350,000 funded through a Metro grant. An additional \$81,000 is funded by a grant from the Oregon Department of Land Conservation and Development. Work began during FY 20/21. Unused portions have been rolled over and the City anticipates spending \$170,000 by the end of FY 21/22. The remaining \$261,000 is planned to be budgeted during FY 22/23 to conclude the project.

FINANCIAL REVIEW:

Reviewed by: ____ Date: _____

LEGAL REVIEW:

Reviewed by: ____ Date: _____

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which lays out a robust public engagement program that will include meaningful and impactful involvement of people who identify with historically marginalized communities. In addition, City staff continues work with consultants and the DEI committee to establish a framework for broad community involvement.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY:

Well-designed neighborhoods with a variety of housing options for current and future Wilsonville residents.

ALTERNATIVES:

At this early point in the project, the City Council may provide a range of alternatives for the project team to consider.

CITY MANAGER COMMENT:

ATTACHMENTS:

- Attachment 1 Affordable Housing Analysis Memo from EcoNorthwest (January 31, 2022)
- Attachment 2 Accessory Dwelling Unit Memo from EcoNorthwest (January 31, 2022)
- Attachment 3 Neighborhood Commercial Evaluation: Initial Feedback slide deckSlide deck on neighborhood commercial evaluation (January 31, 2022)

DATE: January 31, 2022
TO: Dan Pauly, Kim Rybold, City of Wilsonville
FROM: Becky Hewitt, Kaitlin La Bonte, and Ariel Kane, ECONorthwest
SUBJECT: Frog Pond East and South Affordable Housing Analysis

Section 1. Introduction

Purpose

The Frog Pond East and South areas are important for the City of Wilsonville’s efforts to meet future housing needs and provide equitable housing options for residents. The City’s 2020 Equitable Housing Strategic Plan (EHSP) recognized this, and called for the Frog Pond East and South Master Plan to establish targets for affordability, specifically:

“As part of the master planning requirements for Frog Pond East and South, the City will establish goals or targets for accessibility to services/amenities, unit types, and unit affordability levels. The targets for affordability levels (number of units and depth of affordability for those units) should be reasonably achievable, allowing for sufficient market-rate development to support key infrastructure investments. This approach will provide a methodology and framework that can be applied in other growth areas beyond Frog Pond.”

This memorandum is intended to implement that direction from the EHSP and identify affordable housing targets and strategies to ensure these targets are met.

Key Term: Affordable Housing

This memo addresses “affordable housing”. As used here, we are referring broadly to both market-rate housing that is economically attainable for moderate-income households as well as housing that is subsidized or otherwise supported for lower-income households. Where the memo refers to a specific sub-set of affordable housing it is indicated.

Background and Policy Direction

The EHSP also directs the Frog Pond East and South master planning effort to:

- Integrate affordable housing into the overall master plan, with access to amenities
- Identify specific properties that could help meet affordable housing targets
- Evaluate relationships to the infrastructure funding plan
- Engage affordable housing developers and other stakeholders to refine strategies

These efforts will be part of the planning process for Frog Pond East and South.

Other past policy guidance related to housing targets and mixes for this area are summarized below.

- Metro’s Conditions of Approval for Wilsonville’s 2018 Urban Growth Boundary expansion required the City to:
 - **Plan for at least 1,325 homes in the expansion area.**
 - **Allow townhomes, duplexes, triplexes, and fourplexes** (now referred to as “middle housing”) in all zones that permit single-family housing within the expansion area. (The requirement related to allowing middle housing in zones that allow single-family housing is now also required by the state under House Bill 2001 and the implementing administrative rules.)
- The 2015 Frog Pond Area Plan established direction for housing mix, lot size, and where different housing types would be allowed within the expansion area. The unit distribution options from the Area Plan are shown in Exhibit 11 and Exhibit 12 on page 17. At a high level, the Area Plan sets direction that the East neighborhood should provide for single-family detached housing on small to large lots, as well as townhomes, cottage lots, and duplexes, while the South neighborhood should provide only small- to large-lot detached housing. It also states that neighborhood-scale mixed use with residential above retail in the commercial center could be considered during the Master Plan process. Other types of housing, including apartments, were not identified as part of the final plan for the Frog Pond area. Note, however, that the Area Plan’s direction pre-dates and is no longer consistent with the Metro conditions of approval summarized above or with the requirements of House Bill 2001.

As of the end of 2021, the City of Wilsonville had 11,587 dwelling units with approximately 730 more planned to be built in the near future between Villebois and Frog Pond West. Frog Pond East and South will represent an approximately 10% plus increase in the number of dwellings in Wilsonville. The City also has roughly 450 government-subsidized housing units as of 2018.¹

Section 2. The Housing Spectrum: Meeting a Range of Housing Needs with New Housing

Delivering new housing affordable to a range of incomes requires a range of different approaches, as summarized in Exhibit 1.

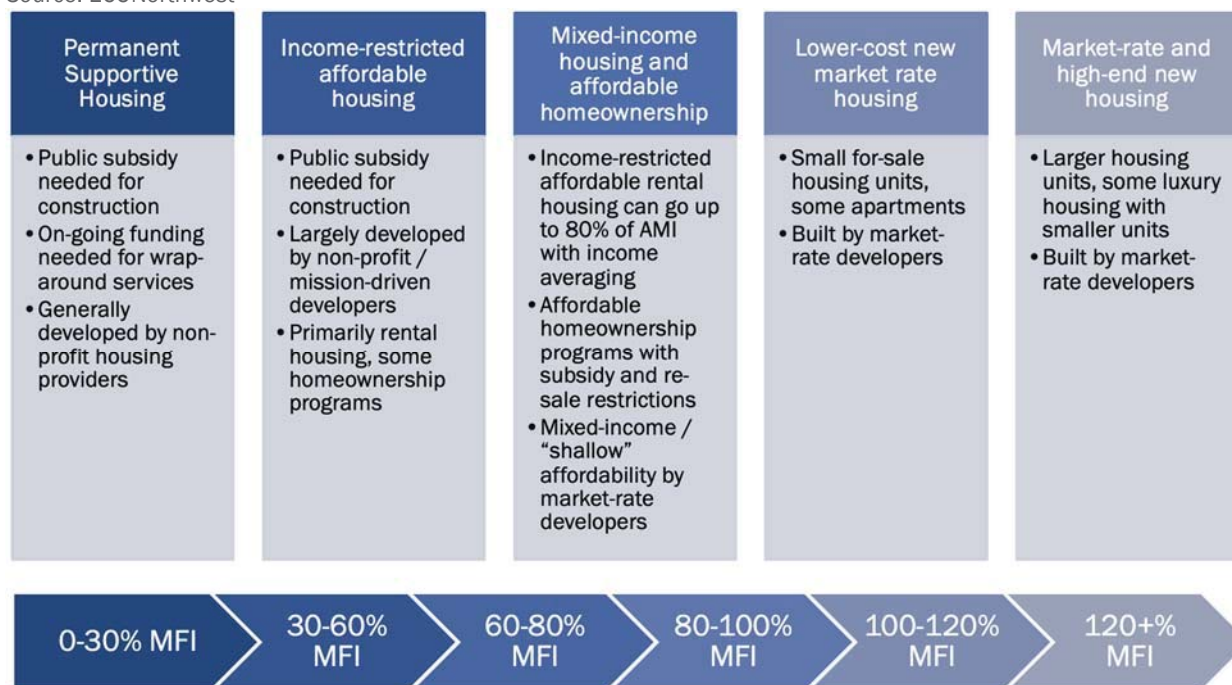
Key Term: Median Family Income

In setting affordability targets and requirements, it is common to express them in terms of a percentage of the Median Family Income (MFI), since this is how eligibility is established for income-restricted affordable housing. MFI is typically set at a regional level. In Wilsonville, the MFI is based on the three-county Portland region. In other words, the MFI for Wilsonville and Clackamas County is the same as that for the region overall. The MFI for a family of four in the Portland region as of 2021 is \$96,700. The U.S. Department of Housing and Urban Development (HUD) considers housing affordable to a given income level if housing costs (including utilities) account for no more than 30% of a household’s income.

¹ Clackamas County Regional Housing Needs Analysis, ECONorthwest, 2018, page 199.

Exhibit 1: Approaches to Delivering New Housing by Income Range

Source: ECONorthwest



Housing for 60% of MFI and below

Meeting the housing needs of households earning less than 60% of MFI nearly always requires public subsidy. Development of income-restricted affordable housing typically relies on funding from the State, region, or County, in addition to any support from the City and other partners.

- **Affordable Rental Housing:** Even within publicly supported housing, most housing for this income range is rental housing. The Low Income Housing Tax Credit (LIHTC) program—the largest funding program in the US for affordable rental housing—largely serves households in the 30-60% of MFI range. While there are some for-profit developers who build income-restricted affordable housing, most is built by non-profits or Public Housing Authorities. Affordable rental housing development in suburban parts of the Portland region typically takes the form of three- to four-story apartments with surface parking.
- **Affordable homeownership:** There are some homeownership support programs (e.g., Habitat for Humanity, some Community Land Trusts, and down-payment assistance programs) that serve households earning as little as 35% of MFI (\$30,000-\$35,000). These programs tend to receive much less state and federal funding in aggregate than affordable rental housing.

To serve households earning less than 30% of MFI often requires additional subsidy beyond that needed to build housing for 60% of MFI due to the lower rents that are required. It also

sometimes requires support to provide wrap-around services that help residents remain in their housing. Sometimes tiny homes or cottage clusters are used for housing at this income level, but apartments are more common.

Housing for 60% to 80% of MFI

Housing for households earning between 60% and 80% of MFI often comes in the form of older housing that has depreciated and become more affordable over time; however, delivering new housing in this affordability range can be challenging due to limited sources of public subsidy and the cost of building new market-rate housing. Options include:

- **Mixed-income and “shallow” affordability by market-rate developers:** Incentive programs and inclusionary zoning requirements can sometimes deliver units affordable to households earning less than 80% of MFI as part of a market-rate development if calibrated to align with market conditions. The affordability tends to be “shallow” in the sense that the private market generally cannot absorb rents or sales prices that are far below market rate without substantial incentives or subsidies. The most common form for mixed-income development by private developers is market-rate apartments that include some income-restricted affordable units.² However, affordability incentives for middle housing (primarily rental) may be able reach this income range in some circumstances.
- **Affordable homeownership:** Some affordable homeownership development targets this income range (e.g., Habitat for Humanity), using a mix of funding sources to subsidize costs. In the Portland region, this typically takes the form of either small detached housing or townhome-style attached housing.
- **Affordable rental housing with income averaging:** Low Income Housing Tax Credits, the largest funding program for affordable rental housing, allows developments to use income averaging to provide housing for households earning up to 80% of MFI as long as the average for the development overall remains at or below 60% of MFI. As noted above, this would typically be in the form of apartments.

Housing for 80% of MFI and above

Households earning between 80% and 120% of MFI can often afford at least some of the existing market-rate housing stock in the community, such as apartments, older homes, or townhouses, though in very tight housing markets their options may be limited. For new construction, some smaller and lower-cost market-rate housing can be affordable in the 80-120% of MFI range, but most larger housing units and high-end small housing units tend to be affordable only to those earning at least 120% of MFI. (The expected pricing for market-rate housing in the Frog Pond East and South areas is described further in Section 4.) There are some local incentives and

² Inclusionary Zoning can only be applied to multifamily housing (buildings with 20 or more units) under current Oregon law.

affordability programs that can support housing affordable at 80% to 100-120% of MFI, though state and federal funding is limited.

Section 3. Opportunities and Constraints for Affordable Housing

There are several considerations and challenges for building affordable housing in the Frog Pond East and South area, including:

- **Infrastructure costs:** While vacant land at the urban fringe tends to cost less than land in already developed areas, this is largely because the cost of building the infrastructure needed to serve urban development is factored into land value and land sales prices. This project will: identify the infrastructure needed to support the East and South Neighborhoods; prepare a funding plan for that infrastructure; and consider the relationship between the need to fund infrastructure and the ability to deliver affordable housing.
- **Site control / property ownerships:** Acquiring property in a competitive market can be a substantial challenge for affordable housing developers. The City does not currently own any land within the Frog Pond East and South areas. The only City-owned land is land designated for a future park. The ability to secure land could be one of the biggest challenges for delivering affordable housing in the area.
- **Past policy guidance on housing types:** The final Frog Pond Area Plan did not include apartments as part of the housing mix for Frog Pond East and South. This limits the potential housing options in several ways:
 - As noted above, most affordable rental housing, which is the primary housing that serves households earning less than 60% of MFI, is built as apartments. The Area Plan notes potential for housing above commercial space, but while some affordable housing includes community spaces on the ground floor, there are financing challenges associated with building affordable housing as true mixed-use development with ground-floor commercial space. If apartments are not allowed in the area, this will significantly constrain the options and sources of funding for building affordable housing and limit the number of income-restricted affordable units that can realistically be developed in the area.
 - Market-rate multifamily housing (apartments or condominiums) can also provide housing affordable to households earning roughly 80% to 100% of MFI. Building apartments or condominiums as part of a mixed-use building increases costs and can make development infeasible or require higher rents or sales prices to justify the additional expense.
- **Challenges for affordable and low-cost homeownership options:** Income-restricted affordable homeownership models can work within a small detached or townhouse-style development, but there is limited state and federal funding for affordable homeownership programs, which means a relatively small number of subsidized

affordable homeownership units could realistically be built in the area. Other methods of providing lower-cost homeownership options without a subsidy, such as condominiums and co-op housing, face legal and financing challenges that make them difficult for many private developers to build. Addressing these legal and financing issues would require action at the state level and is beyond the City's control. However, there are developers working in the region who are willing to build condominiums despite the challenges, some of whom may pursue development within Frog Pond East and South.

The opportunity for Frog Pond East and South is that the City is in a position to address many of these challenges in ways that can influence the outcome. At a minimum, in the short term, the City can set land use regulations that allow for a broader range of housing types so that there are more options for market-rate and subsidized affordable housing development now and into the future. The City can establish requirements associated with annexation, which could allow for more specific agreements between the City and property owners seeking to annex. The City can also establish an infrastructure funding plan that limits the infrastructure cost burden on any income-restricted affordable housing built in the area. If financial resources allow, the City can negotiate with property owners to acquire suitable land for affordable housing that can then be transferred at little or no cost to affordable housing developers, or provide funding to support affordable homeownership development by a local Community Land Trust or a provider like Habitat for Humanity. These and other strategies to help deliver affordable housing in this area are addressed further beginning on page 21.

Section 4. Expected Pricing of Market-Rate Housing

For-Sale Housing: Market Sale Prices for Single-Family Homes, Townhouses, and Condominiums

Data from recent home transactions³ for relatively newer housing⁴ in Wilsonville and surrounding areas provides an indicator of likely pricing for new housing in Frog Pond East and South. The estimated range of home prices by housing type and unit size is shown in Exhibit 2. The estimated income needed to afford these purchase prices, given standard lending assumptions,⁵ is shown as a percentage of the MFI for a four-person household⁶ in Exhibit 3. The relevant data is summarized in table form in Exhibit 4.

³ Sales transaction data is from Redfin for sales between October 2020 and October 2021.

⁴ Data includes detached homes and townhouses built since 2010 as well as condominiums built since 2006 (to provide a larger sample size since there are few recently-built condominiums).

⁵ Assumes 20% down payment, a 30-year fixed-rate mortgage at 3.5% interest, with estimates for property taxes and homeowners' insurance. Estimated homeowners' association fees are factored into total monthly housing costs based on averages for similar housing from recent sales transactions.

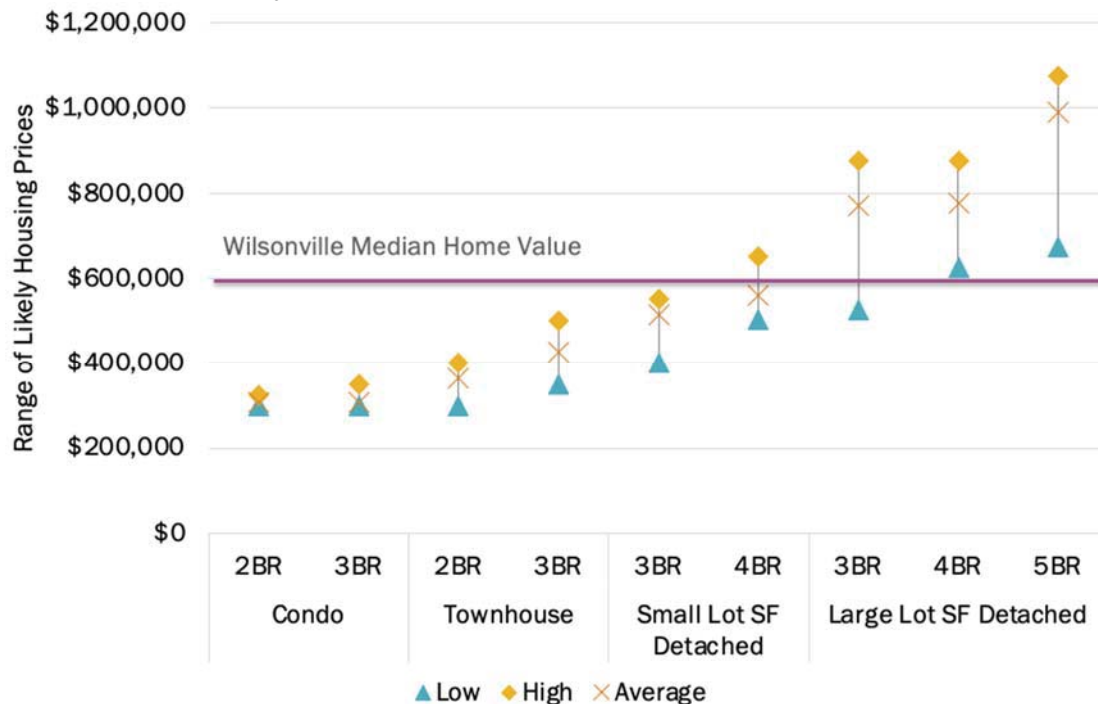
⁶ In setting maximum allowed rents by unit size / bedroom count, HUD uses an assumed household size and multiplier relative to the MFI for a family of four. However, to allow for comparison to the income distributions, which are not adjusted for household size, we use the MFI for a four-person family throughout.

Given the recent escalation in home prices, new construction coming to market is likely to sell closer to the top end of the range seen among recent transactions for newer housing. Housing prices will likely continue to escalate over the coming years (though not to the extent seen in the past year), increasing the expected home values over time. However, the comparison between prices of new homes and the median price of existing homes or between new homes and regional average incomes are more likely to remain roughly consistent going forward. Based on these trends, we estimate the following ranges for affordability of new for-sale housing in Frog Pond East and South:

- New large-lot detached housing in Wilsonville will likely be affordable only to households earning more than 120% of MFI, and more expensive than most existing homes.⁷
- New small lot detached homes (on less than 4,500 SF lots) may sell for close to the median value of existing homes and are likely to be affordable mostly to households earning between 100% and 130% of MFI.
- New condominiums and townhouses will almost certainly sell for less than the median value of existing homes in Wilsonville and are likely to be affordable to households earning between roughly 70% and 100% of MFI depending on unit size.

Exhibit 2. Typical Sales Prices for Recently Built Housing by Housing Type, Wilsonville and Surrounding Area

Source: ECONorthwest Analysis of Redfin Data, October 2021



⁷ The median value of existing homes in Wilsonville is around \$600,000, affordable to homeowners at 122% of the area MFI for a family of four, or an annual income of \$118,220.

Exhibit 3. Housing Affordability as a Percent of Median Family Income* by Housing Type for Recently Built Housing, Wilsonville and Surrounding Area

Source: ECONorthwest Analysis of Redfin Data, October 2021

* Median family income from HUD for Clackamas County for a four-person household

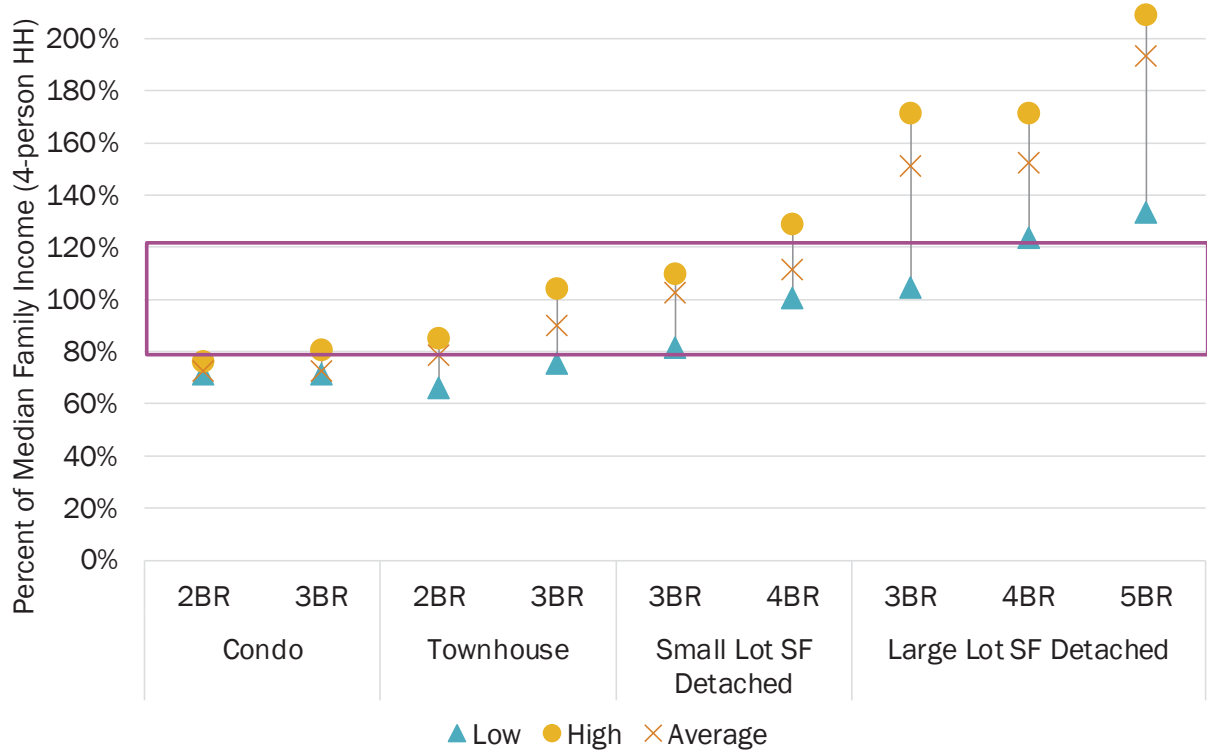


Exhibit 4: Sales Price, Income Required, and Income as a Percent of MFI for Newer Housing in and near Wilsonville, by Housing Type, 2021

Source: ECONorthwest Analysis of Redfin Data, October 2021

	Condo		Townhouse		Small Lot SF Detached		Large Lot SF Detached		
	2BR	3BR	2BR	3BR	3BR	4BR	3BR	4BR	5BR
Low Sales Price									
Sales Price	\$300,000	\$300,000	\$300,000	\$350,000	\$402,500	\$502,500	\$525,000	\$625,000	\$675,000
Annual income needed to afford mortgage	\$69,110	\$69,110	\$64,110	\$73,290	\$78,940	\$97,310	\$101,440	\$119,810	\$128,990
Annual income needed as a percent of MFI*	71%	71%	66%	76%	82%	101%	105%	124%	133%
High Sales Price									
Sales Price	\$325,000	\$350,000	\$400,000	\$500,000	\$552,500	\$652,500	\$875,000	\$875,000	\$1,075,000
Annual income needed to afford mortgage	\$73,700	\$78,290	\$82,480	\$100,850	\$106,490	\$124,860	\$165,730	\$165,730	\$202,470
Annual income needed as a percent of MFI*	76%	81%	85%	104%	110%	129%	171%	171%	209%
Average Sales Price									
Sales Price	\$307,700	\$307,400	\$365,300	\$426,700	\$513,800	\$560,000	\$769,900	\$775,800	\$990,600
Annual income needed to afford mortgage	\$70,520	\$70,470	\$76,110	\$87,390	\$99,380	\$107,870	\$146,420	\$147,510	\$186,970
Annual income needed as a percent of MFI*	73%	73%	79%	90%	103%	112%	151%	153%	193%

*As compared to 100% MFI for a four-person household in Clackamas County. Orange indicates less affordability; blue indicates greater affordability.

Rental Housing: Market-Rate Apartments

Looking at the range of rents and unit sizes for apartments built in Wilsonville since 2010, there is a wide range of unit sizes and rents, as shown in Exhibit 5.

Exhibit 5: Wilsonville Apartment Unit Sizes, Mix, and Rents, Developments Built Since 2010

Source: ECONorthwest analysis of CoStar data, November 2021

Unit Type	Most rent for	Average rent is	Most units are	% of Units
Studios	\$1,123	\$1,123	544 SF	4%
1 bedroom	\$1,277-\$1,667	\$1,599	1,275 - 1,630 SF	28%
2 bedrooms	\$1,651-\$1,902	\$1,778	1,020 - 1,110 SF	57%
3 bedrooms	\$2,154-\$2,263	\$2,203	2,150- 2,265 SF	5%
4 bedrooms	\$2,664-\$3,284	\$2,871	2,664 - 3,284 SF	5%

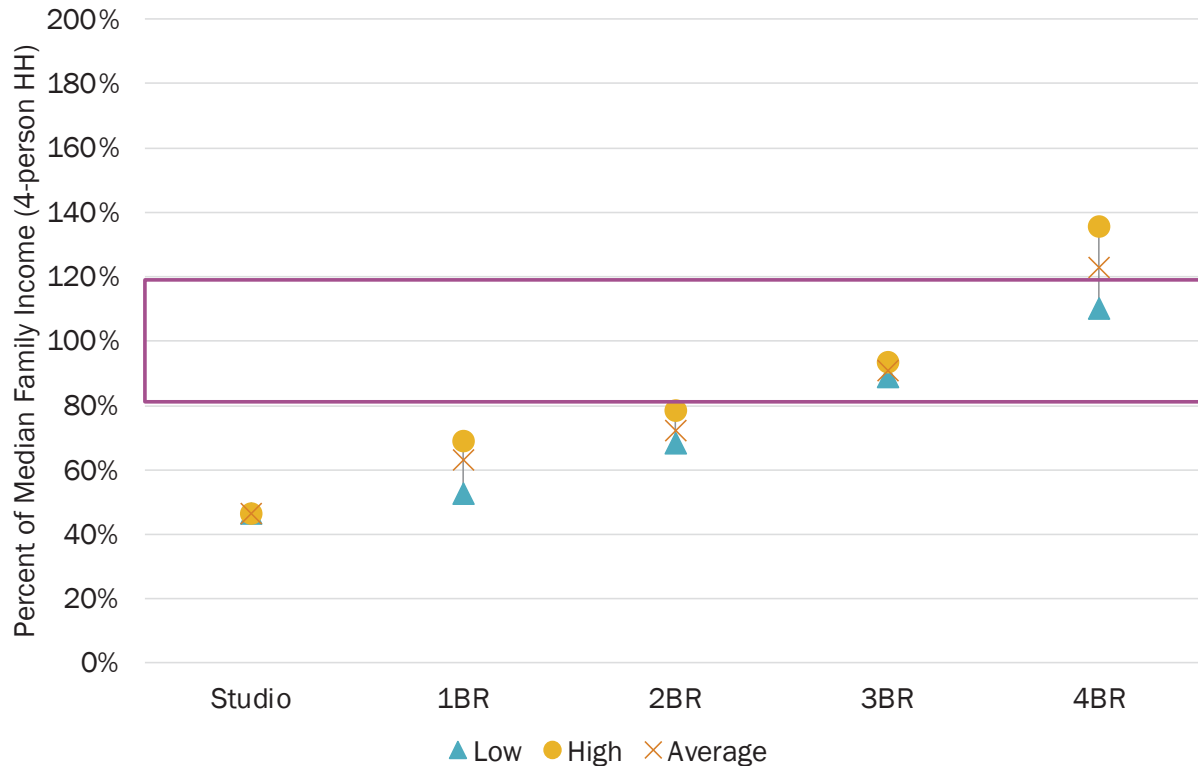
Converting these rents to the percent of MFI needed to afford them⁸ shows that even at the top end, apartment units in newer buildings are generally affordable at or below 80% of MFI for a four-person household, and often around 80% of MFI, as shown in Exhibit 6. Very small studio units may be even more affordable, while very large four-bedroom units may be less affordable, but the bulk of units in newer apartments in Wilsonville would be considered affordable for households earning between 65% and 90% of MFI. New apartments would typically be expected to rent for near the upper end of this range (roughly 80% to 90% of MFI), assuming they have good access to amenities.

⁸ In setting maximum allowed rents by unit size / bedroom count, HUD uses an assumed household size and multiplier relative to the MFI for a family of four. However, to allow for comparison to the income distributions, which are not adjusted for household size, we use the MFI for a four-person family throughout even though it is not realistic to expect a four-person family to occupy a studio apartment.

Exhibit 6: Wilsonville Apartment Rent Affordability as a Percent of Median Family Income* by Unit Size, Developments Built Since 2010

Source: ECONorthwest Analysis of CoStar Data, November 2021

* Median family income from HUD for Clackamas County for a four-person household



Section 5. Affordable Housing Targets

The City does not control housing pricing and affordability directly, but there are many factors that the City does control that affect how much housing is likely to be produced within different affordability levels. Setting reasonably achievable affordable housing targets for the Frog Pond East and South neighborhoods is intended to guide the City's strategies and policies for this area so that the resulting neighborhoods offer housing options for households at a range of income levels.

Reference Points

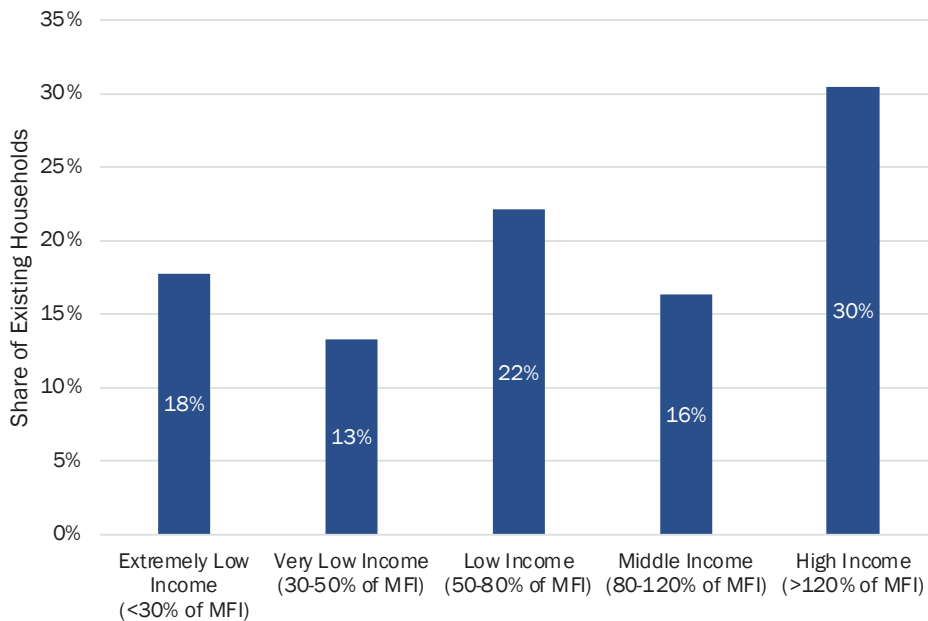
In setting an appropriate and achievable affordable housing target, it is helpful to consider multiple reference points that inform the distribution of housing that may be needed and that may be possible. This section outlines several reference points for housing distribution by affordability level: current income distribution in Wilsonville, current regional income distribution, existing housing gaps at the City and County scale, and the distribution expected based on prior plan policy direction and existing affordable housing tools. These reference points are intended to inform establishing achievable affordable housing targets for Frog Pond East and South, which will ultimately be determined by City Council.

City of Wilsonville Income Distribution

This reference point offers one way of understanding what it would look like for this area to contribute proportionately to meeting overall housing needs for the city. However, this approach does not consider the specific types of housing needs that may best be met in the new growth area versus other areas of the city, and it does not account for changing demographic needs or needs that are not currently met in the city. The current distribution of Wilsonville households based on how their household income compares to the MFI for Clackamas County for a four-person household is shown in Exhibit 7.

Exhibit 7. Wilsonville Households by Percentage of MFI, 2021

Source: American Community Survey, 2019, 5-year estimates

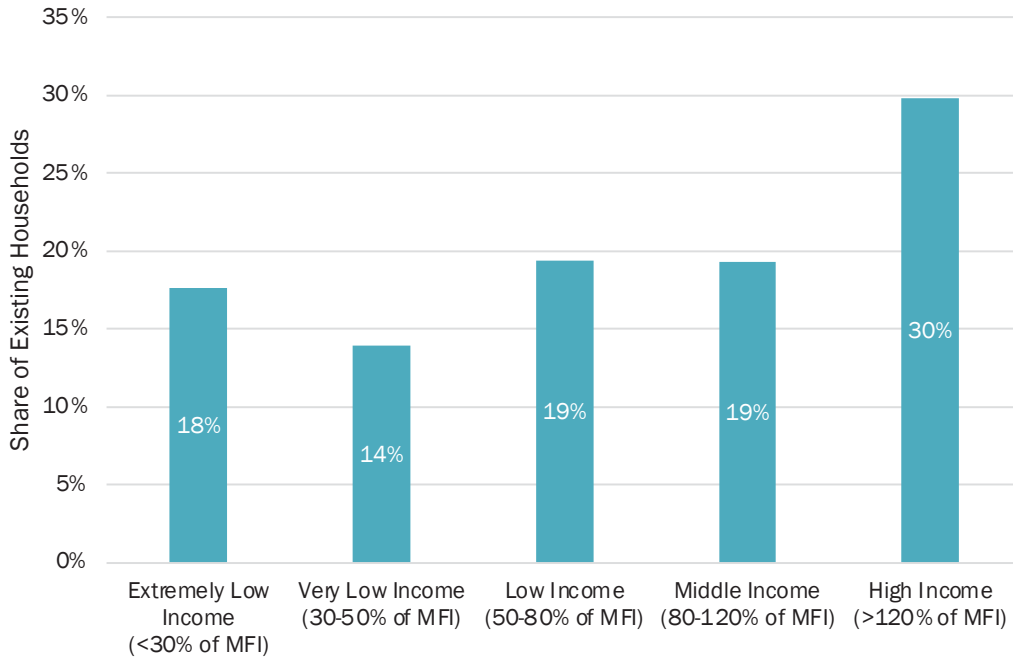


Regional Income Distribution

Looking at overall regional income distribution can be useful to highlight housing affordability levels and incomes that may be under-represented in Wilsonville compared to the region as a whole. It provides a sense of what mix of housing affordability levels would best meet the needs of people living in the region as a whole. The current distribution of households by income level in the three-county Portland region is shown in Exhibit 8. In the region overall, the share of middle-income residents is somewhat higher than in the city of Wilsonville, while the share of low-income residents is somewhat lower. The share of extremely low income and very low-income residents is similar in the City and in the region overall.

Exhibit 8. Portland Region Households by Percentage of MFI, 2021

Source: American Community Survey, 2019, 5-year estimates

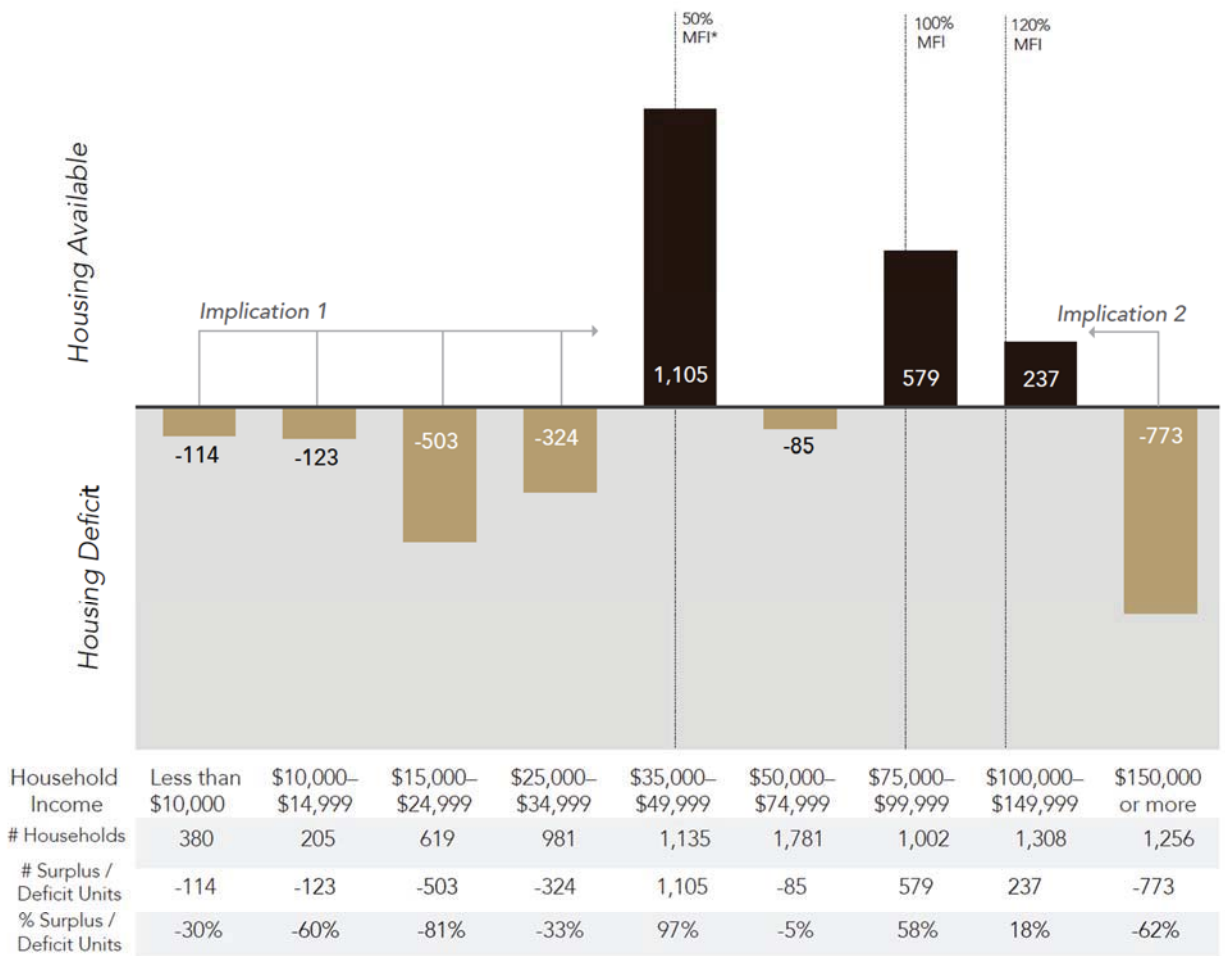


Current City and County Housing Gaps

Based on the most recent Housing Needs Analysis for the City of Wilsonville (which was done as part of a county-wide Housing Needs Analysis in 2018), there is a deficit of housing units for households earning less than \$35,000 per year, but also a deficit of high-amenity housing for households earning more than \$150,000 per year.

Exhibit 9: Affordable Housing Costs and Units by Income Level, Wilsonville, 2018

Source: Clackamas County Regional Housing Needs Analysis, page 281



*Median Family Income for a family of four

Implication 1

Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

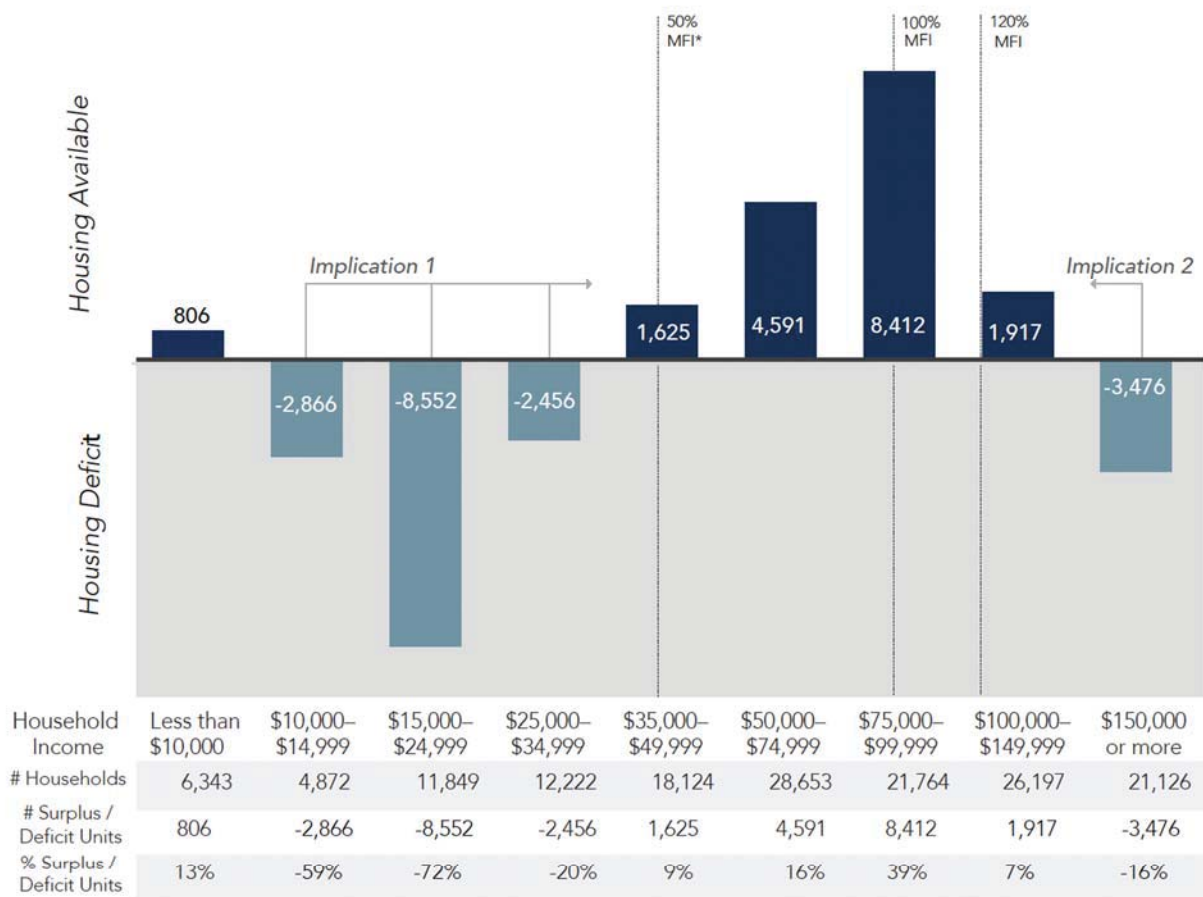
Implication 2

Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

The overall housing gaps for Clackamas County also show a deficit of housing for households earning less than \$35,000 per year and high-amenity housing for households earning \$150,000 or more.

Exhibit 10: Affordable Housing Costs and Units by Income Level, Clackamas County Overall, 2017

Source: Clackamas County Regional Housing Needs Analysis, page 74



*Median Family Income for a family of four

Implication 1

Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

Implication 2

Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

This reference point suggests a focus on expanding housing supply at the top and bottom of the income spectrum. Providing high-amenity housing for higher-income households can reduce upward pressure on prices for older homes that could be remodeled, while providing housing affordable to lower-income households can reduce cost-burdening and allow households more resources to meet their other needs and remain more stable in their housing.

Prior Area Plan Policy Direction & Existing Affordable Housing Tools

This reference point anticipates the outcomes that would be most likely for this area if the City maintains the policy direction from the Area Plan and does not implement any additional strategies to support affordable housing in this area. It provides a reference point for a policy baseline to see how much intervention may be required to achieve the City's equitable housing

goals in this area. The distribution of housing units by type / density established in the Frog Pond Area Plan is summarized in Exhibit 11 and Exhibit 12. As described in the Area Plan:

At the time of adoption there were two general proposals regarding residential land use in the East and South Neighborhoods. The first proposal was the Planning Commission-recommended option (Option G), with the condition to re-examine the R2.5 densities and commercial site location at a future date of master planning. The second proposal was that there should be a minimum lot size of 4,000 square feet. The Council considered these proposals carefully, along with all of the rationale, implications and issues. Working from the premises that: (1) both points of view should be honored and represented in the Plan; (2) many years will pass before final decisions need to be made; and (3) the range of housing choices and price ranges should increase in the future when these neighborhoods are developed – the Council struck a balance. The balance was to include both options in the Plan with a commitment to revisit the densities and commercial site in the future as part of master planning. An additional idea was added to consider, during Master Planning, neighborhood scale mixed use, where residential would be allowed over the retail in the commercial center.⁹

The primary difference for purposes of this document is that Option G included an allowance for attached / cottage single-family, with lots between 2,000 and 3,000 square feet. Neither option included an allowance for multifamily housing. As noted above, the City must provide for at least 1,325 units in this area (Option H would provide only 1,258) and must allow attached / cottage single-family and other middle housing types in any zone that allows single-family housing.¹⁰ Thus, ECONorthwest used Option G as a starting point for this scenario, since it aligns better with recent requirements.

⁹ Frog Pond Area Plan, A Concept Plan for Three New Neighborhoods in East Wilsonville, 2015, page 24.

¹⁰ While Option G did not assume that middle housing would be allowed throughout the East and South neighborhoods, the total percentage of middle housing and small lot detached housing, at roughly one third of all housing units, remains a reasonable estimate of the amount of middle housing and small-lot detached housing that the market might deliver in this area after accounting for HB 2001.

Exhibit 11. Land Use Metrics and Capacity "Option G"

Source: Frog Pond Area Plan, A Concept Plan for Three New Neighborhoods in East Wilsonville, 2015

Residential Designation	Average Lot Size (SF)	Max Units/ac net	East Neighborhood Units	South Neighborhood Units	East+ South Units	% of East + South Units
Future R-8 Single Family (7,000 - 9,000 SF)	8,000	5.40	120	28	148	11%
Future R-6 Single Family (5,000 - 7,000 SF)	6,000	7.30	125	162	287	22%
Future R-4 Single Family (3,000 - 5,000 SF)	4,000	10.90	165	286	451	34%
Future R-2.5 (2,000 - 3,000 SF)	2,500	17.40	436		436	33%
Total Units			846	476	1,322	100%

Exhibit 12. Land Use Metrics and Capacity ("Option H" - No R2.5 in East Neighborhood)

Source: Frog Pond Area Plan, A Concept Plan for Three New Neighborhoods in East Wilsonville, 2015

Residential Designation	Average Lot Size (SF)	Max Units/ac net	East Neighborhood Units	South Neighborhood Units	East+ South Units	% of East + South Units
Future R-8 Single Family (7,000 - 9,000 SF)	8,000	5.40	120	28	148	13%
Future R-6 Single Family (5,000 - 7,000 SF)	6,000	7.30	125	162	287	25%
Future R-4 Single Family (3,000 - 5,000 SF)	4,000	10.90	437	286	723	62%
Future R-2.5 (2,000 - 3,000 SF)	2,500	17.40				0%
Total Units			682	476	1,158	100%

To translate this housing mix into an expected distribution by income level, ECONorthwest used the expected pricing of market-rate housing by housing type summarized in Section 4:

- The Future R-2.5 units are assumed to be primarily middle housing similar to townhouses based on the density and housing types described for this zone. Given estimated pricing, these units would generally be affordable to households between 80% and 120% of MFI.
- Small-lot detached housing ranges slightly above and below 120% of MFI. Half of the R-4 housing units are assumed to be affordable at 80-120% of MFI, while the other half are assumed to be affordable to households at 120% or more of MFI.
- Medium- to large-lot single-family is affordable only above 120% of MFI. All of the R-6 and R-8 units plus half of the R-4 units are assumed to be affordable to households earning 120% or more of MFI.

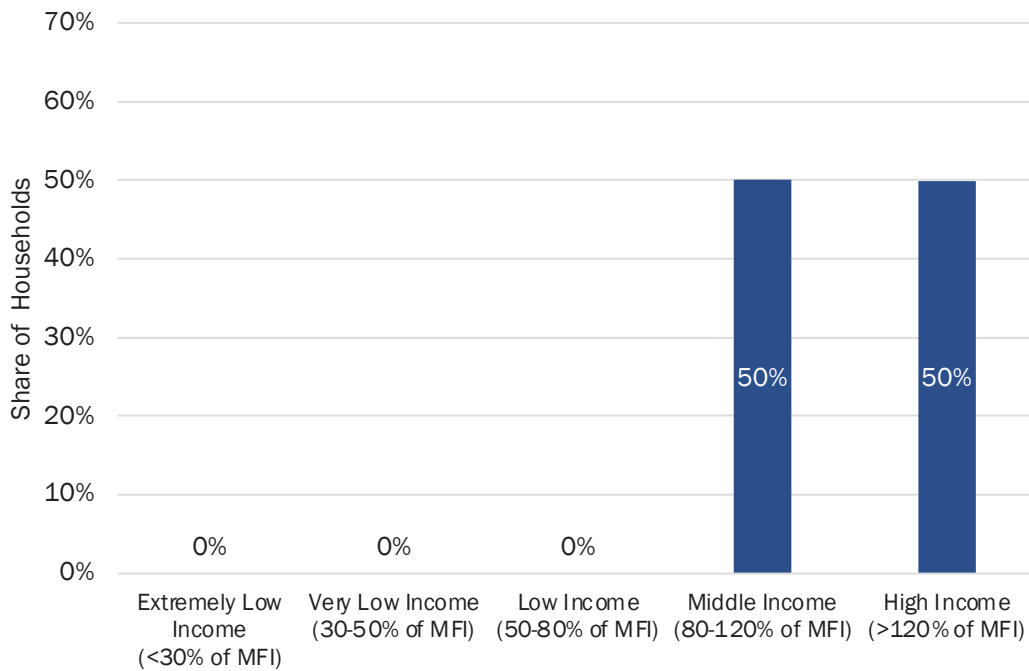
Because Option G did not include multifamily housing in the land use metrics, this reference point assumes that no regulated affordable rental housing or market-rate multifamily are built

in the area. While some affordable homeownership housing is possible under existing policy guidance, the City has no existing programs in place to support this, so the assumption is that this would not occur without additional support. These factors mean that the current policy guidance and existing programs would be unlikely to deliver housing to serve households earning less than 80% of MFI.

The expected distribution of housing by income level under existing policy is shown in Exhibit 13.

Exhibit 13: Expected Distribution of Housing by Affordability Level Under Existing Policy

Source: ECONorthwest calculations based on Frog Pond Area Plan Option G and market pricing



Proposed Affordable Housing Targets

The proposed affordable housing targets are intended to provide achievable goals for this area if the City addresses the constraints noted previously and implements a set of feasible strategies to support affordable housing. The types of strategies needed to meet these proposed targets are described in Section 6.

Given the context and the scale of the area, the City could target the following for publicly supported, income-restricted affordable housing development:

- One affordable multifamily rental development serving households earning up to 60% of MFI, or an average 60% of MFI, with income averaging that offers some units for households earning up to 80% of MFI. This would likely be between 120 and 180 units and roughly 30 units per acre based on typical development of this type, requiring four to six acres of land.

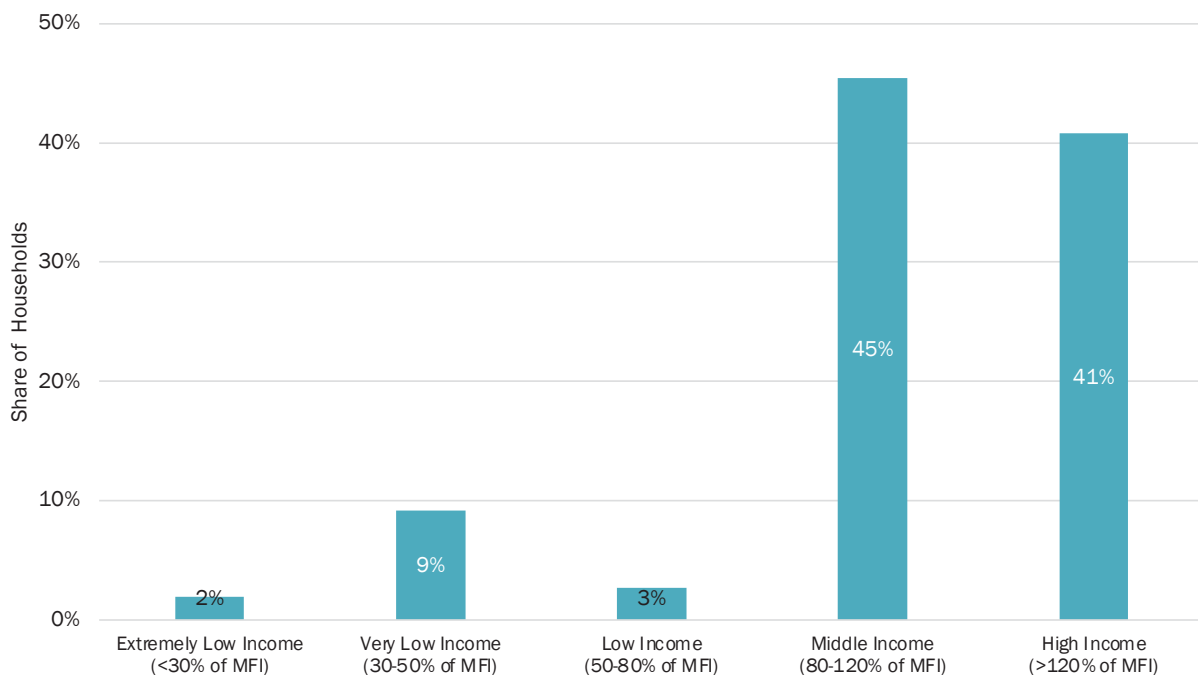
- One small cottage/tiny home/courtyard development for households earning less than 30% of MFI, low-income seniors, veterans, or people with disabilities. This could be between 5 and 50 units and might require between a quarter of an acre and two acres, depending on scale and design.
- One to two townhome or cottage cluster affordable homeownership developments for households earning 35% to 80% of MFI (e.g., Habitat for Humanity or Proud Ground). This could be between 10 and 40 units and might require between one and two acres, depending on scale and design.

In addition to these goals for income-restricted affordable housing, the City can target providing a mix of housing within the market rate development that offers roughly half of units that are likely to be affordable to households earning less than 120% of MFI. This could mean a similar mix of housing types as identified in Option G in the Area Plan (even if the locations for middle housing are no longer restricted), resulting in a roughly even split between housing for households earning 80% to 120% of MFI and households earning more than 120% of MFI for the market-rate for-sale housing. Allowing opportunities for some market-rate apartment development without ground floor commercial space to further expand the range of housing options for households earning less than 100% of MFI.

Error! Reference source not found. provides an illustrative example of the approximate distribution of housing by income level based on the ranges of units above and rough estimates of the amount of market-rate housing that could be built if the land above were dedicated to affordable housing. These estimates are preliminary and may be refined through the planning process.

Exhibit 14: Approximate Distribution of Housing by Income Level for Affordable Housing Target

Source: ECONorthwest

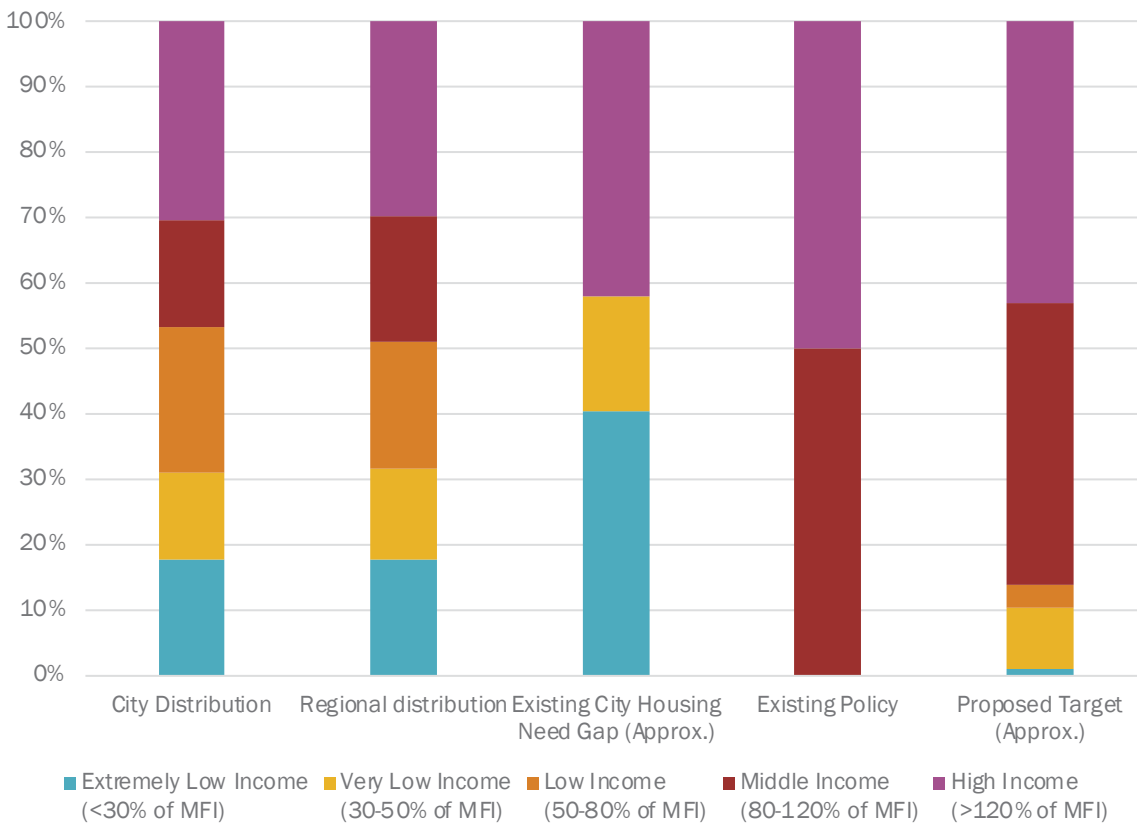


Comparison to Reference Points and Implications

Error! Reference source not found. summarizes the unit counts that would result from applying the distribution for each scenario to the 1,325 housing units required by Metro. (As noted previously, the total unit count may vary between the scenarios or be refined through the process of establishing land use scenarios—these unit counts are illustrative only at this stage.) Exhibit 15 illustrates the comparison between the scenarios in terms of the income distribution in each.

Exhibit 15: Distribution of Housing by Income Level for Housing Target Compared to Reference Points, Frog Pond East and South

Source: ECONorthwest



Implications:

- To reach the affordable housing policy directives from the Equitable Housing Strategic Plan with development in Frog Pond East and South the City will need to allow a full range of housing types and make investments to support affordable housing development.
- Even if the City does make changes to policy and takes action to dedicate funding to support affordable housing, the share of affordable housing is likely to fall short of meeting a proportionate share of overall housing needs at the City or regional level during initial build-out.

- Adding to housing supply across a range of affordability levels in Frog Pond East and South will help meet housing needs overall and would be a one step forward in a larger series of housing-related initiatives by the City, even if it does not match the overall distribution or address all the existing gaps for affordable housing.
- Middle housing and condominiums can offer homeownership opportunities to middle income households without public subsidy, making land use regulations and infrastructure funding decisions that affect the feasibility of multi-family and middle housing an important consideration for affordability.

Section 6. Affordable Housing Strategies

The City can support development of affordable and mixed-income housing in a number of ways. The EHSP lays out a range of strategies to advance the City’s equitable housing goals. The City will also be required to adopt a Housing Production Strategy (HPS) soon under recent changes to state rules, and will need to identify and prioritize strategies to support housing production across a range of housing needs. This section outlines the strategies that are likely to have the greatest impact for Frog Pond East and South, building on those in the EHSP.

- **Zone for All Housing Types:** Enable a full range of housing types in Frog Pond East and South, including multifamily, to expand first time homebuyer opportunities and to make it possible to build affordable rental housing using common sources of funding. Align zoning for multifamily with areas that are suitable for affordable housing. Flexibility needs to be in place to take advantage of affordable housing opportunities both now and during the longer-term build out of Frog Pond East and South.
- **Acquire Land for Affordable Housing:** Attempt to find willing sellers for suitable properties for affordable housing within Frog Pond East and/or South, to ensure an opportunity to build affordable housing in the area. This would likely require funding, particularly if the City intends to offer the land for affordable housing development for little or no cost to make affordable housing development more viable. However, the City could consider asking the current owner to ground lease the property to the City and have the development pay for it in future, or seek an option on a property rather than acquiring it outright. It would also require staff time to manage the property owner negotiations and (if successful), the land disposition process (e.g., a Request for Proposals for development). With private developers also seeking to secure land or options to purchase property, the sooner the City acts, the better its chances. The City should prioritize sites that meet the following criteria:
 - Close proximity to existing transit (e.g., the stop at Meridian Creek Middle School), or near an area that has a high probability of future transit service upon development.
 - Close proximity to parks, schools, future commercial areas, and other amenities.

- Sites that are between four and six acres of buildable land if targeting affordable rental housing; smaller sites (e.g., half-acre to two acres) for homeownership housing.
- Sites without major development constraints or especially costly infrastructure needs. Sites should not be in the floodplain.
- **Partner with a Community Land Trust:** A community land trust (CLT) such as Proud Ground could help deliver affordable homeownership housing in Frog Pond East and South. If the City is unable to secure land for affordable housing, it could explore other ways to support a CLT in building affordable homes, such as direct subsidy (e.g., using Metro Bond money), SDC waivers, or tax abatements (see further discussion below).
- **Waive, Reduce, or Defer SDCs for Affordable Units:** The cost of SDCs and other infrastructure costs for greenfield development can become prohibitive for affordable housing. Options to reduce SDC cost impacts on affordable housing will be addressed as part of the infrastructure funding plan for Frog Pond East and South to ensure that overall infrastructure needs can be met. Waiving SDCs entirely for income-restricted affordable housing has the greatest impact, but reductions and deferral can also help reduce the funding gap for affordable housing. This requires engagement with other infrastructure providers.
- **Incentivize Smaller and Lower-Cost Middle Housing:** Middle housing will be allowed broadly in Frog Pond East and South, and some developers have expressed interest in middle housing development in the area. Because middle housing generally offers lower price-points than single-family detached housing, it offers middle-income housing options and potential for lower-cost homeownership. There are several incentives that could be effective tools to support middle housing development that is affordable to middle-income households:
 - The Multiple Unit Property Tax Exemption (MUPTE) is a flexible program that can be used to incent multiple-unit rental housing with particular features or at particular price points by offering qualifying developments a partial property tax exemption for 10 years. The City could offer MUPTE for middle housing rental developments with small units that are more likely to be affordable. (The City could also choose to offer MUPTE only in exchange for income and rent restrictions, but would need to be able to monitor compliance with these restrictions over the 10-year abatement period.) This program requires support from overlapping taxing districts.
 - The Homebuyer Opportunity Limited Tax Exemption (HOLTE) program allows cities to offer a 10-year partial property tax exemption on for-sale properties valued at no more than 120% of the median sales price that meet any additional city-imposed income and owner-occupancy requirements. Portland has paired it with an SDC exemption to incentivize new moderately-priced for-sale housing. This program requires support from overlapping taxing districts.
 - SDCs that scale with unit size can also incentivize smaller, lower-cost middle housing units by right-sizing fees to the impacts of different housing types and sizes.

This will be considered through the infrastructure funding plan and requires engagement with other infrastructure providers.

- The City could consider allowing small “multiplex” development (e.g., 6-12 units) on sites that would allow a fourplex under new middle housing rules, if the units are under a certain size limit so that the overall volume of the building is still similar to a fourplex.
- **Reduce Multifamily Parking Requirements:** If the City adopts zoning for Frog Pond East and South that allows multifamily development in portions of the area, it should also evaluate reducing parking requirements for multifamily. (This could be done citywide or applied only within the Frog Pond East and South areas.) Currently, at least one space per unit is required, even for units less than 500 sq. ft.; most units require 1.25 to 1.75 spaces per unit. If parking requirements exceed what is needed to serve affordable housing, this adds cost to build spaces that do not generate revenue and reduces the number of units that fit on site. If land and funding are available for affordable housing, reducing parking requirements can ensure that it can be built efficiently and optimize the amount of housing on the site.
- **Incentivize Housing with Accessible or Visitable Units:** With substantial new housing construction coming for Frog Pond East and South, the City can encourage units designed to be accessible or visitable to better meet the needs of individuals with mobility limitations in the community. The City can apply some of the same incentives noted above to apply to accessible or visitable units, such as tax abatements, SDC reductions, or allowances to build additional units.

Section 7. Conclusions and Next Steps

If the City does not take further action to support affordable housing and does not change course from prior policy direction on housing types for Frog Pond East and South, there will be few opportunities for affordable housing and little chance that it will get built. If the City allows a full range of housing types and implements additional affordable housing strategies, particularly related to proactive land acquisition, the chances for affordable housing increase substantially. Financial and regulatory incentives could also encourage developers to build smaller, lower-cost housing units with or without income restrictions, or to build units that are accessible or visitable for residents with mobility limitations. These strategies align with those outlined in the EHSP and provide input to a future HPS.

While meeting a proportionate share of citywide or regional housing needs by income may not be possible for greenfield development, there are important opportunities for affordable homeownership and expanding housing options across a range of incomes and housing needs. The proposed housing targets include a mix of market-rate housing at typical price-points and a few affordable housing developments of various scales and forms. These targets are intended to be achievable with implementation of the recommended housing strategies. This area can play an important role in a broader citywide effort to provide needed housing. Additional work will

be needed to meet housing needs in other parts of the City that cannot feasibly be met in this greenfield area.

Next steps within this process include identifying specific properties that could help meet affordable housing targets; evaluating relationships to the infrastructure funding plan of potential SDC reductions or waivers; engaging affordable housing developers and other stakeholders to refine strategies; and subsequent work to learn more about community perspectives/preferences, which could lead to refinements in the targets and strategies laid out in this document.

DATE: January 31, 2022
TO: Dan Pauly, Kim Rybold, City of Wilsonville
FROM: Becky Hewitt, Kaitlin La Bonte, Ariel Kane ECONorthwest
SUBJECT: Frog Pond East and South Accessory Dwelling Units Memorandum

Section 1. Introduction

Accessory Dwelling Units (ADUs) offer an opportunity to seamlessly integrate additional, smaller units within neighborhoods while staying with traditional single-family development and financing models. There are many reasons why people may be interested in building or living in ADUs. For residents, ADUs tend to be a more affordable flexible housing option. For homeowners, ADUs provide opportunities to house family members or earn additional income. As ADUs grow in popularity and recognition, many jurisdictions are considering ways to encourage ADU development.

In bringing the Frog Pond East and South areas into the Urban Growth Boundary (UGB), Metro required that the city explore ways to encourage the construction of ADUs in the expansion area. In Frog Pond East and South, the challenges to encouraging ADU development are different from infill development scenarios. Strategies to promote ADU development in an infill context typically focus on facilitating development for homeowners. In a greenfield development context such as Frog Pond, the City's strategies should focus on ways to influence homebuilders' floorplans to encourage building ADUs at the time of construction or encouraging home and lot designs that provide opportunities for ADU additions later.

This memorandum is intended to assist the City of Wilsonville in planning for residential development in Frog Pond East and South in a way that would be supportive of ADU development in the planning area's residential neighborhoods. Using available survey data and stakeholder interviews, this memorandum provides some insight into the likely demand and market for ADUs in the region and describes ways to City could facilitate ADU development as the planning area is built out.

Section 2. Who do ADUs serve?

Who wants ADUs and why?

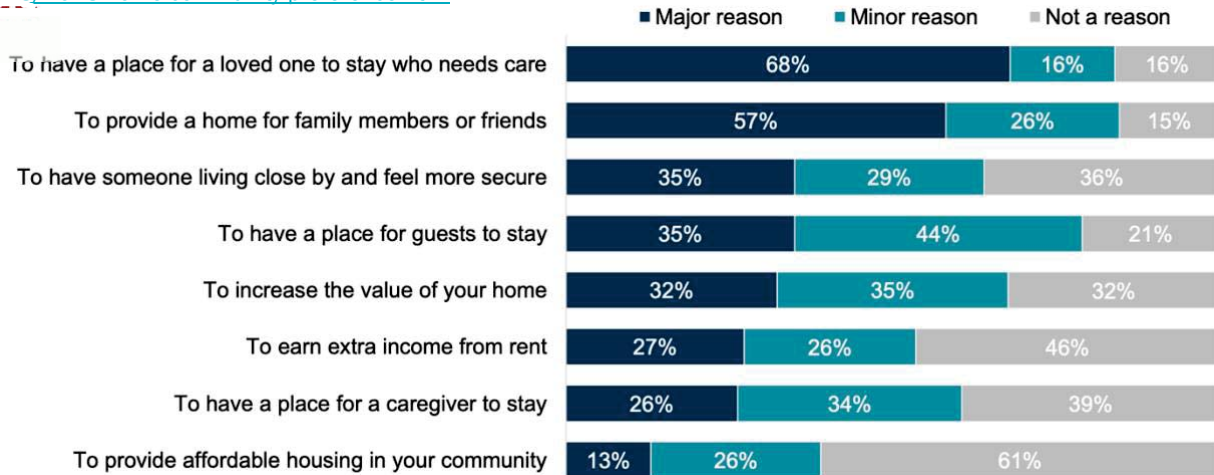
A 2018 American Association of Retired Persons (AARP) Home and Community Preferences Survey¹ found that 33% of adults aged 18 and older who did not have an ADU on their property would consider adding an ADU (27% unsure). As shown in Exhibit 1, of those who would consider adding an ADU, having a place for a loved one to stay who needs care was a major

¹ This survey was conducted by NORC at the University of Chicago with funding from AARP in March and April 2018. 2,287 participants completed the survey, the final total of the national sample was 1,947.

reason for 68% of respondents; providing a home for family members or friends was a major reason for 57%.

Exhibit 1. Major Reasons for Considering Building an ADU

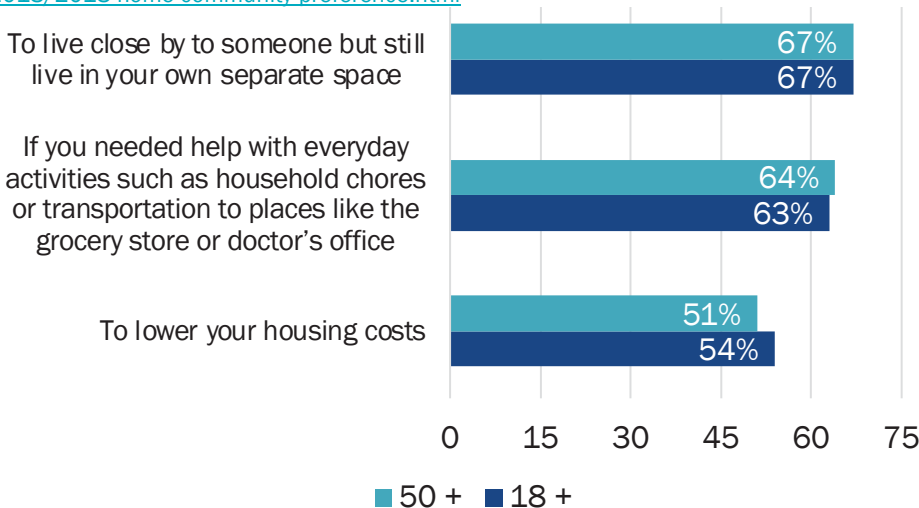
Source: 2018 AARP Home and Community Preferences Survey, www.aarp.org/research/topics/community/info-2018/2018-home-community-preference.html



Out of the adults surveyed, 67% said they would consider living in an ADU to live close to someone but still have their own space, 63% said they would consider it if they needed help with everyday activities, and 54% said they could consider it to lower their housing costs. This is shown in Exhibit 2.

Exhibit 2. Top Three Reasons for Considering Living in an ADU by Age Group

Source: 2018 AARP Home and Community Preferences Survey, www.aarp.org/research/topics/community/info-2018/2018-home-community-preference.html

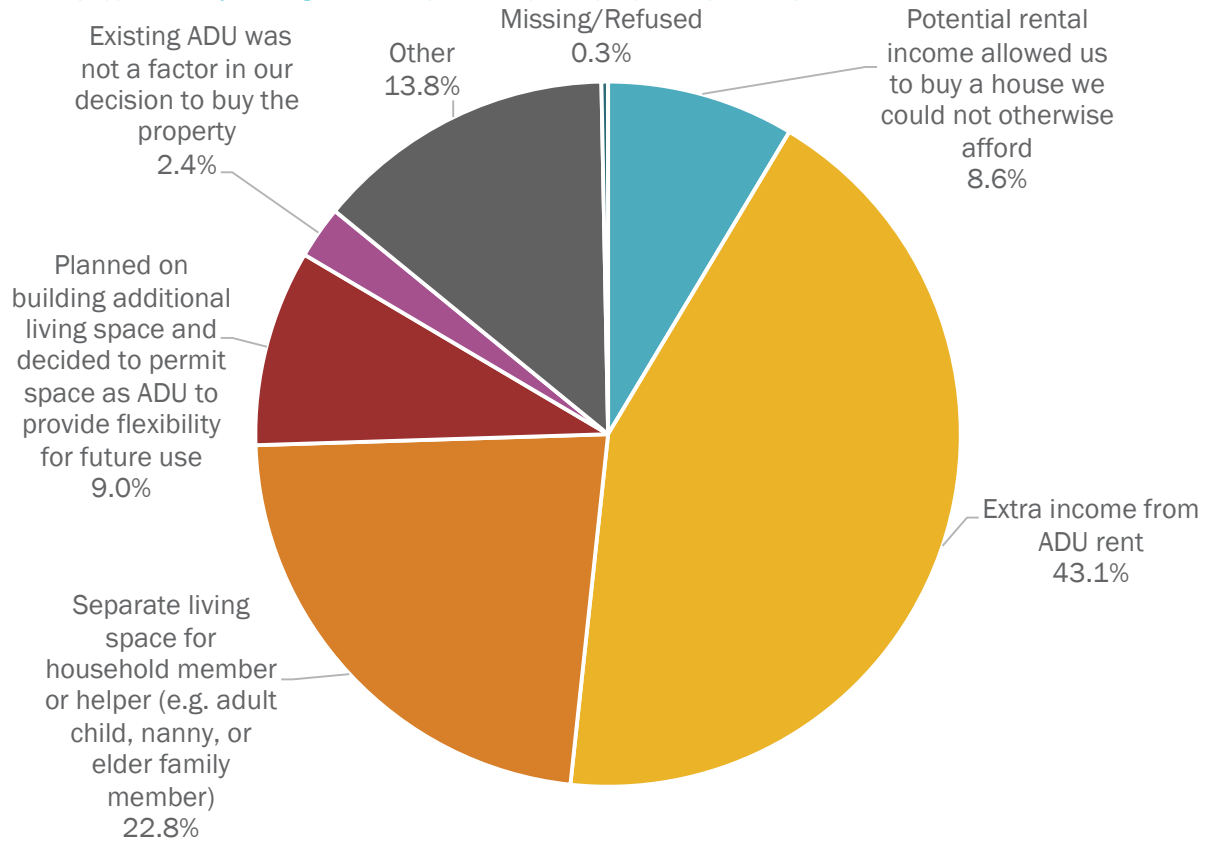


In a 2013 survey of Portland, Eugene, and Ashland homeowners with existing ADUs, 43% of Portland respondents said that the extra income from ADU rent was a primary reason for

building an ADU or for purchasing a property with an existing ADU. Other reasons are shown in Exhibit 3.

Exhibit 3. Portland Homeowners primary reason for building an ADU or purchasing the property with an existing ADU.

Source: Accessory Dwelling Unit Survey for Portland, Eugene, and Ashland, Oregon Final Methodology and Data Report, 2013 <https://accessorydwellings.files.wordpress.com/2013/10/adureportfrev.pdf>



What might an ADU rent for in Frog Pond East and South?

In the 2013 survey of Portland property owners with ADUs, the mean rental income received was between \$811 and \$880 (Exhibit 4). While these rents are now well out of date, the range of rents is worth noting: from as little as \$385 per month, to as much as \$1,800 per month.

Exhibit 4. Portland Rent Received Monthly for ADU, 2013

Source: Accessory Dwelling Unit Survey for Portland, Eugene, and Ashland, Oregon Final Methodology and Data Report, 2013 <https://accessorydwellings.files.wordpress.com/2013/10/adureportfrev.pdf>

	N	Minimum	Maximum	Mean	Std. Deviation
How much rent do you receive monthly for your ADU?	143	\$385	\$1,800	\$880.20	\$239.42
If rent includes utilities, how much is the rent without utilities?	78	\$200	\$1,700	\$811.85	\$248.09

Based on analysis of recent ADU listings in Portland, Milwaukie, Canby, Oregon City, Beaverton and Hillsboro, ADU rents were generally between \$1,050 and \$2,000 per month. Rents varied by structure type, number of bedrooms and unit size, with the average rent overall being \$1,540. Detached ADUs tended to have higher rents, with smaller footprints. Basement ADU rents tended to be lower, at an average of \$1,275 (see Exhibit 5).

Exhibit 5. ADU Rents in Portland Metro Area by Structure and Bedroom

Source: ECONorthwest Analysis of Craigslist, Apartments.com data, 2021

Structure	Bedrooms	Most rent for	Average Rent	Most units are
Attached	Studio	\$1,475	\$1,475	500 SF
	1 Bedroom	\$1,450 - \$1,625	\$1,540	650 - 800 SF
	2 Bedrooms	\$1,595	\$1,595	610 SF
	Overall	\$1,450 - \$1,625	\$1,540	500 - 800 SF
Basement	Studio	\$1,350 - \$1,450	\$1,400	500 - 750 SF
	1 Bedroom	\$1,050 - \$1,250	\$1,150	500 - 1,500 SF
	Overall	\$1,050 - \$1,400	\$1,275	500 - 1,500 SF
Detached	Studio	\$1,450	\$1,450	450 SF
	2 Bedrooms	\$1,500 - \$2,000	\$1,700	750 - 950 SF
	Overall	\$1,450 - \$2,000	\$1,650	500 - 950 SF
Overall	Studio	\$1,350 - \$1,475	\$1,430	500 - 600 SF
	1 Bedroom	\$1,050 - \$1,625	\$1,350	350 - 800 SF
	2 Bedrooms	\$1,500 - \$2,000	\$1,690	600 - 750 SF
	Overall	\$1,050 - \$2,000	\$1,540	500 - 1,000 SF

Overall, while the variability is high due to a small set of observations spread across a wide area in many different forms and ages of homes, this suggests that ADU rents might be similar to rents for newer market-rate apartments.

What might an ADU sell for in Frog Pond East and South?

Some ADUs are sold separately from the main home as condominiums rather than being rented out or managed by the owner of the main home. These sales transactions are difficult to isolate, and there are no known examples in Wilsonville or surrounding areas. Examples of new construction small, detached condominium units in Portland have mostly sold for \$300,000 to

\$400,000—roughly 60-70% of the sale price of the main house on the same lot where both were new construction. Given this pattern and the estimated sale prices for new homes in the Frog Pond area with larger lots generally being between \$600,000 and \$800,000, the price range for ADUs in the Frog Pond area may be similar to that seen in Portland. This is also similar to the pricing for newer two- to three-bedroom condominium units in Wilsonville.

Section 3. Opportunities and Barriers for ADU development

Regulatory Barriers

The City of Wilsonville recently updated its ADU regulations to comply with state and regional requirements. ECONorthwest reviewed the current regulations to identify any requirements that could still create challenges for ADU construction in Frog Pond East and South. The primary code standards identified as potential obstacles included:

- Lot coverage and setback standards in several existing residential zones may limit the ability to build detached ADUs.
- ADUs are not allowed for townhouses (unless those townhouses meet the single-family minimum lot size). Some developers have created floor plans for townhouses with ADUs that can be sold separately and some with a flexible ground-floor space with separate entrance that can either be used as a home office or an ADU. This model is not currently allowed in Wilsonville, but could be appropriate for portions of Frog Pond East and South.

Exhibit 6: Example of townhouse with ADU / ground floor flexible space

Source: Redfin.com



Financial and Other Factors

ECONorthwest interviewed several homebuilders who are likely to develop portions of Frog Pond East and South when master planning is complete. Some indicated interest in building ADUs. They noted several factors that will influence their decision-making about whether or not to include ADUs in their floor plans:

- When building detached ADUs with single-family homes, this can require a larger lot and push the price-point for the home above what most households can afford. (Providing flexibility for ADUs on lot coverage and setback standards could help address this concern to some extent.)
- Being able to sell the ADU separately helps keep the cost down for both units. One developer's model has been to sell all units with a three-year owner occupancy requirement, including the ADUs, to ensure that they are not used as investment properties. (Another Metro requirement for Frog Pond East and South is that the City ensure that any future homeowners associations will not require owner occupancy of homes that have accessory dwelling units. This could preclude this aspect of the model, and may, ironically, discourage building ADUs for some builders.)
- Local fees are an important factor in whether developers will build ADUs. (Wilsonville does not charge SDCs for ADUs.)

Section 4. ADU Strategies

Regulatory strategies:

- Providing greater flexibility on lot coverage and setbacks for detached ADUs could make it easier to add them to a lot with less effect on the size or location of the main home.
- Allowing ADUs with townhouses (regardless of lot size) in areas where higher density is appropriate could expand opportunities to add ADUs.
- Wilsonville already allows land divisions for ADUs to be sold on a separate lot from the main home, which is mostly applicable to detached ADUs, but could be an incentive for homebuilders along with the lack of SDC fees.
- Allowing larger ADUs (the current limit is 800 square feet) could make the existing financial and regulatory incentives stronger, but would also make them even more similar to two-unit cluster housing, which is also allowed.

Financial strategies:

- The primary financial incentive that has been used to encourage ADU production is waiver of SDCs. As noted above, Wilsonville already has this option in place, and has for many years.

- Establishing a set of pre-approved building plans for homes and townhouses with ADUs, or other similar measures to streamline the review process for development, could make some difference to homebuilders. However, with a greenfield development, there are many other review and permitting processes that will tend to take longer than the building permit review, meaning that streamlining one part of the process is likely to have a minimal impact.
- A marketing approach in which the City would help direct media attention to new homes built with ADUs could provide some incentive for builders, who would benefit from the free publicity, though the City would have to approach this carefully to avoid the appearance of bias towards a particular developer.

Section 5. Conclusions and Next Steps

ADUs in Frog Pond East and South could provide additional options for small rental and/or for-sale units at price-points similar to multifamily housing but at a neighborhood scale. This makes them an important part of the mix in this area, particularly if opportunities for multifamily development in the area are limited. Past surveys suggest that people value ADUs for intergenerational households, flexible space for guests or family members, and for rental income that can help them afford their own housing costs. These factors primarily apply when ADUs are owned along with the main home and managed by the homeowner, but this may or may not be the case when ADUs can also be sold as separate units. Subsequent additional outreach will gather additional information about community perspectives and preferences which could also influence the City's approach to ADUs.

Frog Pond East and South's greenfield context means that encouraging ADU construction in Frog Pond East and South will require influencing large professional homebuilders rather than individual homeowners. The City already has many important incentives in place, including exempting ADUs from SDCs and allowing land divisions to split them from the main house. While the City has seen little ADU production, this may be a factor of private restrictions that prohibit ADUs in some areas of Wilsonville. These restrictions are no longer allowed, and will not constrain ADUs in Frog Pond East and South.

Removing subtler regulatory obstacles including lot coverage, setbacks, and allowing ADUs with townhouses could help address some of the considerations that homebuilders noted would affect their interest in developing homes with ADUs. Metro's requirement that the City prevent homeowners' associations from requiring owner occupancy for units with ADUs could inadvertently serve as a deterrent to one model of building homes with ADUs that is intended to prevent the homes from becoming investor properties. The City may want to explore with Metro whether this condition could be modified to allow a temporary restriction to owner occupancy for a certain period after initial construction.

Neighborhood Commercial Evaluation Initial Feedback Frog Pond East & South



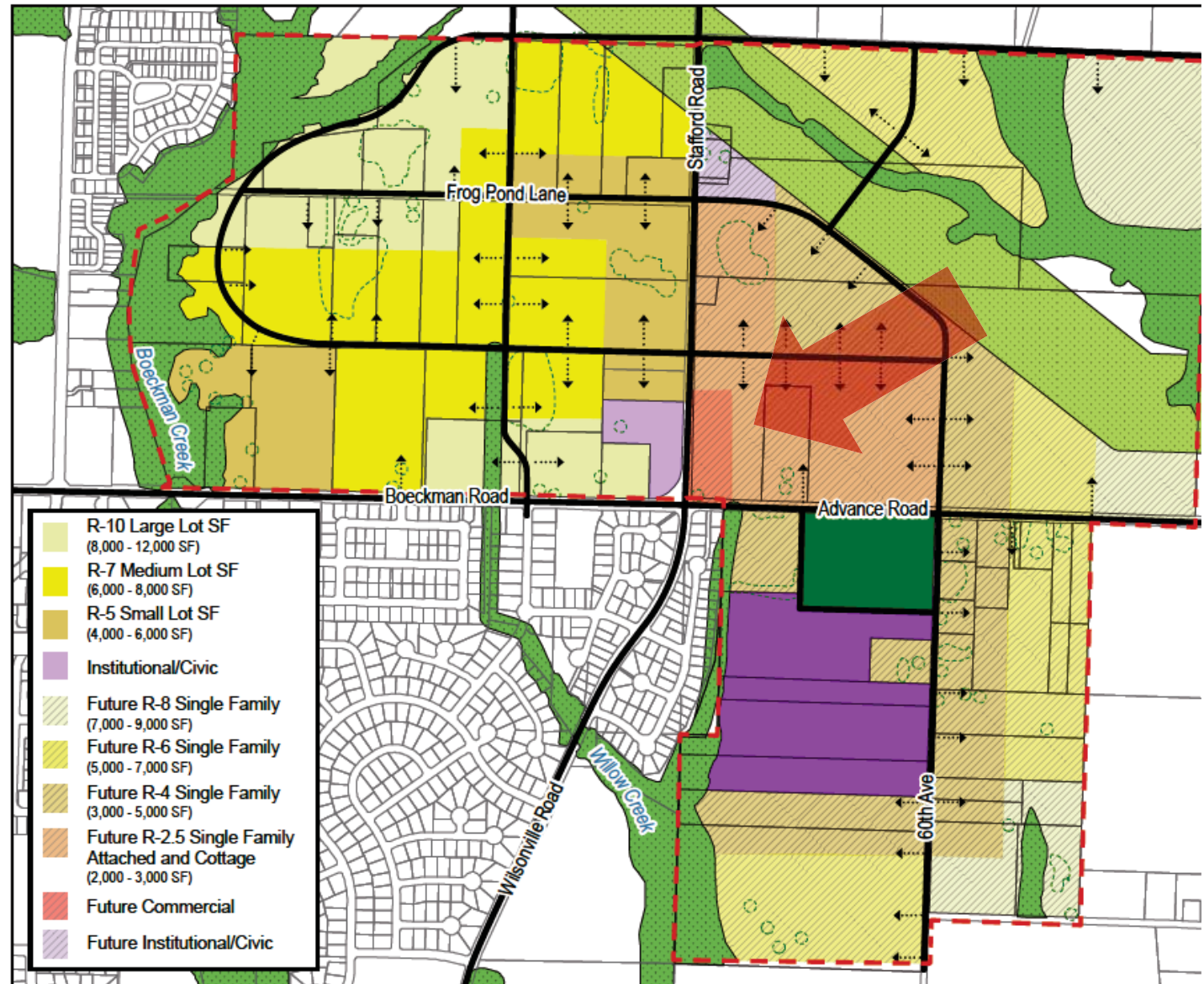
JANUARY 2022

Overview

- Refresher of Previous Plan/Commercial Analysis
- Overview of the Intended Analysis
- Questions to get early feedback

Land Use Framework Map

- **Size:** 3.5-acre site
- **Location:** Stafford-Wilsonville-Boeckman-Advance Road intersection (not final)
- **Vision:** A place that provides **local goods and services** within easy access of local neighborhoods, has a **high quality and pedestrian-oriented design**, and serves as a **gathering place** for the community.



Previous Program & Location

Based on previous research, a 3.5-acre center in the plan could accommodate **~38,000 square feet of retail, small office, and neighborhood services** such as a day care center.

While LCG suggested a location of the neighborhood commercial site, full consensus was never achieved.

LCG will further evaluate the program and location in this master planning project.

Overview of the Intended Analysis

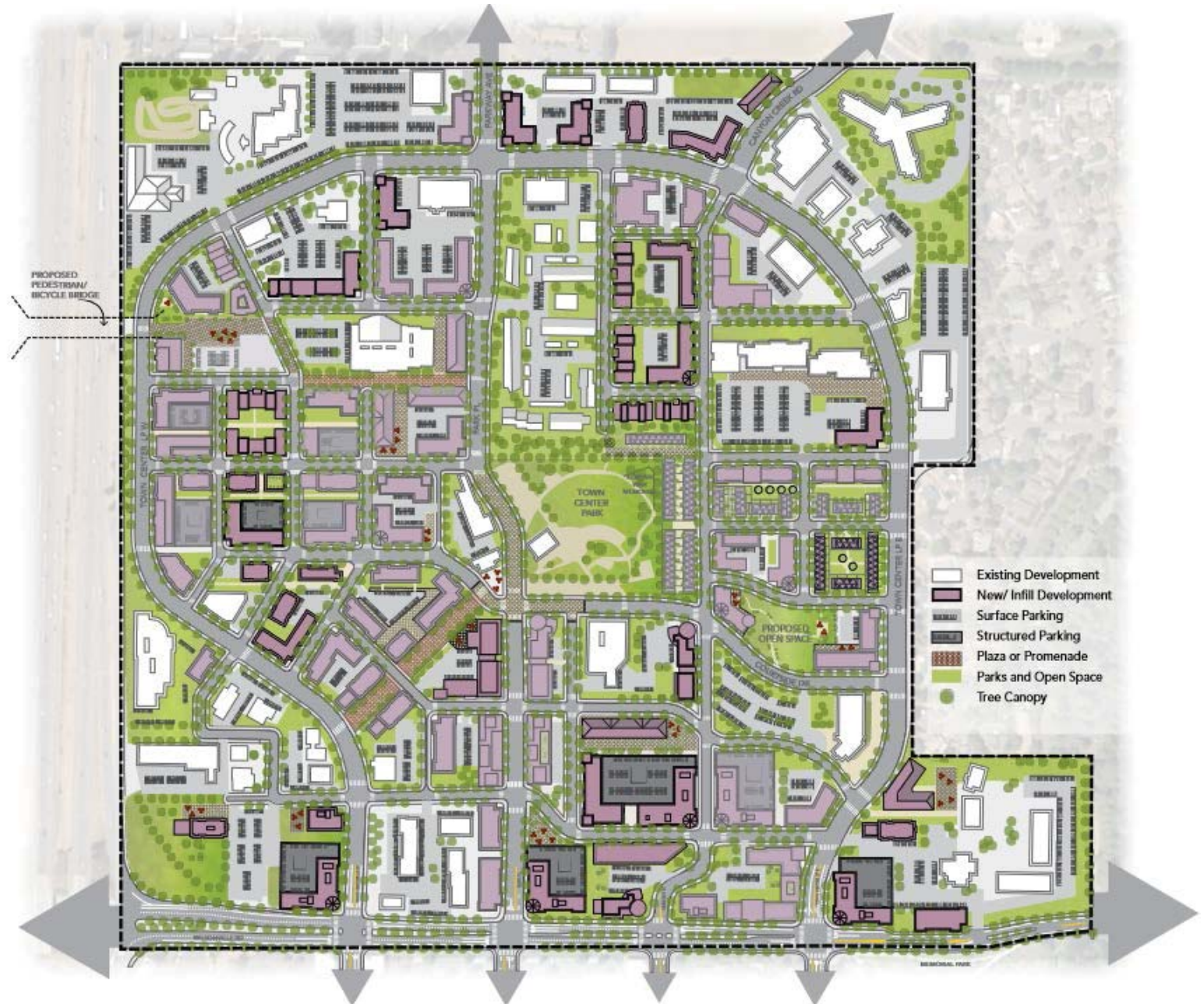
- Review recent commercial market studies and document market trends
- Interview retail developers and/or brokers.
- Analyze the commercial development market, including commercial supply and demand.
- Determine any unmet community needs.
- Detail opportunities by commercial tenant type, square footage, acreage, parking demands, etc.

Retail Trends and Shifting Consumer Behavior

- Era of **unpredictability** and risk
- **Growing ecommerce** market share, “Click and Collect”
- **Experience!**
- **Demand for convenience, walkability, 20-minute neighborhoods**
- **Pandemic as the “great retail reset”**
- **More diverse and compelling tenant mixes**
- **Health-based commercial growth**

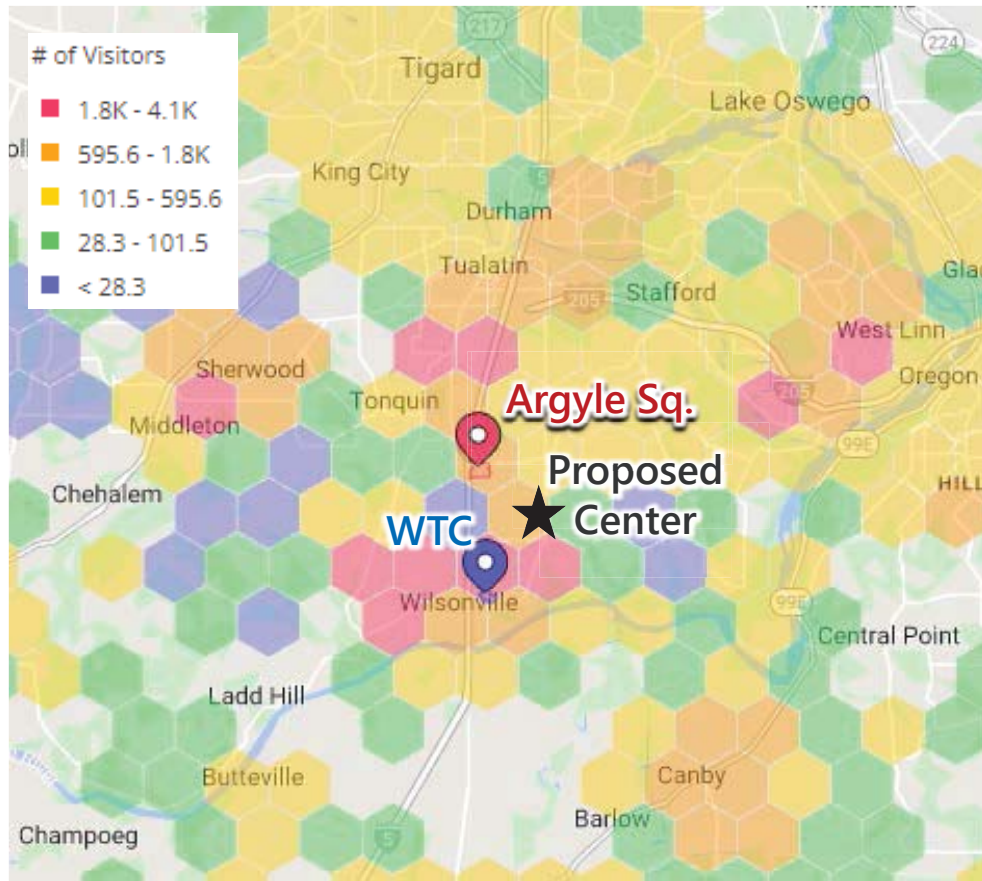
Retail Supply/Competition

e.g., Wilsonville
Town Center

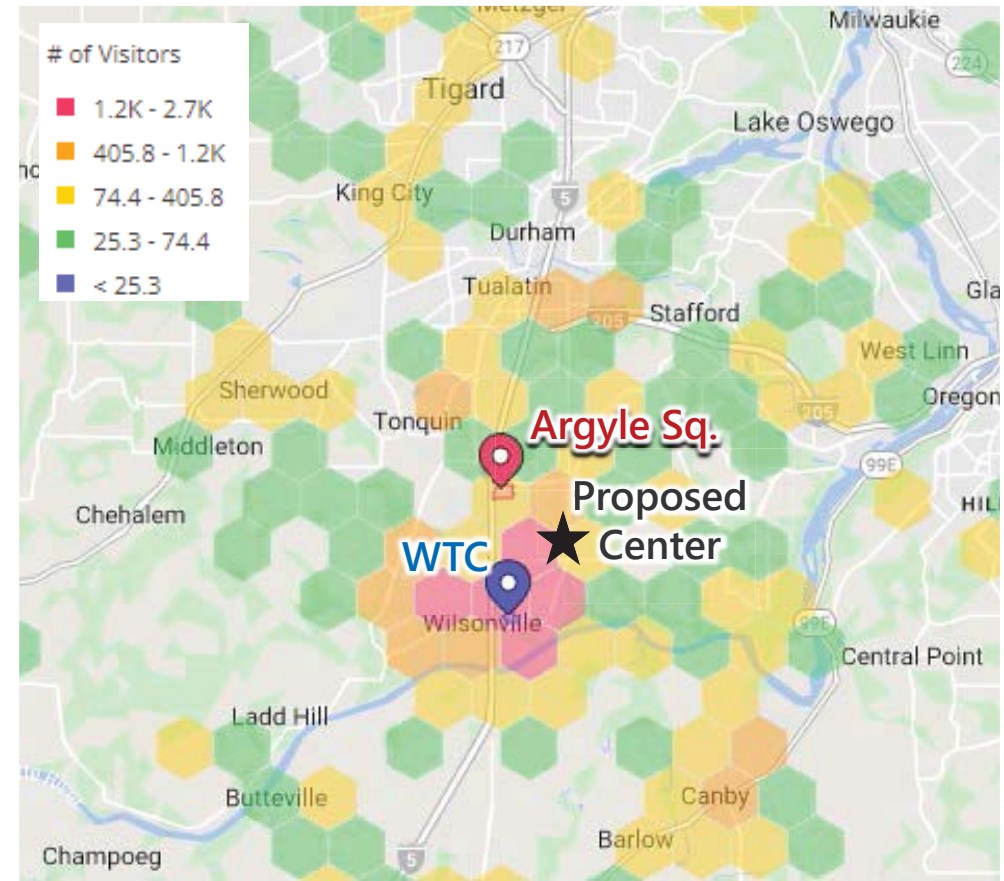


Nearby Centers Meet Current Demand for Large-Format Retail...

Argyle Square (Costco, etc.) Trade Area



Wilsonville Town Center Trade Area



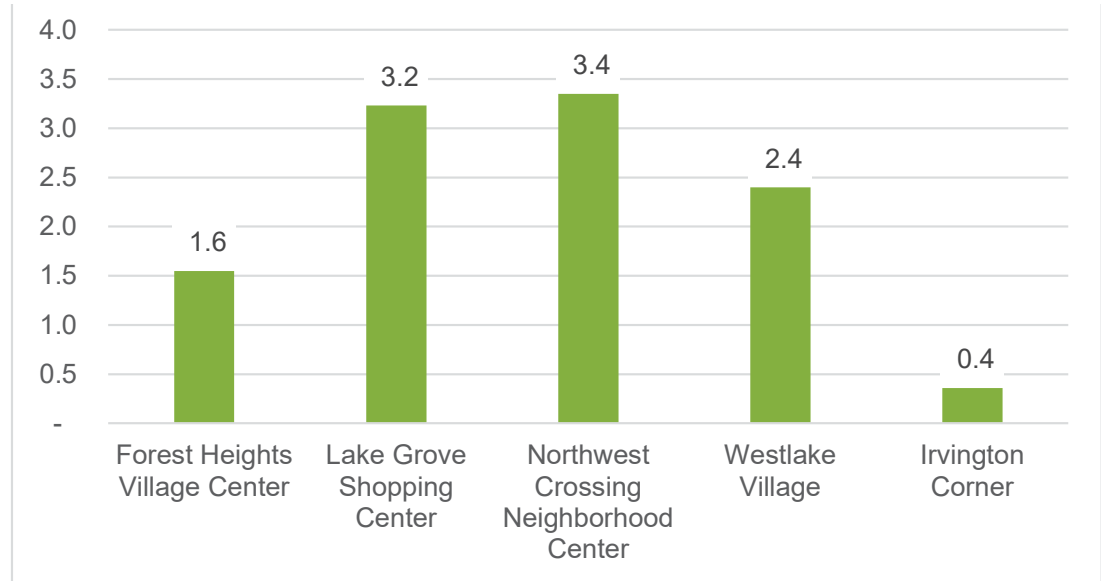
Case Studies of Neighborhood Retail Nodes

Forest Heights Village Center

1.6-acre unanchored strip center

Restaurants, convenience store, service businesses

Surrounded by condominiums



Other Case Studies...

Village on Scholls Ferry

- Unanchored / Freestanding commercial
- 32,000 SF
- 2.9 acres
- Tenants include restaurants, health care/fitness, white collar/office, salon



Other Case Studies...

Witch Hazel Village, Hillsboro

Commercial/
Town Center,
unbuilt

~5 acres

2004 Plan



Questions

- Has the overall vision for the commercial area changed since 2015?
 - E.g., relationship of Frog Pond to the commercial area
- The location at the corner of Advance and Stafford is not set. What should be considered in determining location?
- Is there anything else you want us to look at?
 - E.g., role of mixed-use and housing in the center, additional case studies to explore, etc.

Frog Pond East and South Master Plan

City Council Work Session
March 7, 2022



Agenda for Tonight's Work Session

- Affordable Housing (primary focus)
- Neighborhood Commercial Center Evaluation (introduction)



Affordable Housing



Affordable Housing Targets for Frog Pond East and South

- Equitable Housing Strategic Plan Action
- “Reasonably Achievable”
- Affordable Housing Analysis important tool for setting target
- Frog Pond East and South target part of multi-pronged approach



Affordable Housing Targets for Less Than 80% MFI

Balancing Ownership and Rental Opportunities

- Greater funding opportunities for affordable rental housing
- Significant barriers to affordable and lower-cost ownership opportunities
 - Qualifying for mortgages
 - Legal risks for condos and financing challenges for co-op housing
- Balance short-term projects with long-term possibilities



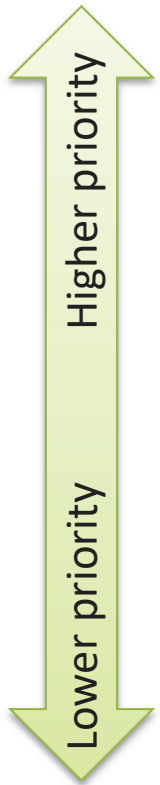
Proposed Housing Targets for Frog Pond East and South: Government-Supported Housing

Target # of Developments	Housing Type	Population Served	Approx. Scale and Land Needs
1	Multifamily	HH earning <60% of MFI* (rental)	120-180 units 4-6 acres
1	Cottage cluster	HH earning <30% of MFI, low-income seniors, veterans, or people with disabilities (rental)	5-50 units 0.25-2 acres
1-2	Townhomes or cottage cluster	First-time homeowners earning <80% of MFI	10-40 units 1-2 acres

* Or households earning up to 80% of MFI where the average income for the development is less than 60% of MFI, as allowed under HUD income-averaging provisions.



Hitting the Targets: Affordable Housing Strategies



- Zone for all housing types
- Acquire land for affordable housing
- Waive, reduce, or defer SDCs for income-restricted affordable units
- Partner with a community land trust
- Incentivize smaller and lower-cost middle housing
- Encourage builders to include ADUs
- Incentivize housing with accessible or visitable units
- Reduce multifamily parking requirements



Planning Commission Feedback

- Target assertive and “reasonably achievable”
- Land cost a key consideration
- Concerted City effort needed to meet target
- Desire for mixed-income neighborhoods
- Multi-family rental housing is necessary Support for list of strategies



Questions/Discussion

- Affordable housing targets
 - Right direction? Reasonably achievable?
 - Appropriate balance of ownership & rental opportunities?
- Affordable housing strategies
 - Support pursuing these strategies?
 - Guidance for further refinements?



Encouraging ADUs

- Existing measures supporting ADUs:
 - No SDCs on ADUs
 - ADUs can be sold separately from main house (own lot)
- Potential changes to regulations:
 - Additional flexibility and exemptions to lot coverage and/or setbacks for ADUs
 - Allow ADUs with townhouses regardless of lot size*
 - Allow larger ADUs to provide more options for developers

* Currently the City code only allows ADUs with townhouses if the townhouse lot meets the minimum lot size for detached single-family units in the zone.



Neighborhood Commercial Center Evaluation (introduction)



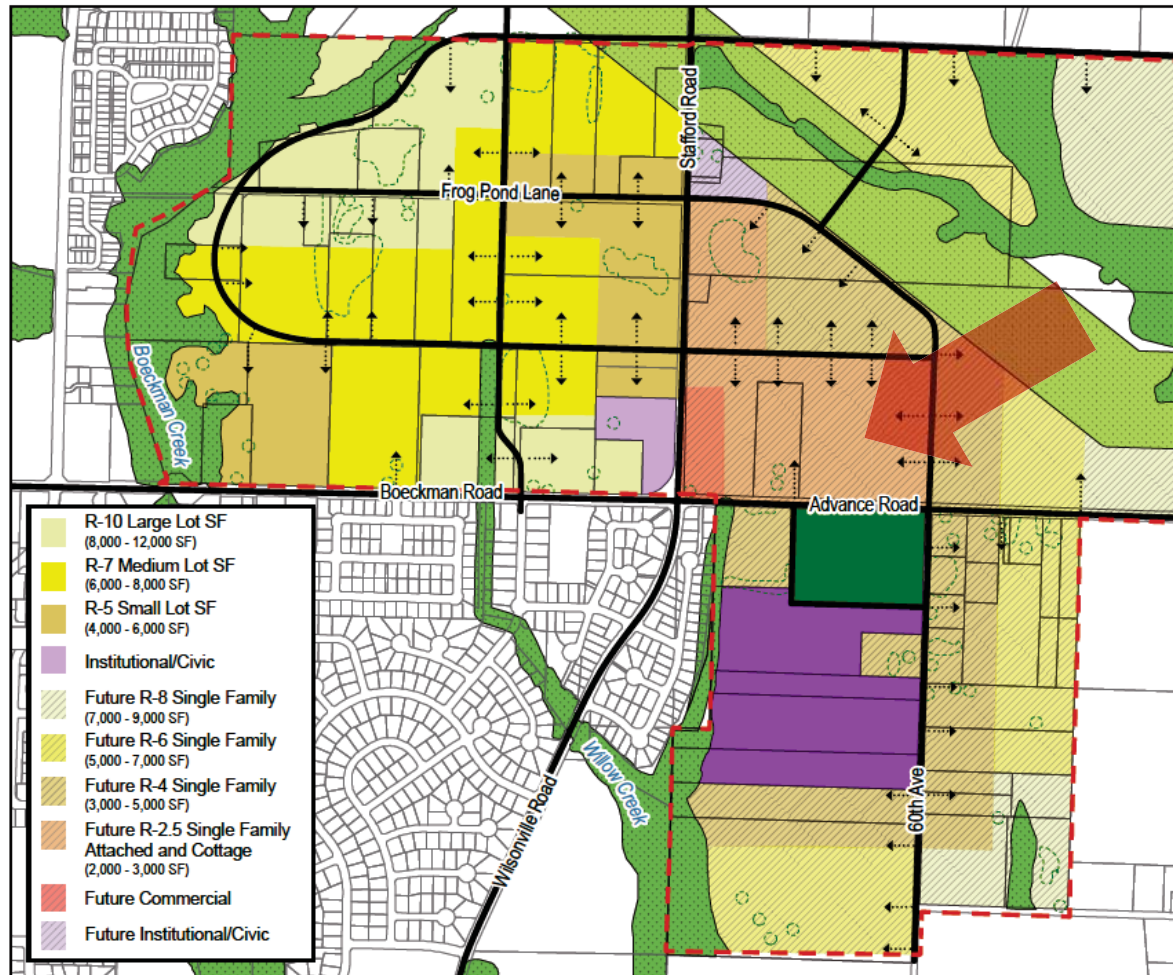
Overview

- Refresher of Previous Plan/Commercial Analysis
- Overview of the Intended Analysis
- Questions to get early feedback



Area Plan Framework Map

- Size: 3.5-acre site
- Location: Stafford-Wilsonville-Boeckman-Advance Road intersection (not final)
- Vision: A place that provides **local goods and services** within easy access of local neighborhoods, has a **high quality and pedestrian-oriented design**, and serves as a **gathering place** for the community.



Overview of the Intended Evaluation

- Review recent commercial market studies and document market trends
- Interview retail developers and/or brokers
- Analyze the commercial development market, including commercial supply and demand
- Determine any unmet community needs
- Detail opportunities by commercial tenant type, square footage, acreage, parking demands, etc.



Planning Commission Feedback

- General preference for the corner location at Advance and Stafford
- Desire for thorough evaluation ensure the commercial center is done right



Questions

- The location at the corner of Advance and Stafford is not set. What should be considered in determining location?
- Is there anything else you want us to look at beyond (1) location, (2) size of retail. (3) type of retail, and (4) evaluation of mixed-use residential with retail?



City Council Meeting Action Minutes
March 7, 2022

City Council members present included:

Mayor Fitzgerald
Council President Akervall
Councilor Lehan
Councilor West – Arrived at 7:02 p.m.
Councilor Linville

Barbara Jacobson, City Attorney
Kimberly Veliz, City Recorder
Jeanna Troha, Assistant City Manager
Beth Wolf, Senior Systems Analyst
Dan Pauly, Planning Manager
Katherine Smith, Assistant Finance Director
Dustin Schull, Parks Supervisor
Zoe Mombert, Assistant to the City Manager

Staff present included:

Bryan Cosgrove, City Manager

AGENDA ITEM	ACTIONS
WORK SESSION	START: 5:02 p.m.
A. Frog Pond East and South Master Plan	Council discussed how the affordable housing analysis might affect the Frog Pond East and South Master Plan.
REGULAR MEETING	
<u>Mayor’s Business</u>	
A. Upcoming Meetings	Upcoming meetings were announced by the Mayor as well as the regional meetings she attended on behalf of the City.
<u>Communications</u>	
A. Tualatin Valley Fire & Rescue’s State of the District	Tualatin Valley Fire & Rescue (TVF&R) staff shared the ‘state of the district’ report, which summarized recent activities.
B. Arbor Villebois CEP Presentation	Arbor Villebois Homeowner Association (HOA) representatives summarized how the HOA spent funds received from the Community Enhancement Program (CEP) to mitigate damage from the February 2021 ice storm.
<u>Consent Agenda</u>	The Consent Agenda was approved 5-0.
A. <u>Resolution No. 2954</u> A Resolution Of The City Of Wilsonville Granting An Exemption From Property Taxes Under ORS 307.540 To ORS 307.548 For Autumn Park Apartments, A Low-Income Apartment Development Owned And Operated By Northwest Housing Alternatives, Inc.	

B. Resolution No. 2955

A Resolution Of The City Of Wilsonville Granting An Exemption From Property Taxes Under ORS 307.540 To ORS 307.548 For Charleston Apartments, A Low-Income Apartment Development Owned And Operated By Northwest Housing Alternatives, Inc.

C. Resolution No. 2956

A Resolution Granting An Exemption From Property Taxes Under ORS 307.540 To ORS 307.548 For Creekside Woods Limited Partnership, A Low-Income Apartment Development Owned And Operated By Northwest Housing Alternatives, Inc.

D. Resolution No. 2957

A Resolution Granting An Exemption From Property Taxes Under ORS 307.540 To ORS 307.548 For Rain Garden Limited Partnership, A Low-Income Apartment Development Owned And Operated By Caritas Community Housing Corporation.

E. Resolution No. 2958

A Resolution Granting An Exemption From Property Taxes Under ORS 307.540 To ORS 307.548 For Wiedemann Park, A Low-Income Apartment Development Owned And Operated By Accessible Living, Inc.

F. Resolution No. 2960

A Resolution Of The City Of Wilsonville Supporting A 2022 Grant Application To The Oregon State Parks, Local Government Grant Program For The Trail At The Park At Merryfield Rehabilitation.

G. Minutes of the February 24, 2022 City Council Meeting.

New Business

A. None.

Continuing Business

A. Ordinance No. 854

An Ordinance Of The City Of Wilsonville Annexing Approximately 9.74 Acres Of Property Located On The West Side Of SW Stafford Road North Of SW Frog Pond Lane Into The City Limits Of The City Of Wilsonville, Oregon; The Land Is More Particularly Described As Tax Lots 100, 300 And 302, And A Portion Of SW Stafford Road Right-Of-Way, Section 12D, Township 3 South, Range 1 West, Willamette

Ordinance No. 854 was adopted on second reading by a vote of 5-0.

<p>Meridian, Clackamas County, Oregon. Paul C. Chaney, Janene P. Chaney, Petitioners.</p> <p>B. <u>Ordinance No. 855</u> An Ordinance Of The City Of Wilsonville Approving A Zone Map Amendment From The Clackamas County Rural Residential Farm Forest 5-Acre (RRFF-5) Zone To The Residential Neighborhood (RN) Zone On Approximately 8.46 Acres On The West Side Of SW Stafford Road North Of SW Frog Pond Lane; The Land Is More Particularly Described As Tax Lots 100, 300 And 302, Section 12D, Township 3 South, Range 1 West, Willamette Meridian, Clackamas County, Oregon. Venture Properties, Inc., Applicant.</p>	<p>Ordinance No. 855 was adopted on second reading by a vote of 5-0.</p>
<p><u>Public Hearing</u> A. None.</p>	
<p><u>City Manager’s Business</u></p>	<p>Provided an update on the status of the City’s process to hire a new City Attorney. The Council scheduled to meet in Executive Session on Friday, November 11, 2022 at 6:00 p.m. to evaluate finalists for the position.</p>
<p><u>Legal Business</u></p>	<p>Announced Governor Kate Brown planned to lift the COVID-19 Emergency Declaration.</p>
<p>ADJOURN</p>	<p>8:23 p.m.</p>



PLANNING COMMISSION

WEDNESDAY, FEBRUARY 9, 2022

II. WORK SESSION:

- A. Frog Pond East and South Master Plan (Pauly) (60 Minutes)



PLANNING COMMISSION WORK SESSION STAFF REPORT

Meeting Date: February 9, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Kim Rybold, Senior Planner Daniel Pauly, Planning Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable Comments: N/A	
Staff Recommendation: Provide requested input regarding affordable housing, accessory dwelling units, and a neighborhood commercial center.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE PLANNING COMMISSION:

Provide feedback and input on components of the master planning for Frog Pond East and South, specifically regarding affordable housing, accessory dwelling units, and evaluating a neighborhood commercial center. In using the term affordable housing in this context, staff is referring broadly to both market-rate housing that is economically attainable for moderate-

income households as well as housing that is subsidized for lower-income households. Where the report refers to a specific sub-set of affordable housing it is indicated.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified local housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a Master Plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the subject land. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process also identifies water, sewer, stormwater, and transportation infrastructure needs and funding sources.

The Planning Commission held their first work session on the master plan in October focusing on overall project scope and the outreach plan. A second work session in December asked for initial feedback on the needs and opportunities for affordable housing and housing variety in Frog Pond East and South; in addition, staff provided an update on the outreach plan and schedule. This third work session returns to the topic of housing needs for more detailed feedback and direction. Housing will be the main topic of discussion. In addition, this work session seeks initial feedback on an evaluation of a neighborhood commercial center.

Housing-Detailed Feedback and Direction

As discussed in the previous work session, the affordable housing efforts as part of the Frog Pond East and South Master Plan build upon the Equitable Housing Strategic Plan (EHSP) adopted by the City in June 2020. The EHSP includes a specific action item to define equitable housing approaches in new urban growth areas. The summary of the action item further explains, *"As part of the master planning requirements for Frog Pond East and South, the City will establish goals or targets for accessibility to services/amenities, unit types, and unit affordability levels. The targets for affordability levels (number of units and depth of affordability for those units) should be reasonably achievable, allowing for sufficient market-rate development to support key infrastructure investments. This approach will provide a methodology and framework that can be applied in other growth areas beyond Frog Pond."*

Attachment 1, Affordable Housing Analysis, provides an important tool in fulfilling this action item by presenting information and analysis to assist City decision-makers in setting an informed affordability target for Frog Pond East and South. This work session will allow the Planning

Commission to review the information and analysis and provide a recommendation to City Council on the target the City should pursue in Frog Pond East and South.

The conclusion of the analysis proposes an affordable housing target with a relatively small amount of affordable housing in Frog Pond East and South for households with incomes under 80% MFI compared with the City's or region's household makeup. See Section 5 of Attachment 1 beginning on page 11. The relatively small amount of affordable housing stems from expected market-rate demand for the land coupled with the cost to develop the land, and the limited ability of the City and affordable housing providers to purchase or control sites for affordable housing. This relatively low level of affordable housing production likely in Frog Pond East and South for households with incomes less than 80% MFI reiterates the multi-pronged approach presented in the EHSP. The City needs to take a variety of actions which, by themselves, do not make huge impacts on the housing crisis, but collectively add up to significant progress. Examples of other equitable housing efforts the City has made progress on include the Middle Housing Project, vertical housing tax credits, and the TOD project near the WES Station.

One important factor for the affordable housing target, reflected in the current City Council goals as well as by recent comments by the City Council in a work session, is affordable home ownership. The Affordable Housing Analysis discusses a number of barriers and opportunities to support home ownership for households at different levels of income below 80% MFI. Barriers, beyond those applying to all affordable housing, include a lack of funding, especially federal, for ownership compared to rental programs, difficulty qualifying for mortgages, even with government support, for many households with incomes below 60% MFI, as well as legal and construction financing barriers to condos and co-op housing construction, which are housing types that would likely be most attainable for first-time homebuyers and households with incomes 60-80% MFI. As noted in the analysis, these are difficult barriers to overcome in the short to medium term and are generally beyond the City's control. Opportunities noted include partnering with home ownership support programs such as community land trusts or Habitat for Humanity and the Homebuyers Opportunity Limited Tax Exemption (HOLTE) program. Keeping in mind the opportunities and restraints for home ownership programs, the project team would like the Planning Commission's specific feedback on the balance of rental and ownership focus in the proposed affordable housing target.

In connection to discussing the appropriate affordable housing target, the Affordable Housing Analysis outlines the following strategies for the City's consideration as likely to have the greatest impact for Frog Pond East and South in producing housing affordable for low to moderate income households:

- Zone for all housing types
- Acquire land for affordable housing
- Partner with a community land trust
- Waive, reduce, or defer SDCs for income-restricted affordable units
- Incentivize smaller and lower-cost middle housing
- Reduce multi-family parking requirements
- Incentivize housing with accessible or visitable units

Another strategy with the potential to provide affordable housing is production of accessory dwelling units (ADUs). This includes affordable ownership opportunities as the code updates adopted with the Middle Housing Project allows many ADUs to be sold separately from the primary dwelling without going through a condo process. As the accessory dwelling unit memo (Attachment 2) outlines, the City already has policies in place in support of ADUs including broad allowance of ADUs and waivers of SDC fees. The memo lists the following additional regulatory actions that could further encourage ADU production in Frog Pond East and South and/or elsewhere.

- Provide additional flexibility and exemptions to lot coverage and setbacks for ADUs
- Allow ADUs with townhouses regardless of lot size. Currently the City code only allows ADUs with townhouses if the townhouse lot meets the minimum lot size for detached single-family units in the zone.
- Allow larger ADUs to provide more options for developers. Example changes could be to match the cottage cluster size of 900 square feet or slightly larger 1,000 square feet. The sizes are still less than would be built as typical single-unit on lot development or 2-unit cluster. However, 800 square feet is a limit consistent across many Oregon jurisdictions.

A decision needs to be made on whether to pursue any of these additional regulatory actions. The project team would particularly like to understand any concerns with these actions that would be reasons not to pursue.

Discussion questions:

1. Does the Planning Commission feel an affordable housing target in line with that proposed in the Affordable Housing Analysis is the correct direction for the Frog Pond East and South Master Plan and is reasonably achievable? If yes, what refinements or additional guidance would the Commission suggest? If no, what affordable housing target would the Commissioners recommend and why?
2. Does the affordable housing target proposed in the Affordable Housing Analysis appropriately balance affordable rental and ownership opportunities based on what we know about available financing and support programs and other restraints?
3. Does the Planning Commission agree the affordable strategies described in Section 6 of Attachment 1 (beginning on page 21) help achieve desired outcomes including the proposed affordable housing target and should be further pursued? What is Planning Commission's guidance for further refining these strategies?
4. Should the City pursue and refine any or all of the additional regulatory actions related to ADUs listed in Attachment 2? Are there any concerns with these actions?

Neighborhood Commercial-Initial Feedback and Direction

The Frog Pond Area Plan presented the idea of a neighborhood commercial center in Frog Pond East. Part of the scope of the Frog Pond East and South Master Plan is to further evaluate a neighborhood commercial center. The evaluation includes such things size, location, types of potential retail, and level of mix with residential. The area plan specifically calls for the location and level of mixed-use residential to be further evaluated. The size and type of retail is necessary to evaluate to identify the amount of land to plan for. The Neighborhood Commercial Evaluation: Initial Feedback slide deck (Attachment 3) provides background and an overview of

the intended evaluation. The project team has the following questions for the Planning Commission to get initial feedback and direction as the evaluation begins. The next Planning Commission work session in April will provide more information and solicit more detailed feedback.

Discussion questions:

1. What thoughts does the Planning Commission have on overall purpose and vision of the commercial center to provide small scale retail and be a community gathering place? Anything the Planning Commission would suggest adding?
2. The location at the corner of Advance and Stafford is not set. What thoughts does the Commission have about location of the commercial center? What should be considered in determining planned location?
3. What additional items does the Planning Commission want included in the upcoming commercial center evaluation beyond (1) location, (2) size of retail, (3) type of retail, and (4) evaluation of mixed-use residential with retail?

EXPECTED RESULTS:

Feedback and direction from the Planning Commission on affordable housing and a neighborhood commercial center in Frog Pond East and South Master Plan project.

TIMELINE:

This is the third in a series of work sessions for the Planning Commission. The next work session is planned for April. Most components of the project must be completed by December 2022.

CURRENT YEAR BUDGET IMPACTS:

The main consultant contract is for \$350,000 funded through a Metro grant. Work began during FY 20/21. Unused portions have been rolled over and the City anticipates spending \$260,000 by the end of FY 21/22. The remaining \$90,000 is planned to be budgeted during FY 22/23 to conclude the project. Staff is in the process of incorporating an additional \$162,000 in State grants into the contract and work program for additional affordable housing analysis and work related to infrastructure funding and SDCs. Staff, with City Council's support, submitted the grant requests to further enhance the depth of the affordable housing and infrastructure project components.

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which lays out a robust public engagement program that will include meaningful and impactful involvement of people who identify with historically marginalized communities. In addition, City staff continues work with consultants and the DEI committee to establish a framework for broad community involvement.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY:

Well-designed neighborhoods with a variety of housing options for current and future Wilsonville residents.

ALTERNATIVES:

At this early point in the project, the Planning Commission may provide a range of alternatives for the project team to consider.

ATTACHMENTS:

- Attachment 1 Affordable Housing Analysis Memo from EcoNorthwest (January 31, 2022)
- Attachment 2 Accessory Dwelling Unit Memo from EcoNorthwest (January 31, 2022)
- Attachment 3 Neighborhood Commercial Evaluation: Initial Feedback slide deckSlide deck on neighborhood commercial evaluation (January 31, 2022)

DATE: January 31, 2022
TO: Dan Pauly, Kim Rybold, City of Wilsonville
FROM: Becky Hewitt, Kaitlin La Bonte, and Ariel Kane, ECONorthwest
SUBJECT: Frog Pond East and South Affordable Housing Analysis

Section 1. Introduction

Purpose

The Frog Pond East and South areas are important for the City of Wilsonville’s efforts to meet future housing needs and provide equitable housing options for residents. The City’s 2020 Equitable Housing Strategic Plan (EHSP) recognized this, and called for the Frog Pond East and South Master Plan to establish targets for affordability, specifically:

“As part of the master planning requirements for Frog Pond East and South, the City will establish goals or targets for accessibility to services/amenities, unit types, and unit affordability levels. The targets for affordability levels (number of units and depth of affordability for those units) should be reasonably achievable, allowing for sufficient market-rate development to support key infrastructure investments. This approach will provide a methodology and framework that can be applied in other growth areas beyond Frog Pond.”

This memorandum is intended to implement that direction from the EHSP and identify affordable housing targets and strategies to ensure these targets are met.

Key Term: Affordable Housing

This memo addresses “affordable housing”. As used here, we are referring broadly to both market-rate housing that is economically attainable for moderate-income households as well as housing that is subsidized or otherwise supported for lower-income households. Where the memo refers to a specific sub-set of affordable housing it is indicated.

Background and Policy Direction

The EHSP also directs the Frog Pond East and South master planning effort to:

- Integrate affordable housing into the overall master plan, with access to amenities
- Identify specific properties that could help meet affordable housing targets
- Evaluate relationships to the infrastructure funding plan
- Engage affordable housing developers and other stakeholders to refine strategies

These efforts will be part of the planning process for Frog Pond East and South.

Other past policy guidance related to housing targets and mixes for this area are summarized below.

- Metro’s Conditions of Approval for Wilsonville’s 2018 Urban Growth Boundary expansion required the City to:
 - **Plan for at least 1,325 homes in the expansion area.**
 - **Allow townhomes, duplexes, triplexes, and fourplexes** (now referred to as “middle housing”) in all zones that permit single-family housing within the expansion area. (The requirement related to allowing middle housing in zones that allow single-family housing is now also required by the state under House Bill 2001 and the implementing administrative rules.)
- The 2015 Frog Pond Area Plan established direction for housing mix, lot size, and where different housing types would be allowed within the expansion area. The unit distribution options from the Area Plan are shown in Exhibit 11 and Exhibit 12 on page 17. At a high level, the Area Plan sets direction that the East neighborhood should provide for single-family detached housing on small to large lots, as well as townhomes, cottage lots, and duplexes, while the South neighborhood should provide only small- to large-lot detached housing. It also states that neighborhood-scale mixed use with residential above retail in the commercial center could be considered during the Master Plan process. Other types of housing, including apartments, were not identified as part of the final plan for the Frog Pond area. Note, however, that the Area Plan’s direction pre-dates and is no longer consistent with the Metro conditions of approval summarized above or with the requirements of House Bill 2001.

As of the end of 2021, the City of Wilsonville had 11,587 dwelling units with approximately 730 more planned to be built in the near future between Villebois and Frog Pond West. Frog Pond East and South will represent an approximately 10% plus increase in the number of dwellings in Wilsonville. The City also has roughly 450 government-subsidized housing units as of 2018.¹

Section 2. The Housing Spectrum: Meeting a Range of Housing Needs with New Housing

Delivering new housing affordable to a range of incomes requires a range of different approaches, as summarized in Exhibit 1.

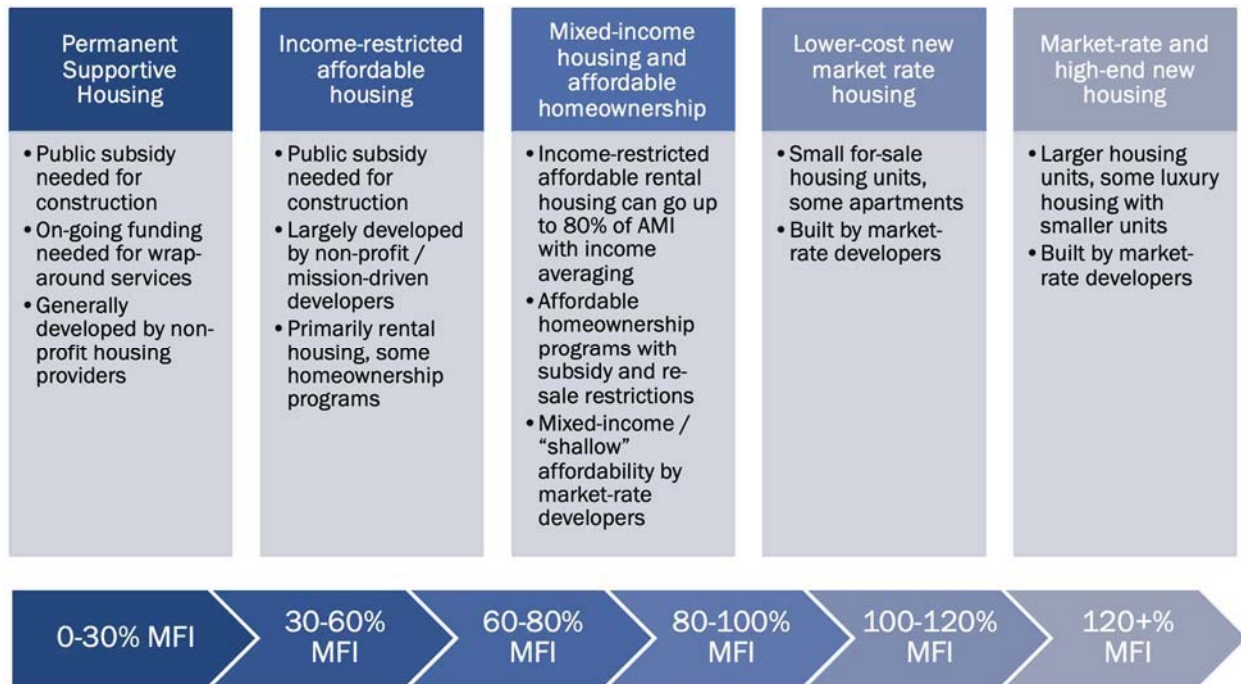
Key Term: Median Family Income

In setting affordability targets and requirements, it is common to express them in terms of a percentage of the Median Family Income (MFI), since this is how eligibility is established for income-restricted affordable housing. MFI is typically set at a regional level. In Wilsonville, the MFI is based on the three-county Portland region. In other words, the MFI for Wilsonville and Clackamas County is the same as that for the region overall. The MFI for a family of four in the Portland region as of 2021 is \$96,700. The U.S. Department of Housing and Urban Development (HUD) considers housing affordable to a given income level if housing costs (including utilities) account for no more than 30% of a household’s income.

¹ Clackamas County Regional Housing Needs Analysis, ECONorthwest, 2018, page 199.

Exhibit 1: Approaches to Delivering New Housing by Income Range

Source: ECONorthwest



Housing for 60% of MFI and below

Meeting the housing needs of households earning less than 60% of MFI nearly always requires public subsidy. Development of income-restricted affordable housing typically relies on funding from the State, region, or County, in addition to any support from the City and other partners.

- Affordable Rental Housing:** Even within publicly supported housing, most housing for this income range is rental housing. The Low Income Housing Tax Credit (LIHTC) program—the largest funding program in the US for affordable rental housing—largely serves households in the 30-60% of MFI range. While there are some for-profit developers who build income-restricted affordable housing, most is built by non-profits or Public Housing Authorities. Affordable rental housing development in suburban parts of the Portland region typically takes the form of three- to four-story apartments with surface parking.
- Affordable homeownership:** There are some homeownership support programs (e.g., Habitat for Humanity, some Community Land Trusts, and down-payment assistance programs) that serve households earning as little as 35% of MFI (\$30,000-\$35,000). These programs tend to receive much less state and federal funding in aggregate than affordable rental housing.

To serve households earning less than 30% of MFI often requires additional subsidy beyond that needed to build housing for 60% of MFI due to the lower rents that are required. It also

sometimes requires support to provide wrap-around services that help residents remain in their housing. Sometimes tiny homes or cottage clusters are used for housing at this income level, but apartments are more common.

Housing for 60% to 80% of MFI

Housing for households earning between 60% and 80% of MFI often comes in the form of older housing that has depreciated and become more affordable over time; however, delivering new housing in this affordability range can be challenging due to limited sources of public subsidy and the cost of building new market-rate housing. Options include:

- **Mixed-income and “shallow” affordability by market-rate developers:** Incentive programs and inclusionary zoning requirements can sometimes deliver units affordable to households earning less than 80% of MFI as part of a market-rate development if calibrated to align with market conditions. The affordability tends to be “shallow” in the sense that the private market generally cannot absorb rents or sales prices that are far below market rate without substantial incentives or subsidies. The most common form for mixed-income development by private developers is market-rate apartments that include some income-restricted affordable units.² However, affordability incentives for middle housing (primarily rental) may be able reach this income range in some circumstances.
- **Affordable homeownership:** Some affordable homeownership development targets this income range (e.g., Habitat for Humanity), using a mix of funding sources to subsidize costs. In the Portland region, this typically takes the form of either small detached housing or townhome-style attached housing.
- **Affordable rental housing with income averaging:** Low Income Housing Tax Credits, the largest funding program for affordable rental housing, allows developments to use income averaging to provide housing for households earning up to 80% of MFI as long as the average for the development overall remains at or below 60% of MFI. As noted above, this would typically be in the form of apartments.

Housing for 80% of MFI and above

Households earning between 80% and 120% of MFI can often afford at least some of the existing market-rate housing stock in the community, such as apartments, older homes, or townhouses, though in very tight housing markets their options may be limited. For new construction, some smaller and lower-cost market-rate housing can be affordable in the 80-120% of MFI range, but most larger housing units and high-end small housing units tend to be affordable only to those earning at least 120% of MFI. (The expected pricing for market-rate housing in the Frog Pond East and South areas is described further in Section 4.) There are some local incentives and

² Inclusionary Zoning can only be applied to multifamily housing (buildings with 20 or more units) under current Oregon law.

affordability programs that can support housing affordable at 80% to 100-120% of MFI, though state and federal funding is limited.

Section 3. Opportunities and Constraints for Affordable Housing

There are several considerations and challenges for building affordable housing in the Frog Pond East and South area, including:

- **Infrastructure costs:** While vacant land at the urban fringe tends to cost less than land in already developed areas, this is largely because the cost of building the infrastructure needed to serve urban development is factored into land value and land sales prices. This project will: identify the infrastructure needed to support the East and South Neighborhoods; prepare a funding plan for that infrastructure; and consider the relationship between the need to fund infrastructure and the ability to deliver affordable housing.
- **Site control / property ownerships:** Acquiring property in a competitive market can be a substantial challenge for affordable housing developers. The City does not currently own any land within the Frog Pond East and South areas. The only City-owned land is land designated for a future park. The ability to secure land could be one of the biggest challenges for delivering affordable housing in the area.
- **Past policy guidance on housing types:** The final Frog Pond Area Plan did not include apartments as part of the housing mix for Frog Pond East and South. This limits the potential housing options in several ways:
 - As noted above, most affordable rental housing, which is the primary housing that serves households earning less than 60% of MFI, is built as apartments. The Area Plan notes potential for housing above commercial space, but while some affordable housing includes community spaces on the ground floor, there are financing challenges associated with building affordable housing as true mixed-use development with ground-floor commercial space. If apartments are not allowed in the area, this will significantly constrain the options and sources of funding for building affordable housing and limit the number of income-restricted affordable units that can realistically be developed in the area.
 - Market-rate multifamily housing (apartments or condominiums) can also provide housing affordable to households earning roughly 80% to 100% of MFI. Building apartments or condominiums as part of a mixed-use building increases costs and can make development infeasible or require higher rents or sales prices to justify the additional expense.
- **Challenges for affordable and low-cost homeownership options:** Income-restricted affordable homeownership models can work within a small detached or townhouse-style development, but there is limited state and federal funding for affordable homeownership programs, which means a relatively small number of subsidized

affordable homeownership units could realistically be built in the area. Other methods of providing lower-cost homeownership options without a subsidy, such as condominiums and co-op housing, face legal and financing challenges that make them difficult for many private developers to build. Addressing these legal and financing issues would require action at the state level and is beyond the City's control. However, there are developers working in the region who are willing to build condominiums despite the challenges, some of whom may pursue development within Frog Pond East and South.

The opportunity for Frog Pond East and South is that the City is in a position to address many of these challenges in ways that can influence the outcome. At a minimum, in the short term, the City can set land use regulations that allow for a broader range of housing types so that there are more options for market-rate and subsidized affordable housing development now and into the future. The City can establish requirements associated with annexation, which could allow for more specific agreements between the City and property owners seeking to annex. The City can also establish an infrastructure funding plan that limits the infrastructure cost burden on any income-restricted affordable housing built in the area. If financial resources allow, the City can negotiate with property owners to acquire suitable land for affordable housing that can then be transferred at little or no cost to affordable housing developers, or provide funding to support affordable homeownership development by a local Community Land Trust or a provider like Habitat for Humanity. These and other strategies to help deliver affordable housing in this area are addressed further beginning on page 21.

Section 4. Expected Pricing of Market-Rate Housing

For-Sale Housing: Market Sale Prices for Single-Family Homes, Townhouses, and Condominiums

Data from recent home transactions³ for relatively newer housing⁴ in Wilsonville and surrounding areas provides an indicator of likely pricing for new housing in Frog Pond East and South. The estimated range of home prices by housing type and unit size is shown in Exhibit 2. The estimated income needed to afford these purchase prices, given standard lending assumptions,⁵ is shown as a percentage of the MFI for a four-person household⁶ in Exhibit 3. The relevant data is summarized in table form in Exhibit 4.

³ Sales transaction data is from Redfin for sales between October 2020 and October 2021.

⁴ Data includes detached homes and townhouses built since 2010 as well as condominiums built since 2006 (to provide a larger sample size since there are few recently-built condominiums).

⁵ Assumes 20% down payment, a 30-year fixed-rate mortgage at 3.5% interest, with estimates for property taxes and homeowners' insurance. Estimated homeowners' association fees are factored into total monthly housing costs based on averages for similar housing from recent sales transactions.

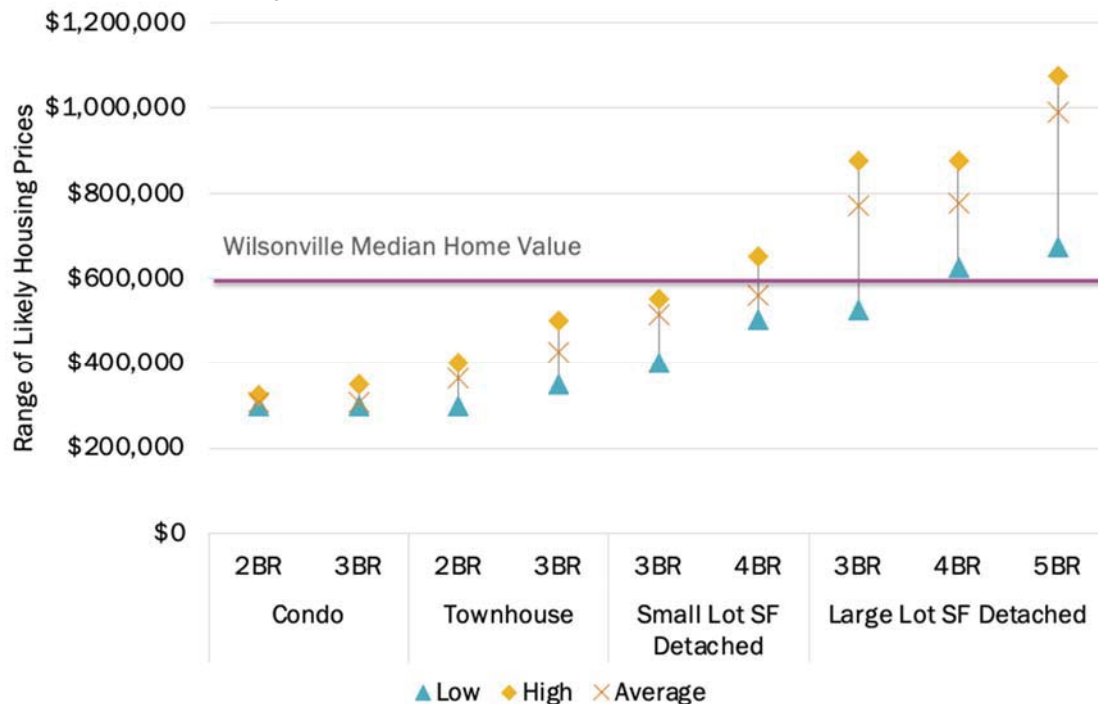
⁶ In setting maximum allowed rents by unit size / bedroom count, HUD uses an assumed household size and multiplier relative to the MFI for a family of four. However, to allow for comparison to the income distributions, which are not adjusted for household size, we use the MFI for a four-person family throughout.

Given the recent escalation in home prices, new construction coming to market is likely to sell closer to the top end of the range seen among recent transactions for newer housing. Housing prices will likely continue to escalate over the coming years (though not to the extent seen in the past year), increasing the expected home values over time. However, the comparison between prices of new homes and the median price of existing homes or between new homes and regional average incomes are more likely to remain roughly consistent going forward. Based on these trends, we estimate the following ranges for affordability of new for-sale housing in Frog Pond East and South:

- New large-lot detached housing in Wilsonville will likely be affordable only to households earning more than 120% of MFI, and more expensive than most existing homes.⁷
- New small lot detached homes (on less than 4,500 SF lots) may sell for close to the median value of existing homes and are likely to be affordable mostly to households earning between 100% and 130% of MFI.
- New condominiums and townhouses will almost certainly sell for less than the median value of existing homes in Wilsonville and are likely to be affordable to households earning between roughly 70% and 100% of MFI depending on unit size.

Exhibit 2. Typical Sales Prices for Recently Built Housing by Housing Type, Wilsonville and Surrounding Area

Source: ECONorthwest Analysis of Redfin Data, October 2021



⁷ The median value of existing homes in Wilsonville is around \$600,000, affordable to homeowners at 122% of the area MFI for a family of four, or an annual income of \$118,220.

Exhibit 3. Housing Affordability as a Percent of Median Family Income* by Housing Type for Recently Built Housing, Wilsonville and Surrounding Area

Source: ECONorthwest Analysis of Redfin Data, October 2021

* Median family income from HUD for Clackamas County for a four-person household

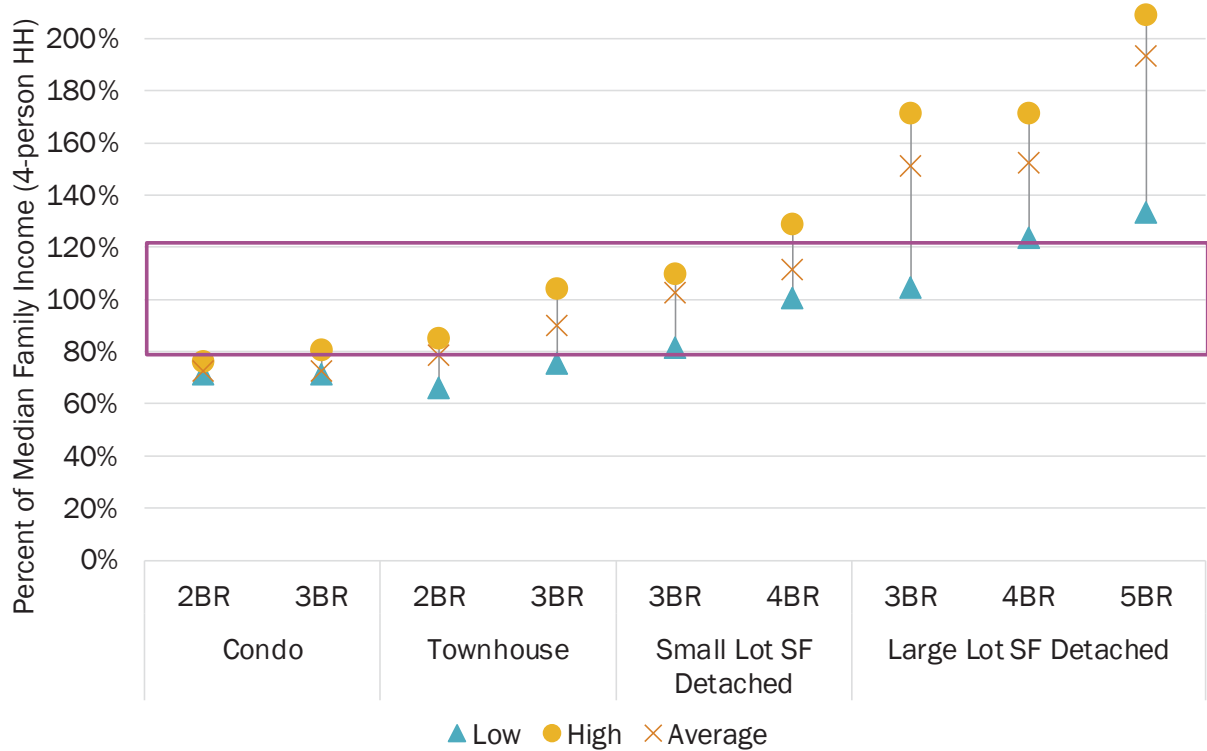


Exhibit 4: Sales Price, Income Required, and Income as a Percent of MFI for Newer Housing in and near Wilsonville, by Housing Type, 2021

Source: ECONorthwest Analysis of Redfin Data, October 2021

	Condo		Townhouse		Small Lot SF Detached		Large Lot SF Detached		
	2BR	3BR	2BR	3BR	3BR	4BR	3BR	4BR	5BR
Low Sales Price									
Sales Price	\$300,000	\$300,000	\$300,000	\$350,000	\$402,500	\$502,500	\$525,000	\$625,000	\$675,000
Annual income needed to afford mortgage	\$69,110	\$69,110	\$64,110	\$73,290	\$78,940	\$97,310	\$101,440	\$119,810	\$128,990
Annual income needed as a percent of MFI*	71%	71%	66%	76%	82%	101%	105%	124%	133%
High Sales Price									
Sales Price	\$325,000	\$350,000	\$400,000	\$500,000	\$552,500	\$652,500	\$875,000	\$875,000	\$1,075,000
Annual income needed to afford mortgage	\$73,700	\$78,290	\$82,480	\$100,850	\$106,490	\$124,860	\$165,730	\$165,730	\$202,470
Annual income needed as a percent of MFI*	76%	81%	85%	104%	110%	129%	171%	171%	209%
Average Sales Price									
Sales Price	\$307,700	\$307,400	\$365,300	\$426,700	\$513,800	\$560,000	\$769,900	\$775,800	\$990,600
Annual income needed to afford mortgage	\$70,520	\$70,470	\$76,110	\$87,390	\$99,380	\$107,870	\$146,420	\$147,510	\$186,970
Annual income needed as a percent of MFI*	73%	73%	79%	90%	103%	112%	151%	153%	193%

*As compared to 100% MFI for a four-person household in Clackamas County. Orange indicates less affordability; blue indicates greater affordability.

Rental Housing: Market-Rate Apartments

Looking at the range of rents and unit sizes for apartments built in Wilsonville since 2010, there is a wide range of unit sizes and rents, as shown in Exhibit 5.

Exhibit 5: Wilsonville Apartment Unit Sizes, Mix, and Rents, Developments Built Since 2010

Source: ECONorthwest analysis of CoStar data, November 2021

Unit Type	Most rent for	Average rent is	Most units are	% of Units
Studios	\$1,123	\$1,123	544 SF	4%
1 bedroom	\$1,277-\$1,667	\$1,599	1,275 - 1,630 SF	28%
2 bedrooms	\$1,651-\$1,902	\$1,778	1,020 - 1,110 SF	57%
3 bedrooms	\$2,154-\$2,263	\$2,203	2,150- 2,265 SF	5%
4 bedrooms	\$2,664-\$3,284	\$2,871	2,664 - 3,284 SF	5%

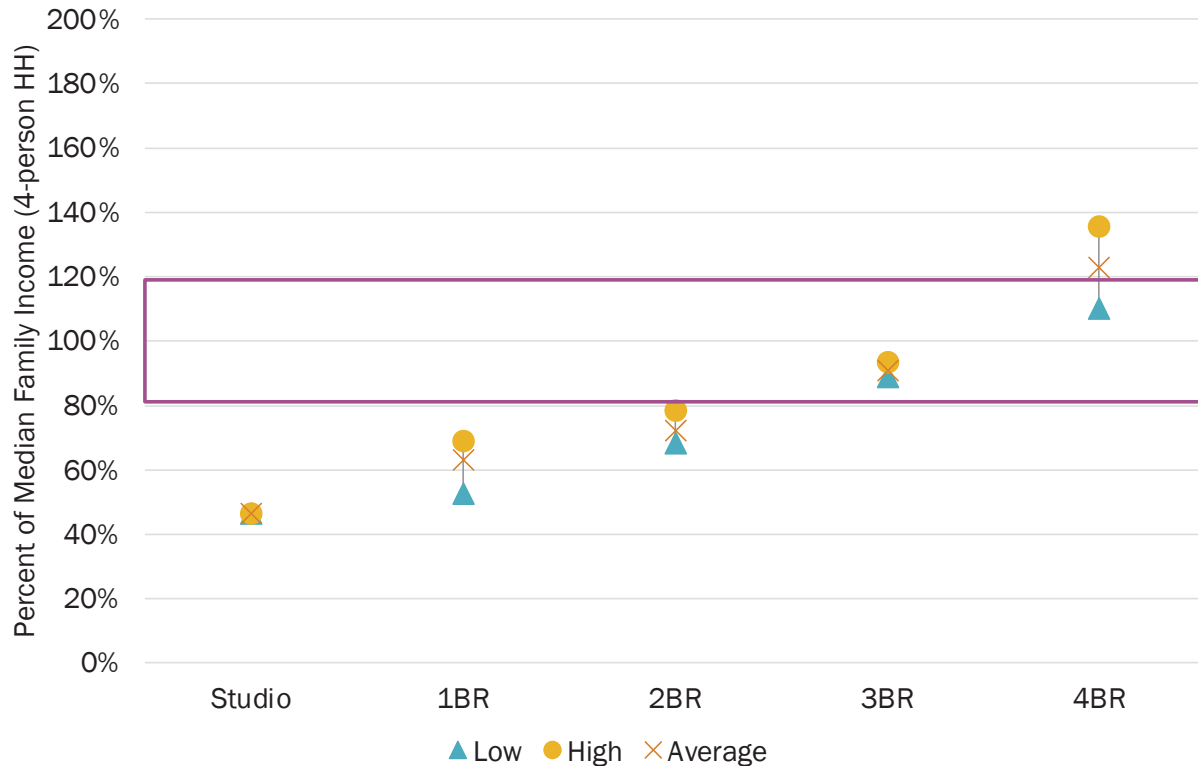
Converting these rents to the percent of MFI needed to afford them⁸ shows that even at the top end, apartment units in newer buildings are generally affordable at or below 80% of MFI for a four-person household, and often around 80% of MFI, as shown in Exhibit 6. Very small studio units may be even more affordable, while very large four-bedroom units may be less affordable, but the bulk of units in newer apartments in Wilsonville would be considered affordable for households earning between 65% and 90% of MFI. New apartments would typically be expected to rent for near the upper end of this range (roughly 80% to 90% of MFI), assuming they have good access to amenities.

⁸ In setting maximum allowed rents by unit size / bedroom count, HUD uses an assumed household size and multiplier relative to the MFI for a family of four. However, to allow for comparison to the income distributions, which are not adjusted for household size, we use the MFI for a four-person family throughout even though it is not realistic to expect a four-person family to occupy a studio apartment.

Exhibit 6: Wilsonville Apartment Rent Affordability as a Percent of Median Family Income* by Unit Size, Developments Built Since 2010

Source: ECONorthwest Analysis of CoStar Data, November 2021

* Median family income from HUD for Clackamas County for a four-person household



Section 5. Affordable Housing Targets

The City does not control housing pricing and affordability directly, but there are many factors that the City does control that affect how much housing is likely to be produced within different affordability levels. Setting reasonably achievable affordable housing targets for the Frog Pond East and South neighborhoods is intended to guide the City’s strategies and policies for this area so that the resulting neighborhoods offer housing options for households at a range of income levels.

Reference Points

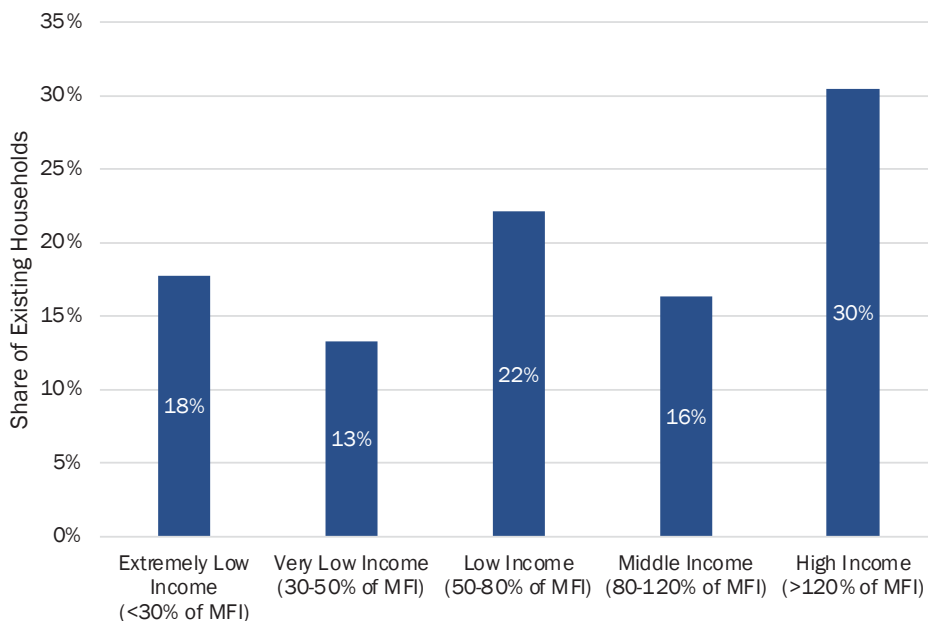
In setting an appropriate and achievable affordable housing target, it is helpful to consider multiple reference points that inform the distribution of housing that may be needed and that may be possible. This section outlines several reference points for housing distribution by affordability level: current income distribution in Wilsonville, current regional income distribution, existing housing gaps at the City and County scale, and the distribution expected based on prior plan policy direction and existing affordable housing tools. These reference points are intended to inform establishing achievable affordable housing targets for Frog Pond East and South, which will ultimately be determined by City Council.

City of Wilsonville Income Distribution

This reference point offers one way of understanding what it would look like for this area to contribute proportionately to meeting overall housing needs for the city. However, this approach does not consider the specific types of housing needs that may best be met in the new growth area versus other areas of the city, and it does not account for changing demographic needs or needs that are not currently met in the city. The current distribution of Wilsonville households based on how their household income compares to the MFI for Clackamas County for a four-person household is shown in Exhibit 7.

Exhibit 7. Wilsonville Households by Percentage of MFI, 2021

Source: American Community Survey, 2019, 5-year estimates

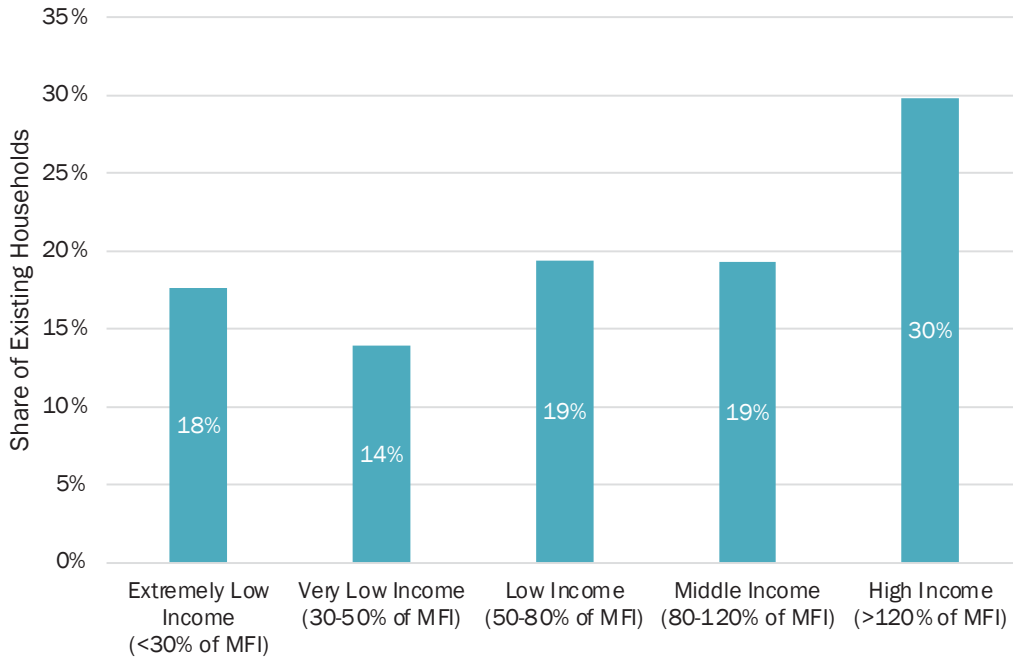


Regional Income Distribution

Looking at overall regional income distribution can be useful to highlight housing affordability levels and incomes that may be under-represented in Wilsonville compared to the region as a whole. It provides a sense of what mix of housing affordability levels would best meet the needs of people living in the region as a whole. The current distribution of households by income level in the three-county Portland region is shown in Exhibit 8. In the region overall, the share of middle-income residents is somewhat higher than in the city of Wilsonville, while the share of low-income residents is somewhat lower. The share of extremely low income and very low-income residents is similar in the City and in the region overall.

Exhibit 8. Portland Region Households by Percentage of MFI, 2021

Source: American Community Survey, 2019, 5-year estimates

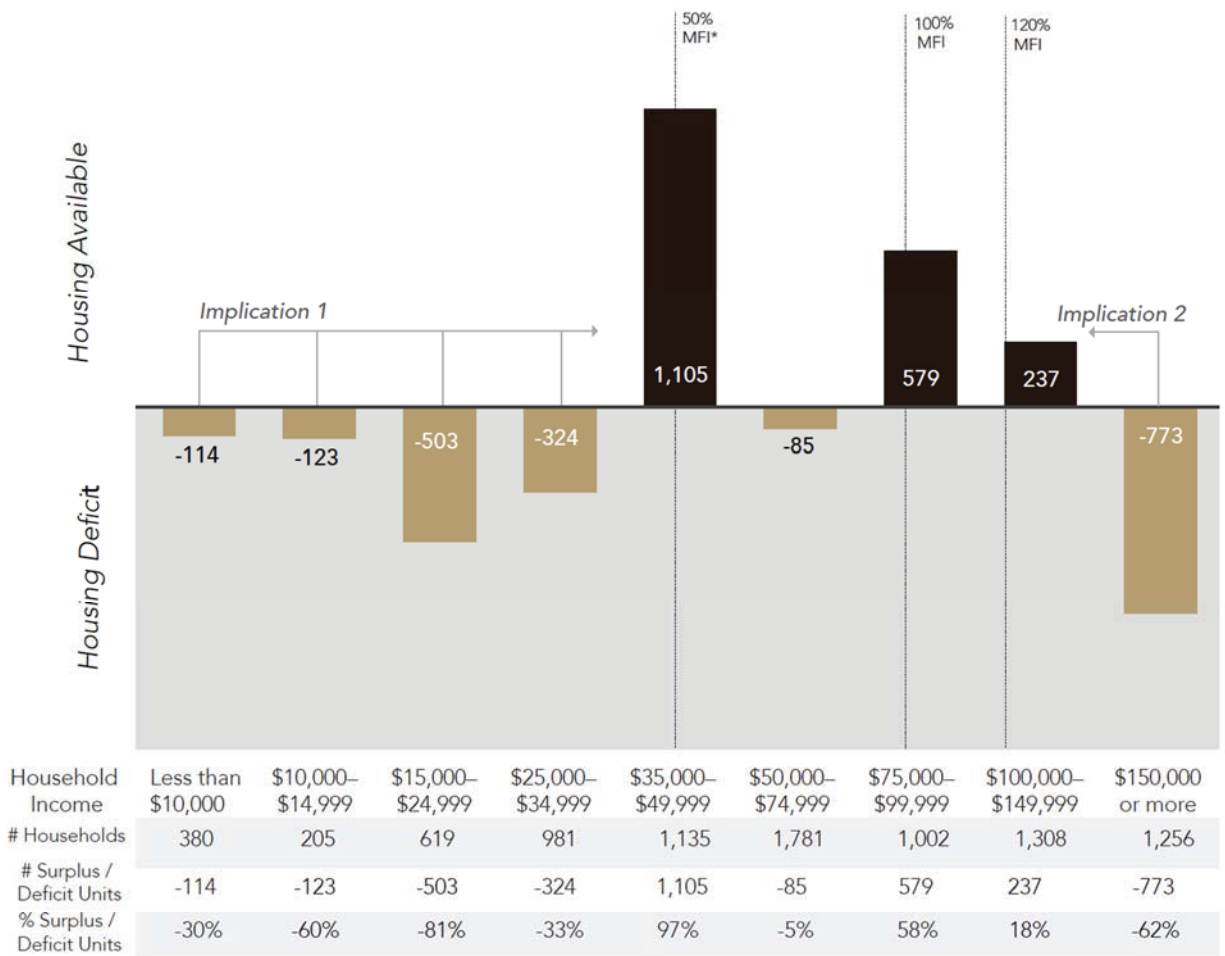


Current City and County Housing Gaps

Based on the most recent Housing Needs Analysis for the City of Wilsonville (which was done as part of a county-wide Housing Needs Analysis in 2018), there is a deficit of housing units for households earning less than \$35,000 per year, but also a deficit of high-amenity housing for households earning more than \$150,000 per year.

Exhibit 9: Affordable Housing Costs and Units by Income Level, Wilsonville, 2018

Source: Clackamas County Regional Housing Needs Analysis, page 281



*Median Family Income for a family of four

Implication 1

Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

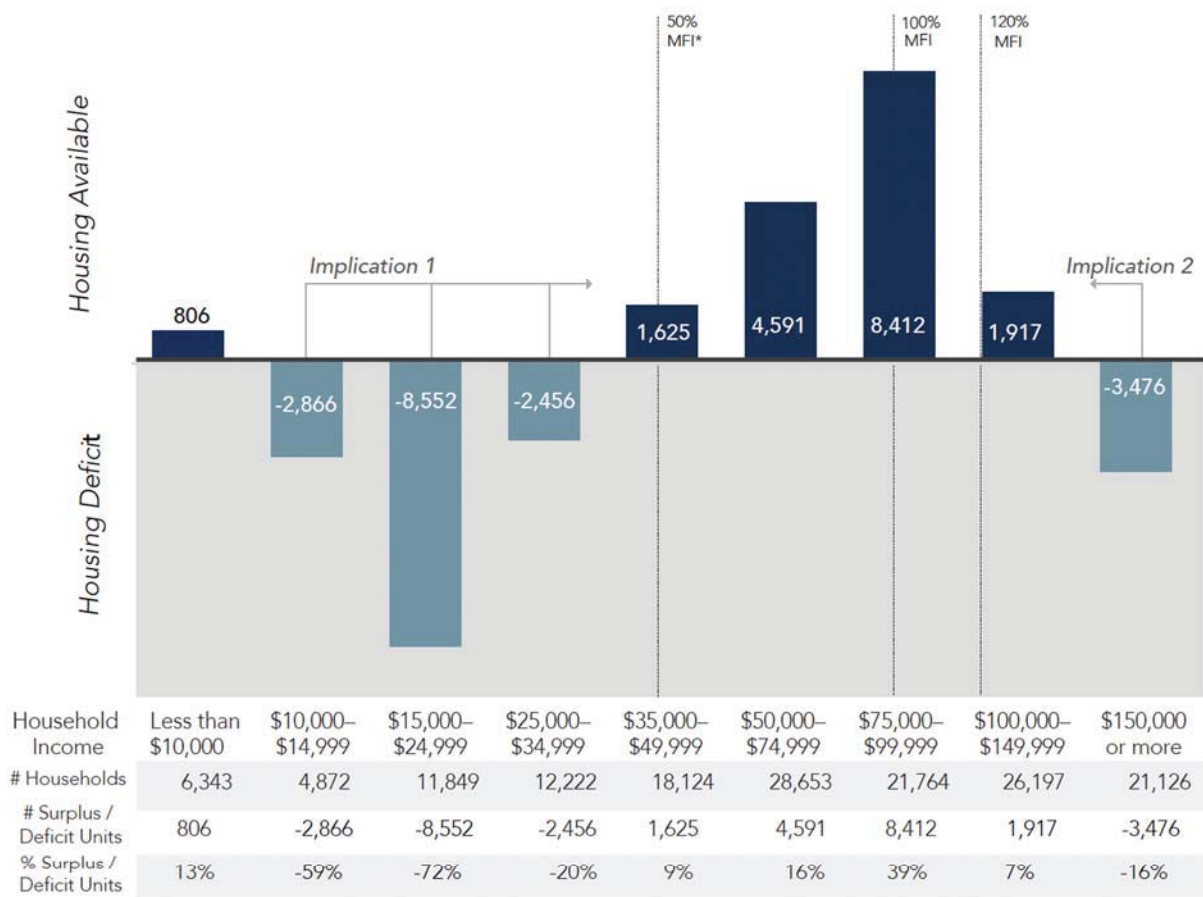
Implication 2

Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

The overall housing gaps for Clackamas County also show a deficit of housing for households earning less than \$35,000 per year and high-amenity housing for households earning \$150,000 or more.

Exhibit 10: Affordable Housing Costs and Units by Income Level, Clackamas County Overall, 2017

Source: Clackamas County Regional Housing Needs Analysis, page 74



*Median Family Income for a family of four

Implication 1

Some lower-income households live in housing that is more expensive than they can afford because affordable housing is not available. These households are cost burdened.

Implication 2

Some higher-income households choose housing that costs less than they can afford. This may be the result of the household's preference or it may be the result of a lack of higher-cost and higher-amenity housing that would better suit their preferences.

This reference point suggests a focus on expanding housing supply at the top and bottom of the income spectrum. Providing high-amenity housing for higher-income households can reduce upward pressure on prices for older homes that could be remodeled, while providing housing affordable to lower-income households can reduce cost-burdening and allow households more resources to meet their other needs and remain more stable in their housing.

Prior Area Plan Policy Direction & Existing Affordable Housing Tools

This reference point anticipates the outcomes that would be most likely for this area if the City maintains the policy direction from the Area Plan and does not implement any additional strategies to support affordable housing in this area. It provides a reference point for a policy baseline to see how much intervention may be required to achieve the City's equitable housing

goals in this area. The distribution of housing units by type / density established in the Frog Pond Area Plan is summarized in Exhibit 11 and Exhibit 12. As described in the Area Plan:

At the time of adoption there were two general proposals regarding residential land use in the East and South Neighborhoods. The first proposal was the Planning Commission-recommended option (Option G), with the condition to re-examine the R2.5 densities and commercial site location at a future date of master planning. The second proposal was that there should be a minimum lot size of 4,000 square feet. The Council considered these proposals carefully, along with all of the rationale, implications and issues. Working from the premises that: (1) both points of view should be honored and represented in the Plan; (2) many years will pass before final decisions need to be made; and (3) the range of housing choices and price ranges should increase in the future when these neighborhoods are developed – the Council struck a balance. The balance was to include both options in the Plan with a commitment to revisit the densities and commercial site in the future as part of master planning. An additional idea was added to consider, during Master Planning, neighborhood scale mixed use, where residential would be allowed over the retail in the commercial center.⁹

The primary difference for purposes of this document is that Option G included an allowance for attached / cottage single-family, with lots between 2,000 and 3,000 square feet. Neither option included an allowance for multifamily housing. As noted above, the City must provide for at least 1,325 units in this area (Option H would provide only 1,258) and must allow attached / cottage single-family and other middle housing types in any zone that allows single-family housing.¹⁰ Thus, ECONorthwest used Option G as a starting point for this scenario, since it aligns better with recent requirements.

⁹ Frog Pond Area Plan, A Concept Plan for Three New Neighborhoods in East Wilsonville, 2015, page 24.

¹⁰ While Option G did not assume that middle housing would be allowed throughout the East and South neighborhoods, the total percentage of middle housing and small lot detached housing, at roughly one third of all housing units, remains a reasonable estimate of the amount of middle housing and small-lot detached housing that the market might deliver in this area after accounting for HB 2001.

Exhibit 11. Land Use Metrics and Capacity "Option G"

Source: Frog Pond Area Plan, A Concept Plan for Three New Neighborhoods in East Wilsonville, 2015

Residential Designation	Average Lot Size (SF)	Max Units/ac net	East Neighborhood Units	South Neighborhood Units	East+ South Units	% of East + South Units
Future R-8 Single Family (7,000 - 9,000 SF)	8,000	5.40	120	28	148	11%
Future R-6 Single Family (5,000 - 7,000 SF)	6,000	7.30	125	162	287	22%
Future R-4 Single Family (3,000 - 5,000 SF)	4,000	10.90	165	286	451	34%
Future R-2.5 (2,000 - 3,000 SF)	2,500	17.40	436		436	33%
Total Units			846	476	1,322	100%

Exhibit 12. Land Use Metrics and Capacity ("Option H" - No R2.5 in East Neighborhood)

Source: Frog Pond Area Plan, A Concept Plan for Three New Neighborhoods in East Wilsonville, 2015

Residential Designation	Average Lot Size (SF)	Max Units/ac net	East Neighborhood Units	South Neighborhood Units	East+ South Units	% of East + South Units
Future R-8 Single Family (7,000 - 9,000 SF)	8,000	5.40	120	28	148	13%
Future R-6 Single Family (5,000 - 7,000 SF)	6,000	7.30	125	162	287	25%
Future R-4 Single Family (3,000 - 5,000 SF)	4,000	10.90	437	286	723	62%
Future R-2.5 (2,000 - 3,000 SF)	2,500	17.40				0%
Total Units			682	476	1,158	100%

To translate this housing mix into an expected distribution by income level, ECONorthwest used the expected pricing of market-rate housing by housing type summarized in Section 4:

- The Future R-2.5 units are assumed to be primarily middle housing similar to townhouses based on the density and housing types described for this zone. Given estimated pricing, these units would generally be affordable to households between 80% and 120% of MFI.
- Small-lot detached housing ranges slightly above and below 120% of MFI. Half of the R-4 housing units are assumed to be affordable at 80-120% of MFI, while the other half are assumed to be affordable to households at 120% or more of MFI.
- Medium- to large-lot single-family is affordable only above 120% of MFI. All of the R-6 and R-8 units plus half of the R-4 units are assumed to be affordable to households earning 120% or more of MFI.

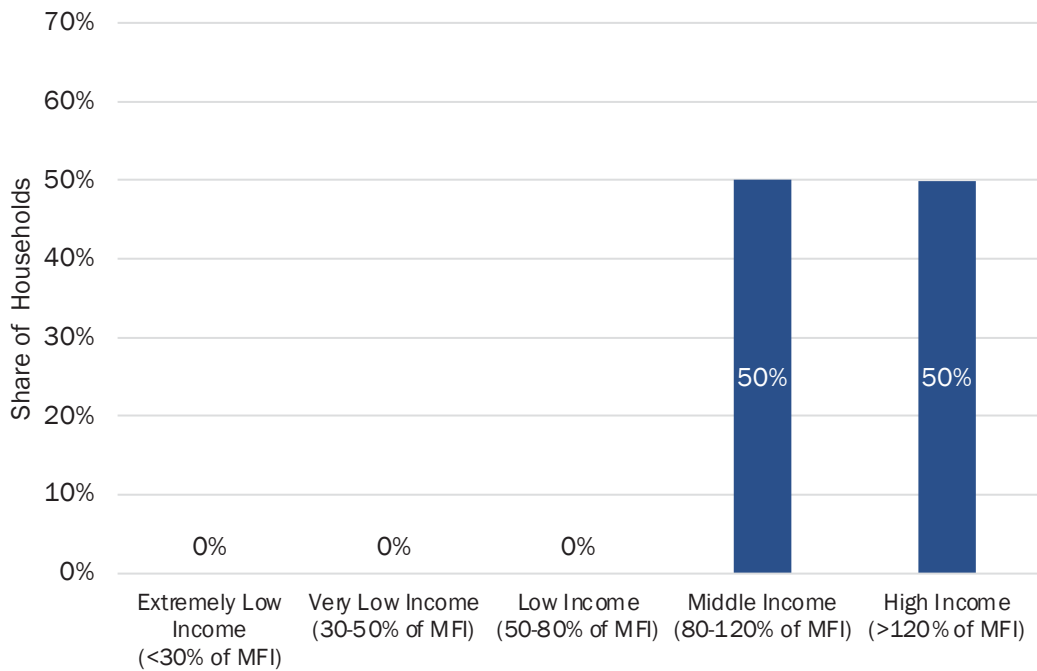
Because Option G did not include multifamily housing in the land use metrics, this reference point assumes that no regulated affordable rental housing or market-rate multifamily are built

in the area. While some affordable homeownership housing is possible under existing policy guidance, the City has no existing programs in place to support this, so the assumption is that this would not occur without additional support. These factors mean that the current policy guidance and existing programs would be unlikely to deliver housing to serve households earning less than 80% of MFI.

The expected distribution of housing by income level under existing policy is shown in Exhibit 13.

Exhibit 13: Expected Distribution of Housing by Affordability Level Under Existing Policy

Source: ECONorthwest calculations based on Frog Pond Area Plan Option G and market pricing



Proposed Affordable Housing Targets

The proposed affordable housing targets are intended to provide achievable goals for this area if the City addresses the constraints noted previously and implements a set of feasible strategies to support affordable housing. The types of strategies needed to meet these proposed targets are described in Section 6.

Given the context and the scale of the area, the City could target the following for publicly supported, income-restricted affordable housing development:

- One affordable multifamily rental development serving households earning up to 60% of MFI, or an average 60% of MFI, with income averaging that offers some units for households earning up to 80% of MFI. This would likely be between 120 and 180 units and roughly 30 units per acre based on typical development of this type, requiring four to six acres of land.

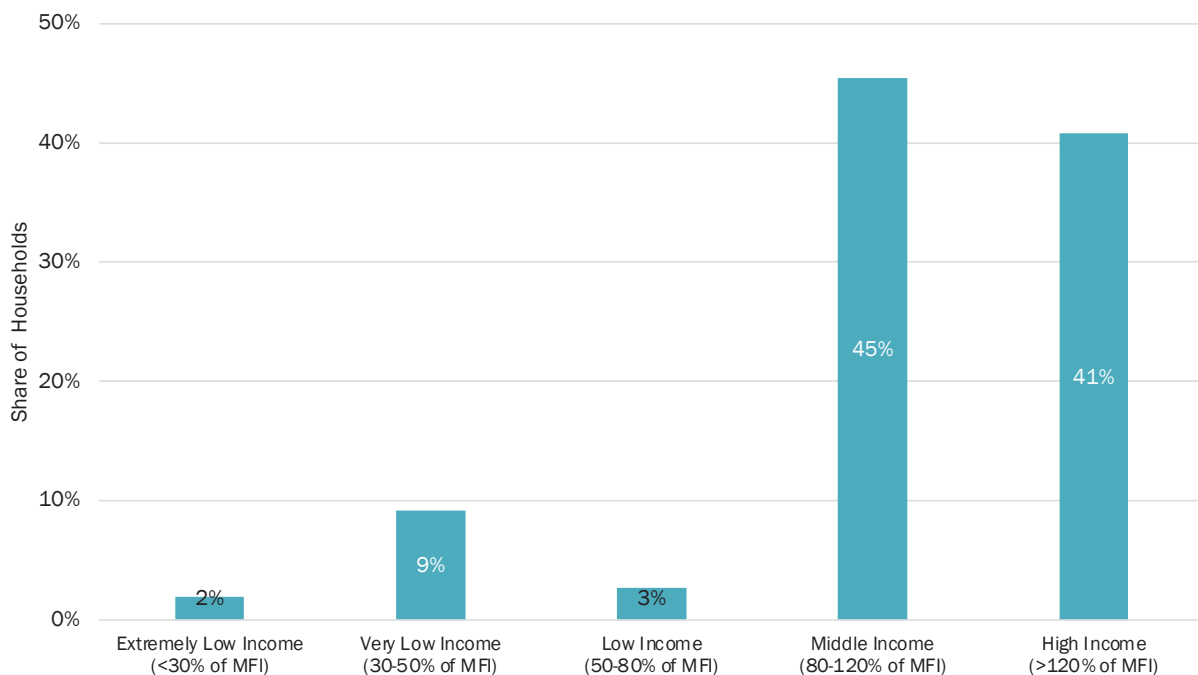
- One small cottage/tiny home/courtyard development for households earning less than 30% of MFI, low-income seniors, veterans, or people with disabilities. This could be between 5 and 50 units and might require between a quarter of an acre and two acres, depending on scale and design.
- One to two townhome or cottage cluster affordable homeownership developments for households earning 35% to 80% of MFI (e.g., Habitat for Humanity or Proud Ground). This could be between 10 and 40 units and might require between one and two acres, depending on scale and design.

In addition to these goals for income-restricted affordable housing, the City can target providing a mix of housing within the market rate development that offers roughly half of units that are likely to be affordable to households earning less than 120% of MFI. This could mean a similar mix of housing types as identified in Option G in the Area Plan (even if the locations for middle housing are no longer restricted), resulting in a roughly even split between housing for households earning 80% to 120% of MFI and households earning more than 120% of MFI for the market-rate for-sale housing. Allowing opportunities for some market-rate apartment development without ground floor commercial space to further expand the range of housing options for households earning less than 100% of MFI.

Error! Reference source not found. provides an illustrative example of the approximate distribution of housing by income level based on the ranges of units above and rough estimates of the amount of market-rate housing that could be built if the land above were dedicated to affordable housing. These estimates are preliminary and may be refined through the planning process.

Exhibit 14: Approximate Distribution of Housing by Income Level for Affordable Housing Target

Source: ECONorthwest

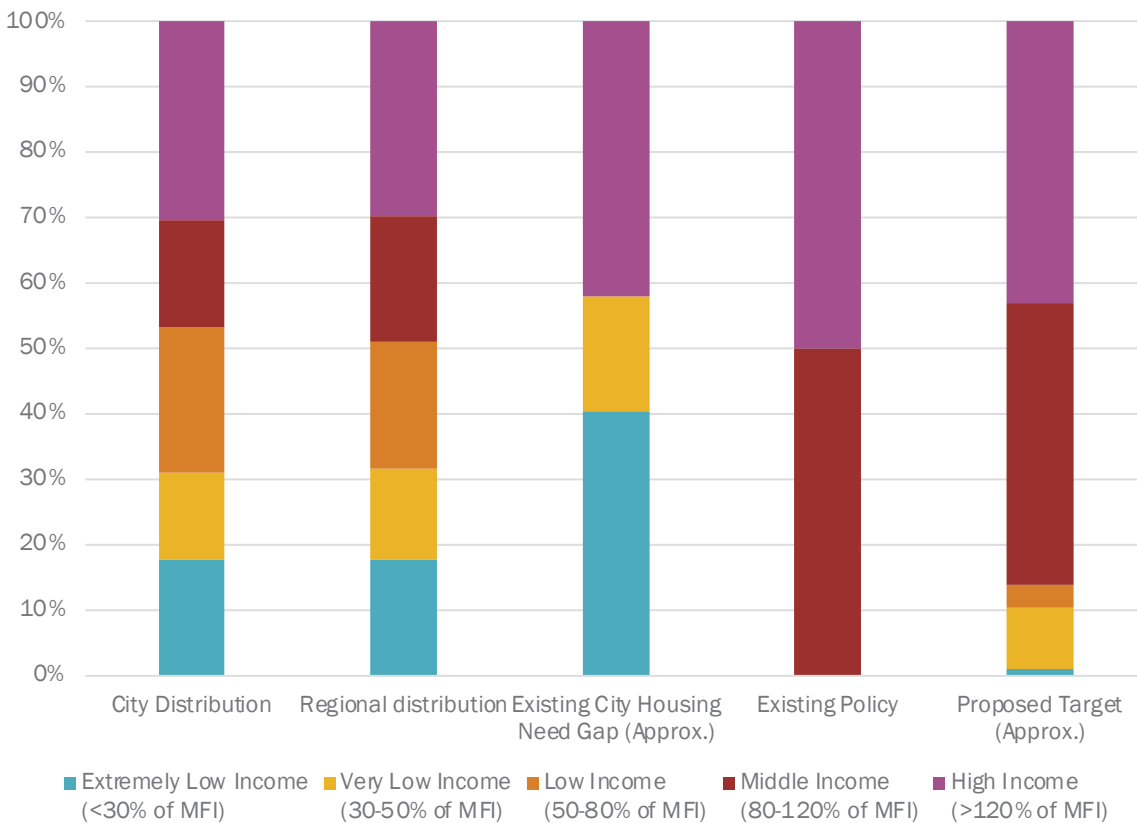


Comparison to Reference Points and Implications

Error! Reference source not found. summarizes the unit counts that would result from applying the distribution for each scenario to the 1,325 housing units required by Metro. (As noted previously, the total unit count may vary between the scenarios or be refined through the process of establishing land use scenarios—these unit counts are illustrative only at this stage.) Exhibit 15 illustrates the comparison between the scenarios in terms of the income distribution in each.

Exhibit 15: Distribution of Housing by Income Level for Housing Target Compared to Reference Points, Frog Pond East and South

Source: ECONorthwest



Implications:

- To reach the affordable housing policy directives from the Equitable Housing Strategic Plan with development in Frog Pond East and South the City will need to allow a full range of housing types and make investments to support affordable housing development.
- Even if the City does make changes to policy and takes action to dedicate funding to support affordable housing, the share of affordable housing is likely to fall short of meeting a proportionate share of overall housing needs at the City or regional level during initial build-out.

- Adding to housing supply across a range of affordability levels in Frog Pond East and South will help meet housing needs overall and would be a one step forward in a larger series of housing-related initiatives by the City, even if it does not match the overall distribution or address all the existing gaps for affordable housing.
- Middle housing and condominiums can offer homeownership opportunities to middle income households without public subsidy, making land use regulations and infrastructure funding decisions that affect the feasibility of multi-family and middle housing an important consideration for affordability.

Section 6. Affordable Housing Strategies

The City can support development of affordable and mixed-income housing in a number of ways. The EHSP lays out a range of strategies to advance the City’s equitable housing goals. The City will also be required to adopt a Housing Production Strategy (HPS) soon under recent changes to state rules, and will need to identify and prioritize strategies to support housing production across a range of housing needs. This section outlines the strategies that are likely to have the greatest impact for Frog Pond East and South, building on those in the EHSP.

- **Zone for All Housing Types:** Enable a full range of housing types in Frog Pond East and South, including multifamily, to expand first time homebuyer opportunities and to make it possible to build affordable rental housing using common sources of funding. Align zoning for multifamily with areas that are suitable for affordable housing. Flexibility needs to be in place to take advantage of affordable housing opportunities both now and during the longer-term build out of Frog Pond East and South.
- **Acquire Land for Affordable Housing:** Attempt to find willing sellers for suitable properties for affordable housing within Frog Pond East and/or South, to ensure an opportunity to build affordable housing in the area. This would likely require funding, particularly if the City intends to offer the land for affordable housing development for little or no cost to make affordable housing development more viable. However, the City could consider asking the current owner to ground lease the property to the City and have the development pay for it in future, or seek an option on a property rather than acquiring it outright. It would also require staff time to manage the property owner negotiations and (if successful), the land disposition process (e.g., a Request for Proposals for development). With private developers also seeking to secure land or options to purchase property, the sooner the City acts, the better its chances. The City should prioritize sites that meet the following criteria:
 - Close proximity to existing transit (e.g., the stop at Meridian Creek Middle School), or near an area that has a high probability of future transit service upon development.
 - Close proximity to parks, schools, future commercial areas, and other amenities.

- Sites that are between four and six acres of buildable land if targeting affordable rental housing; smaller sites (e.g., half-acre to two acres) for homeownership housing.
- Sites without major development constraints or especially costly infrastructure needs. Sites should not be in the floodplain.
- **Partner with a Community Land Trust:** A community land trust (CLT) such as Proud Ground could help deliver affordable homeownership housing in Frog Pond East and South. If the City is unable to secure land for affordable housing, it could explore other ways to support a CLT in building affordable homes, such as direct subsidy (e.g., using Metro Bond money), SDC waivers, or tax abatements (see further discussion below).
- **Waive, Reduce, or Defer SDCs for Affordable Units:** The cost of SDCs and other infrastructure costs for greenfield development can become prohibitive for affordable housing. Options to reduce SDC cost impacts on affordable housing will be addressed as part of the infrastructure funding plan for Frog Pond East and South to ensure that overall infrastructure needs can be met. Waiving SDCs entirely for income-restricted affordable housing has the greatest impact, but reductions and deferral can also help reduce the funding gap for affordable housing. This requires engagement with other infrastructure providers.
- **Incentivize Smaller and Lower-Cost Middle Housing:** Middle housing will be allowed broadly in Frog Pond East and South, and some developers have expressed interest in middle housing development in the area. Because middle housing generally offers lower price-points than single-family detached housing, it offers middle-income housing options and potential for lower-cost homeownership. There are several incentives that could be effective tools to support middle housing development that is affordable to middle-income households:
 - The Multiple Unit Property Tax Exemption (MUPTE) is a flexible program that can be used to incent multiple-unit rental housing with particular features or at particular price points by offering qualifying developments a partial property tax exemption for 10 years. The City could offer MUPTE for middle housing rental developments with small units that are more likely to be affordable. (The City could also choose to offer MUPTE only in exchange for income and rent restrictions, but would need to be able to monitor compliance with these restrictions over the 10-year abatement period.) This program requires support from overlapping taxing districts.
 - The Homebuyer Opportunity Limited Tax Exemption (HOLTE) program allows cities to offer a 10-year partial property tax exemption on for-sale properties valued at no more than 120% of the median sales price that meet any additional city-imposed income and owner-occupancy requirements. Portland has paired it with an SDC exemption to incentivize new moderately-priced for-sale housing. This program requires support from overlapping taxing districts.
 - SDCs that scale with unit size can also incentivize smaller, lower-cost middle housing units by right-sizing fees to the impacts of different housing types and sizes.

This will be considered through the infrastructure funding plan and requires engagement with other infrastructure providers.

- The City could consider allowing small “multiplex” development (e.g., 6-12 units) on sites that would allow a fourplex under new middle housing rules, if the units are under a certain size limit so that the overall volume of the building is still similar to a fourplex.
- **Reduce Multifamily Parking Requirements:** If the City adopts zoning for Frog Pond East and South that allows multifamily development in portions of the area, it should also evaluate reducing parking requirements for multifamily. (This could be done citywide or applied only within the Frog Pond East and South areas.) Currently, at least one space per unit is required, even for units less than 500 sq. ft.; most units require 1.25 to 1.75 spaces per unit. If parking requirements exceed what is needed to serve affordable housing, this adds cost to build spaces that do not generate revenue and reduces the number of units that fit on site. If land and funding are available for affordable housing, reducing parking requirements can ensure that it can be built efficiently and optimize the amount of housing on the site.
- **Incentivize Housing with Accessible or Visitable Units:** With substantial new housing construction coming for Frog Pond East and South, the City can encourage units designed to be accessible or visitable to better meet the needs of individuals with mobility limitations in the community. The City can apply some of the same incentives noted above to apply to accessible or visitable units, such as tax abatements, SDC reductions, or allowances to build additional units.

Section 7. Conclusions and Next Steps

If the City does not take further action to support affordable housing and does not change course from prior policy direction on housing types for Frog Pond East and South, there will be few opportunities for affordable housing and little chance that it will get built. If the City allows a full range of housing types and implements additional affordable housing strategies, particularly related to proactive land acquisition, the chances for affordable housing increase substantially. Financial and regulatory incentives could also encourage developers to build smaller, lower-cost housing units with or without income restrictions, or to build units that are accessible or visitable for residents with mobility limitations. These strategies align with those outlined in the EHSP and provide input to a future HPS.

While meeting a proportionate share of citywide or regional housing needs by income may not be possible for greenfield development, there are important opportunities for affordable homeownership and expanding housing options across a range of incomes and housing needs. The proposed housing targets include a mix of market-rate housing at typical price-points and a few affordable housing developments of various scales and forms. These targets are intended to be achievable with implementation of the recommended housing strategies. This area can play an important role in a broader citywide effort to provide needed housing. Additional work will

be needed to meet housing needs in other parts of the City that cannot feasibly be met in this greenfield area.

Next steps within this process include identifying specific properties that could help meet affordable housing targets; evaluating relationships to the infrastructure funding plan of potential SDC reductions or waivers; engaging affordable housing developers and other stakeholders to refine strategies; and subsequent work to learn more about community perspectives/preferences, which could lead to refinements in the targets and strategies laid out in this document.

DATE: January 31, 2022
TO: Dan Pauly, Kim Rybold, City of Wilsonville
FROM: Becky Hewitt, Kaitlin La Bonte, Ariel Kane ECONorthwest
SUBJECT: Frog Pond East and South Accessory Dwelling Units Memorandum

Section 1. Introduction

Accessory Dwelling Units (ADUs) offer an opportunity to seamlessly integrate additional, smaller units within neighborhoods while staying with traditional single-family development and financing models. There are many reasons why people may be interested in building or living in ADUs. For residents, ADUs tend to be a more affordable flexible housing option. For homeowners, ADUs provide opportunities to house family members or earn additional income. As ADUs grow in popularity and recognition, many jurisdictions are considering ways to encourage ADU development.

In bringing the Frog Pond East and South areas into the Urban Growth Boundary (UGB), Metro required that the city explore ways to encourage the construction of ADUs in the expansion area. In Frog Pond East and South, the challenges to encouraging ADU development are different from infill development scenarios. Strategies to promote ADU development in an infill context typically focus on facilitating development for homeowners. In a greenfield development context such as Frog Pond, the City's strategies should focus on ways to influence homebuilders' floorplans to encourage building ADUs at the time of construction or encouraging home and lot designs that provide opportunities for ADU additions later.

This memorandum is intended to assist the City of Wilsonville in planning for residential development in Frog Pond East and South in a way that would be supportive of ADU development in the planning area's residential neighborhoods. Using available survey data and stakeholder interviews, this memorandum provides some insight into the likely demand and market for ADUs in the region and describes ways to City could facilitate ADU development as the planning area is built out.

Section 2. Who do ADUs serve?

Who wants ADUs and why?

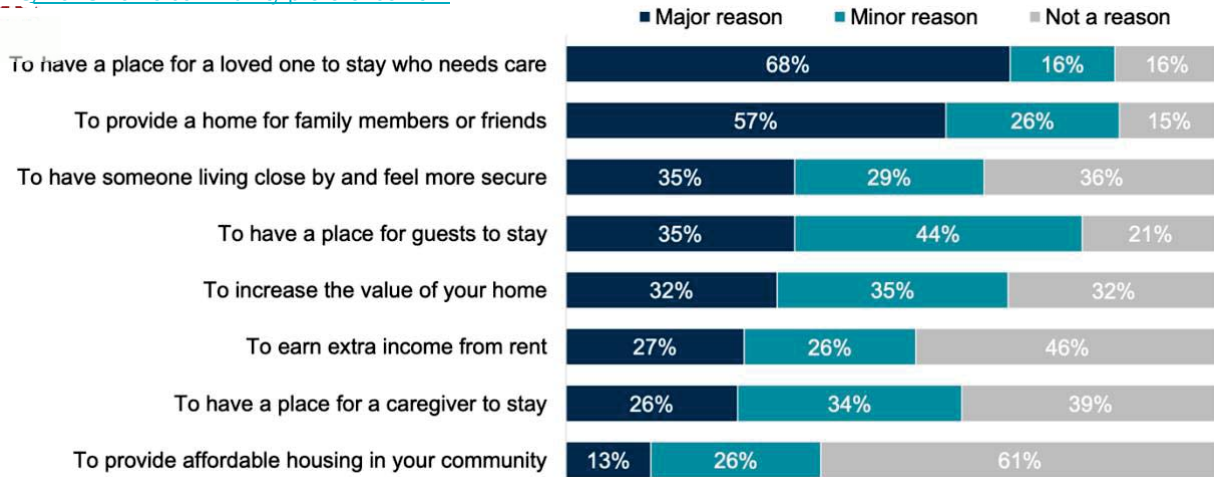
A 2018 American Association of Retired Persons (AARP) Home and Community Preferences Survey¹ found that 33% of adults aged 18 and older who did not have an ADU on their property would consider adding an ADU (27% unsure). As shown in Exhibit 1, of those who would consider adding an ADU, having a place for a loved one to stay who needs care was a major

¹ This survey was conducted by NORC at the University of Chicago with funding from AARP in March and April 2018. 2,287 participants completed the survey, the final total of the national sample was 1,947.

reason for 68% of respondents; providing a home for family members or friends was a major reason for 57%.

Exhibit 1. Major Reasons for Considering Building an ADU

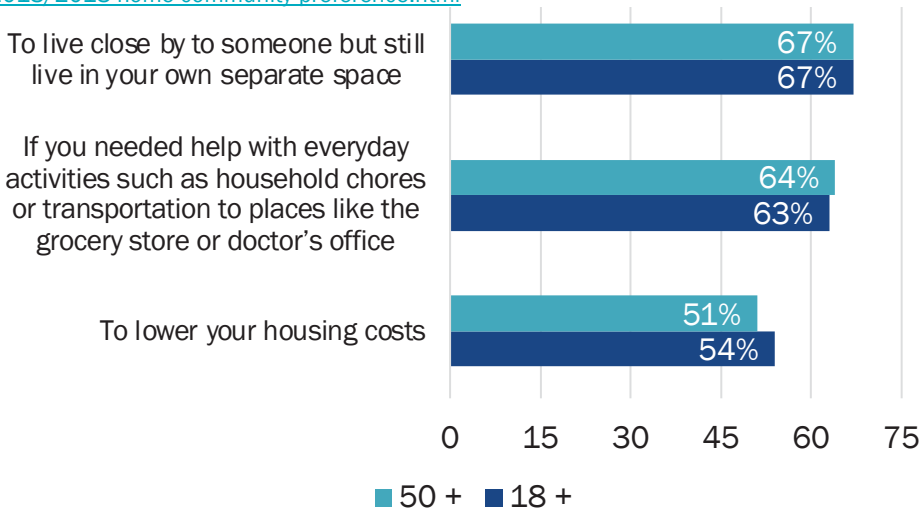
Source: 2018 AARP Home and Community Preferences Survey, www.aarp.org/research/topics/community/info-2018/2018-home-community-preference.html



Out of the adults surveyed, 67% said they would consider living in an ADU to live close to someone but still have their own space, 63% said they would consider it if they needed help with everyday activities, and 54% said they could consider it to lower their housing costs. This is shown in Exhibit 2.

Exhibit 2. Top Three Reasons for Considering Living in an ADU by Age Group

Source: 2018 AARP Home and Community Preferences Survey, www.aarp.org/research/topics/community/info-2018/2018-home-community-preference.html

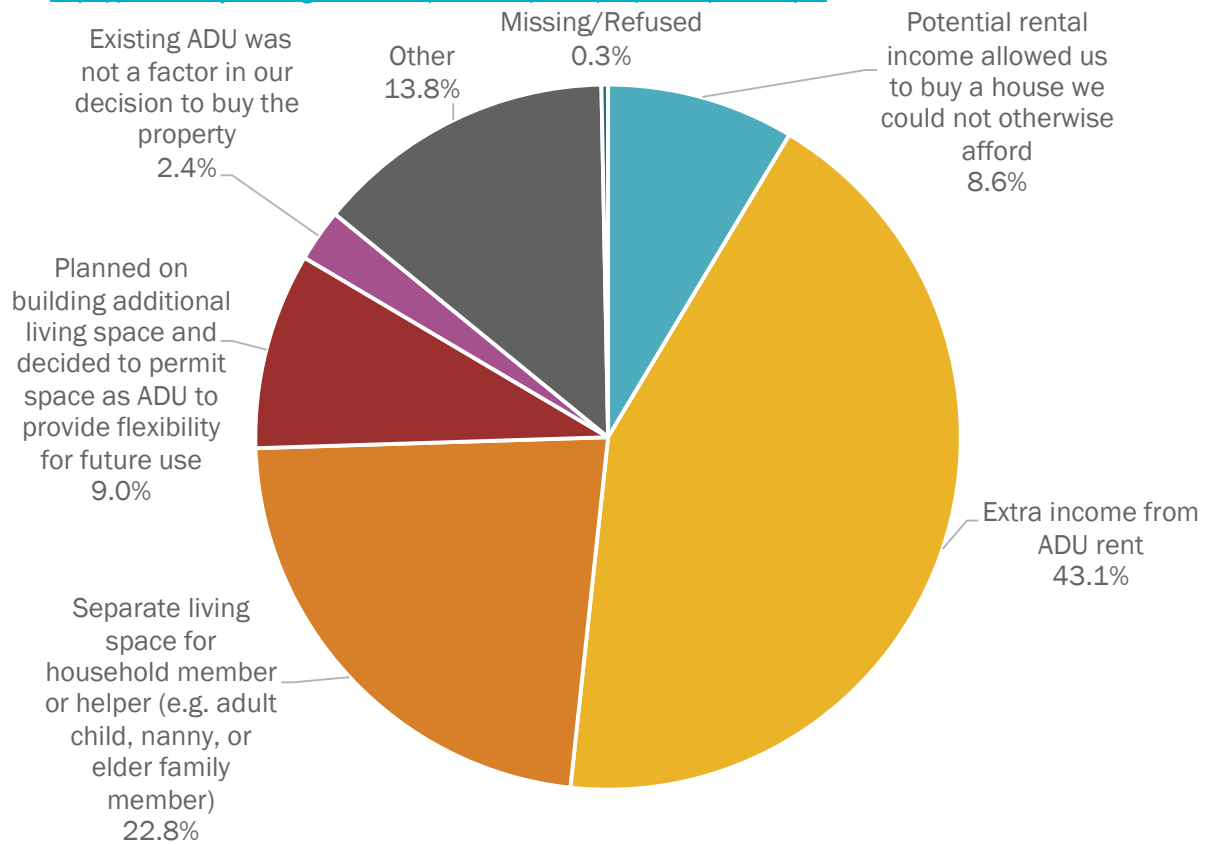


In a 2013 survey of Portland, Eugene, and Ashland homeowners with existing ADUs, 43% of Portland respondents said that the extra income from ADU rent was a primary reason for

building an ADU or for purchasing a property with an existing ADU. Other reasons are shown in Exhibit 3.

Exhibit 3. Portland Homeowners primary reason for building an ADU or purchasing the property with an existing ADU.

Source: Accessory Dwelling Unit Survey for Portland, Eugene, and Ashland, Oregon Final Methodology and Data Report, 2013 <https://accessorydwellings.files.wordpress.com/2013/10/adureportfrev.pdf>



What might an ADU rent for in Frog Pond East and South?

In the 2013 survey of Portland property owners with ADUs, the mean rental income received was between \$811 and \$880 (Exhibit 4). While these rents are now well out of date, the range of rents is worth noting: from as little as \$385 per month, to as much as \$1,800 per month.

Exhibit 4. Portland Rent Received Monthly for ADU, 2013

Source: Accessory Dwelling Unit Survey for Portland, Eugene, and Ashland, Oregon Final Methodology and Data Report, 2013 <https://accessorydwellings.files.wordpress.com/2013/10/adureportfrev.pdf>

	N	Minimum	Maximum	Mean	Std. Deviation
How much rent do you receive monthly for your ADU?	143	\$385	\$1,800	\$880.20	\$239.42
If rent includes utilities, how much is the rent without utilities?	78	\$200	\$1,700	\$811.85	\$248.09

Based on analysis of recent ADU listings in Portland, Milwaukie, Canby, Oregon City, Beaverton and Hillsboro, ADU rents were generally between \$1,050 and \$2,000 per month. Rents varied by structure type, number of bedrooms and unit size, with the average rent overall being \$1,540. Detached ADUs tended to have higher rents, with smaller footprints. Basement ADU rents tended to be lower, at an average of \$1,275 (see Exhibit 5).

Exhibit 5. ADU Rents in Portland Metro Area by Structure and Bedroom

Source: ECONorthwest Analysis of Craigslist, Apartments.com data, 2021

Structure	Bedrooms	Most rent for	Average Rent	Most units are
Attached	Studio	\$1,475	\$1,475	500 SF
	1 Bedroom	\$1,450 - \$1,625	\$1,540	650 - 800 SF
	2 Bedrooms	\$1,595	\$1,595	610 SF
	Overall	\$1,450 - \$1,625	\$1,540	500 - 800 SF
Basement	Studio	\$1,350 - \$1,450	\$1,400	500 - 750 SF
	1 Bedroom	\$1,050 - \$1,250	\$1,150	500 - 1,500 SF
	Overall	\$1,050 - \$1,400	\$1,275	500 - 1,500 SF
Detached	Studio	\$1,450	\$1,450	450 SF
	2 Bedrooms	\$1,500 - \$2,000	\$1,700	750 - 950 SF
	Overall	\$1,450 - \$2,000	\$1,650	500 - 950 SF
Overall	Studio	\$1,350 - \$1,475	\$1,430	500 - 600 SF
	1 Bedroom	\$1,050 - \$1,625	\$1,350	350 - 800 SF
	2 Bedrooms	\$1,500 - \$2,000	\$1,690	600 - 750 SF
	Overall	\$1,050 - \$2,000	\$1,540	500 - 1,000 SF

Overall, while the variability is high due to a small set of observations spread across a wide area in many different forms and ages of homes, this suggests that ADU rents might be similar to rents for newer market-rate apartments.

What might an ADU sell for in Frog Pond East and South?

Some ADUs are sold separately from the main home as condominiums rather than being rented out or managed by the owner of the main home. These sales transactions are difficult to isolate, and there are no known examples in Wilsonville or surrounding areas. Examples of new construction small, detached condominium units in Portland have mostly sold for \$300,000 to

\$400,000—roughly 60-70% of the sale price of the main house on the same lot where both were new construction. Given this pattern and the estimated sale prices for new homes in the Frog Pond area with larger lots generally being between \$600,000 and \$800,000, the price range for ADUs in the Frog Pond area may be similar to that seen in Portland. This is also similar to the pricing for newer two- to three-bedroom condominium units in Wilsonville.

Section 3. Opportunities and Barriers for ADU development

Regulatory Barriers

The City of Wilsonville recently updated its ADU regulations to comply with state and regional requirements. ECONorthwest reviewed the current regulations to identify any requirements that could still create challenges for ADU construction in Frog Pond East and South. The primary code standards identified as potential obstacles included:

- Lot coverage and setback standards in several existing residential zones may limit the ability to build detached ADUs.
- ADUs are not allowed for townhouses (unless those townhouses meet the single-family minimum lot size). Some developers have created floor plans for townhouses with ADUs that can be sold separately and some with a flexible ground-floor space with separate entrance that can either be used as a home office or an ADU. This model is not currently allowed in Wilsonville, but could be appropriate for portions of Frog Pond East and South.

Exhibit 6: Example of townhouse with ADU / ground floor flexible space

Source: Redfin.com



Financial and Other Factors

ECONorthwest interviewed several homebuilders who are likely to develop portions of Frog Pond East and South when master planning is complete. Some indicated interest in building ADUs. They noted several factors that will influence their decision-making about whether or not to include ADUs in their floor plans:

- When building detached ADUs with single-family homes, this can require a larger lot and push the price-point for the home above what most households can afford. (Providing flexibility for ADUs on lot coverage and setback standards could help address this concern to some extent.)
- Being able to sell the ADU separately helps keep the cost down for both units. One developer's model has been to sell all units with a three-year owner occupancy requirement, including the ADUs, to ensure that they are not used as investment properties. (Another Metro requirement for Frog Pond East and South is that the City ensure that any future homeowners associations will not require owner occupancy of homes that have accessory dwelling units. This could preclude this aspect of the model, and may, ironically, discourage building ADUs for some builders.)
- Local fees are an important factor in whether developers will build ADUs. (Wilsonville does not charge SDCs for ADUs.)

Section 4. ADU Strategies

Regulatory strategies:

- Providing greater flexibility on lot coverage and setbacks for detached ADUs could make it easier to add them to a lot with less effect on the size or location of the main home.
- Allowing ADUs with townhouses (regardless of lot size) in areas where higher density is appropriate could expand opportunities to add ADUs.
- Wilsonville already allows land divisions for ADUs to be sold on a separate lot from the main home, which is mostly applicable to detached ADUs, but could be an incentive for homebuilders along with the lack of SDC fees.
- Allowing larger ADUs (the current limit is 800 square feet) could make the existing financial and regulatory incentives stronger, but would also make them even more similar to two-unit cluster housing, which is also allowed.

Financial strategies:

- The primary financial incentive that has been used to encourage ADU production is waiver of SDCs. As noted above, Wilsonville already has this option in place, and has for many years.

- Establishing a set of pre-approved building plans for homes and townhouses with ADUs, or other similar measures to streamline the review process for development, could make some difference to homebuilders. However, with a greenfield development, there are many other review and permitting processes that will tend to take longer than the building permit review, meaning that streamlining one part of the process is likely to have a minimal impact.
- A marketing approach in which the City would help direct media attention to new homes built with ADUs could provide some incentive for builders, who would benefit from the free publicity, though the City would have to approach this carefully to avoid the appearance of bias towards a particular developer.

Section 5. Conclusions and Next Steps

ADUs in Frog Pond East and South could provide additional options for small rental and/or for-sale units at price-points similar to multifamily housing but at a neighborhood scale. This makes them an important part of the mix in this area, particularly if opportunities for multifamily development in the area are limited. Past surveys suggest that people value ADUs for intergenerational households, flexible space for guests or family members, and for rental income that can help them afford their own housing costs. These factors primarily apply when ADUs are owned along with the main home and managed by the homeowner, but this may or may not be the case when ADUs can also be sold as separate units. Subsequent additional outreach will gather additional information about community perspectives and preferences which could also influence the City's approach to ADUs.

Frog Pond East and South's greenfield context means that encouraging ADU construction in Frog Pond East and South will require influencing large professional homebuilders rather than individual homeowners. The City already has many important incentives in place, including exempting ADUs from SDCs and allowing land divisions to split them from the main house. While the City has seen little ADU production, this may be a factor of private restrictions that prohibit ADUs in some areas of Wilsonville. These restrictions are no longer allowed, and will not constrain ADUs in Frog Pond East and South.

Removing subtler regulatory obstacles including lot coverage, setbacks, and allowing ADUs with townhouses could help address some of the considerations that homebuilders noted would affect their interest in developing homes with ADUs. Metro's requirement that the City prevent homeowners' associations from requiring owner occupancy for units with ADUs could inadvertently serve as a deterrent to one model of building homes with ADUs that is intended to prevent the homes from becoming investor properties. The City may want to explore with Metro whether this condition could be modified to allow a temporary restriction to owner occupancy for a certain period after initial construction.

Neighborhood Commercial Evaluation Initial Feedback Frog Pond East & South



JANUARY 2022

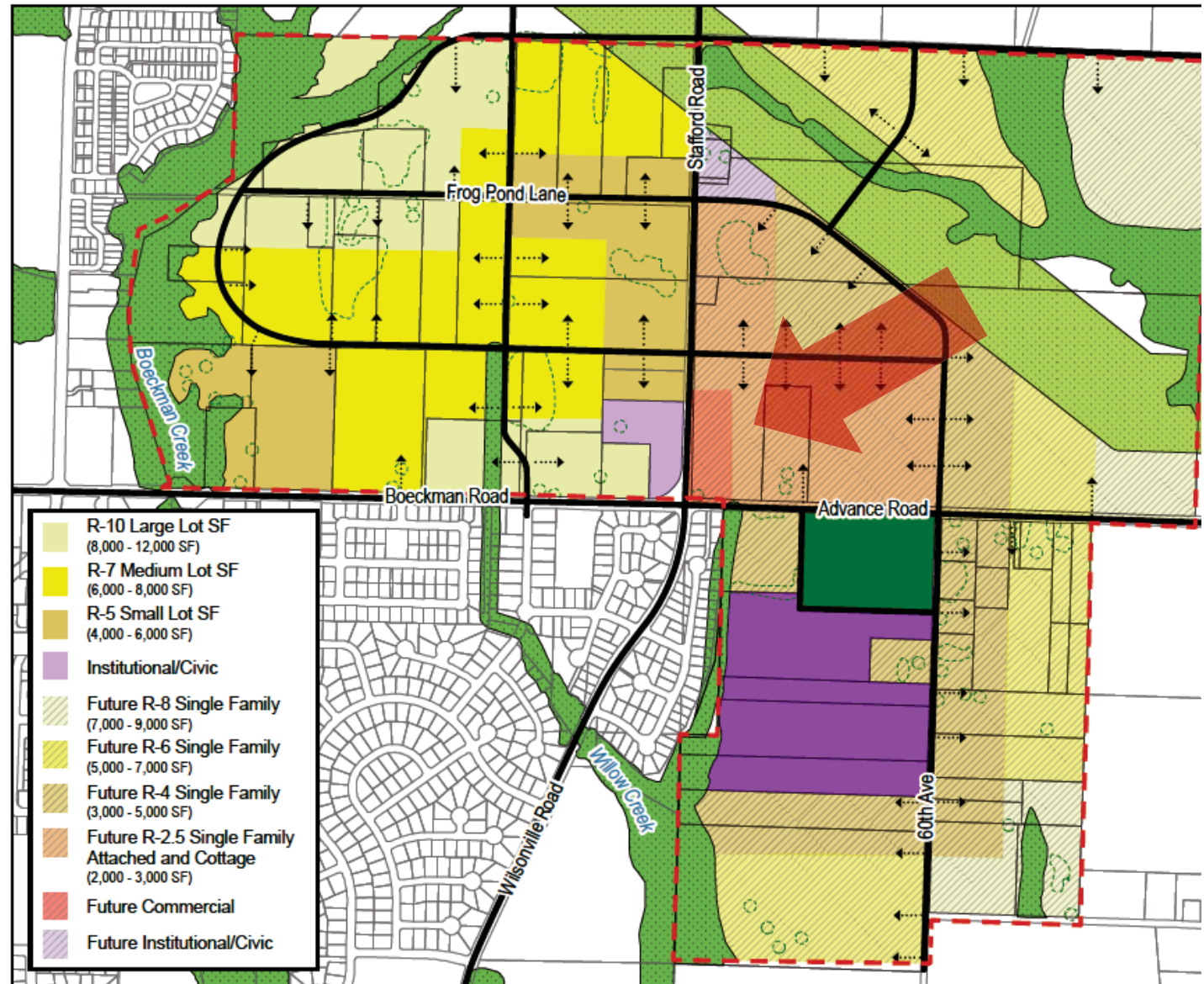
Planning Commission Meeting - February 9th, 2022
Frog Pond East and South Master Plan

Overview

- Refresher of Previous Plan/Commercial Analysis
- Overview of the Intended Analysis
- Questions to get early feedback

Land Use Framework Map

- **Size:** 3.5-acre site
- **Location:** Stafford-Wilsonville-Boeckman-Advance Road intersection (not final)
- **Vision:** A place that provides **local goods and services** within easy access of local neighborhoods, has a **high quality and pedestrian-oriented design**, and serves as a **gathering place** for the community.



Previous Program & Location

Based on previous research, a 3.5-acre center in the plan could accommodate **~38,000 square feet of retail, small office, and neighborhood services** such as a day care center.

While LCG suggested a location of the neighborhood commercial site, full consensus was never achieved.

LCG will further evaluate the program and location in this master planning project.

Overview of the Intended Analysis

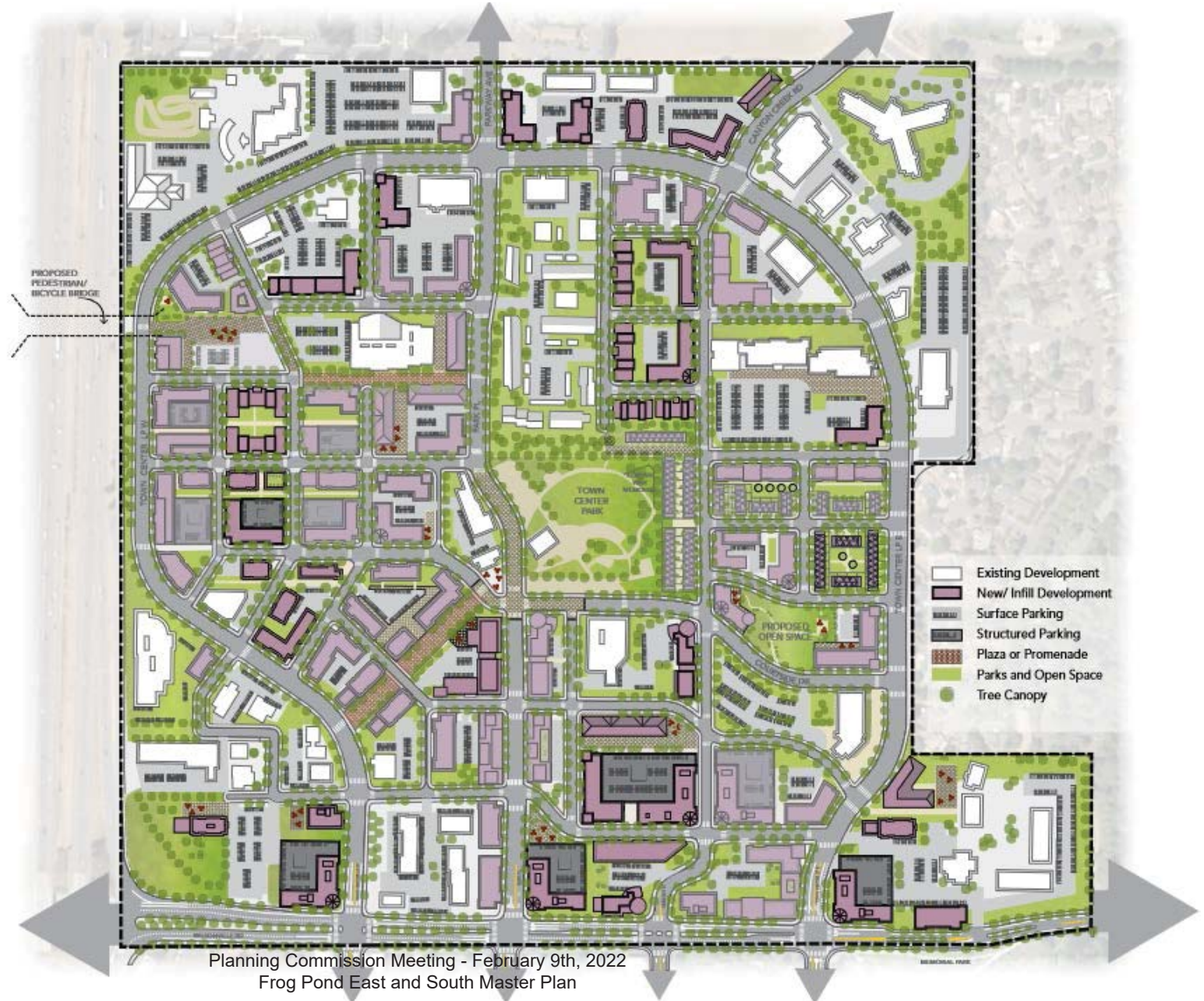
- Review recent commercial market studies and document market trends
- Interview retail developers and/or brokers.
- Analyze the commercial development market, including commercial supply and demand.
- Determine any unmet community needs.
- Detail opportunities by commercial tenant type, square footage, acreage, parking demands, etc.

Retail Trends and Shifting Consumer Behavior

- Era of **unpredictability** and risk
- **Growing ecommerce** market share, “Click and Collect”
- **Experience!**
- **Demand for convenience, walkability, 20-minute neighborhoods**
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- **More diverse and compelling tenant mixes**
- **Health-based commercial growth**

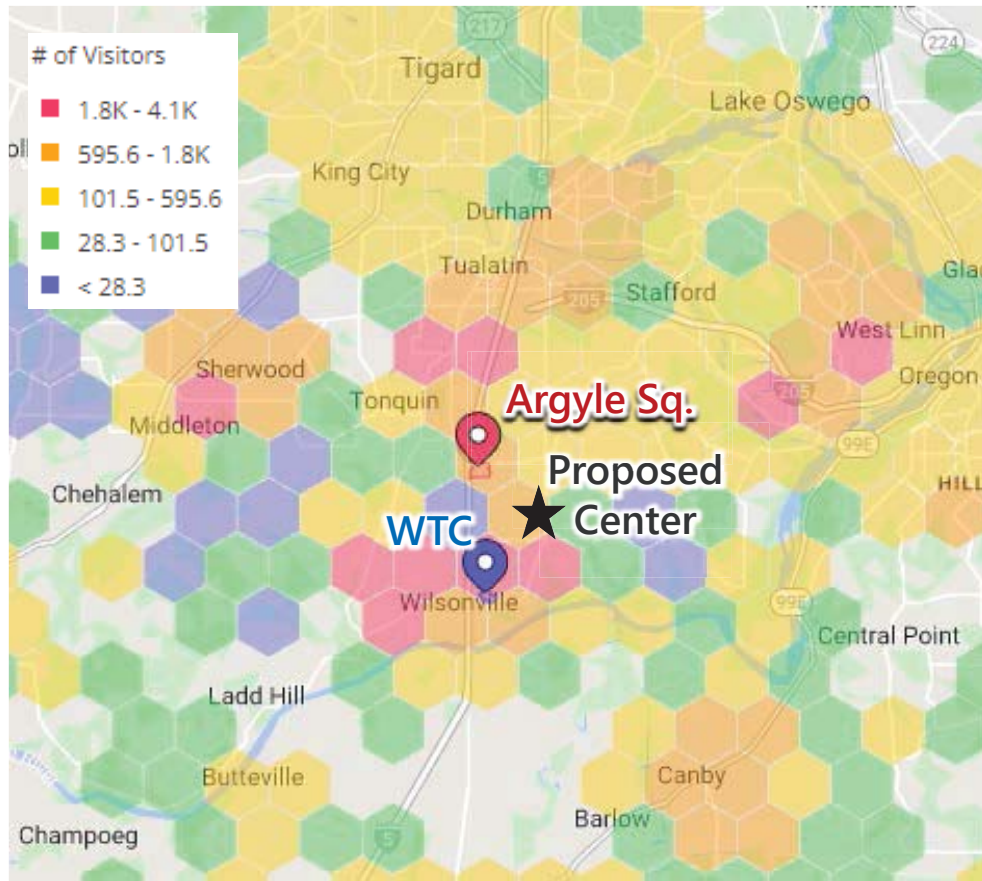
Retail Supply/Competition

e.g., Wilsonville
Town Center

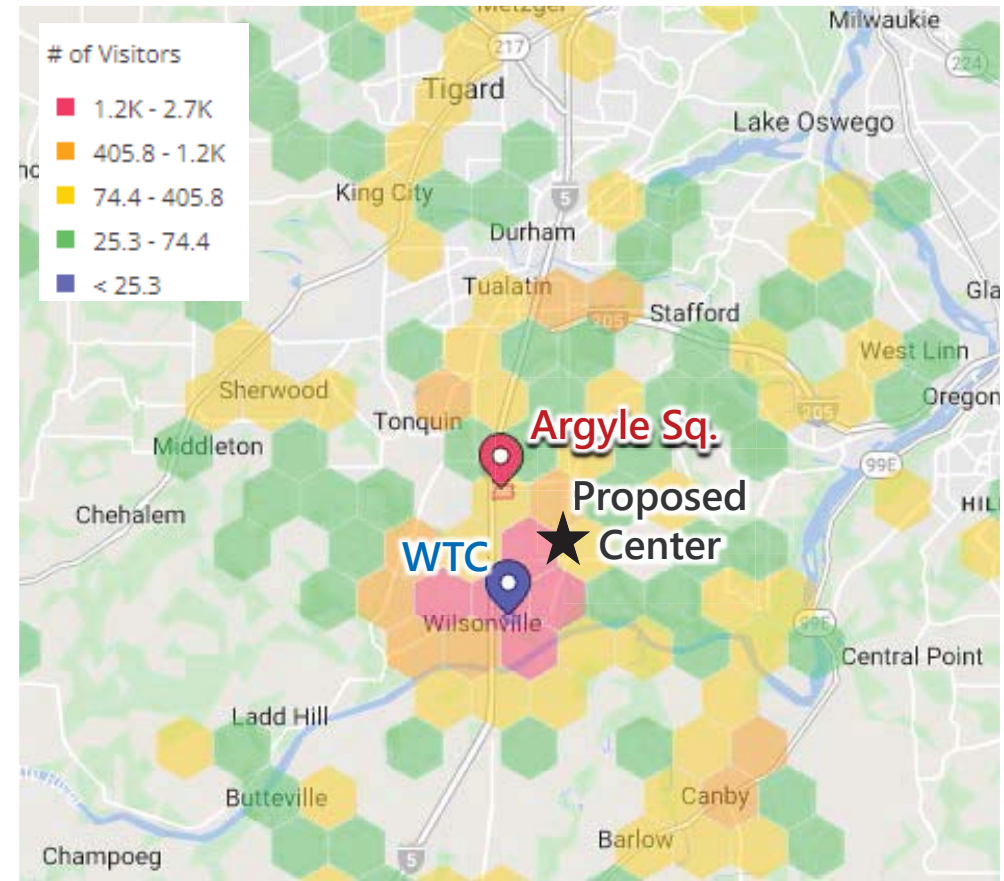


Nearby Centers Meet Current Demand for Large-Format Retail...

Argyle Square (Costco, etc.)
Trade Area



Wilsonville Town Center
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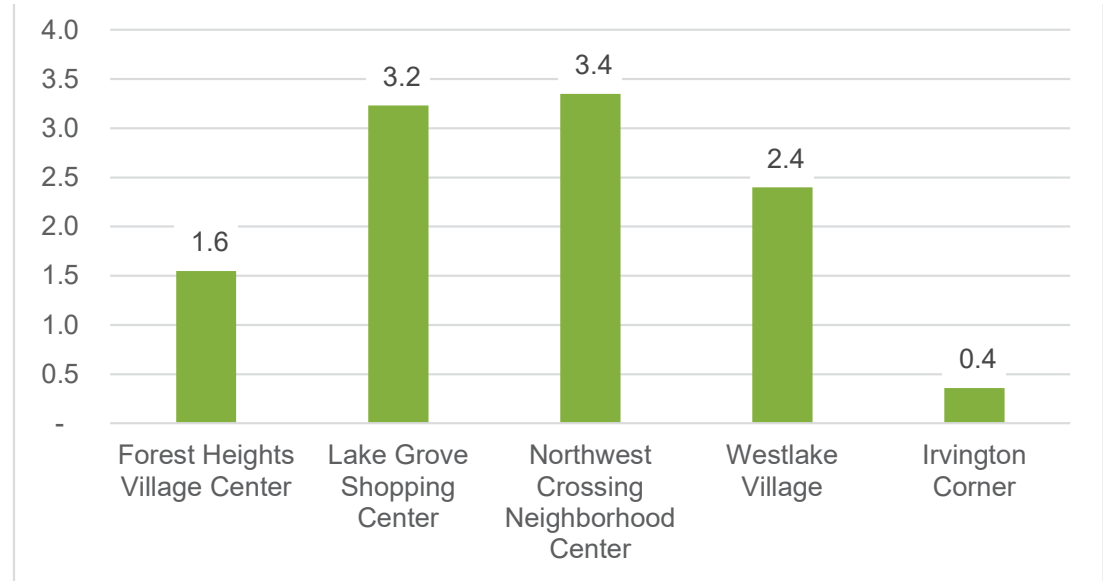
Case Studies of Neighborhood Retail Nodes

Forest Heights Village Center

1.6-acre unanchored strip center

Restaurants, convenience store, service businesses

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Other Case Studies...

Village on Scholls Ferry

- Unanchored / Freestanding commercial
- 32,000 SF
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- Tenants include restaurants, health care/fitness, white collar/office, salon



Other Case Studies... Witch Hazel Village, Hillsboro

Commercial/
Town Center,
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2004 Plan



Questions

- Has the overall vision for the commercial area changed since 2015?
 - E.g., relationship of Frog Pond to the commercial area
- The location at the corner of Advance and Stafford is not set. What should be considered in determining location?
- Is there anything else you want us to look at?
 - E.g., role of mixed-use and housing in the center, additional case studies to explore, etc.

Frog Pond East and South Master Plan

Planning Commission Work Session
February 9, 2022



Agenda for Tonight's Work Session

- Detailed feedback and review
 - Affordable Housing Analysis
 - ADU Memo
- Initial feedback and review
 - Neighborhood Commercial Center Evaluation
- Other brief project updates



Detailed feedback: Affordable Housing Analysis



Setting Achievable Housing Targets for Frog Pond East and South: Key Considerations

- Integrating affordable housing in Frog Pond E&S is part of an overall strategy
 - Meeting a proportionate share of overall housing needs by income during initial build-out of Frog Pond E&S is unrealistic
 - Some affordable housing development in the area is achievable with City policy and financial support
 - City will also need to continue other housing efforts



Affordable Housing Targets for Frog Pond East and South

- Equitable Housing Strategic Plan Action
- “Reasonably Achievable”
- Affordable Housing Analysis important tool for setting target
- Frog Pond East and South target part of multi-pronged approach



Affordable Housing Targets for Less Than 80% MFI Balancing Ownership and Rental Opportunities

- Greater funding opportunities for affordable rental housing
- Significant barriers to affordable and lower-cost ownership opportunities
 - Qualifying for mortgages
 - Legal risks for condos and financing challenges for co-op housing
- Balance short-term projects with long-term possibilities



Proposed Housing Targets for Frog Pond East and South: Government-Supported Housing

Target # of Developments	Housing Type	Population Served	Approx. Scale and Land Needs
1	Multifamily	HH earning <60% of MFI* (rental)	120-180 units 4-6 acres
1	Cottage cluster, tiny homes, or courtyard housing	HH earning <30% of MFI, low-income seniors, veterans, or people with disabilities (rental)	5-50 units 0.25-2 acres
1-2	Townhomes or cottage cluster	First-time homeowners earning <80% of MFI	10-40 units 1-2 acres

* Or households earning up to 80% of MFI where the average income for the development is less than 60% of MFI, as allowed under HUD income-averaging provisions.



Affordable Housing Examples



Apartments (affordable rental housing)

Example: Orchards at Orenco III
Hillsboro, OR

Source: REACH CDC



Legion Cottages

Cottage Cluster (affordable rental housing)

Example: Legion Cottages,
Cottage Grove, OR

Source: Homes for Good



Townhomes (affordable homeownership)

Example: William
Townhomes,
Portland, OR

Source: PCRI

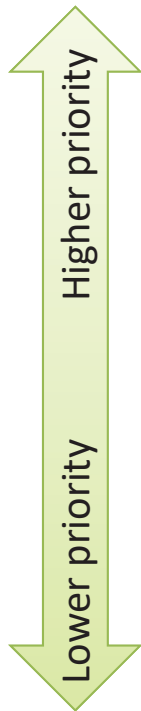


Proposed Housing Targets for Frog Pond East and South: Market-Rate Mix

- Roughly half of units potentially affordable to households earning <120% of MFI based on housing mix and market pricing



Hitting the Targets: Affordable Housing Strategies



- Zone for all housing types
- Acquire land for affordable housing
- Waive, reduce, or defer SDCs for income-restricted affordable units
- Partner with a community land trust
- Incentivize smaller and lower-cost middle housing
- Encourage builders to include ADUs
- Incentivize housing with accessible or visitable units
- Reduce multifamily parking requirements



Questions/Discussion

- PC feedback on:
 - Affordable housing targets
 - Right direction? Reasonably achievable?
 - Appropriate balance of ownership & rental opportunities?
 - Affordable housing strategies
 - Support pursuing these strategies?
 - Guidance for further refinements?



Detailed feedback: Accessory Dwelling Units



Encouraging ADUs

- Existing measures supporting ADUs:
 - No SDCs on ADUs
 - ADUs can be sold separately from main house (own lot)
- Potential changes to regulations:
 - Additional flexibility and exemptions to lot coverage and/or setbacks for ADUs
 - Allow ADUs with townhouses regardless of lot size*
 - Allow larger ADUs to provide more options for developers

* Currently the City code only allows ADUs with townhouses if the townhouse lot meets the minimum lot size for detached single-family units in the zone.



**Initial feedback:
Neighborhood Commercial Center Evaluation**



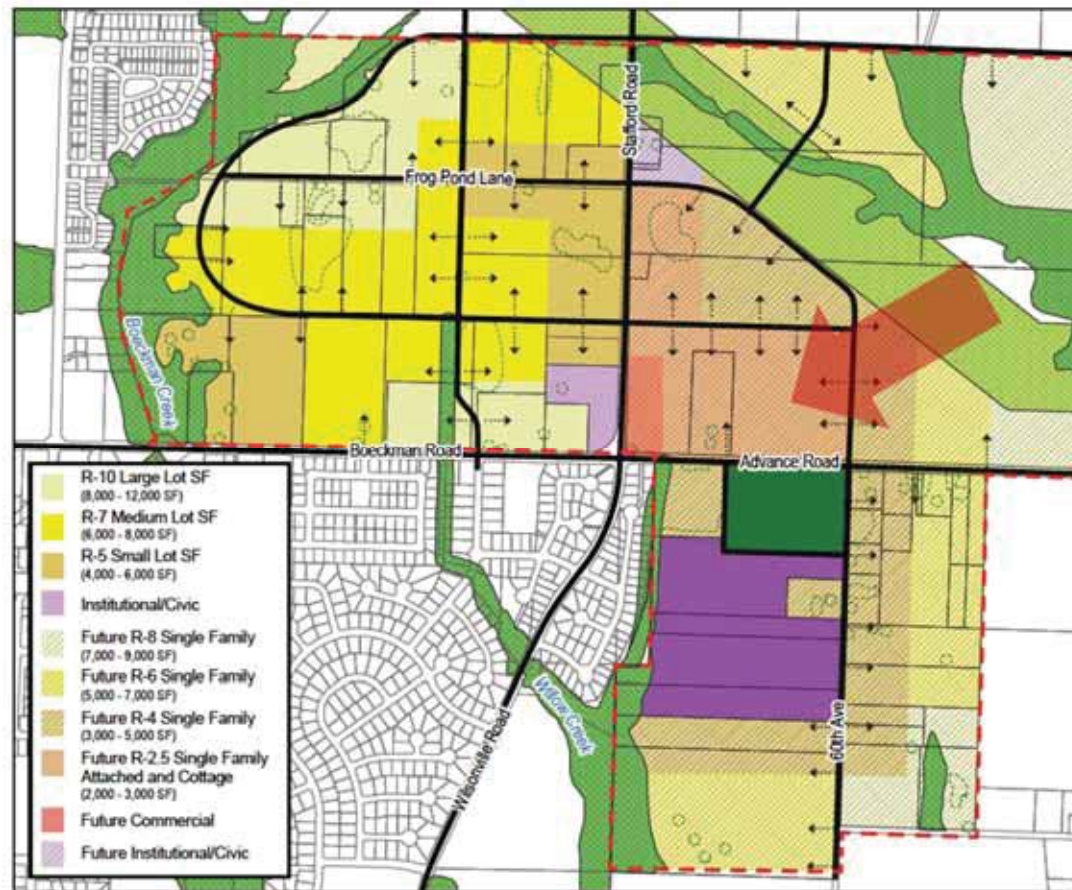
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BM5



Slide 18

BM5

none of these should end with a period

Bateschell, Miranda, 1/31/2022

Retail Trends and Shifting Consumer Behavior

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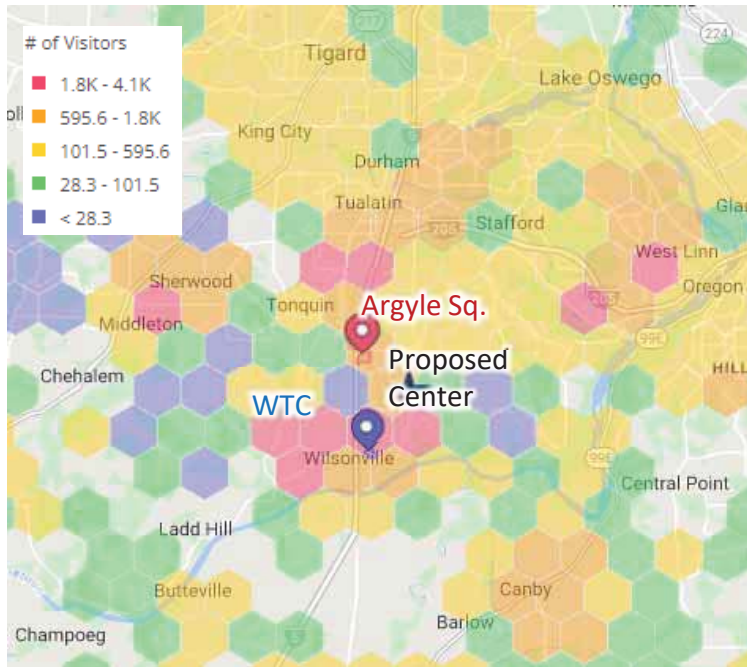


e.g., Wilsonville Town Center

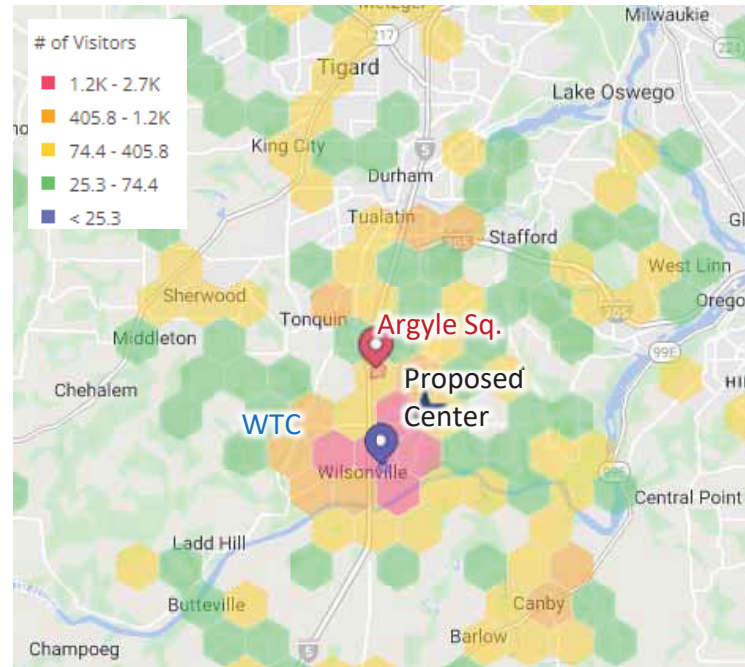


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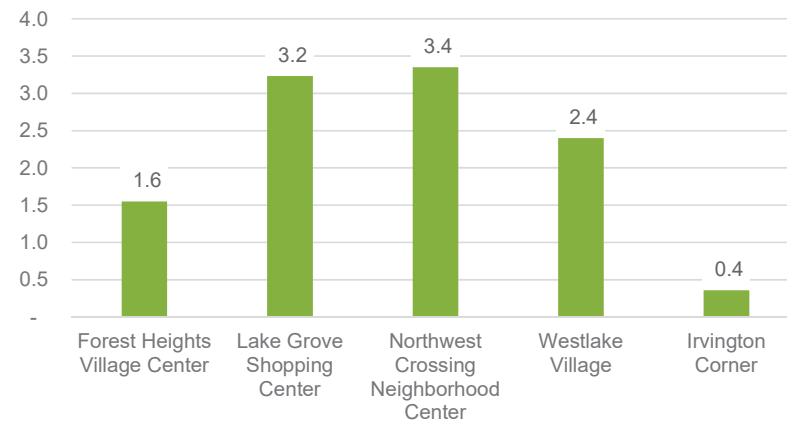
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- Is there anything else you want us to look at beyond (1) location, (2) size of retail, (3) type of retail, and (4) evaluation of mixed-use residential with retail? BM9



Slide 25

BM9

the question about location is not in here, did you want it in here?

Bateschell, Miranda, 1/31/2022

Additional Project Updates



Base mapping underway:

- Arborist report
- Natural features
- Buildable land inventory

Tree Reconnaissance Site Map

- Preservation priority based on species, size, and condition

-  Highest Priority
-  Secondary Priority
-  Lowest Priority



Morgan Holen
— & ASSOCIATES —



Aaron Woods nominated Kamran Mesbah for 2022 Planning Commission Chair.

Following a roll call vote, Ron Heberlein was elected as 2022 Planning Commission Chair by a 4 to 2 to 1 vote with Aaron Woods and Ron Heberlein voting no and Olive Gallagher abstaining.

Commissioner Mesbah passed the Chair responsibilities to newly elected Chair Heberlein.

Aaron Woods nominated Andrew Karr as 2022 Planning Commission Vice-Chair.

Jennifer Willard nominated Aaron Woods as 2022 Planning Commission Vice-Chair. Mr. Woods declined.

Brenda Tusinski nominated Kamran Mesbah as 2022 Planning Commission Vice-Chair.

Kamran Mesbah nominated Jennifer Willard as 2022 Planning Commission Vice-Chair.

Andrew Karr declined the nomination.

Following a roll call vote, Jennifer Willard was unanimously elected as 2022 Planning Commission Vice-Chair.

Miranda Bateschell, Planning Director thanked Commissioner Mesbah for being a great Chair to the Commission.

C. Consideration of the December 8, 2021, Planning Commission Minutes
The December 8, 2021, Planning Commission minutes were accepted as presented.

II. WORK SESSION

A. Frog Pond East and South Master Plan (Pauly)

Miranda Bateschell, Planning Director noted this was not the Commission's first work session on the Frog Pond East and South Master Plan and Commissioner Karr had been brought up to speed on the project. The Frog Pond Area Plan set the concept plan for West, East, and South and the Master Plan was only for Frog Pond West because East and South was not in the urban growth boundary (UGB) at the time. Since then, the land had been added to the UGB, and the City was now planning for East and South in alignment with the requirements of that adjustment of the UGB, and also in line with new State law. The project team had already introduced and received input from the Commission on the affordable housing topic. A lot more work had been provided in tonight's meeting packet and she looked forward to having a robust policy discussion about affordable housing. The project team had a couple topics to introduce and get direction on, but tonight's focus was on housing and planning for needed housing in the community.

Daniel Pauly, Planning Manager, introduced the project team and noted tonight's work session would continue discussion on affordable housing and accessory dwelling units (ADUs) in further detail and begin discussion on the Neighborhood Commercial Center Evaluation to get the Commission's initial feedback. He began presenting the Frog Pond East and South Master Plan via PowerPoint, noting the key considerations for setting reasonably achievable housing targets for Frog Pond East and South and reviewing the funding opportunities and barriers for housing targets for households making less than 80% median family income (MFI), adding that affordable home ownership was a Council goal. The City had ongoing efforts around vertical housing tax credits, housing development on land owned by the City next to the SMART station, and a number of other efforts related to middle housing projects that were forthcoming.

Kimberly Rybold, Senior Planner, added that Frog Pond East and South was a unique place with unique characteristics that made some aspects of affordable housing development more feasible than others.

Becky Hewitt, Senior Project Manager, ECO Northwest continued the PowerPoint, reviewing the findings from the Affordable Housing Analysis and the resulting proposed housing targets for government-supported housing and a market-rate mix of units in East and South, as well as affordable housing examples and strategies for hitting the proposed affordable housing targets.

Joe Dills, Angelo Planning Group (APG), noted the memo and meeting materials included a lot of background on what housing types serve what types of incomes, which was important to keep as part of the context, and what the housing mix would be if the area plan was developed as it stood today.

Commissioner Tusinski:

- Asked why first-time homeowners were targeted toward townhomes and cottage clusters versus condominiums.
 - Ms. Hewitt responded there were several reasons, including increased liability as condominiums face greater legal risks from construction defects, which was a challenge for condo development in general. Habitat for Humanity built condo development in some very high-cost markets, like in the Bay Area, but in the Portland region and Portland suburbs, their housing was predominantly townhouse style with some detached housing. Some other land trust models did condominiums occasionally, but it was less common. Doing a condominium with a community land trust involved more levels of complexity. Small detached or smaller attached housing that stayed within the residential building code tended to have lower construction costs, less legal risk, and worked better on scattered small sites, depending on the scale of the project.
- Noted comments that ADUs could be sold separately and asked what that kind of ownership would look like, if the ADU would be sold together with the land underneath it, and what would happen with ADUs attached to the original structure.
 - Mr. Pauly explained that as part of the recent Middle Housing Code updates, the City allowed for middle housing land divisions to include ADUs so the portion of underlying land on the lot could be divided off and sold with the ADU. A condo-type scenario would also work, if it was interior or made more sense otherwise. Generally, see middle housing land division type approach because [inaudible].
- Noted some brownstone-type units in Villebois had an ADU at the bottom of the structure and asked how the land division would work if that ADU was sold separately.
 - Mr. Pauly responded that middle housing land divisions only worked for horizontal division; for vertical division, a condo type division would be done.
- Asked how the ADU would be part of the deed going forward, if it be conveyed in a condo or easement style; how would it be conveyed to a future owner?
 - Mr. Pauly replied a condo would be conveyed as a condo to the future owner and the middle housing land division would be more like a traditional property transfer.
- Understood that if the original owner of a basement ADU sold the ADU, it would be considered a condo, perhaps with some kind of easement for ownership purposes.
 - Mr. Pauly said there would certainly be some easements involved, but he had not drafted one up yet.
 - Ms. Hewitt added that in some cases, a condominium association would be created with a condo for the main house and a condo for the ADU, so they would become a two-unit condominium association and it would function like a condominium. A block of townhouses where all the units were being sold as condominiums might be a larger condominium association.
- Asked how a lender would provide a loan for someone buying that property, as it seemed a little tenuous.
 - Ms. Hewitt replied it would probably be more complicated than buying a lot resulting from a land division, but not necessarily more complicated than buying a condo ownership in a condo tower. It was a different physical form, but the form of ownership and shared and individual pieces were the same structure as other condominium development. The detached ADU could have an actual land division and the buyer would own the land itself.
- Stated with regard to the questions, she believed the targets were the right direction. She would like to see housing be a lot more affordable than Frog Pond West. She supported pursuing the housing strategies,

adding she wanted to study how the ADUs would be conveyed a bit more, but everything else looked good moving forward.

Commissioner Mesbah said he liked the direction, and had read the analysis, which provided a factual outline of the parameters and constraints in the neighborhood. The neighborhood was on the edge of Wilsonville and accessibility was a consideration. With all the work done on the Town Center neighborhood redesign and the units expected there, it would be a much better place for some of the more affordable units. Not that Frog Pond was not a suitable place; the analysis showed what could feasibly be done in East and South. He liked the mix of approaches and encouraged the City to move with policies and programs to improve the limited infrastructure and allow it to be more active and implement what was being proposed. The Frog Pond neighborhoods should be used as a springboard for the City to reach the level of being able to buy land and give it to a land trust so they could develop and implementing other approaches being proposed. He hoped the City would use this as an opportunity to expand its capabilities. He liked that the strategies were pretty comprehensive. He had read about Council's discussion about wanting ownership, but he believed a balance was needed with rentals. The analysis showed the affordability of units and access to housing was facilitated with rental units much more readily than ownership; therefore, rentals should not be ruled out completely from East and South because that seemed to be only hope for some people at lower income levels. All in all, like what he saw and looked forward to how it expanded, evolved, and developed.

Commissioner Willard:

- Noted the targeted number of developments was very small; less than 15% of the houses being offered were being hit with the targeted developments. (Exhibit 14) The balance, 85 percent, would be high-income over 120% MFI and middle housing income, which would be 80% to 120% MFI, which was not displayed in Slide 7. She was surprised that such a small portion of the housing offered would be targeted for affordable housing. This approach did not seem to be addressing the gap identified in Exhibit 15 very aggressively.
 - Mr. Pauly replied that got back to the multi-pronged approach and what was reasonably achievable. It was an excellent observation. It had come from the data the team received and the thoughtfulness going into the analysis was not expected at the level Commissioner Willard was conveying. The level of change or impact that could be made was fairly mild, even with a fairly aggressive program. The multi-pronged approach would be a lot stronger as part of a snowball effect with other projects around the city.
- Liked how the graphs indicated that a lot of middle housing could be offered, which was expected to free up some of the low-income housing currently occupied for different households. She was looking forward to seeing more, noting the concepts were new and being multi-pronged, they could be quite complex.

Commissioner Woods commended the project team for the work done so far. A lot of variety had been brought for the Commission to consider and it was tough getting a balance for affordability for low-income individuals. The affordable housing target was the right direction, but he was a bit skeptical about whether it was reasonably achievable. As far as the appropriate balance of ownership and rental opportunities, at the last meeting, the Commission was not sure about the rental opportunities, and as mentioned tonight, how would a balance be achieved without having some rental homes in the mix. He believed rental homes were needed. He confirmed with Staff that there were currently no places governed by a land trust in the city. A land trust was one way of getting lower-income people into homeownership relatively early, and he would like to explore that further. He commended the different affordable housing strategies that were proposed, adding the difficulty in achieving some of those strategies had been brought to the forefront. The Commission would need to dig deep to figure out the best approach to those strategies and he believed the team was moving along in the right direction.

Commissioner Karr:

- Stated when comparing Exhibit 14 to the Equitable Housing Strategic Plan (EHSP), one graph on Page 7 indicated what the future households would look like by MFI. It seemed the distribution of housing for these projects was heavily weighted on the high side, and the distribution needed only 49% in that area, leaving 55% on the lower side. This would result in having to focus on some type of low-income/median-income

housing, whether they be apartment complexes, townhouses, or cottages, especially since Frog Pond West was almost exclusively geared toward mid- and high-income housing, which seemed where the city was trending. The city could not have segments of the development isolated by income brackets so they needed to provide for some intermixing of the housing types.

- Liked the ideas that had been presented, especially regarding the commercial segment. Moving out in a circle from the commercial area, he liked how it started with some rental units and then there were larger lots moving farther away from the commercial area.
- Asked if there were any current limitations in the Code that prevented land trusts or had they just not been used.
 - Mr. Pauly responded he could not think of anything in the Code that would specifically limit land trusts, but there were other barriers like financing and controlling land were also factors.
 - Ms. Hewitt noted it was possible that some land trusts operating in the Portland Metro region could own some individual homes within Wilsonville. She agreed it was not an issue of regulatory barriers as having the opportunity to acquire property and having the funding available to do so.
- Asked about any complications with HUD housing, if any existed in Wilsonville, and whether the housing was scattered across the city.
 - Ms. Hewitt responded that regulated, affordable housing did exist that received funding through HUD.
 - Ms. Rybold believed there were between 400 and 500 units. A table in the EHSP called out the specific complexes and the number of units provided in each. A few different projects were integrated into Villebois, a couple were located along Wilsonville Rd, and Creekside Woods was across from City Hall, but the majority of HUD units were on the western side of Wilsonville.
- Understood one side of the city would not be overwhelmed if HUD housing was considered on the eastern side. He liked the current direction and the analysis when the EHSP was considered as well.

Chair Heberlein:

- Noted Exhibit 15 and said in comparing the proposed target to the need gap and city distribution, 14% about 185 homes of the required 1325 units would be affordable. He questioned if that was enough and if the goal was aggressive enough. The city distribution was a snapshot of all the housing inventory and covered multiple decades of growth. He was curious to see the subset of the city's distribution in Villebois to get an idea for how that very recent development looked. In Wilsonville, Villebois was kind of a goalpost of a mixed development with high-income and middle-income and he wanted to see how much lower-income housing was there to gauge what Frog Pond East and South might be able to achieve.
- Suggested raising the percentage to 20% and asked the project team to describe the conversations that resulted in the proposed 14%, including discussions to raise the percentage and the pitfalls of doing so.
 - Mr. Pauly responded land acquisition and land control were big factors as well as feasibility. If the City could acquire land, a nonprofit or another affordable housing developer had to compete in the open marketplace with market-rate developers. Infrastructure costs were quite steep when developing new urban areas. Besides land costs, construction costs were also quite high, which was a barrier.
 - Ms. Rybold said an inclusionary zoning policy was one tool some municipalities used to provide either incentives or requirements for affordable housing in Oregon, but not typically used for multifamily development. Those requirements ranged from 10% to 20% and 20% to 25% were seen as fairly aggressive, so she was uncertain whether the overall percentage was that far off from how some of those programs typically ran. She noted there were 449 government-subsidized units in the city.
 - Ms. Hewitt explained the 14% was not intended as a precise number at this stage, partly because the previous plan and the 1325 units envisioned no multi-family, so the total number of units would probably be higher with multifamily, affordable housing in the city. The targets shown were how the team backed into an achievable goal. Having one typical multifamily rental project was not ambitious in light of the work the team had done, yet very ambitious in the sense that the City would have to make some moves it did not have a history of making, particularly in a Greenfield area in private ownership. Villebois was a different situation, starting out with public ownership. It would be a real win and a real feat for the city to get one affordable development of the different housing types. However, the Area Plan showed it

was not a foregone conclusion the City would get any affordable housing development in the area, and a do-nothing approach would likely result in zero affordable units below 80% of medium family income.

- Affordable housing developers could possibly make it work on their own with no help from the City, but that was not very likely. The City could get to that roughly 14% target if it operated differently than in the past, but still within the realm of what cities about Wilsonville's size could do and have done. It was plausible for a city like Wilsonville to do some of these things, even though they were new.
- The target was ambitious on some levels even though it might not feel that they would achieve as much as the Commission would want; actually hitting those targets in East and South would take some work and the City would be proud of having done that.
- Believed the project was going in the right direction but he wanted to make sure it was achievable. He would rather err on the side of trying to get more affordable housing, As far as the balance between ownership and rental opportunities, rentals were important part of the strategy for having meaningful affordable housing based on the report. He supported the strategies and liked the idea of land acquisition being one of the high priorities because it did give the City control, although it was a new thing for the City. The parking reductions were on the low side. Having been in Wilsonville for 10 years and hearing about some of the challenges and concerns around parking and multifamily housing, the idea of making that problem even worse was concerning and an issue the Commission would have to tread very carefully on.

Commissioner Mesbah stated there was a time when cities acquired land and developed housing on their own, but now all kinds of market analyses were done. Buying land was a great idea; however, that should have been done before the area came into the urban boundary causing land prices to skyrocket because everyone knew it would get developed. The City of Wilsonville had a housing strategy, but it needed an affordable housing program. Not having a program handicapped the City in many ways in achieving an affordable housing strategy because no program existed to implement it. He asked for a future Staff presentation on the requirements, staff, budget, etc. involved in setting up a housing program and how could the Commission encourage City Council to move in that direction.

Commissioner Karr asked how much of an impact waiving, reducing, or deferring SDCs would have on the overall build of affordable housing units. (Slide 10)

- Mr. Pauly believed the impact would be pretty large, adding the project team would learn more about that in the coming months. The initial financing and outlay for building the necessary infrastructure could be substantial especially in new urban areas, but if the reduction in SDCs was too big, how would the infrastructure be built.
- Ms. Becky added that the recommendation was for income restricted housing and reducing or waving SDCs would not change the affordability of the housing per se but would reduce the other subsidy needed to deliver it. The rent that the household would pay would not change, but it would reduce the gap between what they could afford and what the actual cost was. The interplay between the affordability strategies and infrastructure financing strategies would be explored further.

Mr. Dills added that in April, the Commission's discussion would be around crafting the initial thoughts on alternatives. A range of housing programs would be considered in combination with additional information on commercial, and some of the base mapping and initial design ideas. That discussion would provide the opportunity to look at the affordable housing types in combination with the strategies in the report. The important thing was the approaches and not the exact specific numbers of each housing component. Some alternatives might consider a range between 14% and 20% of the total housing. Secondly, the comment about integrating affordable housing into the total housing form of the area highlighted a very important planning strategy. Affordable housing should not stand out or be the only tall buildings but be combined with market rate housing types. One should not be able to tell the difference between the affordable and market rate housing. Such ideas would be discussed in context of alternatives in April.

Chair Heberlein agreed integrating the housing types was critical to the look and general feeling of the neighborhoods. He understood that to be successful on the housing targets for the different housing types, the City would need to do some things differently to facilitate those things happening. He asked if it would make sense to define what the City would need to do in a fifth column when presenting to Council. (Slide 7)

- Ms. Hewitt responded that some things were hypothetically possible with no action by the city. For example, the bottom two rows were hypothetically possible, just not very likely if the city did not allow multi-family, did not give any money, acquire any land, or waive any SDCs. Multi-family, the top row, would not even be allowed under the Area Plan land uses. There were a range of strategies the City could use to make any of the housing types more likely. It did not have to be land acquisition, though that was a great way to get there if it could be done. It was a question of going through a probability that was very small to a probability that was very high or a probability that was at least somewhere in the middle, depending on which strategies the City would implement and to what extent.

Mr. Pauly continued the PowerPoint presentation highlighting what the City had already implemented to support ADUs and additional potential changes to regulations to further encourage and allow ADUs. (Slide 13)

Ms. Hewitt added the team heard that interested developers were likely to be active in the area, particularly in ADUs within a townhouse setting, such as the brownstone configuration seen in Villebois, so allowing for larger ADUs aligns with what had been heard and would likely increase the uptake and delivery of ADUs in East and South.

Commissioner Karr:

- Noted in looking at Exhibit 3, the majority of ADUs was for supplemental income for homeowners, not separate ownership. ADUs were being sold separately in the Portland area. He asked if the developers interested in doing ADUs in townhomes anticipated the homeowners renting out the ADUs while still maintaining ownership.
 - Ms. Hewitt responded one developer expressed interest specifically in a for sale product, selling it as a condominium separately. The survey information, research, and focus on ADUs had been on homeowners building them in an infill setting with an existing home. The motivations and outcomes could be pretty different when an ADU was built that way versus a home builder building both the house and ADU at the same time and then selling them. Somebody buying a home with an ADU built and sold as part of the main property might align more with the survey. Not all ADUs that might get built in this area would necessarily be sold with the main home. Concerns were heard about a higher price point up if somebody had to buy a home and the ADU, which was kind of a trade-off.
- Liked the having ADUs as a mechanism to have some affordable housing, regardless of whether it was a rental or separate ownership. It would be nice to survey the developers to see why they wanted to develop ADUs as opposed to smaller units.

Commissioner Woods noted Exhibits 1 and 2 on Page 33 identified the top reasons for ADUs, 67% were to have someone close by but still living separately, and 64% to help someone elderly or who needed help with chores. These were the reasons he thought about ADUs initially, but he liked the idea of an individual being able to purchase a home, and at some juncture, be able to add an ADU for whatever reason. He still struggled with the idea of selling an ADU on a property which could cause some problems as mentioned. He liked ADUs from a rental standpoint as well, but not from an ownership standpoint. Perhaps the City was trying to do too much in expanding ADUs in order to achieve affordable housing. He did not really support the ownership approach but did believe ADUs should be part of the housing mix.

Commissioner Willard said that as a mother of two young adults with special needs, she loved and supported ADUs.

Commissioner Mesbah said he agreed with including ADUs and the strategy being pursued. The ownership issue raised by Commissioner Woods was interesting, and it seemed there could be difficulties in the neighborhood. If

somebody decided to subdivide, their neighbors might not like that. It would be helpful to look at where such lot divisions were happening or were likely to happen. Selling ADUs in a townhouse seemed to be like condominiumizing an existing apartment building, and if it worked design wise, that was fine. But he was unsure about splitting single-family residential units into two single family lots, so knowing how many were possible would be helpful. He noted Exhibit 3 showed that more than half of the ADUs were becoming rental units, which was another affordable unit and a good use of the existing land and existing housing stock. It would deal with affordability and variety, providing a mix of houses.

Commissioner Tusinski said if smaller ADUs were initially sold with the bigger townhouse or property, it was difficult to call them a house and ADU, especially if in more of a condo-style ownership. She would prefer that they just be called condos, even if one was significantly smaller than the other. Additionally, she suggested talking to lenders for additional information about loans on properties with ADUs because getting a loan based on any additional income from an ADU rental was difficult.

Chair Heberlein said he generally like the idea of ADUs as another tool in the toolbox. Until mention of the brownstones, he had struggled with figuring out how the typical detached ADU would fit in Frog Pond East and South, knowing the majority of the lots would be smaller. He was nervous about reducing setbacks due to the impacts on the look and feel of the neighborhood. Moving forward, he wanted to talk about which setbacks should be relaxed to better understand the tradeoffs. Reducing the front setback by half might be a pretty significant difference with only one house on the block that had an ADU in the back, which would look very out of place. Using brownstones to encourage ADUs in smaller lot developments seemed like a reasonable way to facilitate ADUs without being out of place with the character of the neighborhood.

Commissioner Karr added some developers wanted to build ADUs if they were sold separately but it was uncertain whether that would fit the model people wanted to buy. Would the City be directing developers to build a bunch of ADUs that were not sellable or encouraged to be sold? He like the idea of ADUs for family members, rental units, etc. which seemed to be a practical application; however, if the builder was not going to build them, it would become a moot topic. He would like to hear from builders about what their propensity would be to build ADUs, if they knew they would be sold as rental units. Then, the initial purchase might not be affordable, but the rental unit might be.

The Planning Commission took a brief recess at 8:05 pm. The meeting was reconvened at 8:10 pm.

Mr. Pauly introduced the Neighborhood Commercial Center Evaluation, noting the evaluation would be discussed in more detail in April. A neighborhood commercial center added important amenities, such as gathering spaces, services, and benefits, like making a neighborhood more walkable. Feasibility, the types of services available, how the commercial center should be built, whether it should be phased over time, were some of the questions to consider, especially with today's retail market being so interesting right now.

Sam Brookham, Leland Consulting Group, continued the PowerPoint, presenting the Neighborhood Commercial Center Evaluation, providing a refresher of the previous plan and commercial analysis and an overview of the project team's intended evaluation, which would include consideration of alternative locations for the commercial center. Also highlighted were the current retail trends and shifts in consumer behavior, competition with nearby retail centers, and case studies of neighborhood retail nodes.

Responses from the Commission to the questions displayed on Slide 26 regarding the vision, location, and additional suggestions regarding the commercial area were as follows with responses to questions as noted:

- The overall vision had not really changed since 2015.
- The location and size of the retail area were good. The commercial area would not only serve people in Frog Pond, but those commuting on the two main roads as well since it was so easily accessible. No big stores were needed as a smaller retail location would be ideal with a coffee shop, small market, or a nail salon, perhaps, for Frog Pond's residents.

- The proposed area would work well to serve the neighborhood and it had good exposure that would be helped by traffic.
- The sensing being done on the retail trends was good, and further evaluation of experienced based retail would steer the project team in the right direction.]
- Mr. Brookham clarified “click and collect” was buying something online and picking it up at the store, a kind of hybrid version of shopping.
- Mr. Brookham explained there were a couple strategies to think about from a housing perspective as far as how the commercial center would fit in with the housing expected in Frog Pond East. Retail strategies were flexible so they could evolve with how an area built out and upcoming trends. For example, a buffer zone surrounding the retail node with some slightly higher density residential, and at some point in the future, the existing concentration of retail could evolve and kind of move out into the higher density residential as mixed-use ground floor commercial. That was one way it would interact with surrounding housing units. Fundamentally, thinking about [inaudible] spending and the consumer spending habits of any future residential tenants would be important to the team’s analysis and the primary source of revenue for all retail tenants.
 - With regard to traffic congestion, as market analysts and real estate strategists, their work was to make recommendations on how sites might build out to accommodate light speed traffic, and in later phases, what side of the street was more accommodating to in/out commuters, as well as planning access and parking configurations, etc.
- Traffic was a very important consideration especially because with the school up the road on Advance Rd.
 - Mr. Pauly noted the access on the arterial was quite a way back from the intersection, so a lot of access would likely have to come off a local street rather than directly off the main arterials. Access and circulation during certain times of the day were important considerations. The traffic team would look at congestion as part of their analysis. Spacing standards and many other things would help ensure congestion was unduly being added in any area.
- Was a multi-level or one-level structure a being considered for the commercial center? Considerations for Town Center involved retail on the bottom and housing on top, which in this case would be office space.
 - Mr. Pauly explained there was specific direction in the Area Plan to look at mixed-use residential with retail, which the Commission would discuss, as well as the feasibility of whether that was a good idea in this context.
- The proximity to the school and potential foot traffic needs to be considered when considering location, which would impact traffic. At the main intersection, people on the arterial roads would be driving into a neighborhood and pushed closer to the primary and middle schools, which was a concern.
 - Commercial ground-floor shops with housing units above was suggested. Even with a multi-floor structure, multifamily apartments should not stick out like a sore thumb, so there could be multi-story commercial buildings that transitioned to multi-story multifamily housing units, and then transfer out that way, in essence creating a multifamily ring around the commercial area. This matched the commercial buildings in the middle surrounded by multi-floor condos shown in one of the examples.
 - The Westlake Center included gift shops, dry cleaners, massage salons, a wine bar, and jewelry stores. The proximity to the school might influence the retail in the subject commercial center; perhaps food businesses would be considered.
 - The commercial center was far enough away from Town Center that it probably would not have an influence. The general location proposed in Frog Pond was good because it would attract people driving out on Stafford Rd to go home.
- The proposed location was the right place when citing commercial to get closest to the largest number of people. Any farther north on Stafford Rd or any farther east on Advance Rd would be farther away from the population center, which did not make any sense.
 - One important thing was to work with SMART to make sure the transit stop was aligned as closely as possible to the commercial development. Relocating the transit stop to support both the school and the commercial node, making it more convenient for people to get there would only help with increasing the viability of the commercial model.

- Having retail nodes examples more closely aligned to the amount of traffic expected in Frog Pond would help the Commission understand what was viable. Areas with three times the amount of traffic could have a significant impact on the viability of a development.
- Other considerations included rooftops within its circle of gravity, and income.

Mr. Dills concluded the PowerPoint presentation, highlighting additional project updates. The project team was making maps, updating the existing conditions work, and making a buildable land inventory where constrained lands were netted out to determine the land base. The fieldwork and a draft memo had been completed for an arborist report mapping the trees and assigning priorities to their condition and health. The information will be married up with the housing and commercial information provided so far.

- The April discussion would be a good launch point for the collaborative outreach discussed to date. The active, design-oriented meetings would follow the Commission's discussion in April.

Commissioner Karr understood the UGB had been expanded to include the land, but the chart showed only the school area being in the UGB.

- Mr. Pauly confirmed the subject land had been included in the UGB, but the presentation showed an old line. (Slide 29)

III. INFORMATIONAL

A. City Council Action Minutes (December 6 & 20, 2021, January 20, 2021) (No staff presentation)

Miranda Bateschell, Planning Director, provided a brief update about the Aurora Airport Comprehensive Plan policy discussion, noting the item would return before the Commission in April following some outreach to gather community input and feedback on potential issues, use of the airport, interests, how citizens interface with the community, etc. to just track the different areas in which the City should be thinking about the policy.

- Staff was in the process of putting information about two virtual open houses on March 9th and March 10th into the Boones Ferry Messenger, and launching the Let's Talk Wilsonville page.
- The survey would be open for almost four weeks, bridging late February into early March. Additionally, several stakeholder interviews were being done based on the input received from both the Planning Commission and City Council last month. All this information would be used to help the project team draft an outline or draft policies to bring before to the Commission in April.

B. 2022 PC Work Program (No staff presentation)

Miranda Bateschell, Planning Director, confirmed March's agenda looked very light, though the information session on the Boeckman Road Corridor Overview could be meaty. The big project interfaced with Frog Pond and its master planning. Engineering was prepared to update the Commission on that and answer any questions. Other agenda items might be added in March.

Chair Heberlein asked if there was anything from April's agenda could slide back into March, such as the informational session on the I-5 Bike/Ped Bridge to lighten April's meeting.

- Ms. Bateschell confirmed Staff was doing its best to pull items into the March meeting.

IV. ADJOURNMENT

Chair Heberlein adjourned the regular meeting of the Wilsonville Planning Commission at 8:46 p.m.

Respectfully submitted,



CITY COUNCIL
THURSDAY, JANUARY 20, 2022

WORK SESSION

Frog Pond East and South Master Plan (Pauly)



CITY COUNCIL WORK SESSION STAFF REPORT

Meeting Date: January 20, 2022		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable Comments: N/A	
Staff Recommendation: Provide input on the affordable housing component of Frog Pond East and South Master Plan.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE CITY COUNCIL:

Provide feedback and input on the affordable housing component of the Frog Pond East and South Master Plan project currently underway. In using the term affordable housing in this context, staff is referring broadly to both market-rate housing that is economically attainable for moderate-income households as well as housing that is subsidized for lower-income households.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified local housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a master plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the subject land east of Stafford Road known as Frog Pond East and South. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process also identifies water, sewer, stormwater and transportation infrastructure needs and funding sources.

Parts of the Frog Pond East and South Master Plan will be similar to that of Frog Pond West completed in 2017. This includes the same level of sub-district analysis and commitment to quality design, walkable neighborhoods, and natural resource and tree preservation, building on the basic framework from the 2015 Frog Pond Area Plan. In addition, the project team will build its infrastructure funding approach off the work previously done for Frog Pond West.

The Frog Pond East and South Master Plan will also be different from the Frog Pond West Master Plan in a number of notable ways. This includes looking at housing variety and distribution with (1) additional focus on housing for a wider variety of income levels and how to encourage housing options not historically well-provided by the market, as directed by the City's Equitable Housing Strategic Plan, and (2) less focus on mathematic density calculations and more focus on how the built form of housing structures contribute to the look and feel of the neighborhood. The master plan process will examine adjusting how System Development Charges (SDCs) and other infrastructure fees are calculated to ensure infrastructure costs are equitably carried by varying housing types and update the infrastructure funding plan. Building on experience from past projects, the planned process also includes a broader and more inclusive outreach program to ensure a variety of groups, particularly those historically marginalized, have a meaningful and impactful voice in the decisions made.

The Planning Commission held a work session on December 9 that included a discussion of housing. This work session focused on the needs and opportunities for lower-cost housing in Frog Pond East and South not historically well-provided by the market and the City's Equitable Housing Strategic Plan. During the conversation the Planning Commission supported information on affordable housing needs helping determine the land use mix in Frog Pond East and South. The Commission was open to including multi-family, in addition to single-family and middle housing, to support identified needs.

Broad allowance of detached single-family and all middle housing types is an assumption for Frog Pond East and South. The Frog Pond Area Plan generally shows areas of middle housing and detached single-family. However, unlike Frog Pond West, Frog Pond East and South, under State middle housing requirements, is required to allow all middle housing types anywhere detached single-family homes are allowed, including areas not shown in the area plan. The City thus needs to revisit the housing mix shown in the area plan.

A key outstanding question, as the City takes a fresh look at the housing mix, is the extent that multi-family should be allowed in order to provide for housing needs. Attachment 1 highlights some of the need that could be met by multi-family housing. Attachment 2 is Appendix A of the Equitable Housing Strategic Plan, Housing Market Research Report, which provides additional details on anticipated housing need. The City is not required to allow multi-family housing. However, certain housing needs are best supported by multi-family and would not be met by detached single-family and middle housing. Planning Commission comments support consideration of multi-family that meets identified needs not able to be met by other means.

An additional important concept the project team is working on, and that was brought up during the Planning Commission meeting, is whether to plan separate areas for different housing types versus integrating housing types throughout the neighborhoods. This is a key concept that could make potential multi-family in Frog Pond East and South look and feel different than other neighborhoods that have built large apartment complexes separate from single-family subdivisions. An example of this integrated approach, is a block in Frog Pond East and South including a mix of detached single-family homes, middle housing, and smaller multi-family structures that are all of a similar scale.

Discussion questions:

1. What insights and thoughts would Council members offer on potentially allowing multi-family housing in Frog Pond East and South to support identified housing needs?
2. What questions does the Council have that you would like the project team to try to answer, if possible, as they continue the affordable housing analysis?

EXPECTED RESULTS:

Feedback and direction from the City Council on the affordable housing component of Frog Pond East and South Master Plan project.

TIMELINE:

This is the second in a series of work sessions for the City Council. The next work session is planned for March. The project must be completed by December 2022.

CURRENT YEAR BUDGET IMPACTS:

The main consultant contract is for \$350,000 funded through a Metro grant. Work began during FY 20/21. Unused portions have been rolled over and the City anticipates spending \$260,000 by the end of FY 21/22. The remaining \$90,000 is planned to be budgeted during FY 22/23 to conclude the project. Staff is in the process of incorporating an additional \$162,000 in State grants into the contract and work program for additional affordable housing analysis and work related to infrastructure funding and SDCs. Staff, with City Council's support, submitted the

grant requests to further enhance the depth of the affordable housing and infrastructure project components.

FINANCIAL REVIEW:

Reviewed by: ____ Date: _____

LEGAL REVIEW:

Reviewed by: ____ Date: _____

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which lays out a robust public engagement program that will include meaningful and impactful involvement of people who identify with historically marginalized communities. In addition, City staff is working with consultants and the DEI committee to establish a framework for broad community involvement.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY:

Well-designed neighborhoods with a variety of housing options for current and future Wilsonville residents.

ALTERNATIVES:

At this early point in the project, the City Council may provide a range of alternatives for the project team to consider.

CITY MANAGER COMMENT:

ATTACHMENTS:

- Attachment 1 Planning Commission Meeting Presentation from December 9, 2021
- Attachment 2 Equitable Housing Strategic Plan Appendix A "City of Wilsonville Housing Market Research Report"
Note: only main report included in packet, additional information, including the appendix to the report, can be found beginning on [page 86 of this linked document](#).



FROG POND EAST & SOUTH MASTER PLAN

Initial Information Related to Affordable Housing Analysis

Equitable Housing Strategic Plan Background



Wilsonville Equitable Housing Strategic Plan

June 15, 2020

Resolution No. 2820

Wilsonville has a relatively young population.

Median household income in 2016 was \$105,000 for homeowners and \$50,000 for renters. The majority (56%) of Wilsonville householders are renters.

The Latinx community is expanding quickly. Between 2000 and 2016, the Latinx population in Wilsonville grew by about 2,000 people,

Housing Trends from Equitable Housing Strategic Plan

Exhibit 1. Key Future Housing Trends in Wilsonville (2020-2040)

Future Demographic Shift	What does this mean for future housing types?
More middle-aged Millennials	<ul style="list-style-type: none">• Homeownership for Millennials will increase• Demand for relatively affordable ownership and rental types near amenities
Constant Number of people age 60+	<ul style="list-style-type: none">• Downsizing• Aging in place and multigenerational households• Homes close to services
Increasing share of Latinx households	<ul style="list-style-type: none">• Larger units to accommodate larger, multigenerational households• Relatively affordable housing

Direction From the Equitable Housing Strategic Plan

- Establish achievable goals/targets for affordable housing
- Integrate affordable housing into overall master plan, with access to amenities
- Identify specific properties that could help meet affordable housing targets
- Evaluate relationships to infrastructure funding plan
- Engage affordable housing developers and other stakeholders to refine strategies

From “Next Steps” under Implementation Action IC in Equitable Housing Strategic Plan (EHSP). See pages 24-25 of EHSP.

Other Potential Strategies from Equitable Housing Strategic Plan

- Create housing tax abatements to achieve housing diversity & affordability
- Facilitate connections to partners and housing resources
- Secure land for development of affordable and equitable housing
- Modify parking requirements
- Explore tactics to reduce the impact of System Development Charges on affordable housing
- Partner with Community Land Trusts
- Explore homeownership support programs
- Assess accessibility and visitability standards or incentives

From Actions Requiring Further Exploration in Equitable Housing Strategic Plan (EHSP). See pages 31-42 of EHSP.

Affordable and Workforce Housing Development Basics

Affordable housing developed by non-profit / mission-driven developers

Mixed-income / “shallow” affordability by market-rate developers

Lower-cost market rate housing by market-rate developers

0-30% AMI

30-60% AMI

60-80% AMI

80-100% AMI

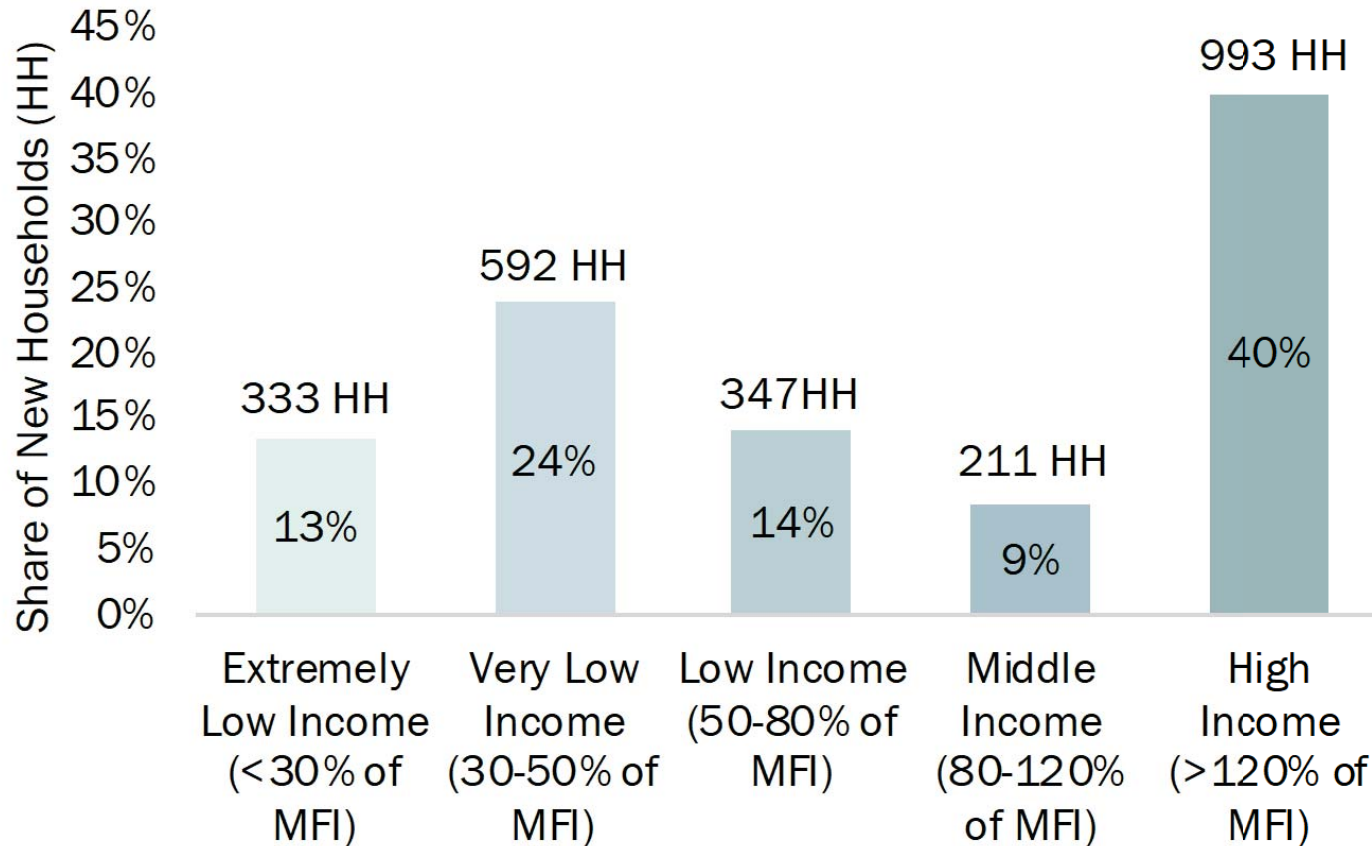
100-120% AMI

120+% AMI

Distribution of Need

Future (New) Households by Median Family Income (MFI), Wilsonville, 2019-2039

Source: U.S. Department of Housing and Urban Development. U.S. Census Bureau, 2012-2016 ACS Table 19001.



The percentages used in this exhibit are based on current household income distribution, assuming that approximately the same percentage of households will be in each market segment in the future. MFI for Clackamas County as of 2019 was \$81,400.

Affordable Housing Models



Cottage Cluster (affordable rental housing)

Example: Legion Cottages, Cottage Grove, OR

Source: Homes for Good



Townhomes (affordable homeownership)

Example: Williams Townhomes, Portland, OR

Source: PCRI

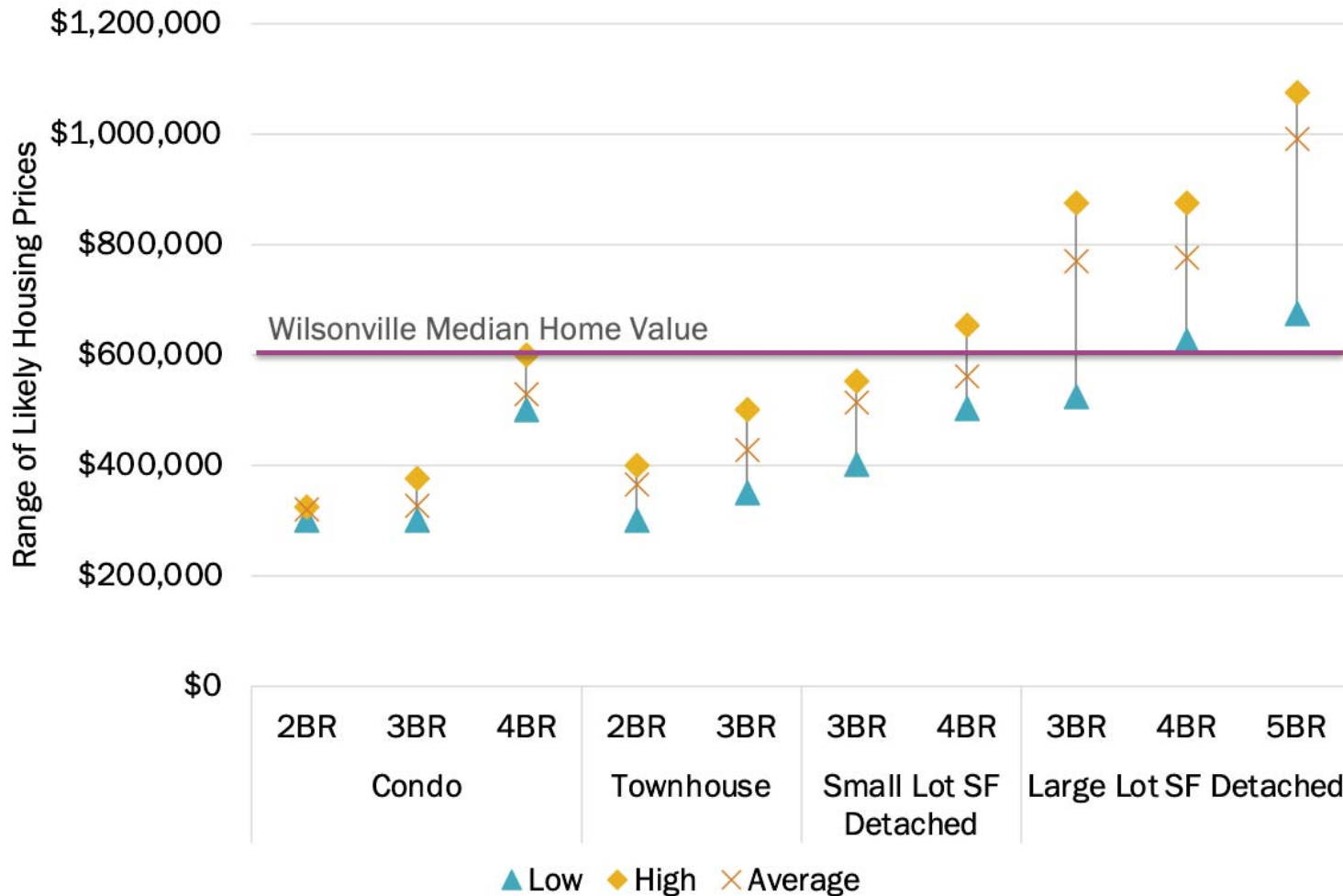


Apartments (affordable rental housing)

Example: Orchards at Orenco III, Hillsboro, OR

Source: REACH CDC

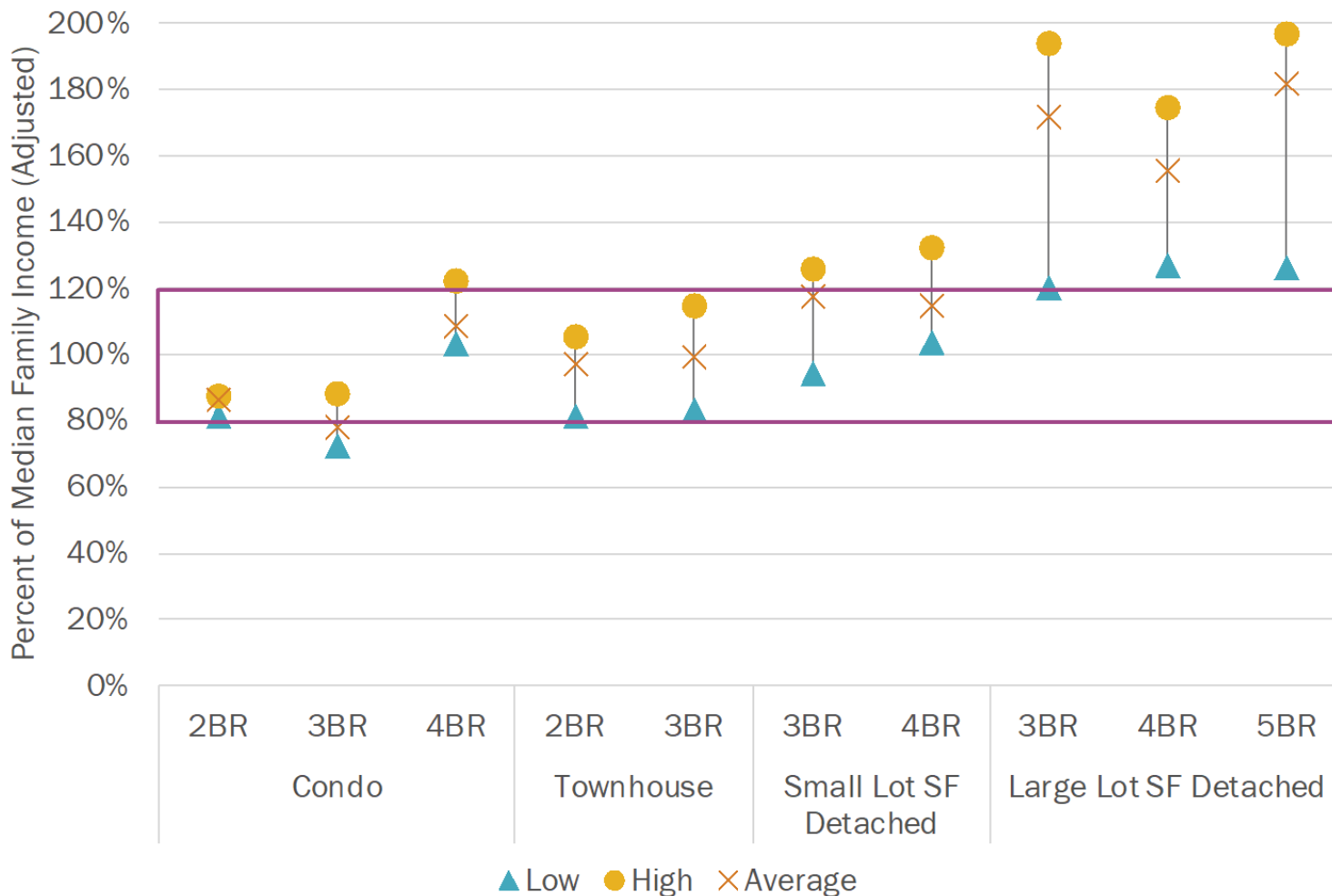
Market Rate Ownership Housing Affordability



New large-lot detached housing is generally more expensive than most existing homes

Attached housing & small lot detached typically provide lower-cost homeownership opportunities

Market Rate Ownership Housing Affordability



New large-lot detached housing affordable only to households earning >120% of the median family income*

Most attached for-sale housing & small lot detached is affordable to households earning 80-120% of the median family income*

* Median family income from HUD for Clackamas County, adjusted for household size given number of bedrooms

Accessory Dwelling Units

33% of adults would consider building an ADU (AARP, 2018)

Main reason to consider an ADU is for a loved one who needs care (AARP, 2018)

SF floorplans with an ADU sometimes need larger lots

Some developers are interested in building ADUs

Local fees are an important factor in whether developers will build ADUs

Selling an ADU separately keeps costs of the main unit affordable for more buyers

Detached ADU, Milwaukie, OR
Source: Craigslist



Attached Townhouse ADU, Seattle, WA
Source: Redfin



City of Wilsonville

Housing Market Research Report

August 2019

For over 40 years ECONorthwest has helped its clients make sound decisions based on rigorous economic, planning, and financial analysis. For more information about ECONorthwest: www.econw.com.

ECONorthwest prepared this report for the City of Wilsonville. It received substantial assistance from Communitas, LLC and Commonworks Consulting as well as Kim Rybold at the City of Wilsonville. Other firms, agencies, and staff contributed to other research that this report relied on.

This project is partially funded by a Metro 2040 Grant. That assistance notwithstanding, ECONorthwest is responsible for the content of this report. The staff at ECONorthwest prepared this report based on their general knowledge of housing economics, and on information derived from government agencies, private statistical services, the reports of others, interviews of individuals, or other sources believed to be reliable. ECONorthwest has not independently verified the accuracy of all such information, and makes no representation regarding its accuracy or completeness. Any statements nonfactual in nature constitute the authors' current opinions, which may change as more information becomes available.

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1 Purpose and Context

As housing affordability declines in Wilsonville, community members have expressed concern about being displaced or having to move out of the city in search of more affordable rental and homeownership opportunities elsewhere. A number of community members have testified before the Wilsonville City Council about how the large and sudden rent increases threaten community members' housing stability.

To address the community's housing needs now and in the future, the City of Wilsonville has identified the need to establish a roadmap toward a more equitable housing system. Generally speaking, equitable housing means more people are able to find a home that meets their needs for location, price, and household needs. In the midst of a regional housing crisis, Wilsonville is poised to design a strategy that expands opportunities and access for more people to enjoy the quality of living in the city.

The purpose of this Housing Market Research Report is to synthesize background information on the current housing market to support decision making as the City develops its Equitable Housing Strategic Plan. In particular, the report focuses on housing affordability issues and identifies the types of housing that the City should plan for in the future. This analysis draws heavily on the Wilsonville Baseline Housing Needs Assessment, completed as a component of the Clackamas County Regional Housing Needs Analysis in 2019. Based on research and stakeholder outreach the team will conduct throughout Summer 2019, the Task Force and City Council identify which types of programs and policies are relevant to promoting equitable housing in Wilsonville.

The remainder of this document is organized into five sections:

2. Who lives in Wilsonville today?
3. What will Wilsonville's future population look like?
4. What are the current housing conditions in Wilsonville?
5. What types of housing will future residents need?
6. Conclusion

What is equitable housing?

Equitable housing goes beyond simple affordability. It aims to ensure all people have housing choices that are diverse, high quality, physically accessible, and reasonably priced, with access to opportunities, services, and amenities.

This broad definition includes choices for homes to buy or rent that are accessible across all ages, abilities, and incomes and convenient to everyday needs, such as transit, schools, childcare, food, and parks.

Equitable housing also represents a system that accounts for the needs of households with low income and communities of color, recognizes a history of housing discrimination, and complies with current state and federal fair housing policy.

Source: Metro

2 Who lives in Wilsonville today?

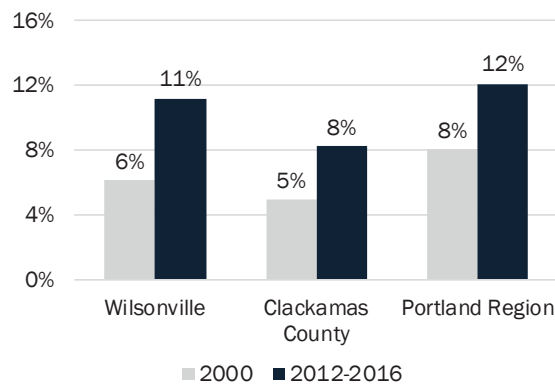
Wilsonville has grown quickly, and with that growth has come changing demographics and an increasing need for the City’s leadership to focus on existing and future housing needs. From 2014 to 2019, Wilsonville saw a 15% increase in population and an 11% increase in housing units.¹ According to a recent article in the Portland Business Journal, Wilsonville ranks third in the entire state of Oregon in five-year population growth.²

Demographics have changed over the last 20 years.

Wilsonville’s Latinx community is expanding. Between 2000 and 2016, the Latinx population in Wilsonville increased by about 2,000 people, almost doubling from a share of 6% to 11% of the population. Over the same period, the County and Portland Region saw slower growth in this population group. The growth rate of Wilsonville’s Latinx population was greater than the growth rate of Wilsonville’s population overall.

Exhibit 1. Share of Latinx Population, Wilsonville, Clackamas County, Portland Region, 2000 to 2012-2016, 2012-2016

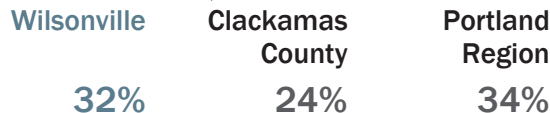
Source: U.S. Census Bureau, 2012-2016 ACS Table.



Millennials are a large proportion of Wilsonville residents. In 2012-2016, 32% of Wilsonville’s population was between 20 and 40 years old. This is more similar to the share within the Portland region than in Clackamas County.

Exhibit 2. Population between 20 and 40 years of age, Wilsonville, Clackamas County, Portland Region 2012-2016

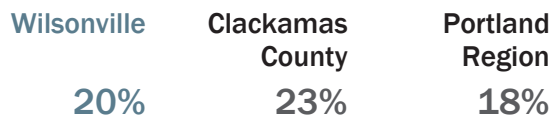
Source: U.S. Census Bureau, 2012-2016 ACS Table.



Aging Baby Boomers are a small, but important population segment in the city. In 2012-2016, 20% of Wilsonville’s population was over 60 years old. This is a greater share than the Portland region.

Exhibit 3. Population over 60 years of age, Wilsonville, Clackamas County, Portland Region 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table.



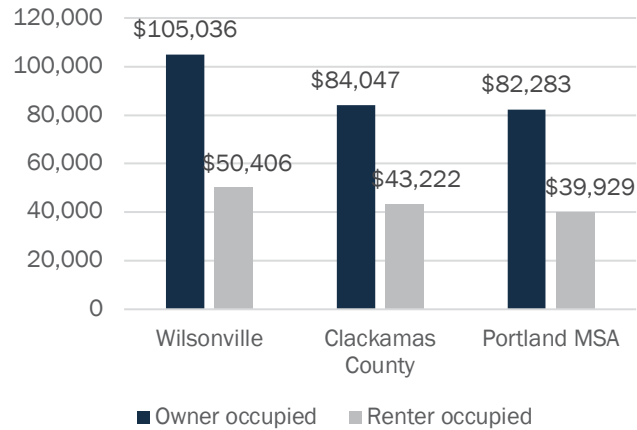
Incomes for owner households are generally higher than renter households.

The median household income for renters, just \$50,000, is less than half the median for homeowners, over \$105,000.

While average incomes in Wilsonville are higher than in the rest of the County and metro area, the magnitude of difference in income between renters and homeowners is similar.

Exhibit 4. Median Household Income by Tenure, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25119.

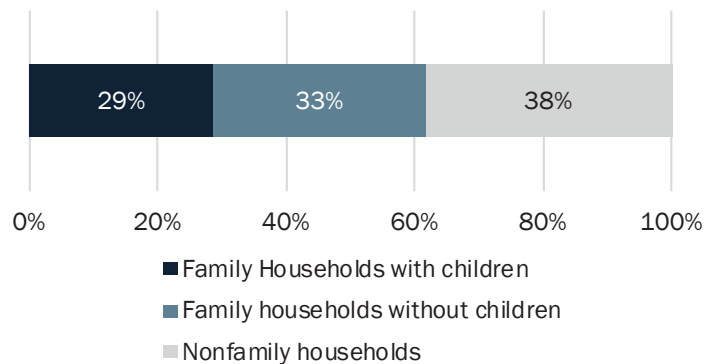


Incomes vary by family type.

The majority of households in Wilsonville are family households. Per the Census, “Family households consist of two or more individuals who are related by birth, marriage, or adoption, although they also may include other unrelated people. Nonfamily households consist of people who live alone or who share their residence with unrelated individuals.”³

Exhibit 5. Family and Non-Family Households, Wilsonville, 2012-2016

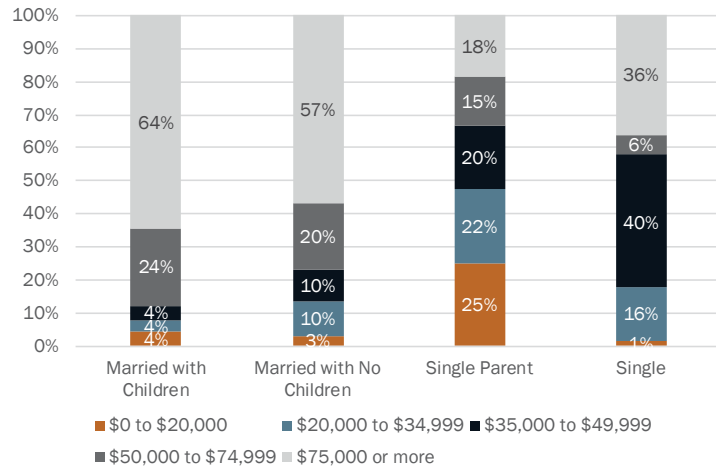
Source: U.S. Census Bureau, 2012-2016 ACS Table B25119.



Of all family types, single parent households in Wilsonville have some of the lowest incomes compared to the amount of housing they need. Two thirds of single parent households have less than \$50,000 in household income per year.

Exhibit 6. Household Income by Family Type, Wilsonville, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS

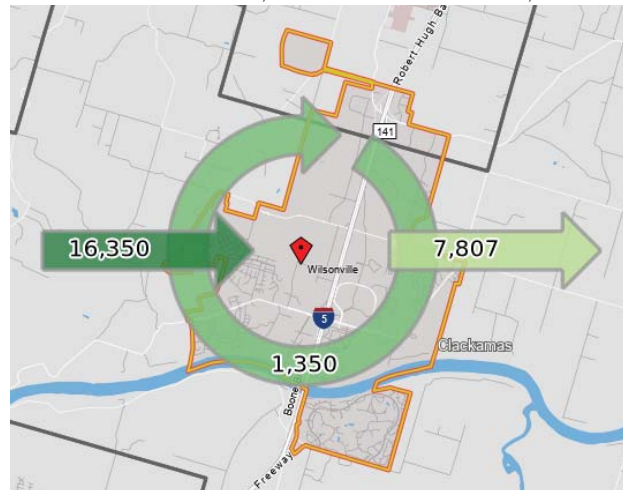


Most Wilsonville residents commute elsewhere to work.

As of 2015⁴, about 85% of employed residents leave Wilsonville for work, while over 16,000 workers come to Wilsonville from other communities.

Exhibit 7. Commuting Patterns in Wilsonville.

Source: U.S. Census Bureau, Center for Economic Studies, On The Map, 2015.



Many children attending Wilsonville schools are economically disadvantaged.

There are several schools in Wilsonville with a large share of economically disadvantaged students, which the Oregon Department of Education defines as students eligible for free and reduced price lunch.⁵ In 2016-2017, a family of four qualified for free lunches with a household income of \$31,590, and reduced price lunches with a household income of \$44,955.

Exhibit 8. Share of Economically Disadvantaged Students (per Oregon Department of Education) in Wilsonville Schools.

Source: Oregon Report Card 2016-2017.
<https://www.wlww.k12.or.us/domain/95> and Free and Reduced Price Meal Income Guidelines for School Year 2016-2017
<https://www.ode.state.or.us/wma/nutrition/snp/memos/nsllp-income-guidelines.pdf>

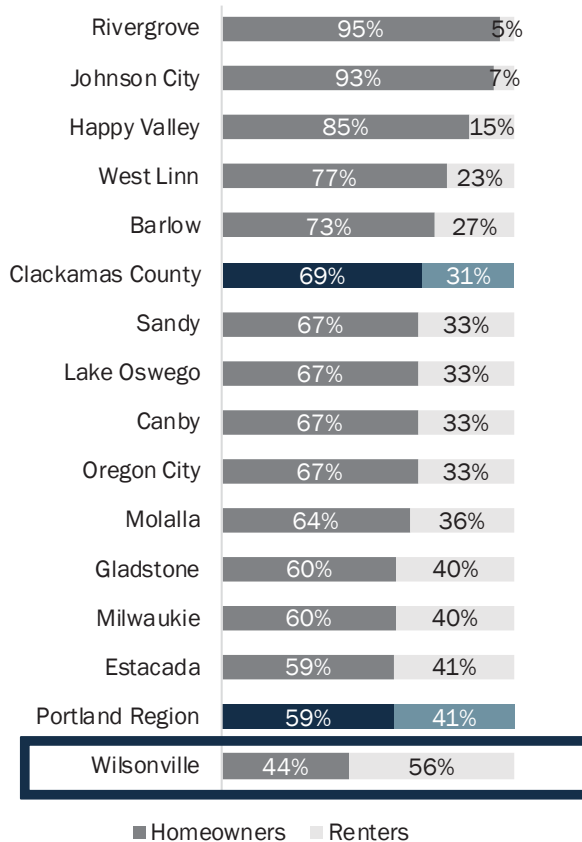
- Arts and Technology High School – 54%
- Boeckman Creek Primary School – 33%
- Boones Ferry Primary School – 40%
- Lowrie Primary School – 21%
- Wilsonville High School – 21%
- Inza Wood Middle School – 30%

The majority of Wilsonville households rent their homes.

In Wilsonville, over half of households rent their homes. In 2012-2016, about 56% of Wilsonville’s households were renters and 44% were homeowners. In every other major city in Clackamas County, the majority of households are homeowners.

Exhibit 9. Housing Tenure, Wilsonville and cities within Clackamas County, 2012-2016

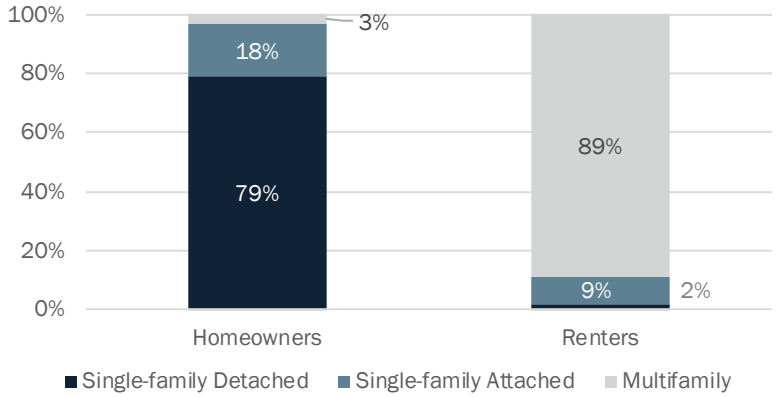
Source: U.S. Census Bureau, 2012-2016 ACS Table B25032.



In Wilsonville, homeowners mostly live in single-family houses, while renters mostly live in apartment buildings.

Exhibit 10. Housing Tenure by Housing Type, Wilsonville and Cities within Clackamas County, 2012-2016

Source: U.S. Census Bureau, 2012-2016 ACS Table B25032.



3 What will Wilsonville's future population look like?

Wilsonville is expected to grow by over 3,000 new residents over the next 20 years.

By 2040, Wilsonville is projected to see a 14% increase over the 2019 population. Wilsonville is expected to add 3,373 people in about 1,752 households between 2019 and 2039. In recent years, however, the City has grown faster than Metro forecasts, with annual housing growth surpassing the forecasted growth in each of the past five years (15% population growth from 2014 to 2018).⁶ If this trend continues, population and household growth would likely surpass this estimate before 2039.

About half of new households in Wilsonville are forecast to be low income. These households will need affordable housing options.

This is similar to Clackamas County as a whole, where 47% of households are expected to be low income (with household incomes less than 80% of MFI).⁸

Exhibit 11. Forecast of Population Growth, Wilsonville UGB, 2019–2039

Source: Metro population forecast, 2015.

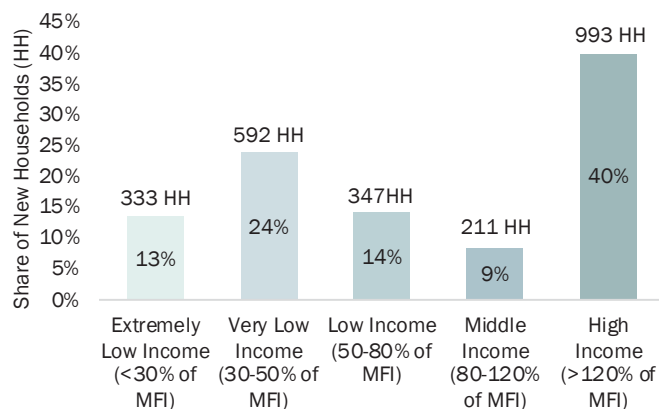
23,492	26,865	3,373	14% increase
Residents in 2019	Residents in 2039	New residents, 2019-2039	0.7% AAGR

Note: This forecast does not account for expected growth that may come as a result of the City's recent UGB expansion in Frog Pond East and South and the 2019 adoption of the Town Center Plan.⁷

Exhibit 12. Future New Households in Wilsonville, by Median Family Income (MFI) for Clackamas County (\$81,400), 2019 to 2039

Source: U.S. Department of Housing and Urban Development. U.S. Census Bureau, 2012-2016 ACS Table 19001.

The percentages used below are based on current household income distribution, assuming that approximately the same percentage of households will be in each market segment in the future.



Recent forecasting work from the Portland State University Population Research Center and Metro points to the following trends over the planning period. Since specific estimates for Wilsonville are not available, we used Clackamas County, Portland Region, or Portland MSA trends:

- **More middle-aged Millennials.** Wilsonville currently has a larger share of Millennials than the County. The Population Research Center at PSU estimated future age cohorts by county. By 2040, Millennials will be between 40 and 60 years old. This generation is expected to grow from 23% of Clackamas County’s population to 28% of the County’s population. Family households in this age cohort are moving toward becoming “empty nesters” or multi-generation households.
- **A relatively constant share of people over the age of 60.** Between 2020 and 2040, the share of people over 60 years old is expected to stay relatively constant in Clackamas County, from 26% of the population to 27% of the population. However, Metro anticipates for the Portland MSA, the share of heads of households who are 65 and older will increase from 23% to 30% by 2038. Wilsonville will need to plan for a stable to growing share of older households.
- **An increasing share of Latinx households.** Metro’s growth forecast projects an increase of about 329,000 new Latinx residents in the region by 2040. This represents 46% of all new residents in the region by that date, and a 116% growth in the share of Latinx residents over 2015.
- **Lower average household sizes.** Metro anticipates that the average household size for the seven-county metropolitan area is expected to drop from 2.6 people per household in 2018 to about 2.4 people per household in 2038. Today (and in 2038), almost two-thirds of households consist of one or two people.⁹ This trend suggests an increased need for smaller housing types.
- **Increasing monthly housing costs.** In its regional Housing Needs Assessment, Metro forecasts that “average monthly housing costs for both owners and renters will continue to increase above historical levels, with the projected increases being particularly acute for owners.”¹⁰ Metro projects that household incomes will not increase as fast as housing costs, which means cost burdens will also increase, with new homeowners experiencing more significant increases than renters. This is because historic sales prices have outpaced growth in rents and household incomes, and this trend is expected to continue.¹¹ These results suggest that the need for additional entry-level ownership housing will continue to be strong.

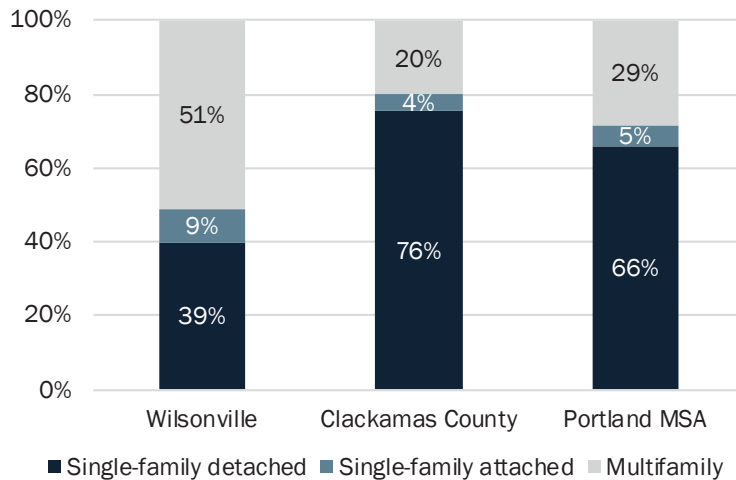
4 What are the current housing conditions in Wilsonville?

Wilsonville has an even mix of multifamily and single-family homes.

Wilsonville has a much larger proportion of multifamily homes than Clackamas County or the region as a whole. About half of all housing units in the city are located in multifamily buildings. Wilsonville also has a greater share of single-family attached units (like townhomes and duplexes) than Clackamas County or the region.

Exhibit 13. Housing Mix in Wilsonville and Comparison Geographies, 2012-2016.

Source: U.S. Census Bureau, 2012-2016 ACS Table B25024.



Census Definitions for Housing Mix

Multifamily housing: “residential buildings containing units built one on top of another and those built side-by-side which do not have a ground-to-roof wall and/or have common facilities (i.e., attic, basement, heating plant, plumbing, etc.)”

Single-family attached: “each must be separated from the adjacent unit by a ground-to-roof wall in order to be classified as a single-family structure. Also, these units must not share heating/air-conditioning systems or utilities.

Units built one on top of another and those built side-by-side that do not have a ground-to-roof wall and/or have common facilities (i.e., attic, basement, heating plant, plumbing, etc.) are not included in the single-family statistics

Source: United States Census Bureau. *New Residential Construction Definitions.*
<https://www.census.gov/construction/nrc/definitions/index.html>

Until recently, the housing mix for new development has been evenly split between multifamily and single-family homes.

Historically, housing construction in Wilsonville has included multifamily units, single-family attached homes (townhomes), and single-family detached homes, with more units overall in apartments and townhomes.

Between 2000 and 2012, Wilsonville permitted 2,862 housing units, two-thirds of which (1,892) were multifamily or single-family attached units.¹² These new developments include market-rate apartments and townhomes, senior living (both assisted and independent), and subsidized affordable housing (including some designated for seniors or others for people of all ages with disabilities). Most new home construction between 2014 and 2017 has been in the Villebois neighborhood, which is required to build about one third of the units as multifamily housing. Some of these units must come with affordability requirements under the City's development agreement with the State of Oregon, which allowed the former state hospital to be converted into a mixed-income neighborhood.¹³

Wilsonville's development code characterizes attached single-family units as multifamily: "Dwelling, Multiple Family: Three or more attached dwelling units located on a single tax lot. In the Village zone, such use also includes stacked flats or townhouses"

Source: City of Wilsonville

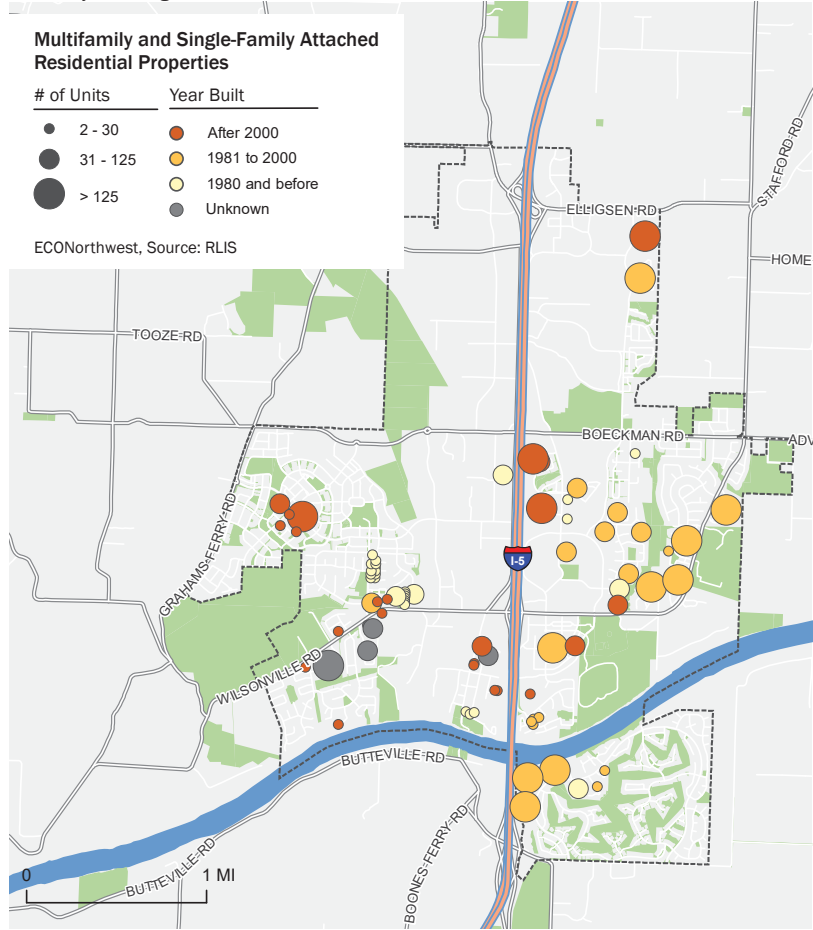
However, more single-family homes have been built in recent years. The construction of additional single-family units has helped to balance the city's overall housing inventory, which has been weighted towards multifamily homes. In 2016 and 2017, no multifamily units were permitted. In 2018, 70% of permits approved were for single-family homes, including attached and detached rowhomes, and 30% were for multifamily units.¹⁴

Wilsonville’s multifamily and single-family attached housing stock is well-distributed across the city, and close to services.

Metro’s Regional Land Information System (RLIS) data shows where the distribution of multifamily and single-family attached units are in the city. Exhibit 14 shows where multifamily units—both ownership and rental buildings—are located in Wilsonville as well as the age and relative size of each complex. Much of Wilsonville’s multifamily housing stock is concentrated near the Town Center, where the majority of housing was built between 1981 and 2000. Town Center has a concentration of services, shops, and amenities. Newer multifamily and single-family attached housing development is concentrated in Villebois and several complexes in the core of Wilsonville.

Exhibit 14. Distribution of Multifamily and Single-Family Attached Residential Units, Wilsonville, 2019

Source: Metro RLIS. Note: RLIS data includes multifamily unit types as well as single-family attached types like townhomes, duplexes, and accessory dwelling units.



The city has a limited stock of subsidized affordable housing.

About 11% of Wilsonville residents live in subsidized housing. As of 2018, Wilsonville had 449 subsidized, affordable units in 12 developments. The majority of these units are reserved for families; two developments are reserved for seniors. The subsidies and affordability regulations for these units come from programs such as the low-income housing tax credit and the City's tax abatement. These units serve residents making between 30% and 60% of area median income. Exhibit 15 shows the total number of subsidized units in Wilsonville as of 2018.

Exhibit 15. Government-Subsidized Affordable Housing, Wilsonville, 2018

Source: Oregon Housing and Community Services. Note: Two of these developments are accessible to residents through referral only (Rain Garden and Renaissance Court). This is because they serve residents with specific needs.

Development Name	Total Units	Total Affordable Units	Population Served
29875 SW Montebello Dr	1	1	Family
29885 SW Montebello Dr	1	1	Family
Autumn Park	143	140	Family
Beaver State - Montebello	50	41	Family
Charleston Apts	52	52	Family
Creekside Woods	84	44	Senior
Duck Country - Wilsonville Heights	24	24	Family
Hearthstone	5	5	Low income
Montecino	34	34	Family
Rain Garden	29	29	Low income, Referral Only
Renaissance Court	20	20	Low income, Referral Only
Wiedemann Park Apts	58	58	Senior
Totals	501	449	

Unregulated homes may be affordable to some renters, but prices are subject to market fluctuations. In these homes, rents are subject to market conditions, which generally means they have been increasing. There are no Wilsonville-based policies in place to preserve their affordability or protect tenants from displacement if they cannot afford a rent increase levied by their landlords. However, Senate Bill 608 was passed in 2019 which includes the following provisions:

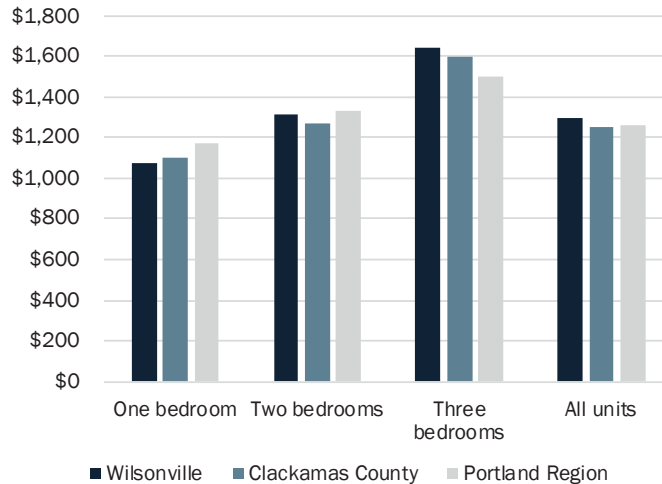
- Annual rent increases are limited to 7% plus the Consumer Price Index for the past 12 months. This applies to buildings over 15 years old.
- No-cause evictions are now limited to one of these four reasons:
 - Sale of the home to a new owner who will move-in
 - If the landlord or a family member will move-in
 - To address a significant repair or renovation of the unit
 - If the rental will no longer be used for residential use¹⁵

Wilsonville's multifamily rental housing market trends mirror the Portland region.

On average, rents for one-bedroom units in Wilsonville are less than Clackamas County or the region, while larger units have similar or slightly higher rents than those in Clackamas County and the region.

Exhibit 16. Apartment Rents, by Bedroom Count, Wilsonville, Clackamas County, Portland Region, 2018.

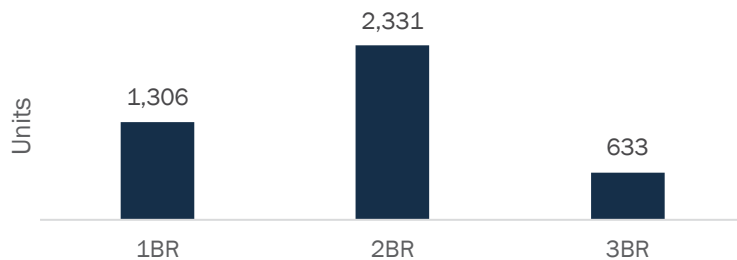
Source: CoStar.



Most multifamily rental housing units in the city are smaller one and two-bedroom units. Of 4,270 housing units in Wilsonville, about 31% have one bedroom, almost 55% have two, and only 15% have three.

Exhibit 17. Housing Unit Size, Wilsonville. 2019.

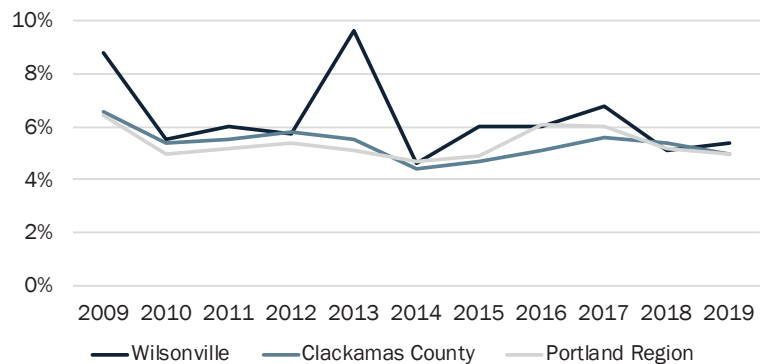
Source: CoStar



Multifamily vacancies in Wilsonville are average for the region. After some volatility during the recession, vacancy rates have settled at 5.4% in 2019, mirroring trends in the region, with vacancy rates of 5% for the Portland MSA and 4.8% for Clackamas County.

Exhibit 18. Multifamily Vacancy Rates in Wilsonville and Comparison Geographies, 2009-2019.

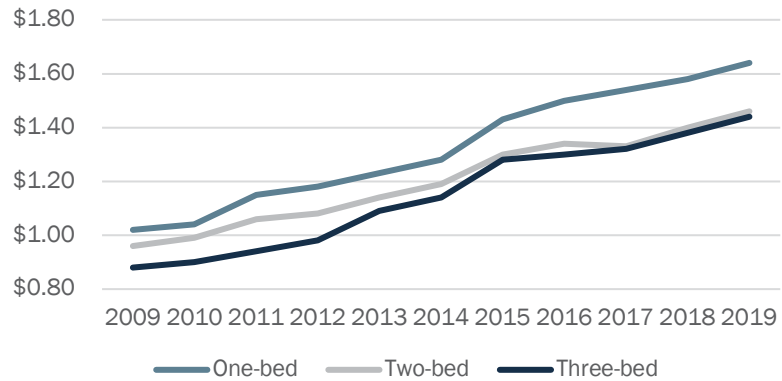
Source: CoStar



Apartment rents per square foot have been rising at similar rates across unit sizes. While one-bedroom apartments are still more expensive on a per square foot basis than larger units, the prices are rising at similar rates as for two- and three-bedroom apartments.

Exhibit 19. Wilsonville Apartment Rents per Square Foot, by Bedroom Count.

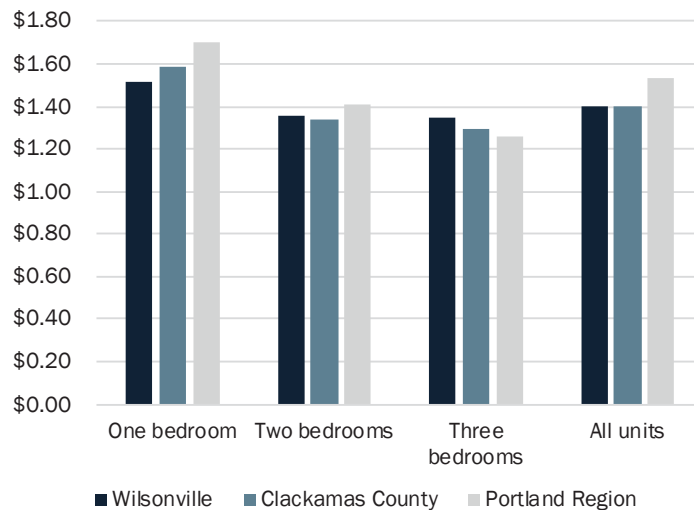
Source: CoStar.



Rents for Wilsonville’s one bedroom units are less expensive than the County or region, while three bedroom units are more expensive.

Exhibit 20. Apartment Rents Per Square Foot, by Bedroom Count, Wilsonville, Clackamas County, Portland Region, 2018.

Source: CoStar.

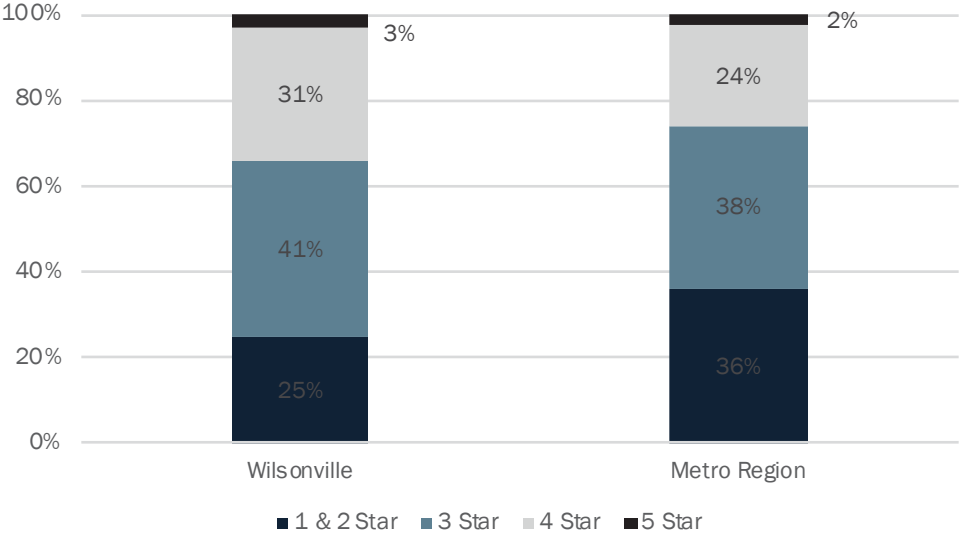


Wilsonville’s multifamily housing stock is relatively high-quality compared to the region.

According to CoStar—a multi-national commercial real estate information company—over one-third of Wilsonville’s multifamily housing stock is high-quality, compared to only one-quarter in the Portland region. This difference is mostly explained by the city’s relative lack of housing that CoStar¹⁶ rates as lower-tier.

Exhibit 21. Costar Quality Ratings for Multifamily Buildings in Wilsonville and Metro Region housing.

Source: CoStar.



Wilsonville’s higher quality multifamily housing stock results in higher rental prices compared with communities with a greater share of low-cost market rate rentals. On the other hand, Wilsonville may be less likely to see as much repositioning of its multifamily housing stock. This is the result of investors buying low-cost apartment complexes, making improvements, and increasing the rents at higher than average market rates.

Many residents cannot afford their housing costs.

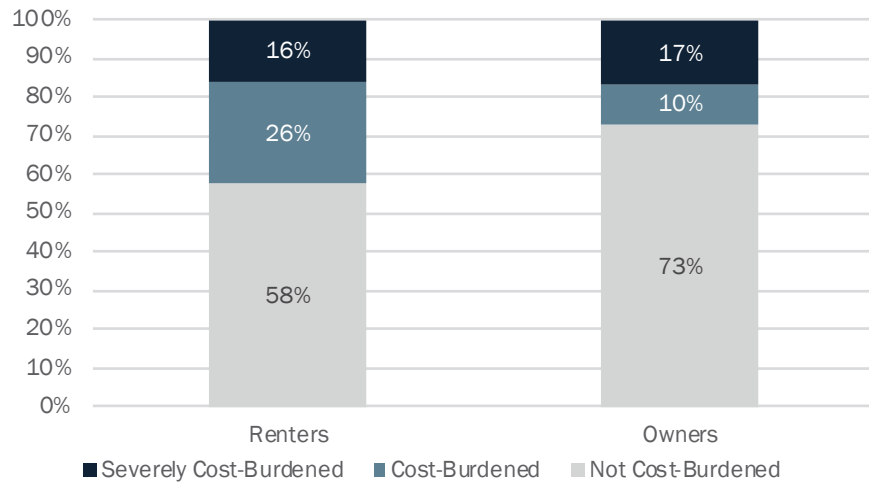
Many residents are paying more than 30% of their income on housing. Almost a quarter (23%) of all households in Wilsonville are cost-burdened, defined as spending more than 30% of their income on housing costs. Renters are particularly impacted: 42% are cost-burdened or extremely cost-burdened (spending more than 50% of their income on housing costs).

Low-income households are particularly likely to be cost-burdened.

Cost burden is a particularly pressing issue amongst renters. Disparities in income between current residents who rent and own their homes exacerbate the issue of housing cost burden, as renters have less income to begin with and are also paying too much of these limited resources on housing costs.

Exhibit 22. Housing Cost Burden in the City of Wilsonville by Tenure, 2012-2016

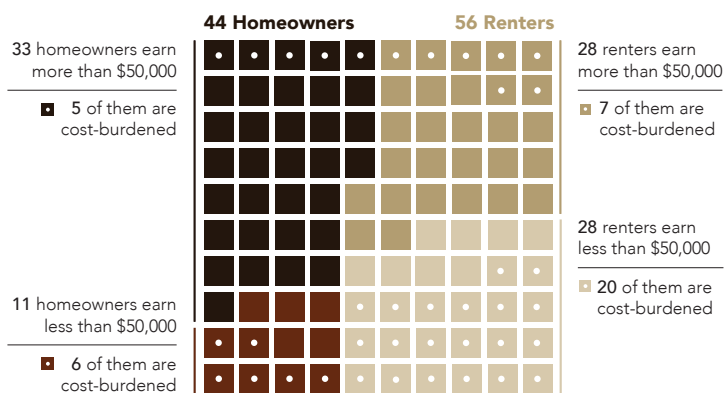
Source: U.S. Census Bureau, 2012-2016 ACS Table B25091 and B25070.



Almost **8 of 10 households** that earn less than \$50,000 per year in Wilsonville are cost-burdened.¹⁷

Exhibit 23. Illustration of Cost Burden if all of Wilsonville's Households were 100 Residents

Source: U.S. Census Bureau, 2012-2016 ACS Table S2503.



Rents are relatively less affordable in Wilsonville than in Clackamas County.

When comparing household incomes to the median rent, Wilsonville's rental housing stock is relatively more expensive than the county as a whole.

A household can start to afford Wilsonville's median rents at about 70% of Wilsonville's median household income (\$44,167).

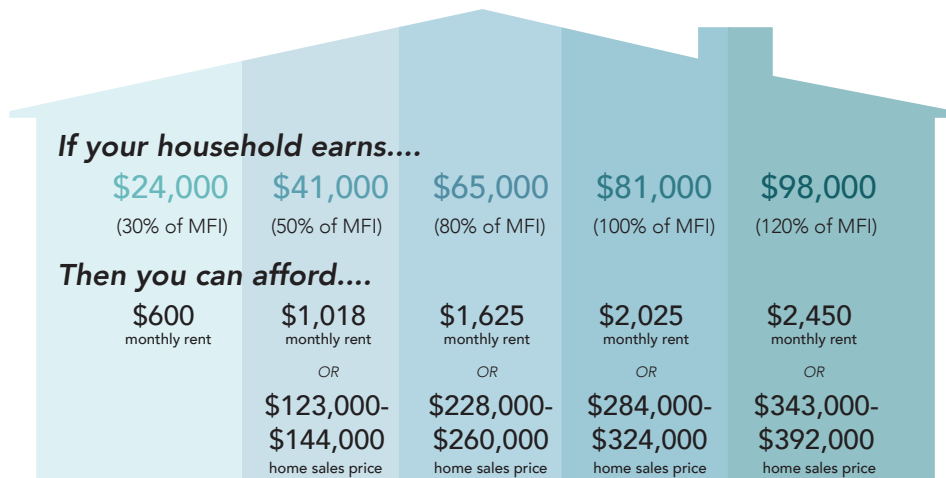
A household can start to afford Clackamas County's median rents at about 61% of County median household income (\$41,349).

Low-income households have very few options for either homeownership or rental. Exhibit 24 provides an overview of what households at different incomes can afford in terms of monthly rent or home sales price. It also provides examples of annual salaries for different job types that fall into each income bracket.

Wilsonville's residents are dissatisfied with the availability of reasonably-priced housing. The City's 2018 Community Survey concluded that only 38% of residents rated the availability of affordable quality housing as excellent or good, down from 47% in 2014.

Exhibit 24. Financially Attainable Housing, by Median Family Income (MFI) for Clackamas County (\$81,400), Clackamas County, 2018

Source: U.S. Department of Housing and Urban Development 2016. U.S. Census Bureau, 2012-2016 ACS Table 19001, Bureau of Labor Services, Portland MSA, 2018, Note: MFI is Median Family Income, determined by HUD for Clackamas County.

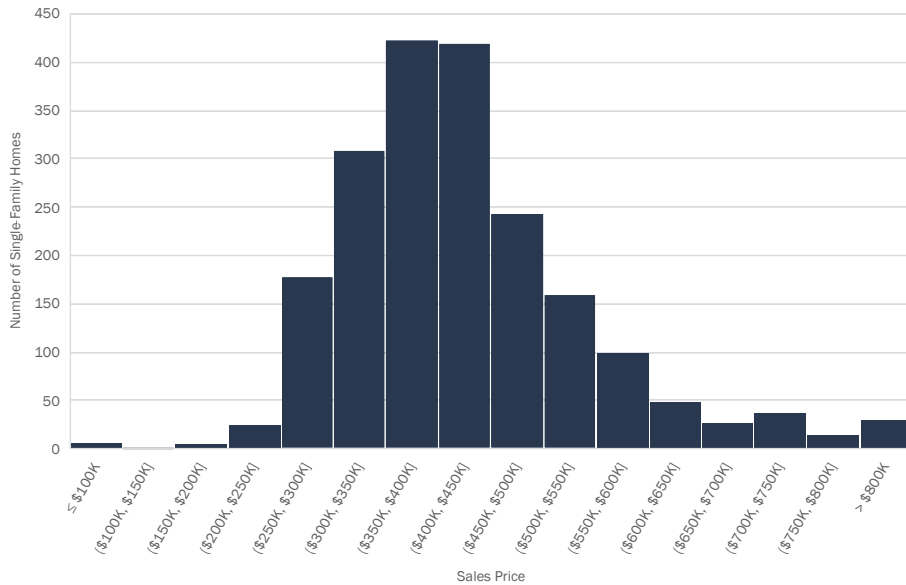


Homeownership is out of reach for many of Wilsonville's current residents.

In the past five years, Wilsonville saw few single-family homes sell below \$300,000. Just 10% of homes sold for under \$300,000.

Exhibit 25. Single-Family Home Sales Price Distribution, Wilsonville, 2015-2019

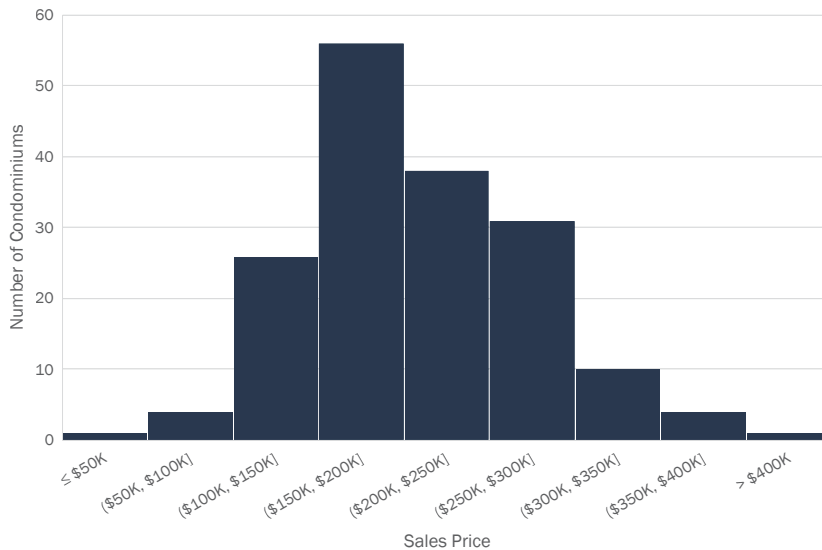
Source: Oregon Metro, Taxlots data, 2015-2019. N = 2,034. Includes single-family detached and attached housing types.



Condominiums had somewhat lower sales prices, with most selling for under \$300,000. However, there were only 171 sales of condos over the past five years.

Exhibit 26. Condominium Sales Price Distribution, Wilsonville, 2015-2019

Source: Oregon Metro, Taxlots data, 2015-2019. N = 171



A family making the median income for a renter household (\$50,406) could afford homes valued between about \$221,000 to \$252,000 (based on a range of financing assumptions).

However, the median home sales price in the city was almost double, at \$454,500, in February 2019.¹⁸

A household can start to afford the median home sales price (\$454,500), at:

Wilsonville:
185%
of Wilsonville's
median household income
(\$116,550).

Clackamas County:
152%
of County
median household income
(\$105,000).

In addition to high home sales prices, there are ongoing costs of homeownership. Most residential neighborhoods in Wilsonville have an homeowners association (HOA), which levies fees that can add to housing costs. An HOA is an organization in a subdivision, planned community or condominium that makes and enforces rules for properties. Those who purchase a house within an HOA's jurisdiction become members and must pay dues. These costs can add hundreds of dollars to monthly housing costs.

Wilsonville has few starter homes, which means would-be homeowners may be renting for longer.

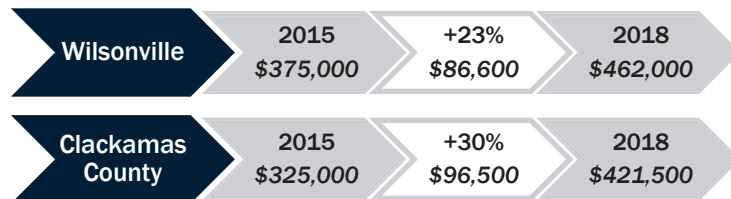
Homeownership is generally out of reach for most first-time buyers. The median housing sales price in September 2018, \$462,000, indicates that few entry-level homes are available for sale in Wilsonville. Prospective homeowners are likely renting for a longer period of time, perhaps bypassing the starter home stage and seeking instead to buy a “forever” home. This can be due to the many costs of acquiring a home, primarily the down payment and closing costs.

The average home in Wilsonville costs 31% more than what the average household can afford.¹⁹

Despite high home costs in Wilsonville, prices are increasing at a slower rate than in the County. From 2015 to 2018, the median home price increased only 23% in Wilsonville compared to 30% in Clackamas County.

Exhibit 27. Median Home Prices in Wilsonville and Clackamas County, 2015-2018.

Source: Property Radar.



An entry-level home, or starter home, is a home accessible to a first-time homebuyer, often smaller and on the less expensive side of the market. Trulia defines a starter home as one priced in the lowest third of the local market, which in Wilsonville's case is up to about \$350,000 as of 2019. Typically, starter homeowners trade up to a bigger home in about five years.

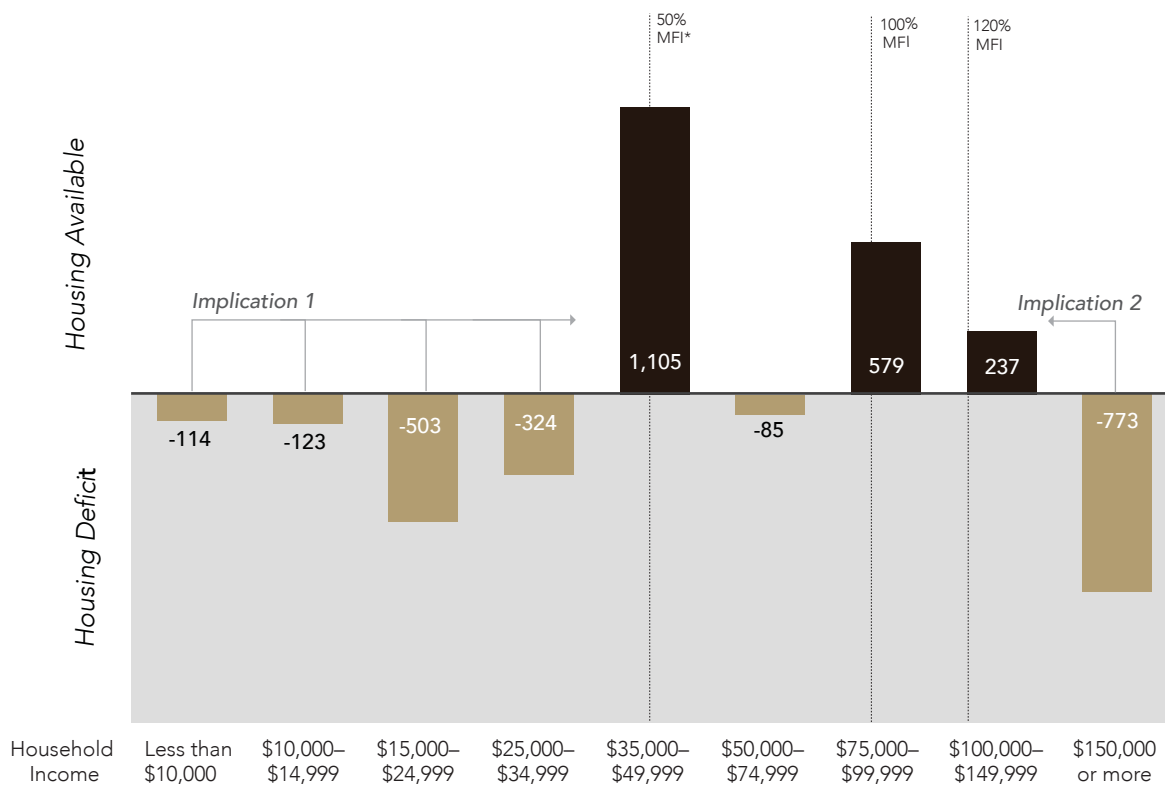
Overall, there is little housing affordable to those at the low end of the income spectrum.

Wilsonville currently has a deficit of housing for households earning less than \$35,000. The housing types that Wilsonville has a deficit of are more affordable housing types such as apartments, duplexes, tri and quad-plexes, manufactured housing, and small, clustered single-family detached housing (e.g. cottages).

Exhibit 28 compares the number of households by income level with the number of units affordable to those households in cities within Clackamas County. Many lower-income households are living in expensive homes because of a deficit in units that they can afford (**Implication 1**). On the other end of the spectrum, some higher-income households are spending less than they could afford on housing, either because of preference, the timing of when they started renting or owning their home, or because of a lack of high-end housing stock (**Implication 2**). The pattern is similar for low-income households in Clackamas County.²⁰

Exhibit 28. Housing Costs and Units by Income Level, All Households, Wilsonville, 2018.

Source U.S. Census Bureau, 2012-2016 ACS. Note: MFI is Median Family Income, determined by HUD for the Portland MSA.



5 What types of housing will future residents need?

In the future, Wilsonville will need a wider range of housing types and price points.

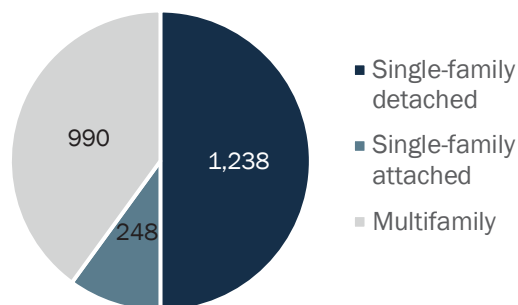
Over the next 20 years, the city will need a **wide range of housing types** and **housing that is affordable to households at all income levels** to accommodate an estimated 3,373 new residents by 2039. This conclusion is consistent with housing need in other cities in Clackamas County, the Portland Region, and most cities across the state.

This need largely originates in above-described demographic changes, where **Baby Boomers**, **Millennials**, and **Latinx families** will be increasingly important groups seeking housing. All three groups seek **affordable housing options, but may have different requirements for unit types and sizes**. Housing needs and preferences change for households in predictable ways over time, such as with changes in marital status, age, and size of family. However, income is the biggest driver of housing type choice. Both single-family attached and multifamily units will likely appeal to the growing demographic groups because they are less expensive and easier to maintain than single-family detached homes.

It is projected that Wilsonville will have demand for 2,476 new dwelling units over the next 20 years, and Wilsonville has land capacity for 2,377 units over that same period (not including the recently expanded UGB area of Frog Pond South and East).¹

Exhibit 29. Forecast of demand for new dwelling units, Wilsonville Planning Area, 2019 to 2039

Source: Calculations by ECONorthwest



¹ The HNA's forecast for Frog Pond East and South is based on Metro Ordinance 18-1427¹ which says Wilsonville must plan for a minimum of 1,325 dwelling units in Frog Pond East and South. However, this area was not included within the HNA's housing growth in the forecast for Wilsonville Planning Area because this UGB expansion was not yet acknowledged by the Land Conservation and Development Commission at the time of publication.

Exhibit 30. Implications for Future Housing Types from Increased Population Growth and Demographic Changes

Source: Population Research Center and ECONorthwest.

Future Trends	What could this mean for future housing types?
A growing city.	<ul style="list-style-type: none"> To accommodate these new households, an average of 124 new units will need to be built each year.
More middle-aged Millennials.	<ul style="list-style-type: none"> Homeownership rates for Millennials will increase as they continue to form their own households. There will likely be increased demand for relatively affordable housing types, including ownership and rental types, over the next 20 years. Some older Millennials with families may become empty nesters who need smaller units. Others may want housing to accommodate a three-generation family. <p><i>Source: Clackamas County HNA (page 54 and page 315)</i></p>
A relatively constant share of people 60+.	<ul style="list-style-type: none"> The aging of the Baby Boomers may have a smaller impact in Wilsonville than in some cities in the County because Wilsonville has a smaller share of people over 60 years of age. The city will be affected by retirement and changing housing needs of seniors as their households get smaller and their lifestyles change. While most Baby Boomers prefer to stay in their current homes as long as possible, some Baby Boomers may choose to downsize into smaller homes and seek homes where they can age in place (often single-story with easy access to services and amenities). Due to health or other issues, some Baby Boomers may become unable to stay in their current homes and will choose to live in multigenerational households or assisted-living facilities (at various stages of the continuum of care). <p><i>Source: Clackamas County HNA (page 53 and page 315)</i></p>
A steady or increasing share of Latinx households.	<ul style="list-style-type: none"> Continued growth in Latinx households will increase need for larger units (to accommodate larger, multigenerational households) and relatively affordable housing. <p><i>Source: Clackamas County HNA (page 316)</i></p>

The key finding from the data above is that Wilsonville will need to continue to offer a diverse array of housing types, at a range of price points. Given decreases in average household sizes and a stable to increased share of older households, there will be more demand for smaller, attached housing types and multifamily housing.

Wilsonville has diverse housing types and is planning for a mix of unit types in its growth areas.

Much of the current residential growth in Wilsonville is taking place in the Villebois neighborhood on the west side of I-5, but a handful of other smaller pockets of development are under construction as well. Primary future growth areas for the community include the Frog Pond and Town Center Planning Areas, which are both on the east side of I-5.

This section summarizes information from the Clackamas County Baseline Housing Needs Analysis (2019) and the Wilsonville Baseline Housing Needs Analysis (2019), which is included in Appendix A.

Key Growth Areas

Frog Pond

Development of Frog Pond, an area designated to transition from rural to urban development, will take time, given the need to extend utilities and build infrastructure to serve houses. Engineering and construction plans for Frog Pond West are underway, with an expectation that the first homes will be available starting in 2019. Frog Pond West will include mostly single-family detached housing types, with some single-family attached units. The rest of the Frog Pond Area—Frog Pond South and East—is expected to contain some attached housing and cottage clusters, with the majority of the Frog Pond Area planned for single-family detached housing. Timing for moving forward on Frog Pond South and East is not entirely known, but, following master planning of this area, it is expected that building of the first homes in the area will not likely begin until after 2024.²¹ Ultimately, infrastructure extensions, market response to Frog Pond West, and overall housing demand will determine the timing for Frog Pond South and East.

The forecast for Frog Pond East and South is based on Metro Ordinance 18-1427, which says Wilsonville must plan for a minimum of 1,325 dwelling units in Frog Pond East and South. However, the Baseline HNA for Wilsonville did not include Frog Pond East and South housing growth in the forecast for Wilsonville Planning Area because this UGB expansion has not yet been acknowledged by the Land Conservation and Development Commission.

Town Center

The Wilsonville Town Center area is already built, but there is a newly adopted plan that anticipates infill and redevelopment of much of the area that could result in up to 880 new units within a 20-year timeframe. Almost all of the new housing in the Town Center is expected to be attached single family or multifamily housing, much of which will be co-located with retail and office uses in modern, mixed-use buildings. Timing for the infill and redevelopment will be determined by private property owners, their business plans, and market demand for a more urban living experience in the center of Wilsonville.

Villebois

On the west side of the city, Villebois is a mixed-use community that contains single-family detached housing, single-family attached housing, duplexes, row houses, multifamily housing, and cluster housing. Villebois will be nearing full build-out in the next few years.

Other Neighborhoods

Infill may be possible in some areas outside of Villebois, the Town Center, and the UGB expansion areas. There could be an opportunity for accessory dwelling units, but most neighborhoods are planned developments with Covenants, Conditions, and Restrictions that could make infill more challenging.

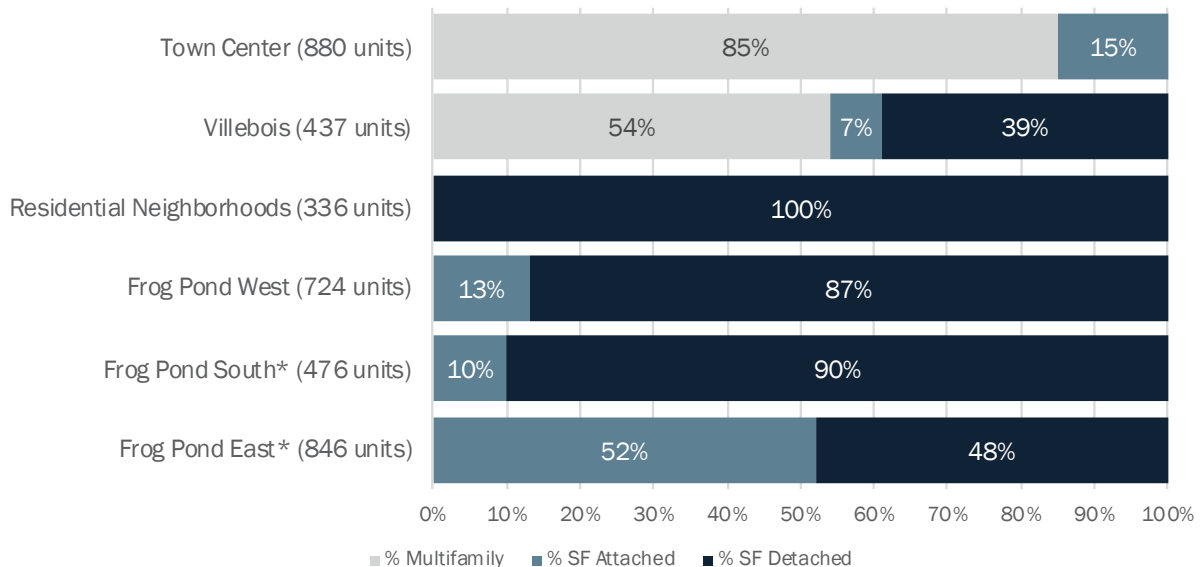
Summary of Capacity by Neighborhood

In 2019, the City of Wilsonville received a baseline Housing Needs Analysis as part of a broader project to assess housing needs across Clackamas County (for details, see Appendix A). It is expected that most new homes will be built in the existing neighborhoods of Villebois and Town Center, and the new Frog Pond West growth area. The analysis also assumes that vacant residential land in other existing Residential Neighborhoods will be built, at historical densities, over the next 20 years.²² Exhibit 31 provides a graphical summary of the capacity within Wilsonville planning areas that was included in the Housing Needs Assessment.

Exhibit 31. Summary of Estimated Capacity and Housing Mix within Wilsonville Planning Areas, 2019 to 2039

Source: Buildable Lands Inventory; Frog Pond Concept Plan (2015), Wilsonville Staff, Calculations by ECONorthwest.

Note: Capacity matches demand in Villebois, Town Center, and Frog Pond West. Land in Residential Neighborhoods includes vacant and partially vacant land. For this housing market research report, we have added in calculations for Frog Pond South and East. For a map of these areas, see page 4 of Appendix A: Wilsonville Baseline Housing Needs Analysis.



* Not included in Baseline HNA Calculations.

6 Conclusion

This housing market research report provides a compendium of information to City leadership to support future decision making for the Equitable Housing Strategic Plan. The analysis found that the City has proactively planned for a mix of housing types across its planning areas, but increasing rents and home sales prices in the Portland region continue to exacerbate affordability in Wilsonville. The City is expected to grow by over 3,000 people in the next 20 years, many of whom will be interested in diverse, affordable housing types. These issues point to a need for a proactive roadmap toward achieving more equitable housing now and into the future.

The Plan will build on this base of information to identify implementation actions that the City should take to address current housing issues and plan for future housing. In future phases of the work, the City should take the following considerations into account:

- **Affordability Considerations.** Housing prices are a regional issue that also must be addressed at the local scale. Many residents in the city are paying more than 30% of their income towards housing. This is especially true for lower income renters. Contributors to development costs such as parking requirements, on-site amenities, extending water and sewer lines into new growth areas, and escalating construction costs have significant implications as to what housing types get built and where the rent or sales price needs to be set. Similarly, residents' incomes are not keeping pace with rising housing costs. Many residents who would like to own a home struggle to save enough to cover down payment and closing costs, and avoid being cost-burdened by the mortgage payment, insurance and property taxes, and monthly homeowners association fees.
- **Unit Type Considerations.** The demographic changes that Wilsonville will see over the next 20 years point to a need for planning a broad range of housing types for owners and renters with a wide range of price points. This conclusion is consistent with housing need in other cities in Clackamas County, the Portland Region, and most cities across the state. Compared to the rest of the county, Wilsonville has done a commendable job of promoting a diversity of housing types in the past, but recent trends point to a growing production of single-family detached units. Going forward, Wilsonville will need to continue to ensure a range of housing types are developed, such as small single-family detached housing (e.g., small-lot single-family and cottage clusters), townhouses, duplexes and quad-plexes, and apartments. Wilsonville is planning for these housing types in areas like Villebois and Town Center. However, in the Town Center, it will take time before market conditions improve for mixed-use multifamily development and the implementation of the Town Center Plan. The Frog Pond Planning Area includes new single-family attached types, which will meet an important need among future residents. Going forward, Wilsonville will need to ensure that these plans and their goals are fully implemented.

- **Access to Services, Amenities, and Transit.** Given Wilsonville’s relatively small size, much of Wilsonville’s housing is within easy reach of services, amenities, and transit. However, new planning areas are located farther from the city’s core and existing city services and amenities. Frog Pond West is planned to develop as predominately single-family detached neighborhoods, without the addition of retail amenities or services. The Town Center is the city’s commercial core with unrealized capacity to develop into a dynamic, amenity-rich center that could appeal to growth populations – Millennials, Baby Boomers, and Latinx populations.
- **Structural Considerations.** Finally, Metro notes that “Equitable housing also represents a system that accounts for the needs of households with low income and communities of color, recognizes a history of housing discrimination, and complies with current state and federal fair housing policy.”²³ ECONorthwest and its partners will be conducting stakeholder outreach to uncover findings related to the structural gap – how welcome do people feel in Wilsonville’s housing market? What kinds of barriers to people have in getting financing or making a security deposit? Have people encountered discrimination when looking for or locating in a home? Addressing these structural issues is important to achieving a balanced plan that meets the needs of Wilsonville’s diverse residents.

The Equitable Housing Strategy Plan should seek to address each of these considerations. The consultant team will use the research along with findings from the stakeholder outreach to develop a set of implementation actions in the final Equitable Housing Strategic Plan.

Appendix

Appendix A: Wilsonville Baseline HNA

This memorandum serves as Wilsonville’s preliminary baseline HNA, as an update to the HNA completed by the City in 2014.

¹ 2018 Wilsonville Annual Housing Strategy

² Geigerich, Andy. "List Leaders: These are Oregon's 15 fastest-growing cities." Portland Business Journal. May 13, 2019. <https://www.bizjournals.com/portland/news/2019/05/13/list-leaders-these-are-oregons-15-fastest-growing.html>

³ Current Population Survey Definitions. United States Census Bureau.

<https://www.census.gov/programs-surveys/cps/technical-documentation/subject-definitions.html>

⁴ U.S. Census Bureau. 2019. LEHD Origin-Destination Employment Statistics (2002-2015). Washington, DC: U.S. Census Bureau, Longitudinal-Employer Household Dynamics Program, accessed on June 20, 2019 at <https://onthemap.ces.census.gov>. LODES 7.3. The latest Census data available on commute patterns are from 2015.

⁵ The Oregon Department of Education Child Nutrition Programs provides income guidelines by household size for free and reduced price meals for students in schools. In 2016-2017, students qualified for free lunch at the following income levels: 2 people (\$20,826), 3 people (\$26,208), 4 people (\$31,590). Students qualified for reduce lunch prices at the following income levels: 2 people (\$29,637), 3 people (\$37,296), 4 people (\$44,955).

⁶ 2018 Wilsonville Annual Housing Report.

https://www.ci.wilsonville.or.us/sites/default/files/fileattachments/community_development/page/29051/housing_report_pdf_version.pdf

⁷ Wilsonville Housing Needs Assessment, 2019.

⁸ Clackamas County Baseline Housing Needs Assessment, 2019. Page 73.

⁹ https://www.oregonmetro.gov/sites/default/files/2018/12/03/2018_UGR-summary-11282018_v2pdf.pdf

¹⁰ Portland Region Housing Needs Assessment.

<https://www.oregonmetro.gov/sites/default/files/2018/12/04/Appendix5A-HousingNeedsAnalysis.pdf>

¹¹ Clackamas County Baseline Housing Needs Assessment, 2019.

¹² Wilsonville Residential Land Study

¹³ Villebois Village Master Plan.

https://www.ci.wilsonville.or.us/sites/default/files/fileattachments/planning/page/84681/villebois_village_master_plan.pdf.

¹⁴ 2018 Wilsonville Annual Housing Report

¹⁵ <https://olis.leg.state.or.us/liz/2019R1/Downloads/MeasureDocument/SB608/Introduced>

¹⁶ The CoStar Building Rating System provides a national rating for buildings. Properties are evaluated and rated using a 5-star scale based on the characteristics of each property type, including: architectural attributes, structural and systems specifications, amenities, site and landscaping treatments, third party certifications and detailed property type specifics. More information on CoStar's website:

https://www.costar.com/docs/default-source/brs-lib/costar_buildingratingsystem-definition.pdf?sfvrsn=12a507a4_2

¹⁷ 2018 Wilsonville Annual Housing Report.

¹⁸ Redfin, Property Radar.

¹⁹ 2018 Wilsonville Annual Housing Report.

²⁰ Clackamas County Baseline Housing Needs Assessment, 2019. See Exhibit 67 on page 75.

²¹ In addition to the capacity in the areas mentioned above, Frog Pond East and South are new additions to the Metro Urban Growth Boundary with housing expectations defined in Metro's growth boundary (refer to Metro Ordinance 18-1427 at <http://rim.oregonmetro.gov/Webdrawer/Record/558717>). The growth decision says Wilsonville must plan for a minimum of 1,325 dwelling units in Frog Pond East and South. However, as of June 2019, this UGB expansion has not yet been acknowledged by the State of Oregon Land Conservation and Development Commission. Therefore, ECONorthwest has not included Frog Pond East and South housing growth in the forecast for Wilsonville.

²² Assumption for future mix is based on requirements from OAR 660.007. OAR 660-007-0030(1) requires "(1) Jurisdictions other than small developed cities must either designate sufficient buildable land to provide the opportunity for at least 50 percent of new residential units to be attached single family housing or multiple family housing or justify an alternative percentage based on changing circumstances. Factors to be considered in justifying an alternate percentage shall include but need not be limited to: (a) Metro forecasts of dwelling units by type; (b) Changes in household structure, size, or composition by age; (c) Changes in economic factors impacting demand for single family versus multiple family units; and (d) Changes in price ranges and rent levels relative to income levels. (2) The considerations listed in section (1) of this rule refer to county-level data within the UGB and data on the specific jurisdiction."

²³ "Opportunities and Challenges for Equitable Housing." Metro. 2016.

<https://www.oregonmetro.gov/sites/default/files/2016/01/28/EquitableHousingReport-20160122.pdf>



FROG POND EAST & SOUTH MASTER PLAN

**City Council Work
Session**

January 20, 2022

Frog Pond Planning To Date



FROG POND AREA PLAN
 Creating a great community

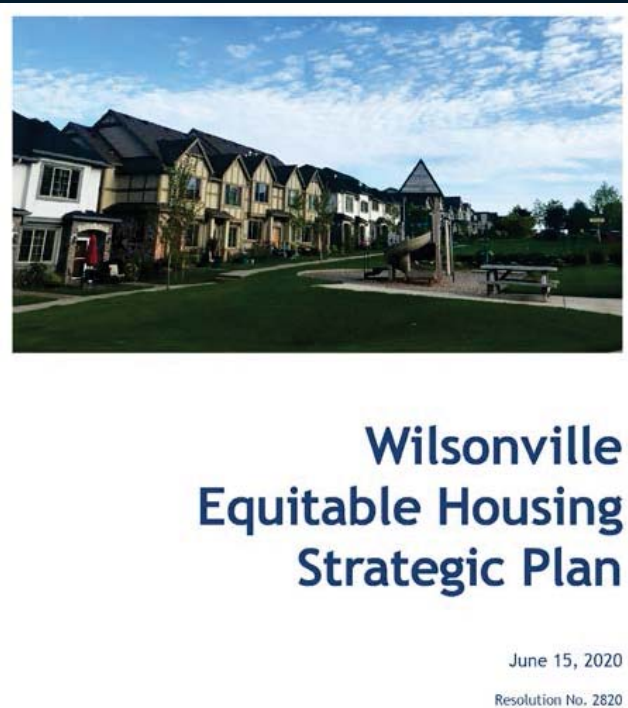



FROG POND WEST

Master Plan



Equitable Housing Strategic Plan



Identifies needs and opportunities for housing and establishes actions to address them

Policy Objectives:

- Diversity of housing types
- Increased partnerships with developers
- Affordable homeownership opportunities
- Reduced risk of housing displacement
- Access to services and public transit
- Quality subsidized housing
- Social equity and inclusion



Frog Pond East and South Housing Mix

- For sure part of mix:
 - Detached single-family
 - Middle housing
 - Accessory dwelling units (ADU's)
- Potentially part of mix
 - Apartments/condos and other multi-family (type, scale to be determined)



Type and Scale of Apartments/Condos

Garden



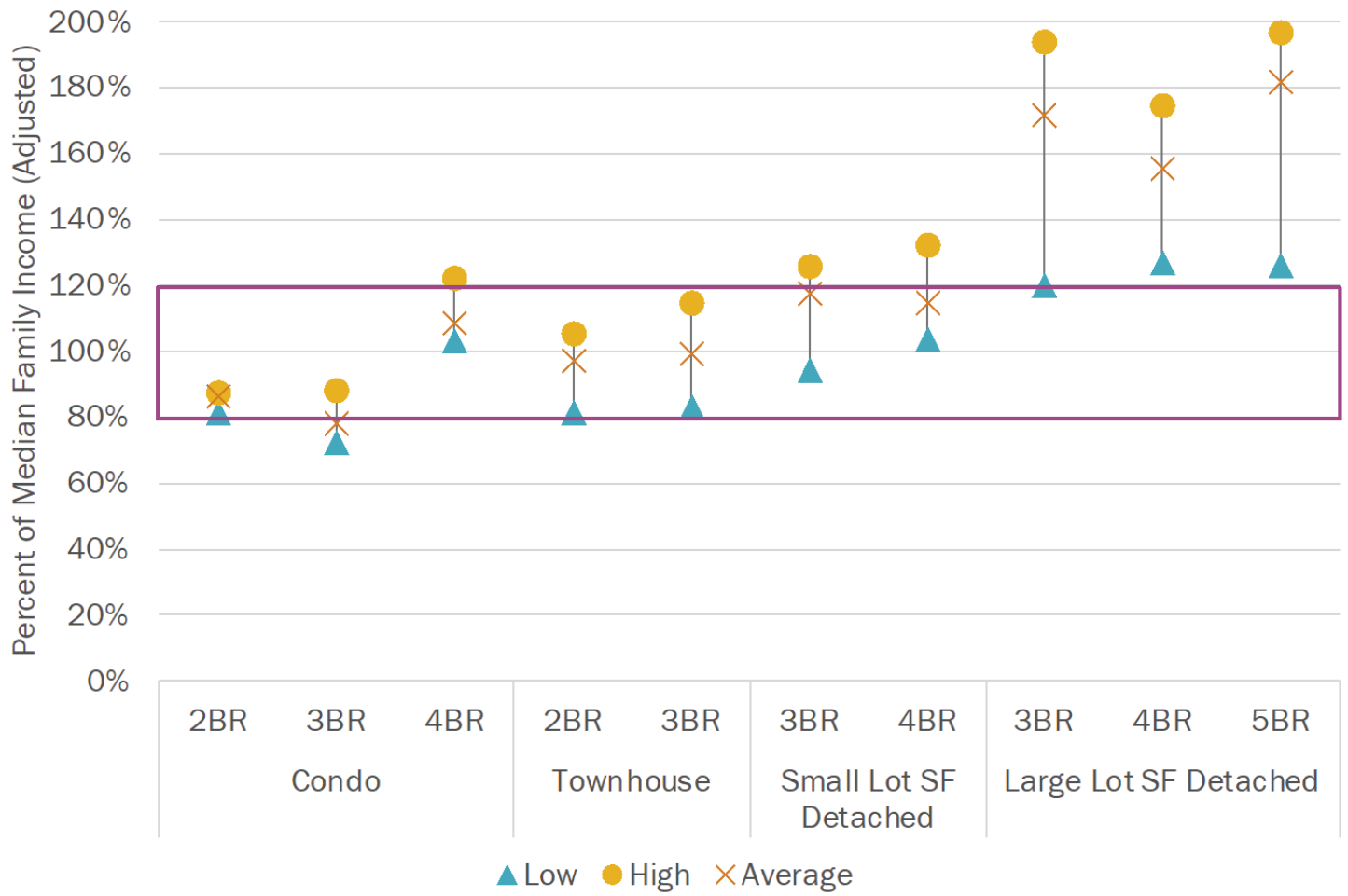
Urban Mixed Use



Small Scale



Unit Type and Affordability

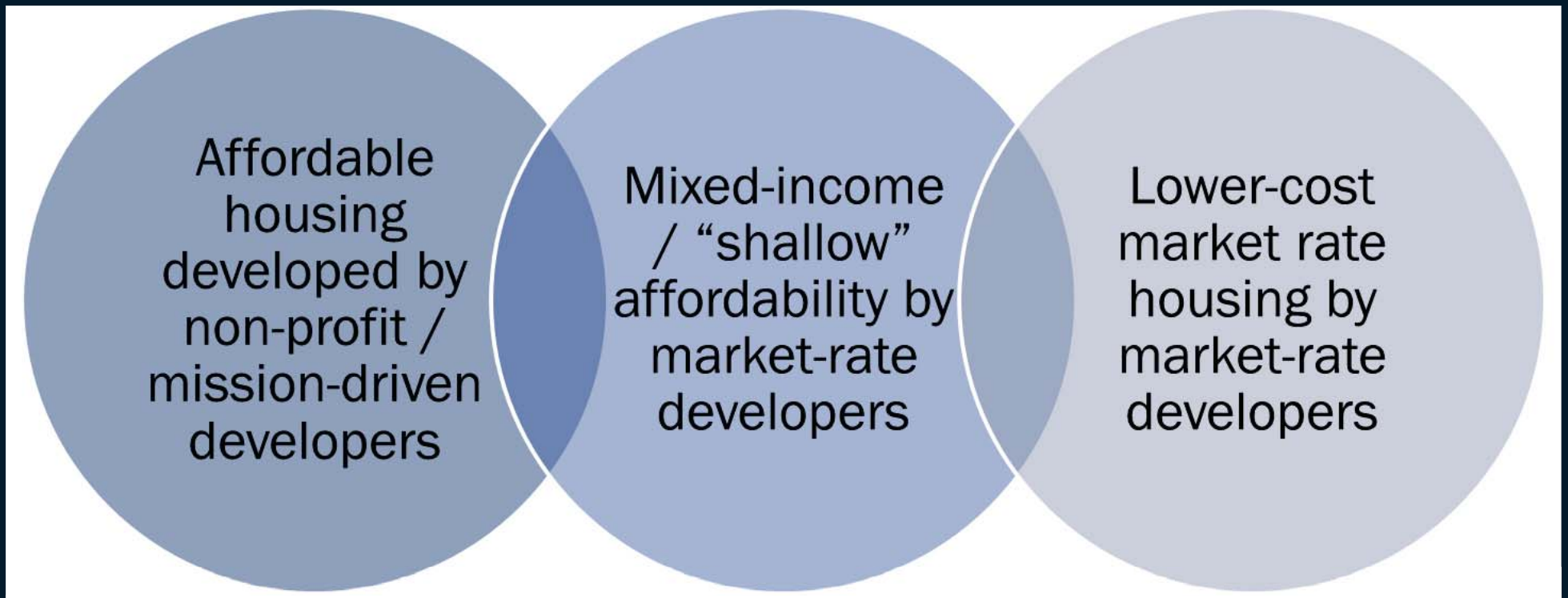


New large-lot detached housing affordable only to households earning >120% of the median family income*

Most attached for-sale housing & small lot detached is affordable to households earning 80-120% of the median family income*

* Median family income from HUD for Clackamas County, adjusted for household size given number of bedrooms

Affordable and workforce housing development basics



Questions/Discussion

- Insights and thoughts about potentially allowing multi-family housing in Frog Pond East and South to support identified housing needs?
- Questions to try to answer, if possible, in affordable housing analysis?



Next Steps



City Council Meeting Action Minutes
January 20, 2022

City Council members present included:

Mayor Fitzgerald
Council President Akervall
Councilor Lehan - Excused
Councilor West – Arrived 5:45 p.m.
Councilor Linville

Jeanna Troha, Assistant City Manager
Dan Pauly, Planning Manager
Keith Katko, Assistant Finance Director
Zoe Mombert, Assistant to the City Manager
Mark Ottenad, Public/Government Affairs Director
Robert Wurpes, Chief of Police
Shasta Sasser, Operations Manager
Steven Engelfried, Library Services Manager
Delora Kerber, Public Works Director

Staff present included:

Bryan Cosgrove, City Manager
Barbara Jacobson, City Attorney
Kimberly Veliz, City Recorder

AGENDA ITEM	ACTIONS
WORK SESSION	START: 5:02 p.m.
A. Library’s Strategic Plan Update	Staff shared the draft Library Strategic Plan, a five-year plan that outlines strategies to achieve six primary Library objectives: enhance services and resources, raise awareness of the library and its services, extend access to more community members, improve physical spaces, add resources and support City initiatives.
B. Frog Pond East and South	City Council provided input to inform the affordable housing component of the Frog Pond East and South Master Plan being developed.
C. Clackamas County Behavioral Health Discussion	City Council heard details of a plan to increase support for mental health crises by adding of a full-time behavioral health specialist to the City Wilsonville staff.
REGULAR MEETING	
<u>Mayor’s Business</u>	
A. Upcoming Meetings	Upcoming meetings were announced by the Mayor as well as the regional meetings she attended on behalf of the City.
B. Celebrations and Proclamations	Details were presented of a plan developed to establish clear, transparent guidelines to govern how and when proclamations are written, reviewed and/or read aloud at City Council meetings.

<p><u>Communications</u></p> <p>A. Republic Services Annual Report</p>	<p>Republic Services shared their annual report, which detailed operation costs, new and temporary services, sustainability goals and customer satisfaction data.</p>
<p><u>Consent Agenda</u></p> <p>A. <u>Resolution No. 2944</u> A Resolution Of The City Of Wilsonville Authorizing The City Manager To Execute A Professional Services Agreement With JayRay Ads & PR, Inc, For ‘Explore Wilsonville’ Tourism Promotion And Development And Destination Marketing Services.</p> <p>B. Minutes of the December 20, 2021 City Council Meeting.</p>	<p>The Consent Agenda was approved 4-0.</p>
<p><u>New Business</u></p> <p>A. <u>Resolution No. 2947</u> A Resolution Of The City Of Wilsonville Authorizing A Financing Plan For The Construction Of The Public Works Complex.</p> <p>B. <u>Resolution No. 2948</u> A Resolution Of The City Of Wilsonville, Oregon Authorizing A Full Faith And Credit Borrowing Related To Providing A Complex To House Operations For The Public Works Department.</p> <p>C. <u>Resolution No. 2949</u> A Resolution Authorizing A Four-Year Capital Interfund Loan From The Water Operating Fund To The General Fund.</p>	<p>Resolution No. 2947 was adopted 3-1.</p> <p>Resolution No. 2948 was adopted 3-1.</p> <p>Resolution No. 2949 was adopted 3-1.</p>
<p><u>Continuing Business</u></p>	
<p><u>Public Hearing</u></p>	
<p><u>City Manager’s Business</u></p> <p>A. Global Settlement for the National Opioid Settlement Agreement</p>	<p>Council moved to authorize the City Manager or designee to join with other Oregon cities to join the national settlement. Passed 4-0.</p>
<p><u>Legal Business</u></p>	<p>There was none.</p>
<p>ADJOURN</p>	<p>8:13 p.m.</p>



PLANNING COMMISSION

WEDNESDAY, DECEMBER 8, 2021

II. WORK SESSION:

- A. Frog Pond East and South Master Plan (Pauly) (30 Minutes)



PLANNING COMMISSION WORK SESSION STAFF REPORT

Meeting Date: December 8, 2021		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable Comments: N/A	
Staff Recommendation: Provide requested input on the affordable housing analysis underway as well as outreach plan updates.			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE PLANNING COMMISSION:

Provide feedback and input on the affordable housing analysis currently underway as well as the outreach plan updates.

EXECUTIVE SUMMARY:

Following designation of the subject land as an urban reserve in 2010, the City adopted the Frog Pond Area Plan in 2015 to set the stage for additional planning and eventual development to meet identified local housing needs. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. In 2017, a master plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road.

In 2018, Metro expanded the UGB to include the subject land. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process also identifies water, sewer, stormwater, and transportation infrastructure needs and funding sources.

Parts of the Frog Pond East and South Master Plan will be similar to that of Frog Pond West completed in 2017. This includes the same level of sub-district analysis and commitment to quality design, walkable neighborhoods, and natural resource and tree preservation, building on the basic framework from the 2015 Frog Pond Area Plan. In addition, the project team will build its infrastructure funding approach off the work previously done for Frog Pond West.

The Frog Pond East and South Master Plan will also be different from the Frog Pond West Master Plan in a number of notable ways. This includes looking at housing variety and distribution with (1) additional focus on housing for a wider variety of income levels and how to encourage housing options not historically well-provided by the market, as directed by the City's Equitable Housing Strategic Plan, and (2) less focus on mathematic density and more focus on how the built form of housing structures contribute to the look and feel of the neighborhood. The master plan process will examine adjusting how service development charges (SDCs) and other infrastructure fees are calculated to ensure infrastructure costs are equitably carried by varying housing types and update the infrastructure funding plan. Building on experience from past projects, the planned process also includes a broader and more inclusive outreach program to ensure a variety of groups, particularly those historically marginalized, have a meaningful and impactful voice in the decisions made.

The Planning Commission held their first work session on the project in October. This second work session focuses on the needs and opportunities for lower-cost housing in Frog Pond East and South not historically well-provided by the market. The consultant team will review related action items and information from the Equitable Housing Plan, discuss initial information related to the affordable housing analysis (see Attachment 1) and its potential impacts on the master plan. This particularly includes information about the built form (housing type) to meet different housing needs. This is preliminary information for the Commission's discussion that will serve to inform a more thorough analysis and memo that will be presented at the Commission's

February 2022 work session. The findings of the affordable housing analysis will then be key to determining the mix of housing types planned for Frog Pond East and South.

Central to the consideration of how to provide affordable housing options is the efficient use of limited expensive land. Data, both from the Equitable Housing Strategic Plan and the current analysis, shows a need for a variety of housing at lower price points to meet certain housing needs making the need for efficient use of land vital. At the same time, aesthetic preference, familiarity with existing neighborhoods, bias in favor of community members' own preferred housing type, and concern about impacts on infrastructure and services, can often cause community sentiment to lean against housing types that use land more efficiently. Facilitating a productive conversation around housing types and efficient land use will be an important component of this project.

In addition to the affordable housing discussion, the project team would like to briefly update the Commission on project outreach plan and schedule.

Discussion questions:

1. What are the Commission's current thoughts on the extent that different housing types should be planned in Frog Pond East and South considering the Equitable Housing Strategic Plan and initial information from the affordable housing analysis?
2. What ideas does the Commission have to facilitate productive conversations and address sensitivities related to more land-efficient housing types?
3. What questions does the Planning Commission have that you would like the project team to try to answer, if possible, as they continue the affordable housing analysis?
4. What questions or comments does the Planning Commission have on updated outreach plan, particularly the schedule over the coming months?

EXPECTED RESULTS:

Feedback and direction from the Planning Commission on the affordable housing component of Frog Pond East and South Master Plan project. Feedback on the outreach plan and schedule.

TIMELINE:

This is the second in a series of work sessions for the Planning Commission. The next work session is planned for February. The project must be completed by December 2022.

CURRENT YEAR BUDGET IMPACTS:

The main consultant contract is for \$350,000 funded through a Metro grant. Work began during FY 20/21. Unused portions have been rolled over and the City anticipates spending \$260,000 by the end of FY 21/22. The remaining \$90,000 is planned to be budgeted during FY 22/23 to conclude the project. Staff is in the process of incorporating an additional \$162,000 in State grants into the contract and work program for additional affordable housing analysis and work related to infrastructure funding and SDCs. Staff, with City Council's support, submitted the grant requests to further enhance the depth of the affordable housing and infrastructure project components.

COMMUNITY INVOLVEMENT PROCESS:

The project has a community engagement plan which lays out a robust public engagement program that will include meaningful and impactful involvement of people who identify with historically marginalized communities. In addition, City staff is working with consultants and the DEI committee to establish a framework for broad community involvement.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY:

Well-designed neighborhoods with a variety of housing options for current and future Wilsonville residents.

ALTERNATIVES:

At this early point in the project, the Planning Commission may provide a range of alternatives for the project team to consider.

ATTACHMENTS:

- Attachment 1 Initial information related to the Affordable Housing Analysis
- Attachment 2 Outreach Plan Updates



FROG POND EAST & SOUTH MASTER PLAN

Initial Information Related to Affordable Housing Analysis Planning Commission Work Session December 8, 2021

Equitable Housing Strategic Plan Background



Wilsonville Equitable Housing Strategic Plan

June 15, 2020

Resolution No. 2820

Wilsonville has a relatively young population.

Median household income in 2016 was \$105,000 for homeowners and \$50,000 for renters. The majority (56%) of Wilsonville householders are renters.

The Latinx community is expanding quickly. Between 2000 and 2016, the Latinx population in Wilsonville grew by about 2,000 people,

Housing Trends from Equitable Housing Strategic Plan

Exhibit 1. Key Future Housing Trends in Wilsonville (2020-2040)

Future Demographic Shift	What does this mean for future housing types?
More middle-aged Millennials	<ul style="list-style-type: none">• Homeownership for Millennials will increase• Demand for relatively affordable ownership and rental types near amenities
Constant Number of people age 60+	<ul style="list-style-type: none">• Downsizing• Aging in place and multigenerational households• Homes close to services
Increasing share of Latinx households	<ul style="list-style-type: none">• Larger units to accommodate larger, multigenerational households• Relatively affordable housing

Direction From the Equitable Housing Strategic Plan

- Establish achievable goals/targets for affordable housing
- Integrate affordable housing into overall master plan, with access to amenities
- Identify specific properties that could help meet affordable housing targets
- Evaluate relationships to infrastructure funding plan
- Engage affordable housing developers and other stakeholders to refine strategies

From “Next Steps” under Implementation Action IC in Equitable Housing Strategic Plan (EHSP). See pages 24-25 of EHSP.

Other Potential Strategies from Equitable Housing Strategic Plan

- Create housing tax abatements to achieve housing diversity & affordability
- Facilitate connections to partners and housing resources
- Secure land for development of affordable and equitable housing
- Modify parking requirements
- Explore tactics to reduce the impact of System Development Charges on affordable housing
- Partner with Community Land Trusts
- Explore homeownership support programs
- Assess accessibility and visitability standards or incentives

From Actions Requiring Further Exploration in Equitable Housing Strategic Plan (EHSP). See pages 31-42 of EHSP.

Affordable and Workforce Housing Development Basics

Affordable housing developed by non-profit / mission-driven developers

Mixed-income / “shallow” affordability by market-rate developers

Lower-cost market rate housing by market-rate developers

0-30% AMI

30-60% AMI

60-80% AMI

80-100% AMI

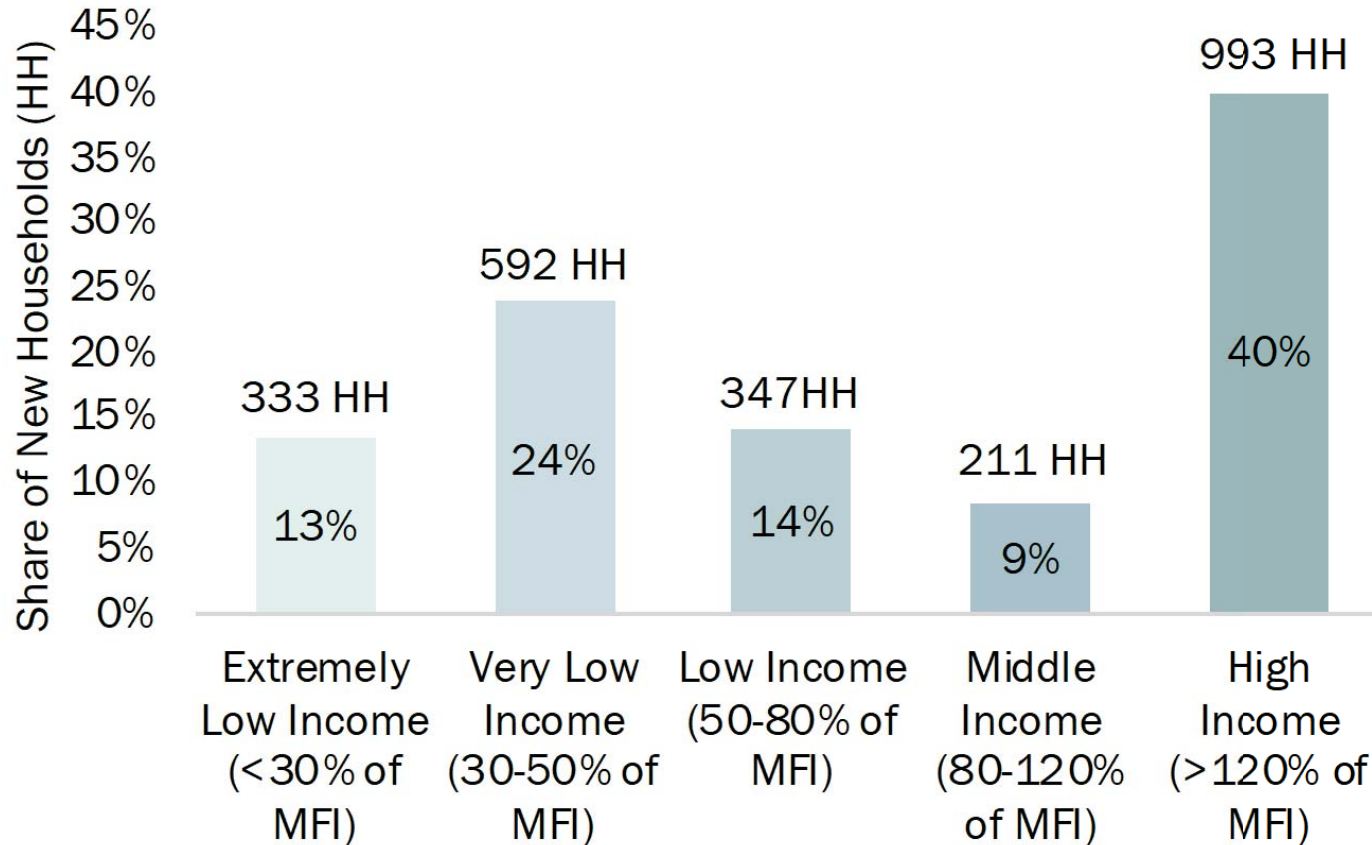
100-120% AMI

120+% AMI

Distribution of Need

Future (New) Households by Median Family Income (MFI), Wilsonville, 2019-2039

Source: U.S. Department of Housing and Urban Development. U.S. Census Bureau, 2012-2016 ACS Table 19001.



The percentages used in this exhibit are based on current household income distribution, assuming that approximately the same percentage of households will be in each market segment in the future. MFI for Clackamas County as of 2019 was \$81,400.
Planning Commission Meeting - December 8, 2021
Frog Pond East and South

Affordable Housing Models



Cottage Cluster (affordable rental housing)

Example: Legion Cottages, Cottage Grove, OR

Source: Homes for Good



Townhomes (affordable homeownership)

Example: Williams Townhomes, Portland, OR

Source: PCRI

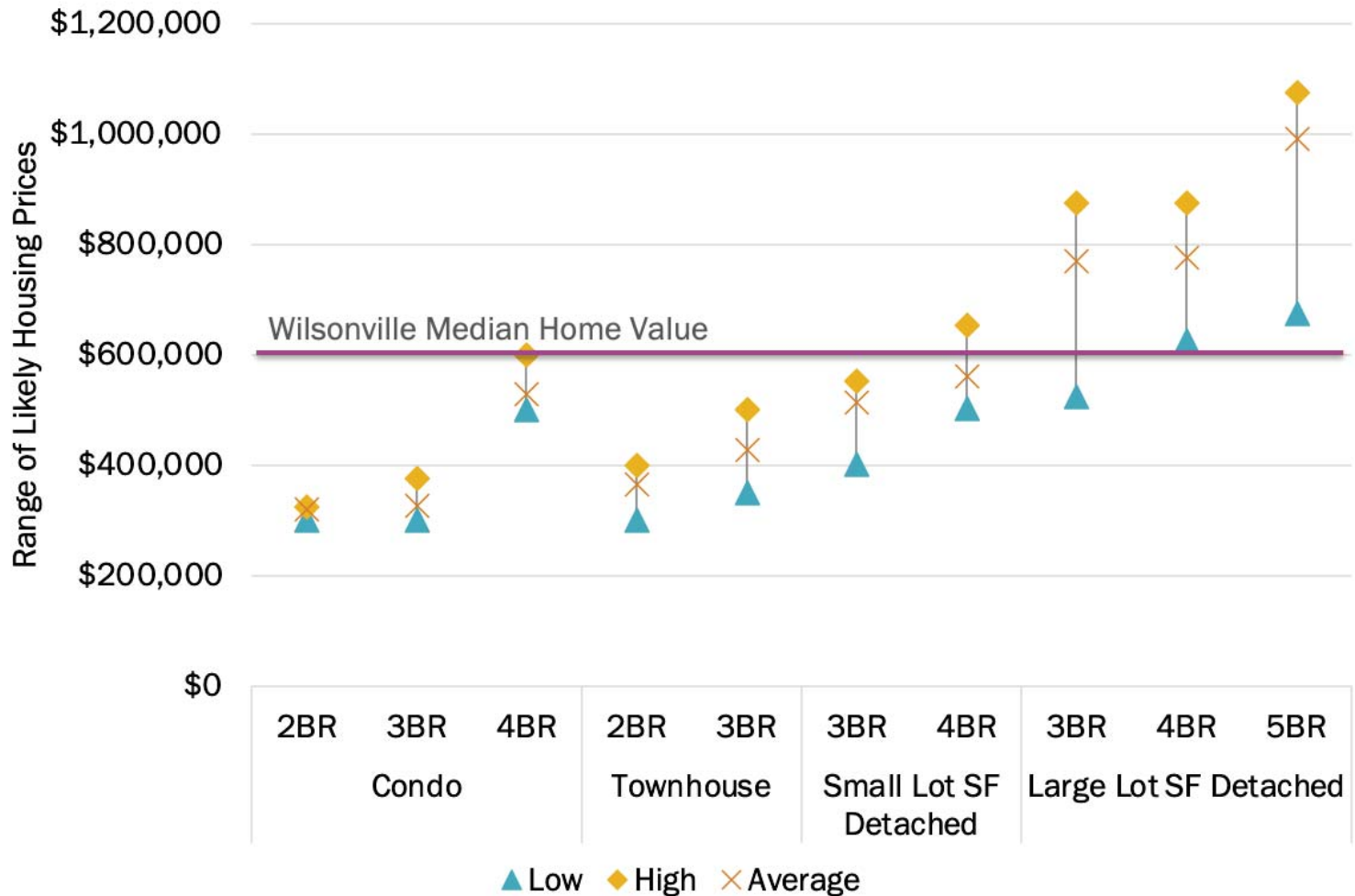


Apartments (affordable rental housing)

Example: Orchards at Orenco III, Hillsboro, OR

Source: REACH CDC

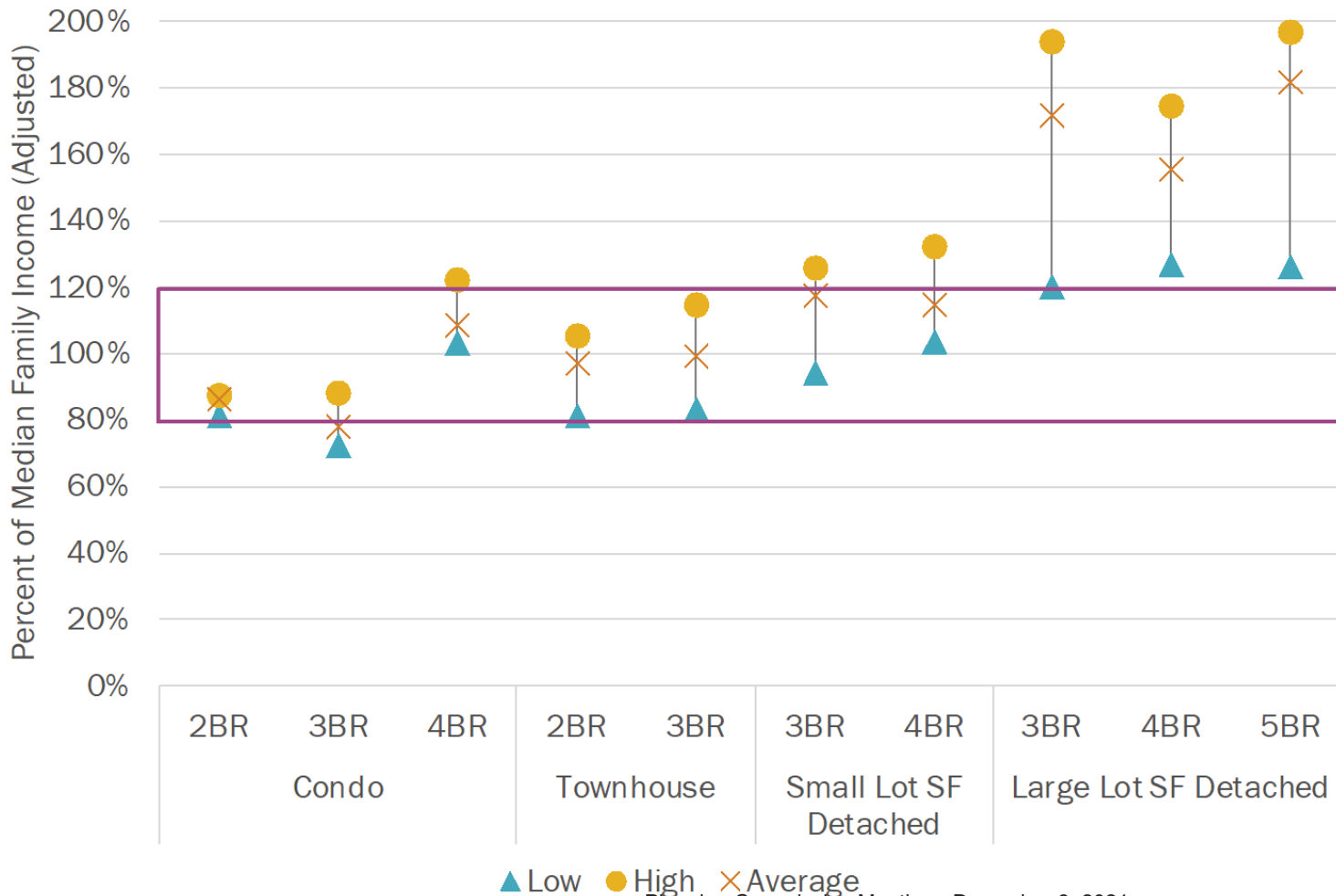
Market Rate Ownership Housing Affordability



New large-lot detached housing is generally more expensive than most existing homes

Attached housing & small lot detached typically provide lower-cost homeownership opportunities

Market Rate Ownership Housing Affordability



New large-lot detached housing affordable only to households earning >120% of the median family income*

Most attached for-sale housing & small lot detached is affordable to households earning 80-120% of the median family income*

* Median family income from HUD for Clackamas County, adjusted for household size given number of bedrooms

▲ Low ● High × Average

Accessory Dwelling Units

33% of adults would consider building an ADU (AARP, 2018)

Main reason to consider an ADU is for a loved one who needs care (AARP, 2018)

SF floorplans with an ADU sometimes need larger lots

Some developers are interested in building ADUs

Local fees are an important factor in whether developers will build ADUs

Selling an ADU separately keeps costs of the main unit affordable for more buyers

Detached ADU, Milwaukie, OR
Source: Craigslist



Attached Townhouse ADU, Seattle, WA
Source: Redfin





PUBLIC ENGAGEMENT SCHEDULE

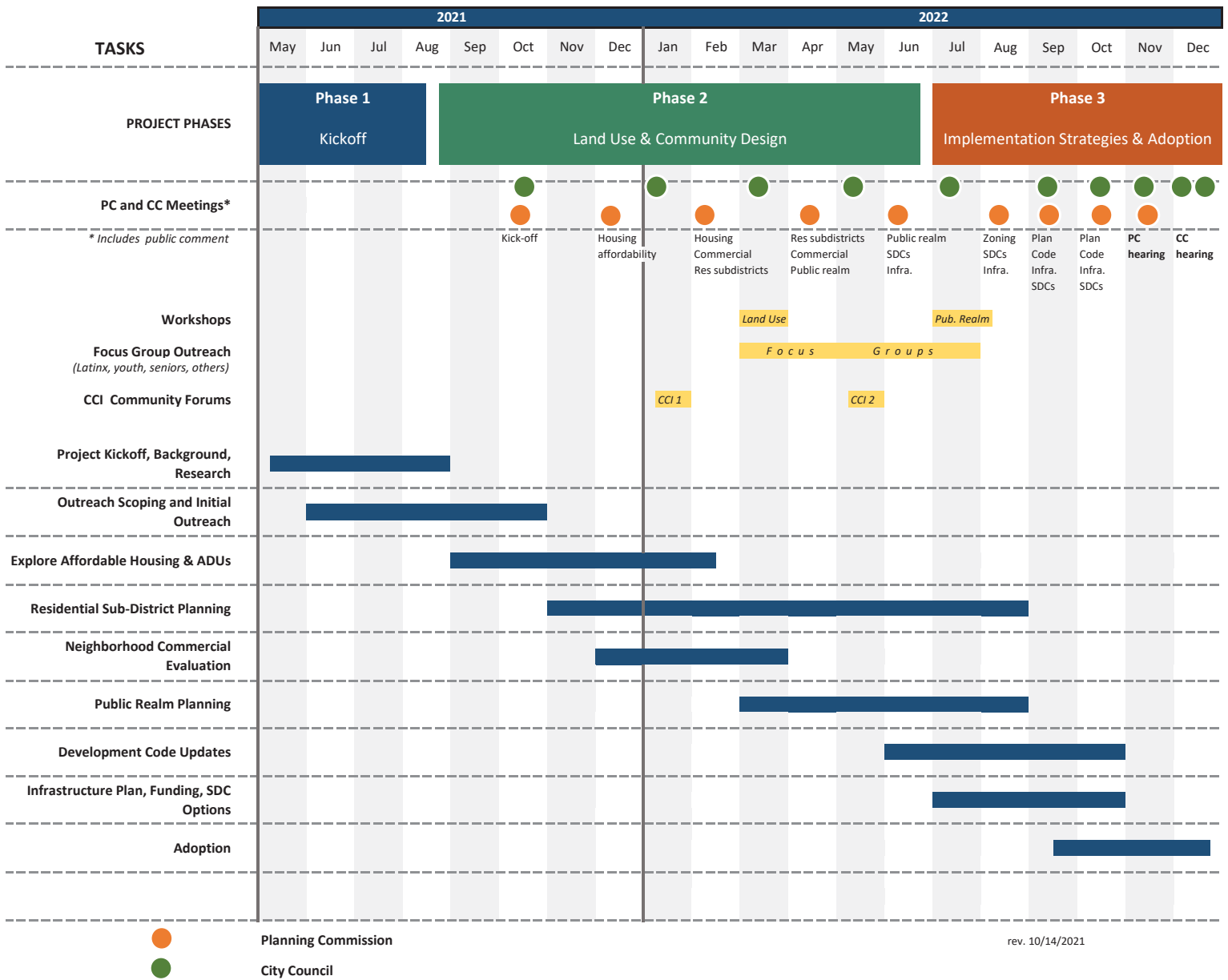
TO: Planning Commission
FROM: Joe Dills and Andrew Parish
CC: Project Team
DATE: November 22, 2021

SUMMARY OF THE PUBLIC ENGAGEMENT SCHEDULE

The attached schedule graphic displays the public engagement opportunities and strategies discussed with the Planning Commission in October:

- a. **Eight Planning Commission work sessions prior to beginning hearings** – The work sessions are an opportunity for the public to submit comments and listen to the ongoing discussions throughout the process. Planned agenda topics are listed.
- b. **Two community workshops** – These will be hands-on opportunities for participation and problem solving. The first will focus on land use in Spring 2022 and the second will focus on the public realm in Summer 2022.
- c. **Focus group outreach** – These meetings will bring the project to stakeholders for discussions and feedback. It is the heart of the planned outreach to the Latinx community.
- d. **Committee for Citizen Involvement (CCI) Community Forums** – These two forums will provide information intended for a broad audience. The first one, scheduled for late January, is intended as a project kick-off.

The engagement listed above will be complemented by public information provided via *Let's Talk Wilsonville!*, articles and press releases, "e-blasts" to the interested parties email list, etc.



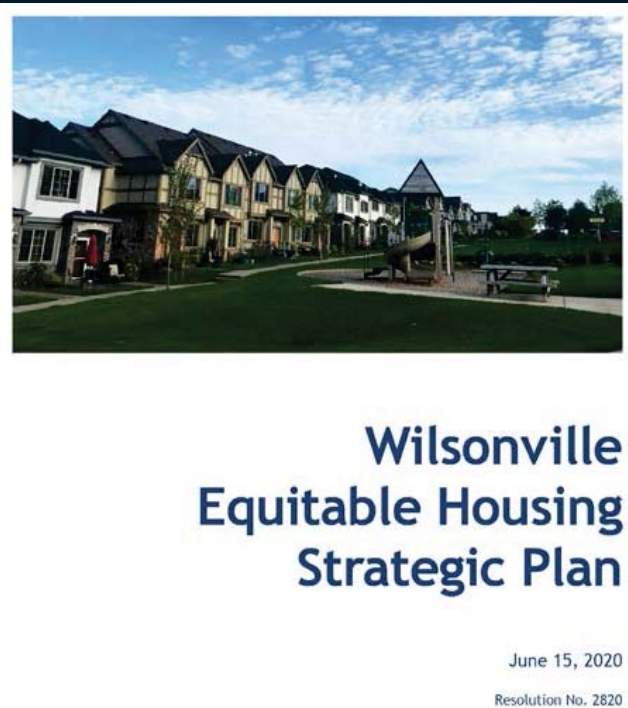
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**FROG POND
EAST & SOUTH
MASTER PLAN**

**Planning Commission
Work Session
December 8, 2021**

Equitable Housing Strategic Plan



Identifies needs and opportunities for housing and establishes actions to address them

Policy Objectives:

Diversity of housing types

Increased partnerships with developers

Affordable homeownership opportunities

Reduced risk of housing displacement

Access to services and public transit

Quality subsidized housing

Social equity and inclusion



EHSP Housing Trends

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EHSP Stakeholder Feedback

From interviews, focus groups, surveys:

- High cost barriers to homeownership for some renters
- Desire for more accessible/one-level units
- Interest in diversity of housing types – greatest opportunity in new urban areas



EHSP Action 1C

Define Equitable Housing Approaches in New Urban Growth Areas

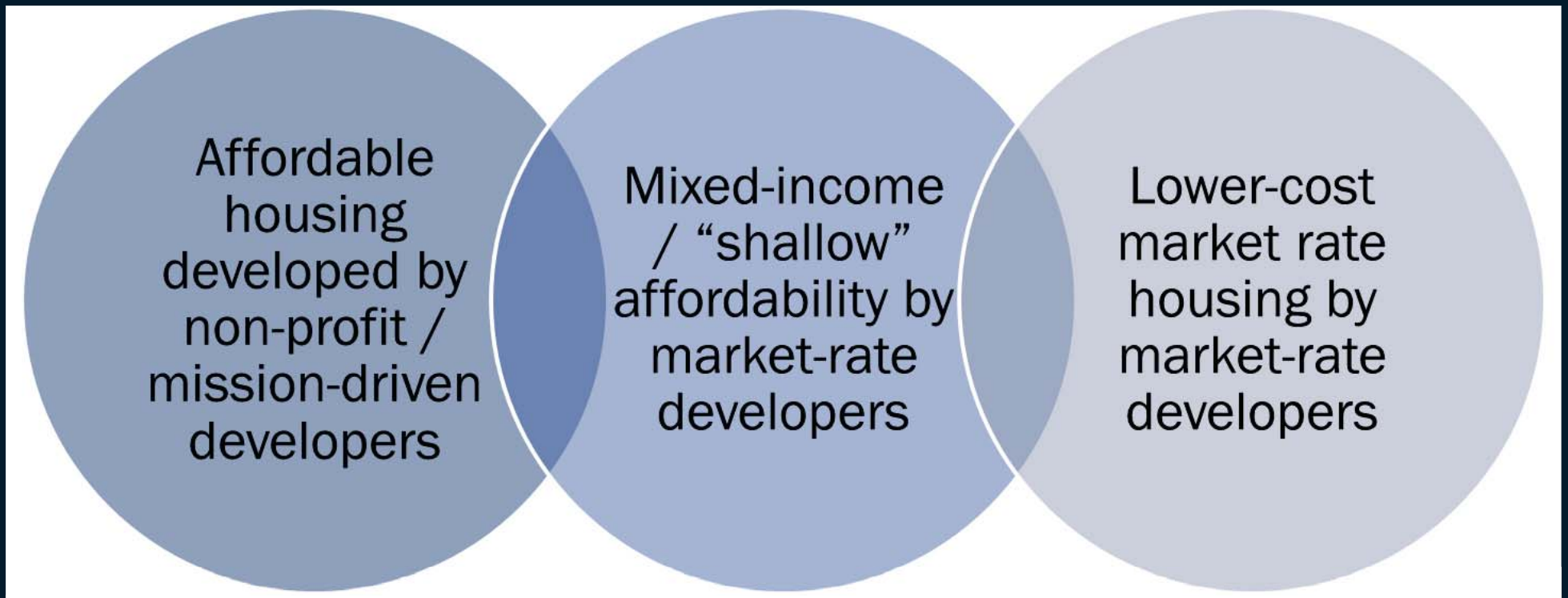
- Set achievable goals/targets for unit types, affordability, and access to services/amenities
- Integrate these goals/targets into overall master plan
 - Identify specific properties that could help meet affordable housing targets
 - Evaluate relationships to infrastructure funding plan
 - Engage affordable housing developers and other stakeholders to refine strategies



Other Related EHSP Actions

- 1D: Create housing tax abatements
- 1E: Facilitate connections to partners and housing resources
- 2B: Modify parking requirements
- 2D: Partner with Community Land Trusts
- 2E: Explore homeownership support programs
- 2H: Assess accessibility and visitability standards or incentives

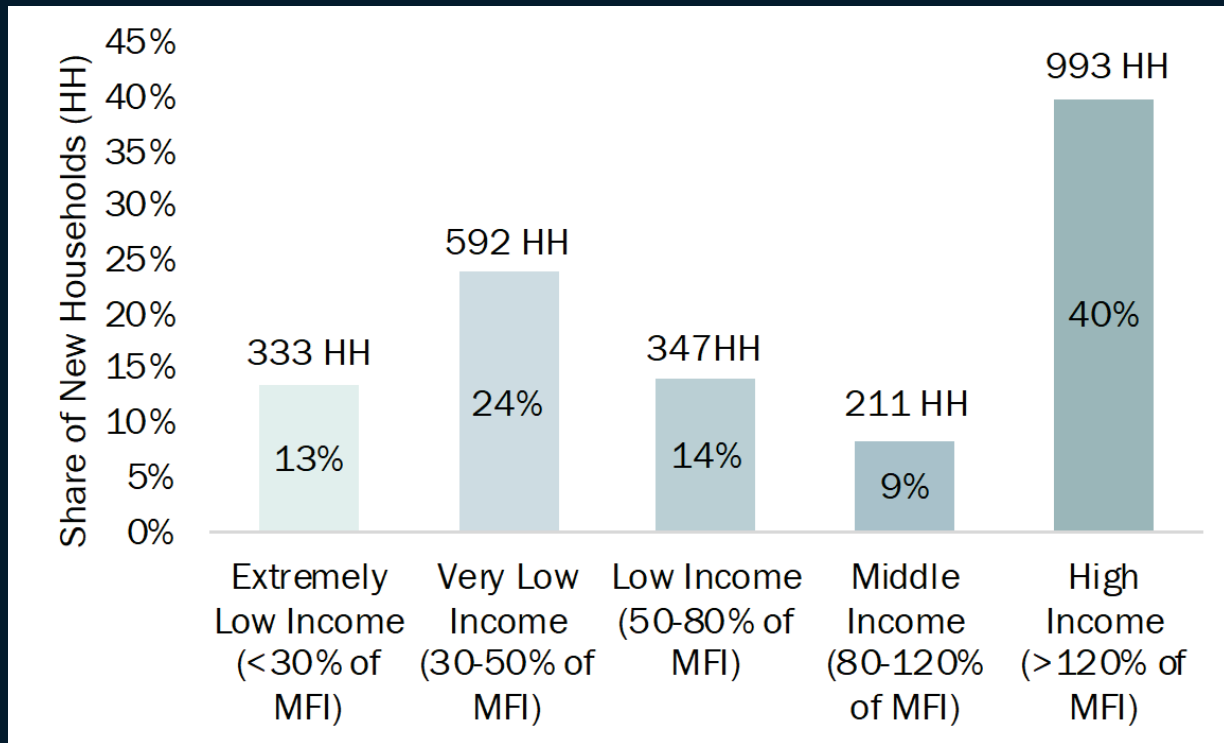
Affordable and workforce housing development basics



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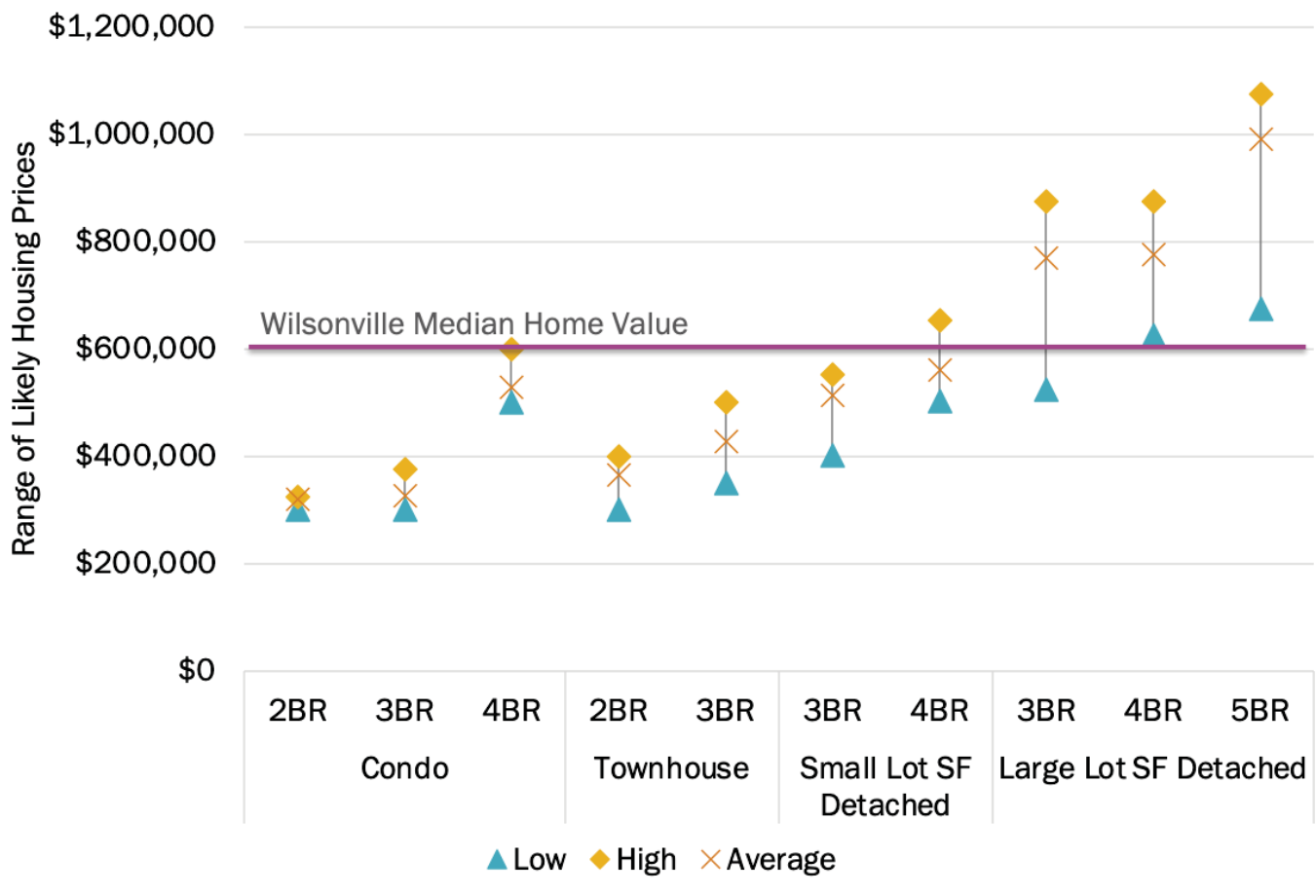


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Source: REACH CDC

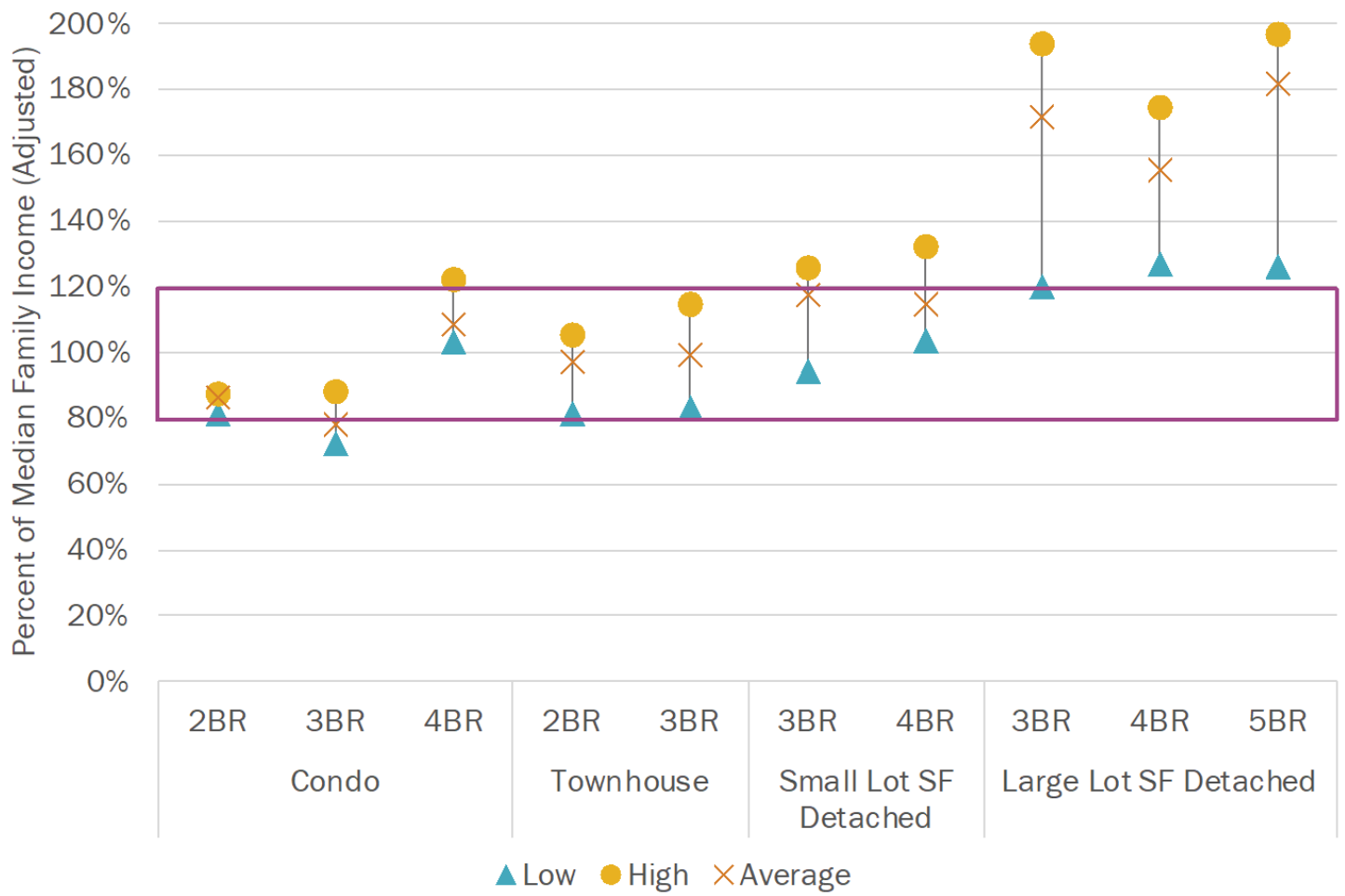
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Detached ADU, Milwaukie, OR

Source: Craigslist



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Source: Redfin



Questions/Discussion

- Extent of different housing types?
- Ideas on facilitating difficult conversations about housing types?
- Questions to answer as affordable housing analysis continues?

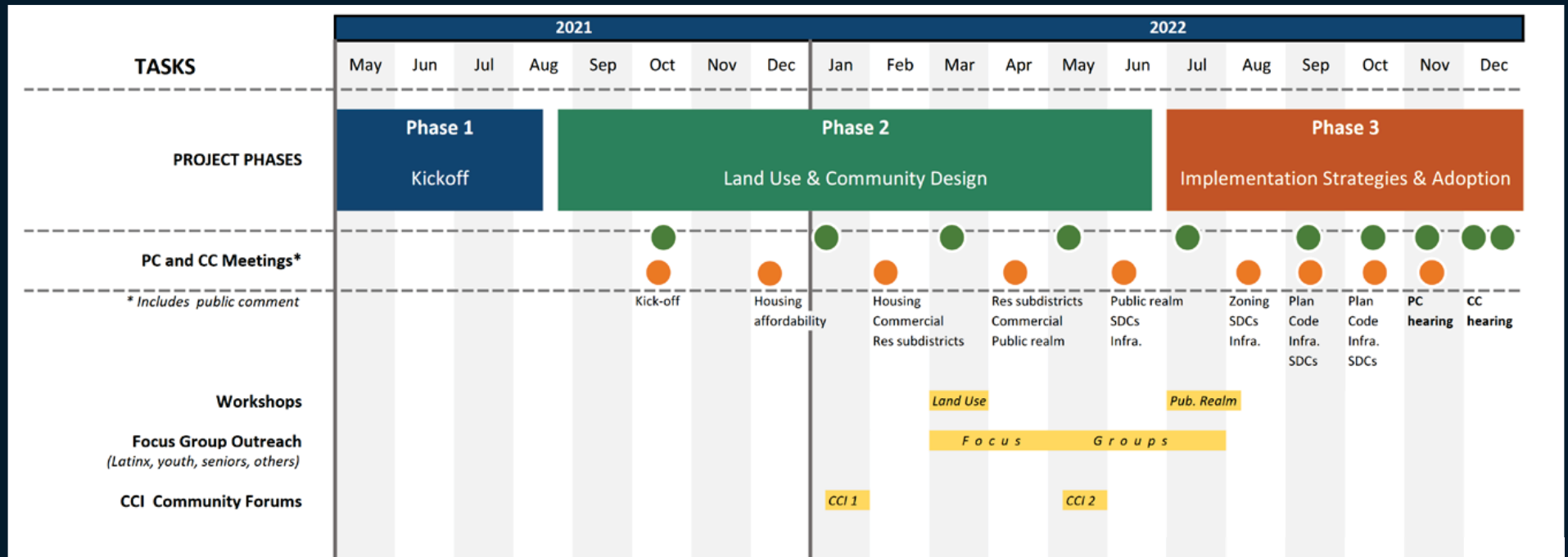


Public Engagement Process

- Eight PC Worksessions
- Two Community Workshops
- Focus Group Outreach
- Two CCI Forums



Public Engagement Timeline



Next Steps



**PLANNING COMMISSION
WEDNESDAY, DECEMBER 8, 2021
6:00 P.M.**

**Wilsonville City Hall
29799 SW Town Center Loop East
Wilsonville, Oregon**

Draft PC Minutes were reviewed and approved at the February 9, 2022 PC Meeting.

Minutes

I. CALL TO ORDER - ROLL CALL

Chair Kamran Mesbah called the meeting to order at 6:01 p.m. Those present:

Planning Commission: Kamran Mesbah, Ron Heberlein, Aaron Woods, Breanne Tusinski, and Olive Gallagher. Jerry Greenfield arrived after Roll Call. Jennifer Willard was absent.

City Staff: Miranda Bateschell, Ryan Adams, Daniel Pauly, Kim Rybold, Georgia McAlister, Shelley White

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was recited.

CITIZEN'S INPUT - This is an opportunity for visitors to address the Planning Commission on items not on the agenda. There was none.

ADMINISTRATIVE MATTERS

A. Consideration of the November 10, 2021 Planning Commission minutes
The November 10, 2021 Planning Commission minutes were accepted as presented.

II. WORK SESSION

A. Frog Pond East and South Master Plan (Pauly)

Dan Pauly, Planning Manager, introduced the project team, who had been working on the Frog Pond East and South Master Plan since last meeting with the Commission in October. A large part of the team's work regarded housing, so discussion would focus on the housing topic and with updates provided on outreach as well. Affordable housing would be discussed tonight and throughout the coming work sessions. He explained that in this context, affordable housing was housing that was more economically attainable for more households. Subsidized, low-income housing was a subset of affordable housing; however, affordable housing was a broader term and included anything market-produced that was more attainable or an actual subsidized government or non-profit project.

Kim Rybold, Senior Planner, began the presentation of Frog Pond East and South Master Plan via PowerPoint. She highlighted the Equitable Housing Strategic Plan (EHSP), reviewing its background, policy objectives, and actions, the housing trends it identified, as well as stakeholder feedback, and how the work would influence affordable housing in the Master Planning process. (Slides 2-6)

Becky Hewitt, ECONorthwest, continued the presentation, updating some initial findings from the housing affordability analysis. She reviewed affordable and workforce housing development basics, the distribution of need by income, some affordable housing models, market rate ownership housing affordability of various housing types, and different considerations regarding accessory dwelling units. (Slides 7-12)

Mr. Pauly asked for the Commission's initial thoughts and feedback on housing types in Frog Pond East and South, referencing the questions presented in the meeting packet that were summarized on Slide 13. He noted the Committee for Citizens Involvement (CCI) would be getting input about housing types at its meeting in January.

Planning Commissioner responses to the questions posed by Staff were as follows with responses by the project team to Commissioner questions as noted:

- Extent of different housing types in Frog Pond East and South?
 - Ideas on facilitating difficult conversations about housing types?
 - Questions to answer as the affordable housing analysis continues?
-
- A variety of housing types that would suit the needs of potential homeowners was preferred. The affordable housing analysis and housing needs study should be guiding the different housing types, not anyone's personal preferences. All of the different housing types could work as long as they were high-quality and done in a way that fit in with the rest of the neighborhoods in Wilsonville.
 - Facilitating difficult conversations about housing types was a challenge given the desire for different housing types versus some of the opinions most frequently heard. The expected needs and desires for the entire community should be the focus. The focus on housing types was not just to appease one group but to make sure housing stock was available to support the entire community. Finding a way to hear from those not heard from as often in the community might help with that conversation so that it was not just one side speaking very loudly and so people see that other people want the other housing types.
 - One question to address would be if there were alternatives to loosening parking requirements for affordable housing or was there a way for the City to subsidize parking garages, for example, to still allow for the needed parking spaces, but to free up more space for developable land to put in the homes and increase the density in a different way. Though parking garages are very expensive, if the City was looking at opportunities to increase buildable units, perhaps they should be considered.
 - More information was needed from potential buyers in the community to see what specific housing types they wanted. Larger families, for example, might prefer cottage-type housing. The housing types presented should meet the needs of the individuals who might want to purchase them, and without being overwhelming.
 - Mr. Pauly clarified "difficult conversations" involved a number of biases against some of the more land-efficient types of housing that could provide more affordable options and helping to understand how those interplayed and the benefits to doing certain types of housing, even though it might have other negative impacts. Oftentimes, words around density and apartments triggered things in community conversations. The question was how to get through all of the information and trade-offs to make a thoughtful choice around these issues without getting into the triggers and information that might not be accurate.
 - Getting around such landmines would be difficult because everyone had different comments and feelings about affordable housing. The City should look at what it was trying to do with affordable housing types and generate potential answers to the anticipated questions and use that as a model to modify the difficult conversations. However, the situation would be difficult because of not knowing exactly what to expect.
 - As the affordable housing analysis continued, the questions would automatically rise to the surface. It was fairly early in the process and a lot of learning had to be done. The surveys and community engagement would help answer questions going forward. How people would look at affordable housing was not yet known.
 - A good range of housing was needed to fit the different types of buyers and the different needs of the community, but housing types should all be integrated, with single-family mixed in with multi-family homes, for example, so people did not feel isolated in the different areas and to make a better community overall.
 - Focusing on being as transparent as possible with the public and involving the community on every step of the planning, including reaching out to the leaders of the more underserved population, would help facilitate the difficult conversations.

- Learning more about ADUs, which were not commonly seen in the area, was requested. Could the Master Plan be used as a driving force in the real estate market to get ADUs more integrated into the community?
- The first thing anyone in marketing would do was to find the need and fill it. The community in general should be asked what kind of town it wanted Wilsonville to be, what quality of life it wanted, and if Wilsonville was open to everyone. There were people living in Wilsonville right now who would not be happy with some of the choices made about having a more diverse population, and not acknowledging that was skirting around an issue that needed to be confronted. If Wilsonville was really committed to the vision of being a diverse community with affordable housing for all kinds of people, a lot of the questions being asked about housing types, difficult conversations, or the housing analysis would be answered. Wilsonville could thrive in the future and stand for the fine, basic, good qualities of life that a lot of other communities had left behind for the sake of money, if Wilsonville did not make the same mistakes.
 - During discussions about a Strategic Housing Plan, the need for this community conversation and reaching a broad consensus about what kind of community citizens wanted Wilsonville to be collectively was one of the things/tasks the Commission hoped the Diversity, Equity, and Inclusion (DEI) Committee would do.
- Frog Pond West had already been decided and planned, but there were issues when those current and future residents heard about the City wanting to do middle housing. Frog Pond East and South was an opportunity to do things differently, starting from scratch. Hopefully, the City would take advantage of that opportunity.
 - Once a precedent has been set, an expectation was established for those who were going to invest in the community and going back and changing the precedent later always caused some heartburn. This design process needed to be entered into very thoughtfully and comprehensively.
- The essence of city planning was an affirmation of values, vision, and expectations. The City was at an extremely significant inflection point in its history and seeing beyond this point to where it was going was very hard. There was a possibility of great things happening and a possibility of things falling apart. The opportunities available in Frog Pond East and South were a chance going forward for the Planning Commission to correct some of what was given up in the compromise in Frog Pond West. The Commission had the opportunity to do it right and needed to be bold and to affirm the right values.
 - When planning for Frog Pond West back in approximately 2017, a large audience had come one night to press their point of view about the density in Frog Pond West. When a comment was made that what was being pressed for was an exclusive community, the audience applauded, but when a comment was made that exclusivity was not what Wilsonville was about, the steam came out from the crowd. Despite the Commission passing the concept of the compromise on density, a lot of the steam in the room had not entirely dissipated. Difficult conversations were still to be had. The resolution was not complete and would require a real commitment to deeper values in the community that many in the community shared but some did not share. The Commission had to forge a large enough consensus to keep things on an even keel going forward through this development, which would not be an easy ride.
- Regarding the proper mix of housing, the statistics in tonight's presentation and the supporting document could be what justified the kind of housing mix for the good of the community. However, the housing should be placed in a way that made geographic and strategic sense, and the affordable housing should not be isolated. Isolating affordable and subsidized housing was one of the mistakes done in the 1960s and 1970s and was a recipe for disaster. Research now showed that children of lower-income families who were in neighborhoods and socialized with middle- and upper-middle-income children had higher goals and aspirations, just by the socialization. The community needed to be inclusive for the sake of the children and the sake of the community.
- The questions that needed to be answered and expanded on in order to educate and inform the community had to do with what kind of community was desired, but also what mistakes would turn the community into a problem community. Resilience in a community, whether economic or social, came from diversity. This was now being seen, because of the pandemic, in the problems with the supply chain, employment, and staffing shortages, etc. When importing things from far away, because people could not afford to live in the community, things could happen that prevent them from coming to the community to provide the help needed for taking care of grandmother, having home care, or help with shopping, etc. All of these aspects of

community resilience needed to be thought through and planned ahead. Otherwise, the community would price itself out of having those kinds of infrastructures necessary for a sustainable community life.

- The extent to which existing research and information could be brought in to inform the citizens would make the difficult conversations easier because they would be based on real information and not just somebody's self-serving hope for what the house in which they wanted to live. In exclusive life cultures, like in European countries with mansions entire villages had to support, at some point, all of the mansions went into bankruptcy because they were not sustainable as a lifestyle. Creating a community that was exclusive might feel good for a while, but it would not be sustainable because the resources necessary to keep it going would run out.
 - A community design charrette was needed to help facilitate the difficult conversations. A charrette could be used to bring a wide cross-section of the community together to deal with the trade-offs typically faced in designing a community, such as infrastructure costs and community needs, and would allow people to make decisions and see the consequences as part of the charrette. A charrette was a very design and problem-solving based facilitation process that required certification.
- A parking garage should be done in a way that it could be turned into an apartment building or condominium. Car dependency was one uncertainty, and these neighborhoods had a long life.
 - The climate crisis had to be considered when making decisions such as on parking. Finding places to charge electric cars was difficult. Electric cars were part of where the community was moving and should be part of the infrastructure planning. Wilsonville should be committed to having a sustainable life that respected the needs of the surrounding world. It was a value. When planning, building, and designing, the City needed to consider what those needs were going to be; none of these things were included on any of the lists.
 - Some of these things might be part of the infrastructure bill that would come to pass, so the infrastructure would be in place whether the City specifically pushed it or not because the funding might be available.

Joe Gills, Angelo Planning Group (APG), summarized the themes of the Commission's feedback as this was a learning process, to let the data and the needs of the community guide the planning, and to be clear about values and what kind of community Wilsonville wanted to be over time and to walk that talk.

- He asked whether the range of housing types would include rental housing and apartments. The planning to date had looked at ownership models in the Frog Pond Area Plan up to a townhouse level of density.
- He confirmed that the Commission wanted the exploration of the needs, whether quantitative or qualitative, to include the rental and apartment end of the spectrum. He clarified apartments would be larger than five units together, which was the zoning definition.

Additional comments from the Commission regarding the inclusion of apartments and responses by the project team to Commissioner questions was as follows:

- Frog Pond East and South were denser, with more units per acre as a result of the grand compromise to allow Frog Pond West to be less dense. Did the Master Plan explicitly spell out apartments and more dense development or did it just specifically define density units per acre?
 - Mr. Dills replied in summary, the Master Plan said apartments were not part of the spectrum for Frog Pond East and South and included up to a townhouse density with a maximum of four units put together. He understood apartments were not included as a reflection of the general concern about density at the time. The Plan had the luxury of saying Frog Pond East and South would be further defined later, but in the Area Plan, East and South were intended for up to a townhouse level of density at the high end.
 - Mr. Pauly added that based on how the conversations were going at that point, putting apartments into the Plan was not politically feasible. Concerns could be addressed with different ways to design and integrate apartments with multi-family versus segregating single-family and large apartment complexes. When the Plan was first done, the City had not done its EHSP and had not experienced the housing crisis as it was now. The City was in a different world now than in 2015 when the Plan was adopted. Certain aspects of the Plan had been further colored by what had happened since, including the EHSP and continuing community conversation.
 - Miranda Bateschell, Planning Director, noted she was involved during the Frog Pond area planning project and the predominant land uses outlined were detached and attached single-family homes.

Attached townhomes could be a two-plex, a four-plex, and so forth, but the attached and detached single-family homes were primarily what was modeled and the basis for the unit counts that ended up in the Master Plan and in the conditions from Metro as part of the UGB expansion. An option was left in the area plan for multi-family above the commercial use that had gone back and forth and was identified as something to look at further as the idea for the neighborhood commercial node was refined in the master planning. She also noted many discussions on the record around the question of density and how it related to affordability that did not necessarily end up as a final recommendation. As noted, the City has learned a lot and a lot had transpired between the adoption of Frog Pond West and today, and the further adoption of things like the EHSP and inclusion goals at the City Council level would have the City look further into affordability issues which was why they were a major part of this master planning effort, which could provide different information than what was available when adopting the Area Plan to inform the Commission's recommendations.

- Given that the Area Plan was approved with up to attached single-family homes being the limit, if multi-family homes were investigated in a wider area outside just the future commercial area, would the Area Plan need to be updated before a proposal, or was it something that could be done as part of the East and South planning process, even though the Area Plan said apartments were not in the cards for those areas?
 - Mr. Dills noted procedurally, the updating could be done at the same time, as part of the package.
- Multi-family had not been flatly ruled out, particularly in Frog Pond East, and room had been left for apartment-style residences, but it might not have gotten formally into the Master Plan. The Plan was fluid as far as Frog Pond East and South were concerned, and multi-family in some form or another had been discussed, including row homes.
- Stafford Rd could easily and unfortunately become a boundary with one kind of town on one side and another kind of town on the other side that were not integrated or united. When planning South and East, it was important to figure out how the two areas could be integrated, socially and economically, as much as possible with the rest of Wilsonville. Stafford Rd must not be allowed to become a barrier or dividing point like Boeckman Rd already was to some extent. Additional attention would be required to foster that kind of integration as it built out.
 - Attractants to the neighborhood with the rest of the community as an anchor would be in the commercial area. A commercial area was more likely to be successful if surrounded by higher density.
 - The newer development provided an opportunity to create commercial entities that would bring people from Frog Pond West the convenience of coming to the other sections.
- Multi-family homes should be investigated, knowing it would generate some difficult conversations with the city as a whole. With the significant push-back during the Frog Pond planning process for multi-family housing and the perceived imbalance between single-family and multi-family housing, which drove Frog Pond West to be what it is and what drove East and South to be single-family attached or detached, the conversation would be difficult but worthwhile in pursuing.
- Apartments made sense and should be explored for all of the reasons stated, but the Commission had to be careful to not open a Pandora's box related to apartments and whether they were above commercial establishments or not, which would involve difficult discussions. The Commission would be remiss and not doing its job if it did not explore apartments.
- The commercial area would not be the size of Orenco Station, but a neighborhood core could be designed with commercial activities that attracted traffic from outside of the neighborhood. The area should be approached as a design element and should be discussed if it could be shown to be adding value and functionality. If the commercial area would isolate apartments in the middle of nowhere and cause a functional problem, the Commission could consider that information and decide it was perhaps not the right placement. The difficult conversations would be on the basis of information from the EHSP and other newer information since the Area Plan was done.

Mr. Dills thanked the Commission for its feedback and noted the more robust affordable housing and ADU memos would be prepared for the Commission's February meeting. He added that tonight was a taste of the beginning work, adding the scope of review was clear.

Mr. Pauly noted the memo included in the packet about the updated schedule and briefly reviewed the public engagement process. (Slide 14) He noted a tentative date of Tuesday, January 18, 2022, for the first Committee for Citizen Involvement (CCI) forum and asked the Commission to respond by e-mail if that date would work. The format of the last CCI meeting for middle housing was successful, and this CCI meeting would mirror a similar format. He briefly reviewed the public engagement timelines, noting the Commission would have a lot of work on this project in 2022.

Mr. Dills reviewed the public engagement timeline, noting that the Commission's feedback on the kind of outreach it was interested in had been integrated. (Slide 15) A problem-solving format was included in the two workshops, one on land use and one for the public realm, that were envisioned as two or three hours long, and very participatory with information provided, break-out rooms, reporting back, and opportunities for people to help design the plan, discuss questions, and get community involvement. The single-evening or Saturday morning workshop format was reflective of the scope and the calendar.

- The charrette model was typically a multiday format, because it was based on the power of getting feedback loops as design moved from initial discussions to a framework to alternatives to a solution. People could experience the trade-offs and see the plan grow literally in front of their eyes. With the Area Plan, some of that work had already been done. A multiday charrette would be different from the public engagement process planned so far. He noted he was an experienced certified charrette manager but was uncertain about how to do a charrette virtually; however, the team would look at the possibilities of a charrette and report back. A workshop could be bracketed with some outreach right before and right after to provide an opportunity for feedback loops without having an event within three or four consecutive days.

Chair Mesbah asked if it was possible to modify the typical multiday charrette to a model that recruited the design group from the community in a way that was representative and got people from underrepresented groups and then have the feedback loop happen in the multiple meetings of that group once a month, for example, like a task force. The group needed to be a focus group that was not just for public consumption but was a hand-picked representative group from the community that allowed the full spectrum to be present in the task force. Multiday meetings would be hard to pull off, but rather than having the typical voices show up with agendas, the focus group should be a more representative group from the community for a problem-solving and feedback loop process with two or three meetings over a couple of months.

- Mr. Dills responded that was possible, adding there was no single way to do the design workshops. He noted the goal of true diversity of representation was a good model. Whatever the timing was for a series of meetings needed to be fit to the schedule and the time available.
- Mr. Pauly noted that the workshops' format had not been finalized so it was worth exploring and discussing. The team had a lot of skills to be creative with the digital world and restrictions and trying to do broader outreach, but was limited in terms of time and capacity. The outreach plan was meant to be flexible and adapt as it progressed.

Commissioner Gallagher noted a focus group needed fresh, objective voices rather than the usual people that came with their own agendas. To find out what the community was all about, people who had maybe never done anything like this before needed to be asked what they thought or what they wanted.

Mr. Pauly noted the next steps for the Planning Commission included the CCI meeting in January and a rigorous work session in February to continue this topic.

Chair Mesbah noted for the CCI forum, perhaps a good first step in going to the community was to have a presentation that outlined what was known about the trends and needs in the community. The Planning Commission had the responsibility to look forward to meeting those challenges the community would face. Clarifying where the Commission was and why it was doing what it was doing based on the available information would be an important part of the CCI presentation.

- Mr. Pauly agreed, noting the feedback would help refine the opening presentation at the CCI meeting prior to a question-and-answer session.



CITY COUNCIL
MONDAY, OCTOBER 18, 2021

WORK SESSION

Frog Pond East and South Master Plan (Pauly)



CITY COUNCIL WORK SESSION STAFF REPORT

Meeting Date: October 18, 2021		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable Comments: N/A	
Staff Recommendation: Provide requested directional input on the project			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input type="checkbox"/> Adopted Master Plan(s):	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE CITY COUNCIL:

Receive a briefing on and give feedback on the work to date on the Frog Pond East and South Master Plan project including the project background memo, outreach plan, and planned project schedule.

EXECUTIVE SUMMARY:

In 2010, Metro established a series of urban and rural reserves to guide the region's urbanization over the following 50 years. The land that is now called Frog Pond East and South was designated as an urban reserve. Subsequently, in 2015, the City adopted the Frog Pond Area Plan to set the stage for additional planning and eventual development in the urban reserve. Besides the urban reserve area, the Frog Pond Area Plan also included undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. The vision established for all of Frog Pond in the area plan states:

“The Frog Pond Area in 2035 is a Wilsonville community with attractive and connected neighborhoods. The community's hallmarks are its walkable and active streets, variety of quality homes, and connected trails and open spaces. Frog Pond's excellent schools and parks are focal points of the community. Frog Pond is “just a short bike, walk, or bus trip” from all parts of Wilsonville – a highly valued part of the larger city.”

In 2017, a master plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road. At the time master planning was not done for the remainder of the Frog Pond Area, Frog Pond East and South, as it was not yet in the UGB.

In 2018, Metro expanded the UGB to include the remainder of the Frog Pond Area. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. In 2020 Metro awarded the City a \$350,000 grant to fund a significant portion of the master planning work. In early 2021 the City awarded a grant to a consultant team led by Angelo Planning Group to support the City in completion of the master plan. Background work began in May and the City is now in the process of kicking off the project with the public, Planning Commission, and City Council.

Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process also identifies water, sewer, stormwater, and transportation infrastructure needs and funding sources.

Parts of the master planning process will be similar to that of Frog Pond West completed in 2017. This includes the same level of sub-district analysis, building on the basic framework from the 2015 Frog Pond Area Plan, and commitment to quality design, walkable neighborhoods, and natural resource and tree preservation. In addition, the project team will build its infrastructure funding approach off the work previously done for Frog Pond West.

The Frog Pond East and South Master Plan will also be different from the Frog Pond West Master Plan in a number of notable ways. This includes looking at housing variety and distribution with (1) additional focus on housing for a wider variety of income levels and how to

encourage housing options not historically well-provided by the market and (2) less focus on mathematic density and more focus on how the built form of housing structures contribute to the look and feel of the neighborhood. The planned process also includes a broader and more inclusive outreach program to ensure a variety of groups, particularly those historically marginalized, have a meaningful and impactful voice in the decisions made. See Attachment 5, Community Engagement Plan. Finally, the master plan process will examine adjusting how service development charges (SDCs) and other infrastructure fees are calculated to ensure infrastructure costs are equitably carried by varying housing types.

For this first work session, the project team requests the Council’s discussion and feedback on initial background and project management documents (Attachments 1-4). Questions to guide the discussion are as follows:

1. Any questions or concerns about the project scope and schedule?
2. What feedback does the Council have on the Outreach Plan? What other suggestions do you have to reach additional groups or better engage groups?

EXPECTED RESULTS:

Gather feedback and direction from the City Council on the Frog Pond East and South Master Plan project.

TIMELINE:

This is the first in a series of work sessions for the City Council. The project must be completed by December 2022. See Attachments 2 and 3 for more timeline information.

CURRENT YEAR BUDGET IMPACTS:

The main consultant contract is for \$350,000 funded through a Metro grant. Work began during FY 20/21. Unused portions have been rolled over and the City anticipates spending \$260,000 by the end of FY 21/22. The remaining \$90,000 is planned to be budgeted during FY 22/23 to conclude the project.

FINANCIAL REVIEW:

Reviewed by: _____ Date: _____

LEGAL REVIEW:

Reviewed by: _____ Date: _____

COMMUNITY INVOLVEMENT PROCESS:

As outline in Attachment 4, Community Engagement Plan, the project team plans a robust public engagement program that will include meaningful and impactful involvement of historically marginalized communities of color.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY:

Well-designed neighborhoods with a variety of housing options for current and future Wilsonville residents.

ALTERNATIVES:

N/A. At this early point in the project the project team has not analyzed different alternatives for the City Council's consideration.

CITY MANAGER COMMENT:

ATTACHMENTS:

- Attachment 1 Project Scope
- Attachment 2 Project Preliminary Schedule
- Attachment 3 Background and Regulatory Research Memo
- Attachment 4 Community Engagement Plan

Scope of Work City of Wilsonville Frog Pond East and South Master Plan



Project Overview

Consultant team is responsible for assisting the City in creating the regulatory framework and essential analysis needed to develop a Master Plan for development of Advance Road Expansion Area also known as Frog Pond East and South. The project will ensure compliance with Metro’s conditions of UGB expansion, state statute and rules, including House Bill 2001 and related administrative rules regarding middle housing, as well as local goals and strategies coming from the City’s ongoing housing work, including the Equitable Housing Strategic Plan. The project aims to be at the forefront of equitable housing planning with specific outcomes benefiting historically marginalized communities of color.

Phase 1: Project Kick-off, Background, and Regulatory Research

Task 1.1: Project Kick-off, Background, and Regulatory Research

Task 1.1 will initiate the project. The consultant team will produce a memorandum summarizing background information as it relates to opportunities and constraints for the project, as well as summarizing the necessary regulatory compliance. The consultant team will review the documents listed in the RFP and provide a memorandum that briefly summarizes content that is applicable to Frog Pond, including a summary list of priority issues and what is directive to the Master Plan effort. A kick-off meeting and related kick-off deliverables are listed below.

Deliverables:

- a. Kick-off meeting
- b. Prepare project schedule
- c. Prepare templates for memo, agenda, project mapping
- d. Receive/coordinate GIS data for the project and establish official project boundary
- e. Research and prepare Task 1.1 memo

Task 1.2: Outreach Scoping and Community Engagement Plan

We recommend that Task 1.2 create the plan and initial outreach described in the RFP, but in the reverse of the order identified in the RFP. That is, we will first prepare an outline of the Outreach Plan, but then conduct the groundwork and initial outreach described for Deliverable 1.2.b as a path to completing the community engagement strategy and plan.

In addition to the overall outreach process, this task will explore and determine the Committee structure for the project. There are options: traditional Community Advisory Committee; Planning Commission as lead; hybrid model. We propose that the options be developed and vetted in Task 1.2, leading to a decision by the City Council. To determine the desired Committee option and engagement process, we suggest the following guiding principles: the voice of those who would be impacted will have meaningful input into decision making throughout the process; equity and inclusion will be integrated; and the advisory and decision making hierarchy will be clear and designed to be responsive

to community input.

For this task, we will meet with partner organizations, conduct focus groups, and create online input opportunities to introduce the project, seek advice on engagement, and ask values-based questions to inform outreach and the master plan. Following this groundwork, we will prepare the comprehensive community engagement plan as described in the RFP. As part of this task, APG will create a Public Engagement Log and post it on SharePoint. This list will be a shared document for the City and APG to keep a running log of public engagement activities—usable for interim reporting and the public engagement summaries needed for Task 3.3 deliverables.

All meetings in the scope are assumed to be virtual. If COVID-19 protocols change and the City desires in-person meetings, APG and the City will discuss and agree on scope/budget changes, if needed, prior to conducting in-person meetings.

Deliverables:

- a. Community Engagement Plan outline (an outline and preliminary strategy for the entire Frog Pond engagement process)
- b. Memo describing the plan for Initial Outreach (purpose, process, groups to engage, draft agendas, Committee structure options)
- c. Initial outreach communication materials (project fact sheet, initial content for *Let's Talk Wilsonville!*)
- d. Initial outreach meetings (see Task 1.3)
- e. Memo summarizing feedback received during the Initial Outreach process
- f. Comprehensive community engagement plan
- g. Public engagement log

Task 1.3: Phase 1 Meetings and Outreach

Assumptions, task roles and services are:

- The scopes for Phase 1, Phase 2 and Phase 2 engagement are preliminary and subject to refinement from the outcomes of Task 1.2
- Team work sessions will be used to collaborate and advance written products. APG will prepare agendas and facilitate the work sessions, working closely with the City Program Manager. This task also provides time for brief check-in's between team meetings.
- For Planning Commission (or Advisory Committee) meetings, the City will prepare the agenda, staff report, and PPT, with the support of the consulting team for content/images.
- For City Council meetings, staff will have the lead role, using content prepared as part of the scope. The APG Project Manager, or a topic task leader, will be available for each Council meeting.
- Outreach meetings will be conducted per the Engagement Plan. APG will have prepare meeting plans/agendas, co-facilitate with the City, and provide meeting materials. This scope assumes the City will manage a *Let's Talk Wilsonville!* page, prepare regular project update articles for the Boones Ferry Messenger, and post information to applicable social media platforms. The APG team, will provide Spanish translation for project materials.

Deliverables:

- a. Team work sessions (up to 5, additional to Kick-off)
- b. Planning Commission meetings (up to 2)
- c. City Council meetings (up to 2)
- d. Outreach meetings (up to 5, no community events or online surveys for this phase)

Phase 2: Land Use and Community Design

Task 2.1: Affordable Housing Analysis

The City's Equitable Housing Strategic Plan (EHSP) calls for the City to identify affordable housing targets for Frog Pond East and South, including number of units, depth of affordability, and unit size. These targets are intended to balance the need for market-rate development to fund needed infrastructure investments with the need to expand affordable housing supply and the availability of lower-cost unrestricted housing options. The affordable housing strategy for the area will also need to consider how affordable housing within the area will have access to amenities and is integrated into the fabric of the new neighborhoods. This task will build on and refine the intentions set in the EHSP, exploring potential partnerships with affordable housing developers and other measures to deliver affordable housing in the area. It will include up to two interviews or focus groups with local affordable housing providers. For efficiency, we recommend combining deliverables 2.1.1. and 2.1.2 into a single memorandum.

Deliverables

- a. Affordable housing opportunities memo including evaluation of opportunities and constraints for affordable housing in the area, consideration of strategies in Wilsonville's Equitable Housing Strategic Plan and conditions in the UGB Expansion Conditions of Approval, analysis of affordable housing needs/targets for the area, and recommended production strategies for the area

Task 2.2: Explore Encouraging ADUs

Accessory Dwelling Units (ADUs) offer an opportunity to seamlessly integrate additional, smaller units within neighborhoods while staying within traditional single family development and financing models. In the context of a greenfield development, the dynamics of ADU production are different than in developed neighborhoods where the primary driver is individual property owners modifying an existing home. For a greenfield setting, measures to encourage ADUs need to consider ways to influence homebuilders' floorplans to encourage building ADUs at time of construction and/or home designs that lend themselves to easy conversion later. Given the target density for this area, this task will also consider options for integrating ADUs into higher-density detached and single family attached housing. This task will include up to two interviews with homebuilders; analysis of readily available home sales and survey data and input from outreach to understand the interest and demand from buyers for houses with ADUs; and review of the relevant development code and other regulations specifically relevant to ADUs to identify any unintended obstacles to ADU production. It will also estimate a range of rents for ADUs within new homes in this area to understand what household income levels the ADUs would be affordable to. For efficiency, we recommend combining deliverables 2.2.1, 2.2.2, and 2.2.3 into a single memorandum.

Deliverables:

- a. ADU market and opportunities memo, including analysis of demand and potential rents, opportunities and constraints to ADU production, and recommended development code and/or regulatory refinements

Task 2.3: Residential Sub-district Planning

Note: Task 2.3 (Residential) and Task 2.4 (Neighborhood Commercial) will be prepared in tandem as an iterative design process.

Step 1: Master Plan base map. APG and Walker Macy will prepare a base map to establish a physical framework for sub-district evaluation and planning. We will review and verify/refine the buildable land inventory for East and South, overlay framework roads, identify priority natural features (e.g., tree groves), and sketch other base map features. The resultant base map will be preliminary but guiding to subsequent work. The map will be supported by a brief memo documenting how it was prepared. An arborist report will be prepared during this task. The tree inventory will identify significant trees and groves (a tree survey for the entire project area is beyond the scope of this project).

Step 2: Memorandum describing sub-district assumptions, housing mix alternatives, and plan diagrams. Step 2 will define alternatives. A memo and supporting sketches will be prepared to define and evaluate: (1) HB 2001 requirements and options for middle housing implementation (we recommend that these be vetted with DLCD); (2) annotated plan diagrams showing concepts for arrangement of housing types/densities and how they will transition within the neighborhoods, and (3) conceptual placement of the commercial center, East neighborhood park, trails, and other features. These drawings will be the broad alternatives to be discussed in the process. They will be diagrammatic, not detailed, to emphasize the big ideas and opportunities. Internally, we will prepare GIS versions of the maps so that housing capacities can be measured, reported, and discussed in the process. The budget supports preparation of up to three alternatives for this task.

Step 3: Refinement of alternatives, preferred alternative and sub-district map and table. The alternatives defined in Step 2 will be taken through review and input opportunities by the team, Planning Commission, City Council, and community—ultimately leading to a preferred alternative. The process steps will be defined as part of the public involvement plan. We anticipate that input from participants will direct the preparation of up to two refined alternatives, and ultimately to a preferred alternative recommendation from the Planning Commission. This task will prepare those refinements, remaining at sketch level. The preferred alternative will be prepared in both diagram form, and at property-specific sub-district layout. The draft sub-district map will be accompanied by a table listing minimum and maximum housing allowances.

Site studies and three visualizations. Three site studies will be defined in collaboration with City staff. We recommend that they be prepared in draft form as part of Step 2 and 3 above to help participants visualize plan alternatives. The site studies will be finalized as part of the preparation of the Master Plan report. Three visualizations (street level views) will be prepared.

Deliverables:

- a. Master plan base map and documentation memo, and arborist report
- b. Memo describing sub-district assumptions, housing mix alternatives and plan diagrams (up to

- three plan alternative diagrams)
- c. Housing capacity analysis for alternatives (GIS data and tables)
- d. Refinement of alternatives (up to two), memo describing preferred alternative
- e. Sub-district map and table for the preferred alternative
- f. Three draft site studies and three visualizations

Task 2.4: Neighborhood Commercial Area Evaluation

Background. LCG will review recent commercial market studies and other reports to inform the commercial market analysis. LCG will interview retail developers and/or brokers who are active in the area and gather input from the public through the Task 1.2 outreach plan, to understand where and how people shop, work, and access other commercial services in the area. The consultant team will attempt to determine any particular unmet community needs that could be satisfied in Frog Pond East and South.

Commercial market analysis. LCG will then analyze the commercial development market including commercial supply (the landscape of existing or planned retail, commercial, office, healthcare, and other commercial properties in the market area) and demand (the amount of spending by households, employees, and potentially visitors today and in the future within the primary market area). Where demand is greater than supply, commercial development opportunities exist, and LCG will detail these opportunities by commercial tenant type, square footage, acreage, parking demands, etc. LCG will prepare two to three concise summaries/case studies of comparable commercial centers and compare them to the subject site on the basis of surrounding population, employment, traffic counts, and other metrics that drive commercial development. The case studies will illustrate the opportunities associated with vertical mixed- use development.

Location, design, placemaking and sketches. Concurrent with the market evaluation, Walker Macy will identify an array of options for neighborhood commercial area locations, using precedent images to illustrate potential type and scale of neighborhood commercial nodes. After an initial review of market findings and options for potential locations in a work session with the City, Walker Macy will refine and recommend preferred sites for future neighborhood commercial nodes, including diagrams and conceptual illustrations for the repurposing of the Grange building. Similar to the “Ten Essentials” approach from previous Frog Pond planning, Walker Macy will also provide illustrated urban design guidelines specific to neighborhood commercial development that will encourage pedestrian-friendly, active, and attractive commercial amenities with a place-based Wilsonville identity. These guidelines will draw strongly from community input on desired neighborhood character and amenities. The options for commercial location and the urban design and placemaking guidelines will be packaged into an illustrated draft memo. After City review of the draft memo, Walker Macy will refine the memo and then produce more detailed concept illustrations of a neighborhood commercial center. Depending on location and project needs, this set of illustrations could represent a real location or could be a prototypical illustration that outlines the desired urban design and placemaking elements of neighborhood commercial areas in Frog Pond East and South.

Deliverables:

- a. Neighborhood Commercial Market Analysis including supply and demand analysis and key takeaways from broker, developer, and public input
- b. Concise neighborhood commercial development case studies

- c. Draft options for neighborhood commercial node locations
- d. Work session with City to review market findings and discuss and refine potential sites for neighborhood commercial
- e. Draft Neighborhood Commercial Center Design memo
- f. Final Neighborhood Commercial Center Design memo
- g. Conceptual illustrations of a site or prototype for a neighborhood commercial node in Frog Pond East and South

Task 2.5: Public Realm Planning

Tree Preservation Strategy Memo. Early in the process, during the Background Research phase, the project team will work with a certified arborist and City staff to gain permission to access properties in the master plan area. The consultant team will work with the City and arborist to establish criteria for significant trees in the area. After an arborist inventory, Walker Macy will produce a Tree Preservation Strategy Memo for the area that outlines the multiple benefits of preserving mature trees, describes the methodology for identifying significant trees, and provides design strategies for preserving significant trees within future development. The memo will be illustrated with a map of the area tree inventory, site photos, and precedent images. This memo and its illustrations will aid in community conversations about neighborhood character and serve as a guide during development and public realm planning.

Street and trail demonstration plan and cross sections. As a first step in the public realm planning process, APG and Walker Macy will use the existing street network and planned street connections from Frog Pond West as a basis to develop a series of conceptual options for a public street and trail network in the master plan area (the first option will serve as the base map referenced in Task 2.3). We suggest that pedestrian and bike facilities, both on- and off-street, should be studied along with the public street network in order to ensure maximum connectivity. At a collaborative work session with City staff using maps of these conceptual options, we will gather feedback on potential connections and discuss the desired characteristics of major street corridors and trail connections. The team will then refine the options into a preferred network and produce a street and trail demonstration plan. The demonstration plan will be supplemented by illustrated, 3D cross-sections of key street corridors and their dimensions and amenities, including concepts for bike facilities and off-street trails. The draft street demonstration plan will be used as a framework for planning residential sub-districts and neighborhood commercial uses and may be informed by subsequent findings from these processes. The consultant team will draw from prior experience planning for the larger Frog Pond area to ensure public realm continuity and connectivity with Frog Pond West. Community input on walkability, bike-ability, and other types of connectivity will be incorporated into recommendations for streets and trails.

Park and open space framework. Concurrent with street and trail network planning, Walker Macy and APG will identify a framework of open spaces, well-connected by trails and walkable streets, which will serve future neighborhoods in the master plan area. The initial conceptual framework of open spaces will include multiple open space types and sizes, located based on criteria including surrounding need, connection to existing and planned parks, site suitability, and natural features including tree clusters and habitat., based on Area Plan inventory information. Based on City review and robust community input on desired parks and open space amenities, Walker Macy will develop a preferred parks and open space framework map along with recommendations for amenities within each type of planned park and open space. As part of these recommendations, the team will coordinate with Oregon State Parks regarding the Meridian Landing site on the Willamette River, and identify access issues and opportunities from

Frog Pond South.

Public Street Design Elements Memo. Building on the street and trail demonstration plan and cross sections, Walker Macy will develop more detailed recommendations for a number of design elements of public streets, including street trees, public lighting, and street signage and entry monuments. The goal of these recommendations will be to create a contiguous public realm with Frog Pond West and incorporate community input on the desired look and feel of streets. The street tree plan will build on street tree planning for Frog Pond West as well as current best practices for street tree species selection and will be tailored to street types in the master plan area. The public lighting plan will be developed in consultation with a lighting specialist, and will include a map of recommended lighting types and spacing for each street type. Guidelines for street signage and entry monuments will include a map of recommended locations for special street signage, including neighborhood entry signs and street toppers, and identify any key potential locations for gateway elements to mark entry to the Frog Pond area.

Deliverables:

- a. Tree Preservation Strategy Memo
- b. Up to three conceptual diagrammatic options for future street network
- c. Draft pedestrian and bike trails framework
- d. Street and Trail Demonstration Plan
- e. Park and Open Space Framework map and recommendations memo
- f. Public Street Design Elements memo, illustrated with maps, diagrams, and photos

Task 2.6: Development Code Updates

As necessary, the project team will produce a package of recommended development code updates to implement preferred alternatives developed in Tasks 2.3 and 2.4, specifically to the Residential Neighborhood (RN) Zone to:

1. Encourage the preferred mix of middle housing;
2. Otherwise help implement the preferred housing variety identified in the sub-district planning; and
3. Enable the preferred neighborhood commercial alternative.

Deliverables:

- a. Development Code updates (V1 through V4)

Task 2.7 Phase 2 Meetings and Outreach

Roles and services will be the same as described in Task 1.3.

Deliverables:

- a. Team work sessions (up to 8)
- b. Planning Commission or Advisory Committee meetings (up to 5)
- c. City Council meetings (up to 2)
- d. Outreach meetings (up to 10, one community event and online survey)

Phase 3: Implementation Strategies and Adoption

Task 3.1: Infrastructure Plan and Funding Strategy

Task 3.1.1 Water, Sewer and Storm Water Background, Plans, and Cost Estimates

Background research. Under this task, the consultant team will perform a review of requested background information provided by the City regarding infrastructure relevant to the Frog Pond area. This information will include the Frog Pond Area Plan, and current infrastructure master plans and subsequent studies and reports prepared for relevant facilities. The consultant team will coordinate with City staff regarding status of planned, underway, and recently completed projects that will serve the Frog Pond area. The team will coordinate with City staff regarding lessons learned from infrastructure development in the Frog Pond West area currently underway and recommend opportunities for implementation into the Frog Pond East and South areas. The consultant team will prepare a memorandum summarizing key considerations from the background research. The memorandum will build upon the concepts developed for infrastructure service as described in the Frog Pond Area Plan and will include preliminary observations regarding infrastructure to serve land uses anticipated for Frog Pond East and South.

Plans and Cost Estimates. Under this task, the consultant team will assess the public water, sanitary sewer and stormwater infrastructure as laid out in the Frog Pond Area Plan in coordination with the background review performed in Task 3.1. The evaluation will be conducted for the first scenario which requires infrastructure to support 20 net dwelling units (DU) per acre. The team will provide recommendations for specific projects to be added to the City's infrastructure master plans and will prepare a Class 5 cost estimate to implement the scenario. The team will perform an assessment to estimate changes to the infrastructure plan that are needed to support the second scenario of a preferred land use mix identified in Tasks 2.3 and 2.4. The assessment will include a Class 5 cost estimate for implementation of the second scenario. A direct comparison of the different infrastructure needs under the two scenarios will be summarized, including costs broken down by cost per dwelling unit.

Deliverables:

- a. Review background information/existing plans
- b. Research/review the current status of capital improvement projects
- c. Prepare memorandum summarizing existing conditions for water, sewer, storm infrastructure
- d. Prepare map of existing water/sewer/storm infrastructure, formatted to project mapping templates, with GIS data
- e. Provide mapping in GIS layers
- f. Develop preliminary infrastructure maps for water, sanitary sewer and stormwater systems on both a local planning scale and a regional City-wide scale for the 20 net DU/acre scenario
- g. Estimate sizing and costs of water, sanitary sewer and stormwater infrastructure for the 20 net DU/acre scenario
- h. Assess changes to infrastructure plan for the alternate land use scenario, with recommended infrastructure changes and cost estimates
- i. Prepare memorandum summarizing assessments, recommended projects, and cost estimates
- j. Provide mapping in GIS layers

Task 3.1.2 Transportation Analysis, Plans, and Cost Estimates

Motor Vehicle Evaluation. Building off the prior Frog Pond planning, DKS will conduct transportation analysis of the major intersections on the east side of Wilsonville. Up to 13 study intersections are assumed that are most likely to be impacted from the future Frog Pond land use.

As part of this Task, consultant shall utilize historical weekday PM peak hour traffic counts at intersections listed above. Due to Covid19 impacts to peak hour traffic volumes, it is not recommended to collect new traffic counts at this time due to reductions in traffic volumes. The study intersections will be evaluated for each of the following scenarios:

- Existing Conditions (2021) – Based on existing geometries and baseline traffic volumes
- Future Baseline (2040) – Using volume forecasts from Wilsonville TSP and geometries associated with High Priority Projects

Using the updated land use assumptions prepared for the East and South Neighborhoods, DKS will perform future transportation analysis to evaluate the impact the proposed land use would have on the transportation system to meet Transportation Planning Rule impacts. The Frog Pond land use will be compared to the land use assumptions provided in the Metro Travel Demand model to determine potential trip impacts. DKS will prepare a trip generation summary comparing up to three potential land use scenarios. DKS will conduct traffic analysis to support TPR findings for one future 2040 land use scenario. Additional traffic volume post processing will be performed to adjust the volumes based on how the trips vary from the Metro assumptions. Future analysis will also evaluate the impact to the I-5/Elligsen Road and I-5/Wilsonville Road interchanges (ramp terminals and junctions) as well as the remaining study intersections.

The High Priority Projects proposed in the City’s TSP will be assumed as part of the 2040 baseline transportation network. Applicable City and ODOT performance criteria will be assessed for each future transportation scenario. Should the study intersections not meet performance standards or safety/operational criteria, DKS will propose mitigation/improvements to address the specific deficiency.

DKS will evaluate the street and trail layouts for the proposed concept plans to assure pedestrian and bicycle connectivity has been addressed. We will make connectivity recommendations for all modes to assure the proposed neighborhoods are connected to existing and future schools and parks.

Consultant shall provide planning level cost estimates for any transportation mitigations and/or improvements identified in the transportation analysis noted above as well as new collector and arterial street improvements.

Pedestrian and Bicycle Evaluation. DKS will also evaluate pedestrian and bicycle connectivity and will make recommended locations for enhanced pedestrian crossings, and multiuse path and bicycle/pedestrian connectivity, coordinated with the recommendations in Task 2.5.

Deliverables:

- a. Transportation Technical Memorandum summarizing the transportation findings for all modes of travel (V1, V2 and final)
- b. Street, intersection, and pathway infrastructure project list with associated planning level cost estimates

Task 3.1.3 – Park Cost Estimates

The City will prepare cost estimates for proposed public park and open space.

Task 3.1.4 - Infrastructure Funding Strategy and Explore SDC Options

LCG will lead the team’s preparation of an Infrastructure Funding Strategy, which will incorporate the high-level cost estimates described above for infrastructure projects including transportation, utilities, and parks. Consistent with the Frog Pond West strategy, these costs will be categorized into different scales (e.g., major off sites, district/framework, and local projects), subdivided into the cost of the minimum infrastructure required vs. oversizing cost, and identified if already on an existing capital facilities or improvement plan.

Consistent with the Frog Pond West funding strategy, this scope assumes that the primary new funding source generated by Frog Pond East and South will be a supplemental fee that is calculated on a per-door and per commercial square foot, basis. This supplemental fee will likely be combined with City CIP funds and potentially other funding sources. The funding strategy will identify the cost and sources of funding for each major infrastructure element, and a fee revenue schedule that shows a projection of fees to be collected over an approximately 20-year period.

Concurrently with the funding analysis and strategy development, LCG will review both the City’s current SDC policies as well as alternative methods that could be utilized in the study area that are variable and based on different sizes and types of dwelling units, an approach that can more fairly reflect the more modest infrastructure system impacts of smaller units, and therefore make smaller units more affordable. LCG will focus on up to three SDC policies adopted by other Oregon cities that meet statutory requirements, could be applicable to Wilsonville, and may advance the City’s policy goals. The team will compare the pros and cons of the City’s current approach versus the other SDC policies.

LCG and APG will prepare recommended draft SDC code and policy language for the City. This code and policy language may implement the variable SDCs linked to different sized dwelling units that provide reduced fees for development that creates lower system impacts. We recommend participation by the City Attorney’s office for this task, and that they have the lead role for drafting the final, adoption-ready SDC regulations.

LCG and APG will participate in City-led meetings with property owners and developers (including market-rate and affordable housing developers) regarding the Infrastructure Funding Strategy and SDC options.

Deliverables:

- a. Infrastructure Funding Strategy
- b. Meetings with property owners/developers (up to 4 one-on-one or group interviews)
- c. SDC Options Evaluation Memorandum and SDC code and policy language The SDC options evaluation and code language will be delivered together with the Infrastructure Funding Strategy.

Task 3.3: Adoption

Master plan document and illustration. APG will prepare a master plan document incorporating the project outcomes from the project. The document will include the main master plan document and

appendices. The document will go through two reviews with staff, and work sessions with the Planning Commission, and City Council (minimum 3 each) prior to moving forward to the hearing process for adoption. The document will follow a format and level of detail similar to the Frog Pond West Master Plan adopted by the City in 2017. The report will include a water-color illustration similar to Frog Pond West.

Hearings-ready Comprehensive Plan and Development Code updates. The project team will facilitate public feedback on the entire package of proposals prior to public hearings as defined in the outreach plan in Task 1.2.

Outreach summary memorandum and report. The project team will produce a memorandum and related reports summarizing outreach efforts for the project. The memorandum will include brief reflection on lessons learned and recommendations for ongoing community engagement on a variety of projects.

Regulatory findings. APG and the City will write regulatory findings supporting the adoption of the master plan and other related documents. APG will write findings for the statewide planning goals, the transportation planning rule and middle housing rules, Metro Urban Growth Management Functional Plan, and the conditions of Metro's 2018 UGB expansion. If an economic, social, environmental, and energy (ESEE) analysis is required for Goal 5, the City and APG will scope the extent of it and agree on the level of detail that matches budget resources prior to APG commencing the findings. The City will write findings of compliance with amendment criteria for the Wilsonville Development Code and Comprehensive Plan.

Deliverables:

- a. Master Plan (V1, V2, final per Planning Commission guidance), and watercolor illustration.
- b. Hearings-ready Comprehensive Plan and Development Code updates (V1, V2, final per Planning Commission guidance)
- c. Outreach summary memorandum and report (V1, V2, final per Planning Commission guidance)
- d. Regulatory findings (V1, V2, final per Planning Commission guidance)

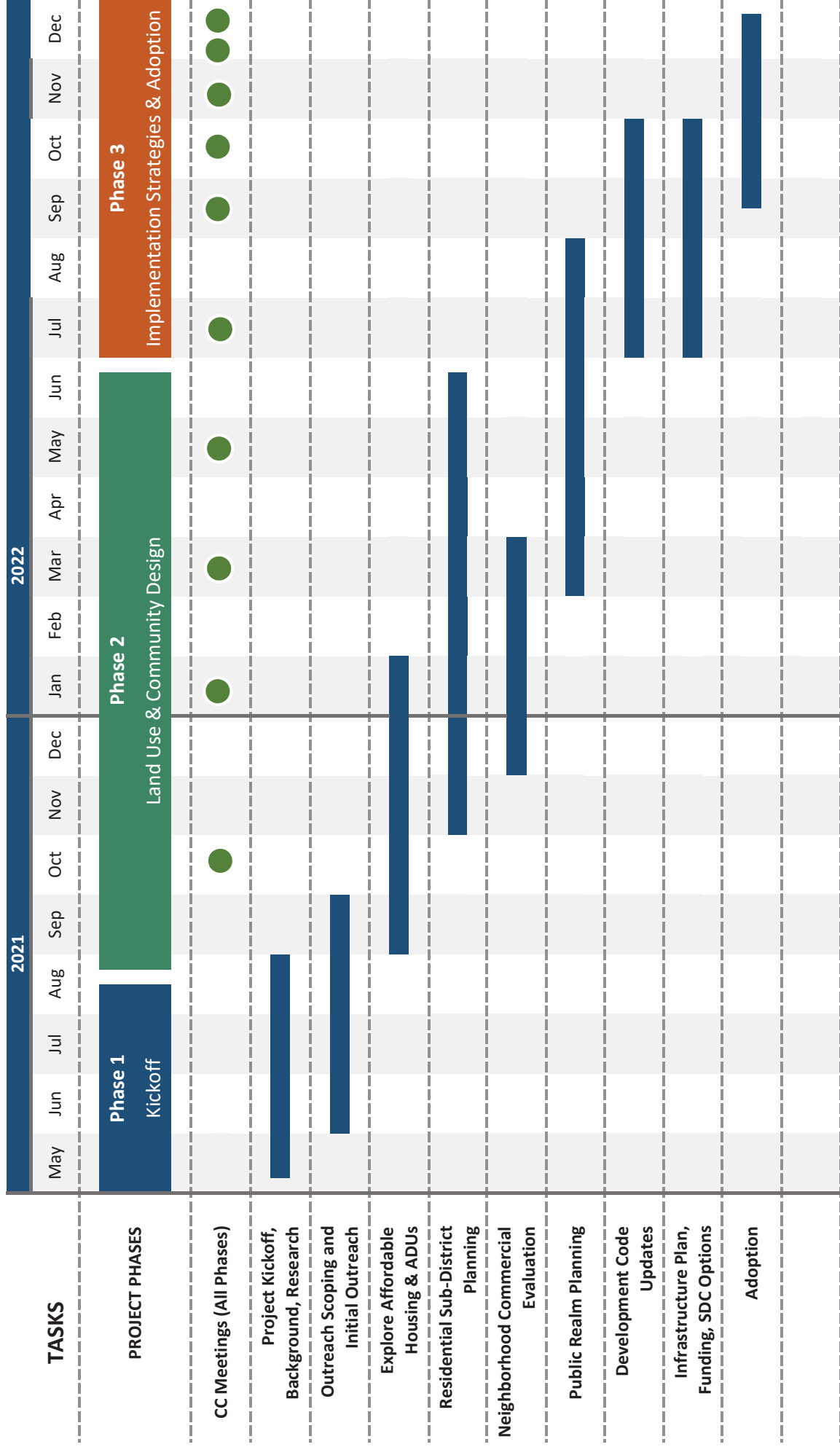
Task 3.4 Phase 3 Meetings and Outreach

Roles and services will be the same as described in Task 1.3.

Deliverables:

- a. Team work sessions (up to 6)
- b. Planning Commission meetings (3)
- c. City Council meetings (3)
- d. Outreach meetings, additional to Task 3.1.4 (up to 5, one community event and online survey)

Attachment 2 Draft Project Schedule



rev. 10/7/2021

● City Council Meeting

BACKGROUND AND REGULATORY RESEARCH

TO: Dan Pauly, City of Wilsonville
FROM: Andrew Parish, Joe Dills, and Emma Porricolo, APG
CC:
DATE: September 28, 2021

Introduction

The purpose of this memorandum is to summarize background information and issues of regulatory compliance as they relate to opportunities and constraints for the Frog Pond East and South Master Plan. Per Task 1.1 of the project scope, we reviewed the following information, as available.

(1) Residential standards currently used in Wilsonville including general standards, Old Town Single-Family Design Standards, Villebois Pattern Books and other design requirements, and Residential Neighborhood (RN) Zone design standards.

(2) Historic residential development patterns in Wilsonville, including in large master plans including Charbonneau, Villebois, and Frog Pond West.

(3) The City's Equitable Housing Strategic Plan adopted in June 2020.

(4) The City's Middle Housing Project including updated Development Code standards and Comprehensive Plan language and related outreach to historically marginalized communities of color. This project is underway with substantial hearings-ready documents complete in Spring 2021 and hearings anticipated in Summer/Fall 2021.

(5) State statute and rules related to housing, including those related to Middle Housing and SDCs.

(6) Metro code related to housing.

(7) State and regional land use regulations related to planning in new urban growth areas.

(8) The conditions of Metro's 2018 urban growth boundary decision applicable to the Frog Pond area and Wilsonville in general.

(9) Industry best practices related to residential standards including how good design can occur that does not add significant cost.

(10) Existing published materials, especially emerging discussions, regarding impact on residential planning and standards on historically marginalized communities of color.

The above-listed topics span a wide range of material and a deep well of details. For this memo, we focus on key take-aways that are opportunities and constraints for the Frog Pond East and South Master Plan. Where possible, we note best planning and design practices that do not add significant costs and impacts of residential planning on historically marginalized communities of color.

We have organized the review three jurisdictional levels, and included an “Emerging Trends and Other Topics” category:

- Wilsonville Planning Context
- Regional Planning Context
- State Statutes and Administrative Rules
- Emerging Trends and Other Topics

Summary of Key Points

Major takeaways of these background materials are described below.

City of Wilsonville Regulatory Context

- The Frog Pond area is Wilsonville’s next great neighborhood, and this plan aims to build on the tradition of high-quality design and livability seen in other Wilsonville communities. The specific context of Frog Pond differs from Villebois, for example, in the number of different property owners and prevailing economic environment, but the plan will build on the City’s prior successes and lessons learned.
- The Wilsonville Middle Housing Project will include changes to the City’s development code and inform how housing is provided in the Frog Pond area.
- The policy direction in the Wilsonville Equitable Housing Strategic Plan will directly inform the Master Plan goals and public engagement process.

Regional Regulatory Context

- The conditions of approval included in Ordinance 18-1427 apply to the area, most notably the requirement for at least 1,325 new homes. The appropriateness of a Metro 2040 Growth Concept “Corridor” designation in the area will be evaluated.
- Findings of compliance with the Urban Growth Management Functional Plan will be required upon completion of the Master Plan.

State of Oregon Regulatory Context

- House Bill 2001 and its implementing statutes and rules apply to the area. Middle housing types, including duplexes, triplexes, quadplexes, townhouses, and cottage clusters must be permitted in all residential zones that permit single family detached dwellings.
- Per ORS 197.303(4) ADUs must be permitted on all lots with one single-family home. ADU development standards cannot require owner occupancy or off-street parking.

Emerging Trends and Other Topics

- The City of Wilsonville is very interested in ways that the City can achieve a greater level of affordability for housing in the Frog Pond area. Early tasks will examine these issues, including an analysis of affordable housing needs and opportunities, research into encouraging ADU’s, as well as a significant effort creating an infrastructure plan and funding strategy later in the project.

City of Wilsonville - Local Planning Context

This section summarizes opportunities and constraints for Frog Pond East and South regarding residential standards, recent planning efforts, and other relevant documents for the City of Wilsonville.

Residential Standards

Wilsonville makes extensive use of residential design standards throughout its code. There are standards that are zone-specific and others that are area-specific, summarized below.

- WDC 4.113 provides residential development standards that are applicable to all zones. Unless the text of specific zones or master plans address the topics in WDC 4.113, these standards apply. These standards address open space (a blanket requirement of 25% of the Gross Development Area), setbacks, height guidelines, parking, fences, accessory dwelling units, and other topics.
- WDC 4.124 provides standards applicable to Planned Development Residential zones, which cover much of the City.
- WDC 4.125 provides the standards used in Villebois. They reflect the high level of design quality expected for this award-winning master-planned community. Villebois' design standards are applied under the umbrella of the overall Villebois Master Plan, Villebois Pattern Book, and comprehensive Village Zone standards.
- WDC 4.138 contains the Old Town (O) Overlay Zone. These standards are intended to create a consistent architectural pattern and building orientation among a variety of use types to create a pleasing and pedestrian-friendly environment.
- WDC 4.127 contains the Residential Neighborhood (RN) Zone, which was created specifically for use in implementing the Frog Pond Master Plans. The RN Zone regulates:
 - Use and general development standards
 - Lot standards specific to portions of the Frog Pond West Neighborhood, e.g. adjacent to Boeckman and Stafford Roads, and adjacent to Willow Creek Road
 - Open space standards that recognize the public open space provided by the neighborhood parks, Boeckman Creek area, and other greenspaces.
 - Block, access, and connectivity standards that reference the Frog Pond West Street Demonstration Plan.
 - Main entrance standards
 - Garage standards
 - Residential design standards, including façade articulation, glazing requirements, a menu of design elements, housing plan variety in subdivisions, and other requirements.

Relevance for Frog Pond East & South: The Frog Pond East & South Master Plan will be implemented through the City's development code. As part of the plan's development, the project team will evaluate whether portions of the WDC need to be amended or new sections are needed to achieve the vision for Frog Pond East and South.

Frog Pond Context: The Frog Pond East and South Master Plan will continue Wilsonville’s history of well-planned communities. The planning team will use the successes and lessons learned from previous developments in Wilsonville to create a connected and well-designed addition to the City.

Wilsonville Equitable Housing Strategic Plan

Adopted in June 2020, the primary goal of the Equitable Housing Strategic Plan is to identify gaps that are currently present in Wilsonville’s housing market and develop a plan with prioritized strategies to fill these gaps, providing Wilsonville residents and employees housing opportunities for different household compositions, ages, and income ranges. Plan documents are available at:

<https://www.ci.wilsonville.or.us/planning/page/equitable-housing-strategic-plan>

Frog Pond Context: The Equitable Housing Strategic Plan will inform how this Master Plan addresses housing in Frog Pond. Implementation Action 1C specifically calls for the City to “Define Equitable Housing Approaches in New Urban Growth Areas.” These approaches are anticipated to include goals/targets for accessibility to services and amenities, unit types, and unit affordability levels. The targets for these affordability levels should be reasonably achievable, allowing for sufficient market-rate development to support key infrastructure investments. The approach will provide a framework that can be applied in other growth areas beyond Frog Pond.

Wilsonville Middle Housing Project

The Wilsonville Middle Housing Project is an update of the City’s code to comply with Oregon House Bill 2001 (HB2001). These updates will expand housing options and variety in Wilsonville’s residential areas to provide more equitable housing choices and outcomes. The project is currently going through final adoption. Project documents are available at <https://www.letstalkwilsonville.com/middle-housing-code-update>

Frog Pond Context: The Master Plan will build on the City’s outreach on the topics of housing diversity and affordability. Frog Pond East and South will be planned to include middle housing – though the specific zoning designations and other regulatory requirements have yet to be determined.

Regional Regulatory Context

This section summarizes Metro code related to housing and regional land use regulations related to planning in new urban growth areas.

Metro Urban Growth Management Functional Plan

The Urban Growth Management Functional Plan is Section 3.07 of the Metro Code.¹ The plan provides tools to meet goals of the 2040 Growth Concept, Metro’s long-range growth management plan for the Portland metropolitan area. The functional plan addresses a range of topics:

- Housing capacity (Title 1)

¹ <https://www.oregonmetro.gov/urban-growth-management-functional-plan>

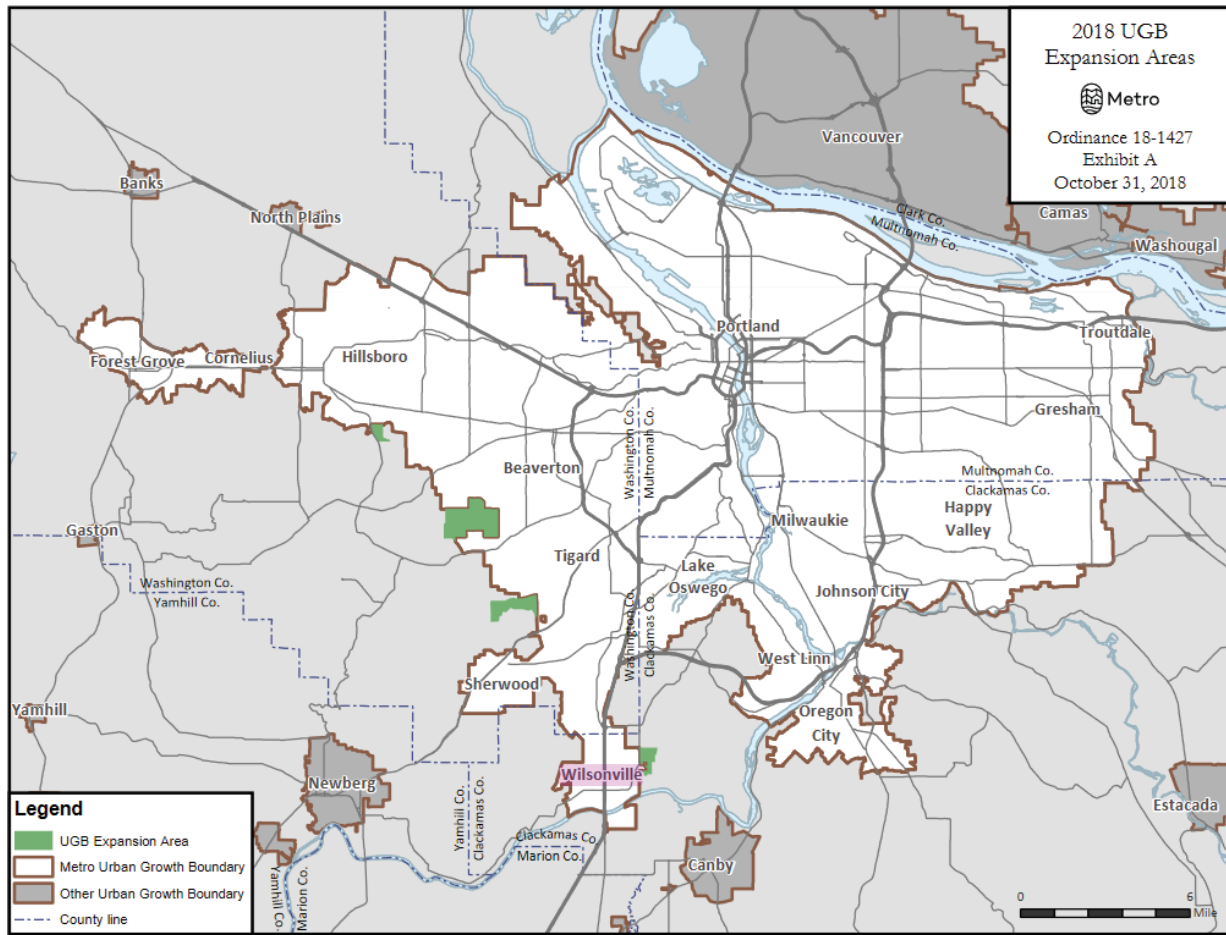
- Water quality and flood management (Title 3)
- Employment areas (Title 4)
- Centers, Corridors, Station Communities, and Main Streets (Title 6)
- Housing Choice (Title 7)
- Compliance measures (Title 8)
- Planning for New Urban Areas (Title 11)
- Protection of Residential Neighborhoods (Title 12)
- Nature in Neighborhoods (Title 13)
- Urban Growth Boundary (Title 14)

Metro jurisdictions are required to be consistent with the Functional Plan in their comprehensive plans and implementing ordinances.

Frog Pond Context: The Urban Growth Management Functional Plan guides long range planning for the Frog Pond area and was a foundational item for the previous Frog Pond Concept Plan effort. The adoption of the Frog Pond East and South Master Plan will require findings of compliance with Metro's Urban Growth Management Functional Plan.

2018 Urban Growth Boundary Amendment and Conditions of Approval

Figure 1. 2018 UGB Expansion Areas



The City of Wilsonville submitted a request to include the Frog Pond East and South area (also known as the “Advance Road” expansion area) to the regional UGB as part of the 2018 growth management decision.² The Frog Pond West area was already within the UGB at that time. Ordinance 18-1427³ amended the Metro UGB to include this area and contains conditions general of approval, as well as conditions specific to Wilsonville.

A partial list of general requirements includes:

- Updating the Wilsonville Comprehensive Plan to include the UGB expansion area

² <https://www.oregonmetro.gov/sites/default/files/2018/06/01/Wilsonville-expansion-narrative.pdf>

³ https://www.oregonmetro.gov/sites/default/files/2019/08/01/MetroCouncil-MetroLegislation-Ordinances-18-1427_0.pdf

- Housing types permitted at a minimum must include duplexes, triplexes, fourplexes, townhomes, and accessory-dwelling units (in addition to single-family homes) in all zones that permit single-family homes. Wilsonville's RN zone lists all such uses as permitted uses, but limits Frog Pond West to a maximum of two attached units generally, with three on corners. For the Frog Pond East and South expansion areas, middle housing will be allowed more broadly in terms of variety of units.
- Exploring ways to encourage the construction of ADUs in the expansion area.
- Exploring adoption of variable system development charges designed to reduce the costs of building smaller homes in order to make them more affordable to purchasers and renters.

Requirements specific to Wilsonville include:

1. Wilsonville shall plan for at least 1,325 homes in the Advance Road expansion area.
2. The expansion area shall be designated Neighborhood on the 2040 Growth Concept map.
3. The city may propose the addition of Corridors for depiction on the 2040 Growth Concept map as an outcome of comprehensive planning for the area.

Frog Pond Context: The Master Plan will need to show how it meets the conditions of approval in the 2018 UGB decision. As part of the planning effort, the team will examine whether a “Corridor” designation on the Metro 2040 Growth Concept Map is appropriate for the area.

State Statute and Administrative Rules

This section summarizes State of Oregon Revised Statutes (ORS), Oregon Administrative Rules (OAR), and other items relevant to the Master Plan effort.

Middle Housing Requirements (House Bill 2001 and its implementation)

The Oregon Legislature passed House Bill (HB) 2001 in August 2019 to help provide Oregonians with a wider range of housing choices. HB 2001 requires Oregon cities with populations over 25,000 and those within the Portland Metro boundary (collectively referred to as “Large Cities”) to adopt zoning code regulations and comprehensive plan amendments to permit middle housing types in residential zones. Specifically, Wilsonville and other Large Cities will need to allow:

- Duplexes on each lot or parcel zoned for residential use that allows for the development of detached single-family dwellings; and
- Triplexes, quadplexes, cottage clusters, and townhouses in areas zoned for residential use that allow for the development of detached single-family dwellings.

The City “may regulate siting and design of middle housing.” However, it may not adopt standards or requirements that result in unreasonable cost or delay in the development of middle housing. The City is in the process of final adoption of code and plan amendments to comply with HB 2001 through the Wilsonville Middle Housing Project.

Frog Pond Context: HB 2001's requirements for master planned communities are a key topic for the Frog Pond area. Master planning for Frog Pond East and South will need to consider how to comply with the state requirements while meeting other project goals. Master plans completed after January 1, 2021, must allow all middle housing types defined in OAR 660-046 (duplex, triplex, quadplex, townhouse, and cottage cluster), and regulations for middle housing must comply with all applicable requirements of OAR 660-046.

Accessory Dwelling Unit Requirements

Implementing Senate Bill 1051, ORS 197.312 requires cities greater than 2,000 population must allow at least one accessory dwelling unit (ADU) per single-family detached dwelling, subject to reasonable local regulations relating to siting and design. DLCDC created a packet providing guidance of implementing ADU requirements, but its provisions are not required by law.

House Bill 2001 established that off-street parking and owner occupancy requirements are not reasonable local regulations relating to siting and design. Therefore, as of January 1, 2020, local jurisdictions cannot require off-street parking spaces for ADUs, nor can they require a property owner live in a primary or accessory dwelling. The law provides an exception for ADUs that are used as vacation rentals, which may be mandated to provide off-street parking or have owner-occupancy requirements.

Frog Pond Context: Residential standards in the master plan area must allow at least one ADU on lots with single family detached dwellings, and cannot require off-street parking or owner occupancy requirements for the ADUs. Today, Wilsonville's city-wide residential standards are consistent with these state requirements today or will be with the adoption of the updates with the Middle Housing in Wilsonville Project.

Systems Development Charges

State statute related to Systems Development Charges (SDCs) are contained in ORS 223.297 to 223.314, which provide a uniform framework to provide equitable funding for orderly growth and development in Oregon's communities and to establish that these funds may only be used for capital improvements. Statutes define the types of activities that may be subject to SDCs, the process by which a jurisdiction may levy such a fee, and what SDC funds may be used for.

Frog Pond Context: The funding of infrastructure for Frog Pond East and South will come from a variety of sources, including through SDCs. The Master Plan process will include an analysis of expected infrastructure costs and funding strategies that are consistent with state law and the goals of the project.

Clear and Objective Standards for Housing

ORS 197.307(4) requires that local governments adopt and apply clear and objective standards, conditions, and procedures regulating the development of "needed housing." Pursuant to 197.303, needed housing means "all housing types on land zoned for residential use or mixed residential and commercial use that is determined to meet the need shown for housing within an urban growth boundary at particular price ranges and rent levels..." This is to ensure that communities do not use

discretionary or subjective criteria to deny housing projects. The clear and objective standards, conditions, and procedures cannot discourage housing through unreasonable cost or delay. This includes development standards such as setbacks and building height that apply to housing at the time of building permit, as well as land use application criteria that apply to partitions, subdivisions, site reviews, conditional use permits and planned unit developments that will provide housing. In response to the requirements for clear and objective standards, some cities have created a two-track development review system, a clear and objective track and a discretionary track.

Frog Pond Context: The City must provide a pathway for development of housing in Frog Pond East and South that is “clear and objective.” The City may also provide a separate “discretionary” path as desired.

Emerging Trends & Other Topics

The Role of Land Use Regulation in Marginalizing Communities of Color

The book “The Color of Law” by Richard Rothstein, published in 2017, quickly became a must-read item for planners and policymakers. The book differentiates the activities of unscrupulous real estate agents, unethical mortgage lenders, and other examples of “*de facto* segregation” – impacts that are the result of private individuals – with the explicit government policies designed to ensure the separation of African Americans from whites (*de jure* segregation). Impacts of these policies have lasted generations and affected everything from household wealth accumulation to educational attainment to health outcomes.

Frog Pond Context: The Frog Pond Master Plan will engage with the City’s newly formed Diversity, Equity, and Inclusion (DEI) committee to discuss the ways this planning effort can best help the City of Wilsonville create housing opportunities for all. It will also include targeted multi-cultural outreach modeled on the outreach conducted as part of the City’s 2020 housing efforts.

The Role of Design Review in Housing Affordability

Michael Anderson of Sightline recently authored an article about the impacts of design review, and the risk of lengthy appeals processes, on housing production in the Portland metropolitan region. Anderson notes that housing projects are 20 times more likely than other projects to face design appeals, and this process can kill a project that lacks deep-pocketed investors and may chill housing development that would otherwise occur.

<https://www.sightline.org/2021/06/04/portlands-new-design-rules-could-kill-housing-but-they-dont-have-to/>

Frog Pond Context: The Master Plan will establish the process by which housing will be developed in Frog Pond East and South. Regulatory hurdles such as design requirements and the potential for appeals by neighboring homeowners may be in tension with some of the Plan’s goals for housing affordability. Achieving good neighborhood design while creating housing that is more affordable to Wilsonville residents will be a goal of the Master Plan.

Construction Practices and Design Impacts on Affordability

The Joint Center for Housing Studies at Harvard University and Neighborworks America published a paper in March 2020 titled “More for Less? An Inquiry into Design and Construction Strategies for

Addressing Multifamily Housing Costs.” The report notes that “Many new multifamily units are renting at prices that are prohibitive for middle- and low-income renters. The need for more affordable multifamily housing is clear, but developers, architects and contractors face rising construction and land costs as they build multifamily housing.” The authors conducted 30 interviews to create a report oriented primarily toward developers of large multifamily projects, but also has lessons for public officials.

Frog Pond Context: Several strategies identified in this report are relevant for Frog Pond. 1. Land costs are generally 10-20% of all costs – having a site that is fully constructable at the desired scale is key. 2. Constructing the massing with a few big moves rather than many small moves. 3. Simplify facades while still creating variation through materials. The extent to which the City of Wilsonville can mitigate land costs and enact design requirements that allow for less costly massing and façade solutions, the more affordable the outcome is likely to be. These topics will be addressed in greater detail through early Master Plan tasks.



Memorandum

September 23, 2021

To: Dan Pauly
Cc: Project Team
From: Joe Dills, Andrew Parish and Mariana Valenzuela
Re: Community Engagement Plan – Frog Pond East and South Master Plan

This memo presents a draft Community Engagement Plan (Engagement Plan) for the Frog Pond East and South Master Plan. The Engagement Plan is a living document that will be adapted over time to meet the evolving needs of the project.

PURPOSE AND DRAFT GOALS

The purpose of this Engagement Plan is to guide community involvement and engagement during the Frog Pond East and South Master Plan (Master Plan) process. The draft goals of the engagement process are to:

- **Create opportunities for inclusive participation**
- **Involve a broad range of the Wilsonville Community, including those who have been historically underrepresented**
- **Gather feedback from participants by implementing a variety of community engagement strategies**
- **Use the feedback during the planning process to inform the Master Plan**

GUIDING PRINCIPLES

The following principles will guide outreach and engagement:

- **Many voices** - The voices of those who will be affected by the Master Plan will have opportunities for meaningful input into the decision-making process
- **Equity lens** - An equity and inclusion lens will be applied at each step
- **Responsiveness** - The engagement process will include “feedback loops” that demonstrate how community input has been addressed
- **Many ways to participate** – There will be multiple ways to learn about the project, provide input, and participate
- **Clarity**- The process will provide clear and accurate information to help all participants understand the process
- **Welcoming process** – The process will provide a safe and welcoming space for participants to share their opinions and ideas regarding the project



COMMUNITY PARTICIPANTS

The following is an initial list of community participants brainstormed with the City in May 2021.

- The three neighboring Homeowners Associations
- Frog Pond West residents
- Property owners
- Traditional and non-traditional developers
- School District
- Rural residents in the area
- Latino community
- Youth
- Wilsonville renters
- Bonneville Power Administration
- Seniors
- Metro

KEY MESSAGES

WHAT –The Frog Pond East and South Master Plan will set the stage for Wilsonville’s next great neighborhoods. The plan will identify the types and locations of homes, parks, open space, streets, trails, and neighborhood services that will be built over the next 10-20 years. It will also plan the water, sewer, stormwater, and transportation infrastructure that are needed and how they will be funded. It will look closely at the costs of housing and how good planning can help keep those costs in line with what future residents can afford.

WHERE – The “Frog Pond Area” includes three distinct neighborhoods in the Northwest, Northeast, and Southeast corners of Boeckman/Advance/Stafford/Wilsonville Roads, as shown in the map on the following page. Frog Pond West has an adopted master plan and is developing today – the East and South neighborhoods are the subject of this planning effort.

WHY -

1. **A great neighborhood starts with a great plan.** There are many property owners and stakeholders in this area – the master plan will create certainty for all and lead to the type of quality development that Wilsonville expects.
2. **Housing opportunities, especially more affordable housing choices, are needed and a priority for this plan.** In order to achieve this, the City will be looking closely at housing costs and what can be done to create more affordable options.
3. **A master plan is required by Wilsonville’s Comprehensive Plan prior to annexation and development.** Other additions to the City – Charbonneau, Villebois, Frog Pond West – have all had similar plans.
4. **Frog Pond East and South were added to the Urban Growth Boundary in December, 2018.** The City of Wilsonville has received a planning grant from Metro to prepare the Master Plan



WHO – The plan will be created by a diverse range of participants representing the full breadth of Wilsonville community members and other partners. The City is intent on crafting a plan that embodies its goals for public participation and equitable housing outcomes. In order to accomplish this, the Frog Pond East and South plan will engage underrepresented and historically disadvantaged groups, those with limited English proficiency, and others who are often left out of important planning processes.



COMMUNITY INPUT AND DECISION-MAKING STRUCTURE

The diagram below is a generalized structure of input and decision making:

Draft Input and Decision-Making Structure



ENGAGEMENT TOOLS AND ACTIVITIES

Public information – Initial Ideas

- Let's Talk Wilsonville page. This will be the primary “project website” – City staff will lead updates to the site with support and content from the consultant team. The page will provide information as well as be the site of (non-scientific) community surveys.
- Social Media announcements, including through groups such as Latinos de Wilsonville and the Arts & Cultural Council
- Tabling events (farmers market, library, El Grito)
- Pop-ups at community events
- Interested parties email list
- Boones Ferry Messenger

Meetings

- Two general types of Planning Commission meetings are planned:
 - a. **Work sessions.** The Planning Commission will hold work sessions with the project team to review working documents and project issues. Citizens may comment during the standing Citizen's Input item on the agenda. The work session format will be similar to the Middle Housing project work sessions and all meetings will be streamed over YouTube in real time.
 - b. **“CCI” meetings.** These meetings will be dedicated to dialog between the Planning Commission and community members, with project team member present to listen and



provide visuals and other supporting information. The Planning Commission will convene in its role as the Wilsonville Committee for Community Involvement (CCI).

- c. **Schedule** – A schedule of meeting dates and topics will be prepared. The general approach is to schedule CCI meetings approximately every other month so there is on-going and timely opportunity to comment on project ideas as they evolve.
- City Council work sessions
 - a. The City Council will be briefed approximately every other month so they can provide guidance and have on-going knowledge about the plan
- Other outreach meetings to be determined and scheduled:
 - a. Diversity Equity and Inclusion Committee engagement
 - b. Community forums/events
 - c. Focus groups and stakeholder meetings, including multi-cultural outreach meetings

ENGAGING UNDERREPRESENTED COMMUNITIES IN WILSONVILLE

Introduction – Reducing barriers to participation

There are several models of community engagement strategies to gather input from the public. However, it is important to keep in mind that all these methods must adapt to the specific needs of the target population. When planning the community engagement process for historically marginalized communities it is essential that we consider the barriers which prevent or hinder their participation on focus groups or advisory committees. To engage the community for the Frog Pond East and South project, we will adapt our outreach strategies to make the process accessible to these groups by providing written material in their language and hire interpretation services for community conversation activities. Furthermore, we will consider their cultural background, and will apply best practices for public participation.

Transportation, language, and technology are some of the obstacles to consider. To provide access and increase participation from our target population, we will distribute material in Spanish and conduct virtual meetings with simultaneous interpretation. During the multicultural Housing Outreach in 2020, we learned that social media is an effective tool to spark interest in community events and conversations. The Latino community has responded positively to public participation invitations, and they are very grateful for these opportunities. However, although they respond to social media requests, it is essential to connect with them with a phone call rather than via email. The community participants engaged during the Housing Outreach will be re-engaged during the Frog Pond process.

Community engagement framework

Our core values

- **Inclusivity:** The voice of those who would be impacted must be part of the decision-making process, particularly members of historically marginalized groups. The level of community participation must be determined during the inception of the planning process.
- **Communication:** Clear communication must be a part of all community engagement activities. Opinions and concerns expressed by participants will be considered.
- **Accountability:** Participants must be part of the entire process, and they must be informed of the evolution of the planning project.

- **Transparency and accuracy** are essential to ensure all participants understand all relevant information. Most importantly, these elements are the foundation to build trust between entities.

Steps

- Define objectives and outcomes
- Identify key stakeholders and potential participants
- Determine which community outreach strategies will be used
- Create a timeline for community outreach activities

During the community outreach process, we will implement the following best practices:

- Build trust through community partnerships
- Provide communication in the language of preference for participants
- Provide clear and accurate information
- Provide a safe place for conversation events
- Respect cultural norms
- Offer participants compensation for their time

We will address the challenges that hinder public participation of marginalized community members by implementing these set of practices. By doing so, our community engagement activities will result in increased participation, reliable input from participants, and most importantly, the voice of community members will be present during the planning process of this project.

ENGAGEMENT PHASES AND DRAFT WORK PLAN

The following engagement phases are aligned with the project work plan. Using this structure, outreach activities will be brainstormed with the team and refined during Phase 1.

Phase 1 – Project Kick-off, Background, and Regulatory Research

- Engagement – This is a **“Listening”** phase, focused on communicating project basics, and obtaining input/listening to input on how best to engage the community, aspirations for Frog Pond, and key issues.
- Work plan and schedule:
 - August-September – prepare Community Engagement Plan
 - September – Prepare fact sheet, Let’s Talk page, and other initial public information materials
 - September-October – initial outreach meetings:
 - Property owners informational meeting (September 23)
 - Frog Pond West residents and property owners (September 28)
 - Neighboring Homeowners Associations (October 7)
 - Planning Commission – October 13
 - City Council – October 18

Phase 2 – Land Use and Community Design

- Engagement – This will be an **“Exploring”** phase, where working ideas and options are communicated and there are feedback loops for community input to be considered by the



Planning Commission and team. Master Plan elements are anticipated to evolve and become working recommendations during this phase.

- Work plan and schedule scope:
 - December 2021 – July 2022
 - Planning Commission and City Council – see schedule
 - Outreach meetings – tbd

Phase 3 – Implementation Strategies and Adoption

- Engagement – This will be a “**Refining**” stage where the zoning, funding and other implementation is developed, stakeholder feedback is engaged, and working recommendations are finalized.
- Work plan and schedule scope:
 - July 2022 – December 2022
 - Planning Commission and City Council – see schedule
 - Outreach meetings – tbd



FROG POND EAST & SOUTH MASTER PLAN

**City Council Work
Session**

October 13, 2021

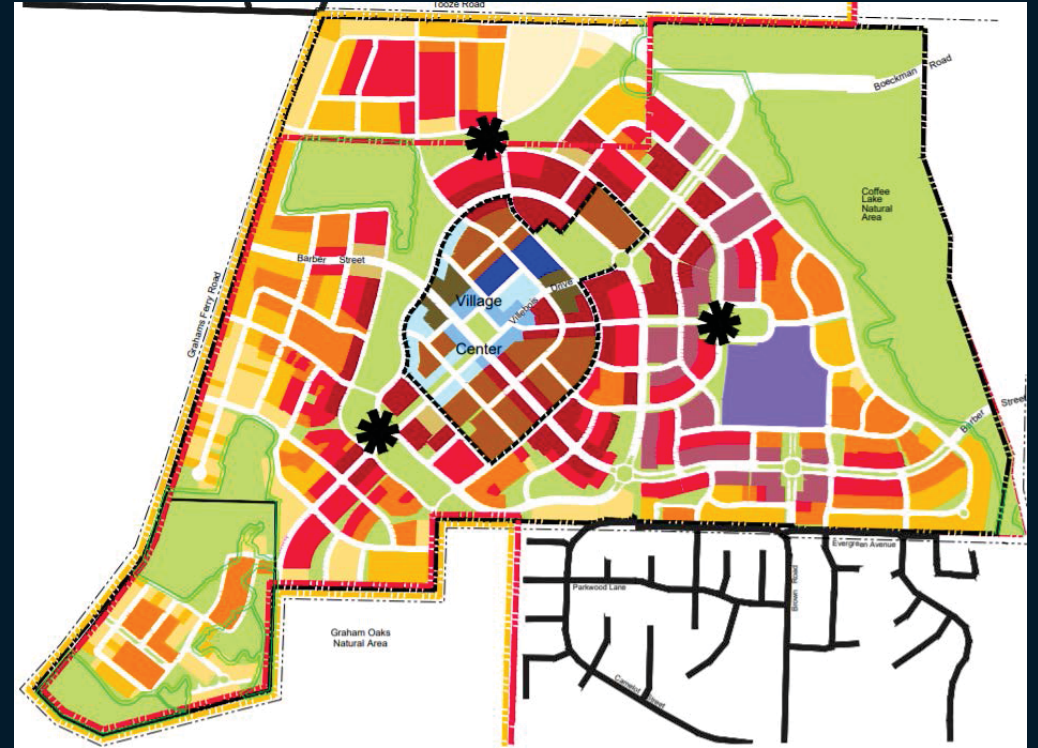
What is the Frog Pond East and South Master Plan?

A plan to guide:

- Land uses
- The type and variety of housing
- Streets, trails, future transit
- Parks, open space, tree preservation
- Preservation of the Grange
- Funding strategies for infrastructure
- Community design



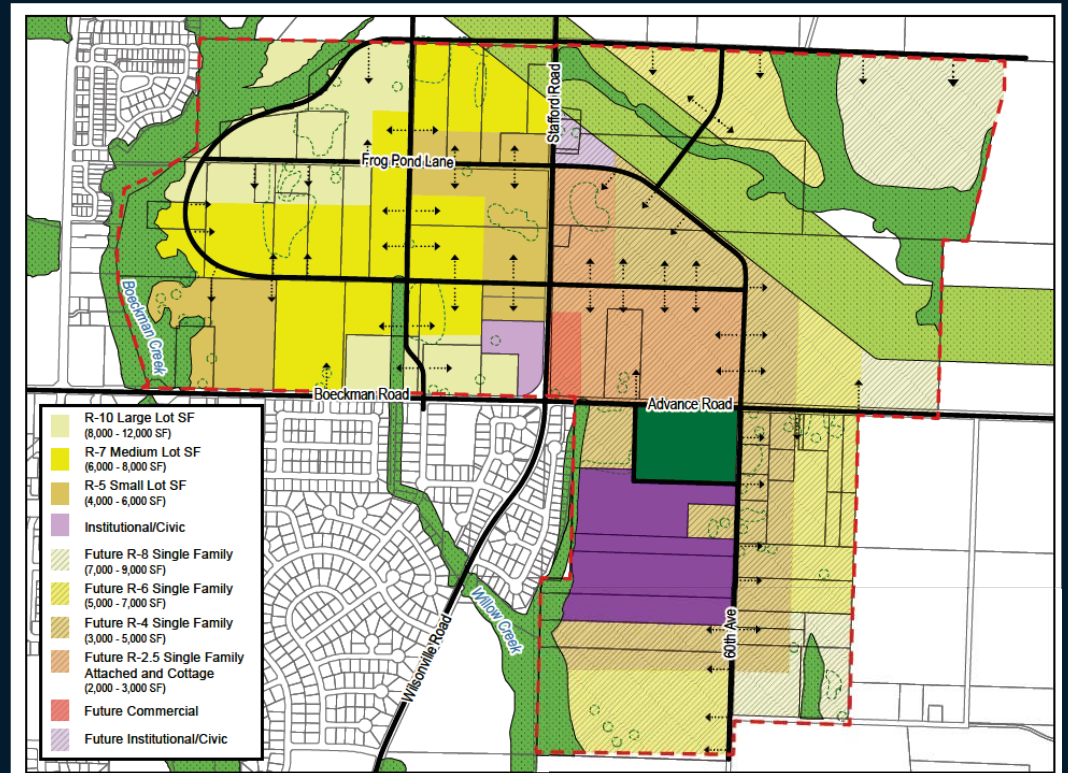
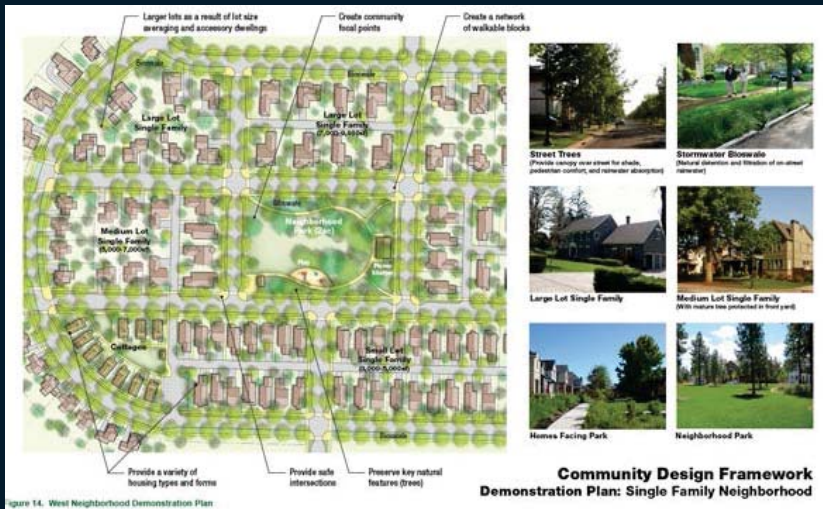
Background



Frog Pond Planning Timeline



Frog Pond Area Plan



Key Regulations and Trends

- Housing variety for a variety of people
 - Especially ADU's and middle housing
 - How can infrastructure planning and funding support meeting a variety of housing needs?

What is similar to Frog Pond West Planning?

- Basic neighborhood structure
- Mostly residential uses
- Basic infrastructure funding method
- Commitment to quality design, walkable neighborhoods and tree preservation

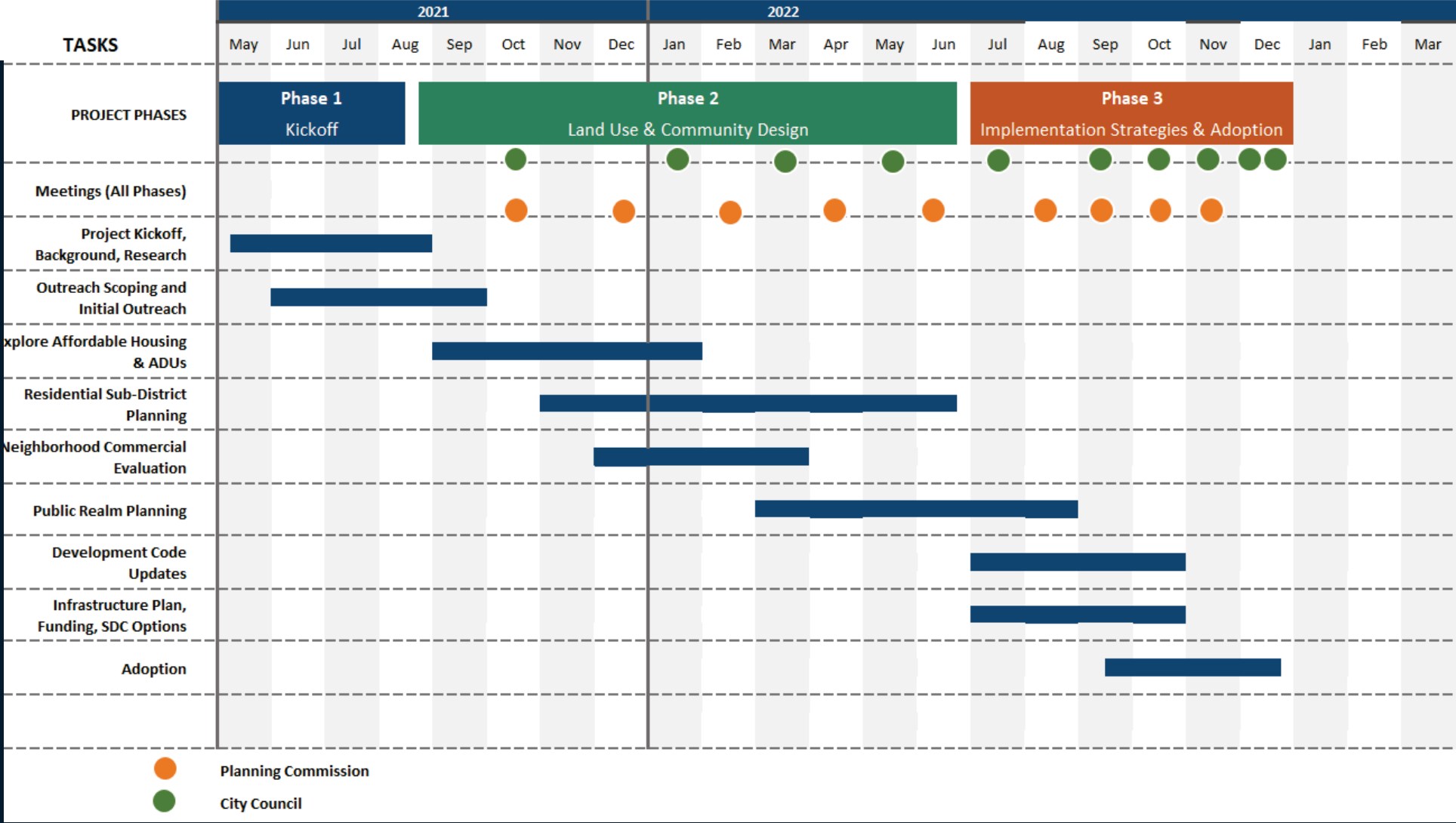


For East and South planning, what's different than past planning?

- Additional housing variety related requirements and goals
- Exploration of variable rate infrastructure fees
- Broaden outreach



Schedule



Outreach



Next Steps

- Other targeted outreach
- Housing work
- Next Council work session in January



City Council Meeting Action Minutes
October 18, 2021

City Council members present included:

Mayor Fitzgerald
Council President Akervall
Councilor Lehan
Councilor West – Arrived 5:05 p.m.
Councilor Linville – Excused

Beth Wolf, Senior Systems Analyst
Keith Katko, Assistant Finance Director
Andy Stone, IT Director
Zoe Mombert, Assistant to the City Manager
Dan Pauly, Planning Manager
Mark Ottenad, Public/Government Affairs Director
Chris Neamtzu, Community Development Director
Mike Nacrelli, Civil Engineer
Shasta Sasser, Operations Manager

Staff present included:

Bryan Cosgrove, City Manager
Barbara Jacobson, City Attorney
Kimberly Veliz, City Recorder

AGENDA ITEM	ACTIONS
WORK SESSION	START: 5:03 p.m.
A. Frog Pond East and South Master Plan	City Council received a briefing on and gave feedback on the work to date on the Frog Pond East and South Master Plan project.
B. 2021 Solid Waste Collection Rate Report Review	Staff reviewed with City Council the findings and recommendations of the 2021 Solid Waste Collection Rate Report.
REGULAR MEETING	
<u>Mayor's Business</u>	
A. Upcoming Meetings	Upcoming meetings were announced by the Mayor as well as the regional meetings she attended on behalf of the City.
<u>Communications</u>	
A. Kitakata Sister City Advisory Board Work Plan	The Kitakata Sister City Advisory Board Chair and staff shared the board's vision and identified goals.
<u>Consent Agenda</u>	The Consent Agenda was approved 4-0.
A. <u>Resolution No. 2934</u> A Resolution Of The City Of Wilsonville Authorizing The City Manager To Amend The Professional Services Agreement With JayRay Ads & PR, Inc, For 'Explore Wilsonville' Tourism Promotion And Development And Destination Marketing Program.	

<p>B. <u>Resolution No. 2936</u> A Resolution Of The City Of Wilsonville Authorizing The City Manager To Execute An Amendment To The Construction Manager/General Contractor (CM/GC) Contract With Kiewit Infrastructure West Co. To Procure A New Ozone Generation System For The Willamette River Water Treatment Plant Expansion Project (Capital Improvement Project #1144).</p> <p>C. Minutes of the October 4, 2021 City Council meeting.</p>	
<p><u>New Business</u></p> <p>A. <u>Resolution No. 2928</u> A Resolution Of The City Of Wilsonville Approving An Amendment To The Planning Division Fee Schedule Adding Fees For Middle Housing Land Divisions And Further Refining The Fee Schedule For Wireless Communication Facilities.</p> <p>B. <u>Resolution No. 2929</u> A Resolution Of The City Of Wilsonville Amending The Old Town Neighborhood Plan And Continuing To Accept The Old Town Neighborhood Plan As A Non-Regulatory Planning Tool.</p> <p>C. <u>Resolution No. 2930</u> A Resolution Of The City Of Wilsonville Authorizing The City Manager To Enter Into An Interim Development Agreement With Taylor Morrison Northwest, LLC Regarding Design, Funding And Construction Of Regional Parks 5 And 6 In The Clermont Subdivision, Villebois.</p>	<p>Resolution No. 2928 was adopted 4-0.</p> <p>Resolution No. 2929 was adopted 4-0.</p> <p>Resolution No. 2930 was adopted 4-0.</p>
<p><u>Continuing Business</u></p> <p>A. <u>Ordinance No. 850</u> An Ordinance Of The City Of Wilsonville Adopting The Wilsonville Town Center Streetscape Plan As An Appendix To The Wilsonville Town Center Plan, A Sub-Element Of The Comprehensive Plan.</p> <p>B. <u>Ordinance No. 851</u> An Ordinance Of The City Of Wilsonville Amending The Text Of The Wilsonville Comprehensive Plan, Text Of The Development Code, The Frog Pond West Master Plan, And The Villebois Village Master Plan; Adopting A Legislative Zone Map Amendment To Rezone Residential Properties In The Old Town Neighborhood To The Newly Established Old Town Residential Zone; And Declaring Development In Planned Development Residential Zones As Legal Non-Conforming To Increase The Allowance Of Middle Housing In Wilsonville.</p>	<p>Ordinance No. 850 was adopted on second reading by a vote of 4-0.</p> <p>Ordinance No. 851 was adopted on second reading by a vote of 4-0.</p>

<p>C. <u>Ordinance No. 852</u> An Ordinance Of The City Of Wilsonville Approving A Zone Map Amendment From Public Facility (PF) Zone To The Village (V) Zone On Approximately 1.40 Acres In The Villebois Village Center, Adjacent To The Piazza At Villebois To The Northeast And Northwest; The Land Is More Particularly Described As Tax Lot 2800 And Adjacent Right-Of-Way, Section 15AC, Township 3 South, Range 1 West, Willamette Meridian, Clackamas County, Oregon. Costa Pacific Communities, Applicant.</p>	<p>Ordinance No. 852 was adopted on second reading by a vote of 4-0.</p>
<p><u>Public Hearing</u> A. <u>Resolution No. 2932</u> A Resolution Authorizing A Supplemental Budget Adjustment For Fiscal Year 2021-22.</p>	<p>After a public hearing was conducted, Resolution No. 2932 was approved 4-0.</p>
<p><u>City Manager’s Business</u></p>	<p>Briefed Council on the uptick of theft in the City, especially in Charbonneau.</p>
<p><u>Legal Business</u></p>	<p>No report.</p>
<p>URBAN RENEWAL AGENCY</p>	
<p><u>URA Consent Agenda</u> A. Minutes of the July 19, 2021 URA meeting.</p>	<p>The URA Consent Agenda was approved 4-0.</p>
<p><u>New Business</u> A. None.</p>	
<p><u>URA Public Hearing</u> A. <u>URA Resolution No. 321</u> A Resolution Authorizing A Supplemental Budget Adjustment For Fiscal Year 2021-22.</p>	<p>After a public hearing was conducted, URA Resolution No. 321 was approved 4-0.</p>
<p>ADJOURN</p>	<p>8:59 p.m.</p>



PLANNING COMMISSION

WEDNESDAY, OCTOBER 13, 2021

II. WORK SESSION

- B. Frog Pond East and South Master Plan (Pauly) (45 Minutes)



PLANNING COMMISSION WORK SESSION STAFF REPORT

Meeting Date: October 13, 2021		Subject: Frog Pond East and South Master Plan	
		Staff Member: Daniel Pauly, Planning Manager	
		Department: Community Development	
Action Required		Advisory Board/Commission Recommendation	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 st Reading Date: <input type="checkbox"/> Ordinance 2 nd Reading Date: <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Information or Direction <input type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable Comments: N/A	
Staff Recommendation: Provide requested directional input on the project			
Recommended Language for Motion: N/A			
Project / Issue Relates To:			
<input checked="" type="checkbox"/> Council Goals/Priorities: Expand home ownership	<input checked="" type="checkbox"/> Adopted Master Plan(s): Frog Pond Area Plan	<input type="checkbox"/> Not Applicable	

ISSUE BEFORE PLANNING COMMISSION:

Provide feedback on work to date on the Frog Pond East and South Master Plan project including the project scope and schedule, background memo, and outreach plan.

EXECUTIVE SUMMARY:

In 2010, Metro established a series of urban and rural reserves to guide the region's urbanization over the following 50 years. The land that is now called Frog Pond East and South was designated as an urban reserve. Subsequently, in 2015, the City adopted the Frog Pond Area Plan to set the stage for additional planning and eventual development in the urban reserve. Besides the urban reserve area, the Frog Pond Area Plan also established a vision for growth for undeveloped land already within the City's Urban Growth Boundary (UGB) now known as Frog Pond West. The vision established for all of Frog Pond in the Area Plan states:

“The Frog Pond Area in 2035 is a Wilsonville community with attractive and connected neighborhoods. The community's hallmarks are its walkable and active streets, variety of quality homes, and connected trails and open spaces. Frog Pond's excellent schools and parks are focal points of the community. Frog Pond is “just a short bike, walk, or bus trip” from all parts of Wilsonville – a highly valued part of the larger city.”

In 2017, a master plan and implementing zoning code was adopted for Frog Pond West. The Master Plan provided the necessary regulatory framework for the residential neighborhood currently under development north of Boeckman Road and west of Stafford Road. At the time master planning was not done for the remainder of the Frog Pond Area, Frog Pond East and South, as it was not yet in the UGB.

In 2018, Metro expanded the UGB to include the remainder of the Frog Pond Area. As part of the Metro Ordinance adopting the UGB expansion, Metro required Wilsonville to complete master planning to make the area development ready, from a regulatory standpoint, by December 2022. In 2020 Metro awarded the City a \$350,000 grant to fund a significant portion of the master planning work. In early 2021 the City awarded a grant to a consultant team lead by Angelo Planning Group to support the City in completion of a master plan. Background work began in May and the City is now in the process of kicking off the project with the public, Planning Commission, and City Council.

Similar to past master planning efforts, such as Villebois and Frog Pond West, this master planning effort will identify the types and locations of the homes, other land uses, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. To support implementation of the plan, the process also identifies water, sewer, stormwater, and transportation infrastructure needs and funding sources.

Parts of the master planning process will be similar to that of Frog Pond West completed in 2017. This includes the same level of sub-district analysis, building on the basic framework from the 2015 Frog Pond Area Plan, and commitment to quality design, walkable neighborhoods, and natural resource and tree preservation. In addition, the project team will build its infrastructure funding approach off the work previously done for Frog Pond West.

The Frog Pond East and South Master Plan will also be different from the Frog Pond West Master Plan in a number of notable ways. This includes looking at housing variety and distribution with (1) additional focus on housing for a wider variety of income levels and how to

encourage housing options not historically well-provided by the market and (2) less focus on mathematic density and more focus on how the built form of housing structures contribute to the look and feel of the neighborhood. Building on experience from past projects, the planned process also includes a broader and more inclusive outreach program to ensure a variety of groups, particularly those historically marginalized, have a meaningful and impactful voice in the decisions made. See Attachment 5, Community Engagement Plan. Finally, the master plan process will examine adjusting how service development charges (SDCs) and other infrastructure fees are calculated to ensure infrastructure costs are equitably carried by varying housing types.

For this first work session, the project team requests the Commission's discussion and feedback on initial background and project management documents (Attachments 1-5) as well as any additional direction regarding project focus. Questions to guide the discussion are as follows:

Feedback on project scope:

1. Any questions or concerns about the project scope and project schedule?
2. What feedback do you have on the recommended Planning Commission meeting schedule? Specifically, the project team would like the Commissions feedback on the ideas of varying work sessions between technical work sessions with the project team and listening sessions with the public in the Commission's role as the Committee for Community Involvement (CCI).
3. Are there topics missing or needing more discussion in the Background and Regulatory Research Memo?
4. What feedback does the Planning Commission have on the Outreach Plan? What other suggestions do you have to reach additional groups or better engage community members?

EXPECTED RESULTS:

Gather feedback and direction from the Planning Commission on the Frog Pond East and South Master Plan project.

TIMELINE:

This is the first in a series of work sessions for the Planning Commission. The City Council will also have a work session in October. The project must be completed by December 2022. See Attachments 2 and 3 for more timeline information.

CURRENT YEAR BUDGET IMPACTS:

The main consultant contract is for \$350,000 funded through a Metro grant. Work began during FY 20/21. Unused portions have been rolled over and the City anticipates spending \$260,000 by the end of FY 21/22. The remaining \$90,000 is planned to be budgeted during FY 22/23 to conclude the project.

COMMUNITY INVOLVEMENT PROCESS:

As outlined in Attachment 5, Community Engagement Plan, the project team plans a robust public engagement program that will include meaningful and impactful involvement of historically marginalized communities of color.

POTENTIAL IMPACTS or BENEFIT TO THE COMMUNITY:

Well-designed neighborhoods with a variety of housing options for current and future Wilsonville residents.

ALTERNATIVES:

At this early point in the project, the Planning Commission may provide a range of alternatives for the project team to consider.

ATTACHMENTS:

- Attachment 1 Project Scope
- Attachment 2 Project Preliminary Schedule
- Attachment 3 Recommended Planning Commission and City Council Schedule
- Attachment 4 Background and Regulatory Research Memo
- Attachment 5 Community Engagement Plan

Scope of Work City of Wilsonville Frog Pond East and South Master Plan



Project Overview

Consultant team is responsible for assisting the City in creating the regulatory framework and essential analysis needed to develop a Master Plan for development of Advance Road Expansion Area also known as Frog Pond East and South. The project will ensure compliance with Metro’s conditions of UGB expansion, state statute and rules, including House Bill 2001 and related administrative rules regarding middle housing, as well as local goals and strategies coming from the City’s ongoing housing work, including the Equitable Housing Strategic Plan. The project aims to be at the forefront of equitable housing planning with specific outcomes benefiting historically marginalized communities of color.

Phase 1: Project Kick-off, Background, and Regulatory Research

Task 1.1: Project Kick-off, Background, and Regulatory Research

Task 1.1 will initiate the project. The consultant team will produce a memorandum summarizing background information as it relates to opportunities and constraints for the project, as well as summarizing the necessary regulatory compliance. The consultant team will review the documents listed in the RFP and provide a memorandum that briefly summarizes content that is applicable to Frog Pond, including a summary list of priority issues and what is directive to the Master Plan effort. A kick-off meeting and related kick-off deliverables are listed below.

Deliverables:

- a. Kick-off meeting
- b. Prepare project schedule
- c. Prepare templates for memo, agenda, project mapping
- d. Receive/coordinate GIS data for the project and establish official project boundary
- e. Research and prepare Task 1.1 memo

Task 1.2: Outreach Scoping and Community Engagement Plan

We recommend that Task 1.2 create the plan and initial outreach described in the RFP, but in the reverse of the order identified in the RFP. That is, we will first prepare an outline of the Outreach Plan, but then conduct the groundwork and initial outreach described for Deliverable 1.2.b as a path to completing the community engagement strategy and plan.

In addition to the overall outreach process, this task will explore and determine the Committee structure for the project. There are options: traditional Community Advisory Committee; Planning Commission as lead; hybrid model. We propose that the options be developed and vetted in Task 1.2, leading to a decision by the City Council. To determine the desired Committee option and engagement process, we suggest the following guiding principles: the voice of those who would be impacted will have meaningful input into decision making throughout the process; equity and inclusion will be integrated; and the advisory and decision making hierarchy will be clear and designed to be responsive

to community input.

For this task, we will meet with partner organizations, conduct focus groups, and create online input opportunities to introduce the project, seek advice on engagement, and ask values-based questions to inform outreach and the master plan. Following this groundwork, we will prepare the comprehensive community engagement plan as described in the RFP. As part of this task, APG will create a Public Engagement Log and post it on SharePoint. This list will be a shared document for the City and APG to keep a running log of public engagement activities—usable for interim reporting and the public engagement summaries needed for Task 3.3 deliverables.

All meetings in the scope are assumed to be virtual. If COVID-19 protocols change and the City desires in-person meetings, APG and the City will discuss and agree on scope/budget changes, if needed, prior to conducting in-person meetings.

Deliverables:

- a. Community Engagement Plan outline (an outline and preliminary strategy for the entire Frog Pond engagement process)
- b. Memo describing the plan for Initial Outreach (purpose, process, groups to engage, draft agendas, Committee structure options)
- c. Initial outreach communication materials (project fact sheet, initial content for *Let's Talk Wilsonville!*)
- d. Initial outreach meetings (see Task 1.3)
- e. Memo summarizing feedback received during the Initial Outreach process
- f. Comprehensive community engagement plan
- g. Public engagement log

Task 1.3: Phase 1 Meetings and Outreach

Assumptions, task roles and services are:

- The scopes for Phase 1, Phase 2 and Phase 2 engagement are preliminary and subject to refinement from the outcomes of Task 1.2
- Team work sessions will be used to collaborate and advance written products. APG will prepare agendas and facilitate the work sessions, working closely with the City Program Manager. This task also provides time for brief check-in's between team meetings.
- For Planning Commission (or Advisory Committee) meetings, the City will prepare the agenda, staff report, and PPT, with the support of the consulting team for content/images.
- For City Council meetings, staff will have the lead role, using content prepared as part of the scope. The APG Project Manager, or a topic task leader, will be available for each Council meeting.
- Outreach meetings will be conducted per the Engagement Plan. APG will have prepare meeting plans/agendas, co-facilitate with the City, and provide meeting materials. This scope assumes the City will manage a *Let's Talk Wilsonville!* page, prepare regular project update articles for the Boones Ferry Messenger, and post information to applicable social media platforms. The APG team, will provide Spanish translation for project materials.

Deliverables:

- a. Team work sessions (up to 5, additional to Kick-off)
- b. Planning Commission meetings (up to 2)
- c. City Council meetings (up to 2)
- d. Outreach meetings (up to 5, no community events or online surveys for this phase)

Phase 2: Land Use and Community Design

Task 2.1: Affordable Housing Analysis

The City's Equitable Housing Strategic Plan (EHSP) calls for the City to identify affordable housing targets for Frog Pond East and South, including number of units, depth of affordability, and unit size. These targets are intended to balance the need for market-rate development to fund needed infrastructure investments with the need to expand affordable housing supply and the availability of lower-cost unrestricted housing options. The affordable housing strategy for the area will also need to consider how affordable housing within the area will have access to amenities and is integrated into the fabric of the new neighborhoods. This task will build on and refine the intentions set in the EHSP, exploring potential partnerships with affordable housing developers and other measures to deliver affordable housing in the area. It will include up to two interviews or focus groups with local affordable housing providers. For efficiency, we recommend combining deliverables 2.1.1. and 2.1.2 into a single memorandum.

Deliverables

- a. Affordable housing opportunities memo including evaluation of opportunities and constraints for affordable housing in the area, consideration of strategies in Wilsonville's Equitable Housing Strategic Plan and conditions in the UGB Expansion Conditions of Approval, analysis of affordable housing needs/targets for the area, and recommended production strategies for the area

Task 2.2: Explore Encouraging ADUs

Accessory Dwelling Units (ADUs) offer an opportunity to seamlessly integrate additional, smaller units within neighborhoods while staying within traditional single family development and financing models. In the context of a greenfield development, the dynamics of ADU production are different than in developed neighborhoods where the primary driver is individual property owners modifying an existing home. For a greenfield setting, measures to encourage ADUs need to consider ways to influence homebuilders' floorplans to encourage building ADUs at time of construction and/or home designs that lend themselves to easy conversion later. Given the target density for this area, this task will also consider options for integrating ADUs into higher-density detached and single family attached housing. This task will include up to two interviews with homebuilders; analysis of readily available home sales and survey data and input from outreach to understand the interest and demand from buyers for houses with ADUs; and review of the relevant development code and other regulations specifically relevant to ADUs to identify any unintended obstacles to ADU production. It will also estimate a range of rents for ADUs within new homes in this area to understand what household income levels the ADUs would be affordable to. For efficiency, we recommend combining deliverables 2.2.1, 2.2.2, and 2.2.3 into a single memorandum.

Deliverables:

- a. ADU market and opportunities memo, including analysis of demand and potential rents, opportunities and constraints to ADU production, and recommended development code and/or regulatory refinements

Task 2.3: Residential Sub-district Planning

Note: Task 2.3 (Residential) and Task 2.4 (Neighborhood Commercial) will be prepared in tandem as an iterative design process.

Step 1: Master Plan base map. APG and Walker Macy will prepare a base map to establish a physical framework for sub-district evaluation and planning. We will review and verify/refine the buildable land inventory for East and South, overlay framework roads, identify priority natural features (e.g., tree groves), and sketch other base map features. The resultant base map will be preliminary but guiding to subsequent work. The map will be supported by a brief memo documenting how it was prepared. An arborist report will be prepared during this task. The tree inventory will identify significant trees and groves (a tree survey for the entire project area is beyond the scope of this project).

Step 2: Memorandum describing sub-district assumptions, housing mix alternatives, and plan diagrams. Step 2 will define alternatives. A memo and supporting sketches will be prepared to define and evaluate: (1) HB 2001 requirements and options for middle housing implementation (we recommend that these be vetted with DLCD); (2) annotated plan diagrams showing concepts for arrangement of housing types/densities and how they will transition within the neighborhoods, and (3) conceptual placement of the commercial center, East neighborhood park, trails, and other features. These drawings will be the broad alternatives to be discussed in the process. They will be diagrammatic, not detailed, to emphasize the big ideas and opportunities. Internally, we will prepare GIS versions of the maps so that housing capacities can be measured, reported, and discussed in the process. The budget supports preparation of up to three alternatives for this task.

Step 3: Refinement of alternatives, preferred alternative and sub-district map and table. The alternatives defined in Step 2 will be taken through review and input opportunities by the team, Planning Commission, City Council, and community—ultimately leading to a preferred alternative. The process steps will be defined as part of the public involvement plan. We anticipate that input from participants will direct the preparation of up to two refined alternatives, and ultimately to a preferred alternative recommendation from the Planning Commission. This task will prepare those refinements, remaining at sketch level. The preferred alternative will be prepared in both diagram form, and at property-specific sub-district layout. The draft sub-district map will be accompanied by a table listing minimum and maximum housing allowances.

Site studies and three visualizations. Three site studies will be defined in collaboration with City staff. We recommend that they be prepared in draft form as part of Step 2 and 3 above to help participants visualize plan alternatives. The site studies will be finalized as part of the preparation of the Master Plan report. Three visualizations (street level views) will be prepared.

Deliverables:

- a. Master plan base map and documentation memo, and arborist report
- b. Memo describing sub-district assumptions, housing mix alternatives and plan diagrams (up to

- three plan alternative diagrams)
- c. Housing capacity analysis for alternatives (GIS data and tables)
- d. Refinement of alternatives (up to two), memo describing preferred alternative
- e. Sub-district map and table for the preferred alternative
- f. Three draft site studies and three visualizations

Task 2.4: Neighborhood Commercial Area Evaluation

Background. LCG will review recent commercial market studies and other reports to inform the commercial market analysis. LCG will interview retail developers and/or brokers who are active in the area and gather input from the public through the Task 1.2 outreach plan, to understand where and how people shop, work, and access other commercial services in the area. The consultant team will attempt to determine any particular unmet community needs that could be satisfied in Frog Pond East and South.

Commercial market analysis. LCG will then analyze the commercial development market including commercial supply (the landscape of existing or planned retail, commercial, office, healthcare, and other commercial properties in the market area) and demand (the amount of spending by households, employees, and potentially visitors today and in the future within the primary market area). Where demand is greater than supply, commercial development opportunities exist, and LCG will detail these opportunities by commercial tenant type, square footage, acreage, parking demands, etc. LCG will prepare two to three concise summaries/case studies of comparable commercial centers and compare them to the subject site on the basis of surrounding population, employment, traffic counts, and other metrics that drive commercial development. The case studies will illustrate the opportunities associated with vertical mixed- use development.

Location, design, placemaking and sketches. Concurrent with the market evaluation, Walker Macy will identify an array of options for neighborhood commercial area locations, using precedent images to illustrate potential type and scale of neighborhood commercial nodes. After an initial review of market findings and options for potential locations in a work session with the City, Walker Macy will refine and recommend preferred sites for future neighborhood commercial nodes, including diagrams and conceptual illustrations for the repurposing of the Grange building. Similar to the “Ten Essentials” approach from previous Frog Pond planning, Walker Macy will also provide illustrated urban design guidelines specific to neighborhood commercial development that will encourage pedestrian-friendly, active, and attractive commercial amenities with a place-based Wilsonville identity. These guidelines will draw strongly from community input on desired neighborhood character and amenities. The options for commercial location and the urban design and placemaking guidelines will be packaged into an illustrated draft memo. After City review of the draft memo, Walker Macy will refine the memo and then produce more detailed concept illustrations of a neighborhood commercial center. Depending on location and project needs, this set of illustrations could represent a real location or could be a prototypical illustration that outlines the desired urban design and placemaking elements of neighborhood commercial areas in Frog Pond East and South.

Deliverables:

- a. Neighborhood Commercial Market Analysis including supply and demand analysis and key takeaways from broker, developer, and public input
- b. Concise neighborhood commercial development case studies

- c. Draft options for neighborhood commercial node locations
- d. Work session with City to review market findings and discuss and refine potential sites for neighborhood commercial
- e. Draft Neighborhood Commercial Center Design memo
- f. Final Neighborhood Commercial Center Design memo
- g. Conceptual illustrations of a site or prototype for a neighborhood commercial node in Frog Pond East and South

Task 2.5: Public Realm Planning

Tree Preservation Strategy Memo. Early in the process, during the Background Research phase, the project team will work with a certified arborist and City staff to gain permission to access properties in the master plan area. The consultant team will work with the City and arborist to establish criteria for significant trees in the area. After an arborist inventory, Walker Macy will produce a Tree Preservation Strategy Memo for the area that outlines the multiple benefits of preserving mature trees, describes the methodology for identifying significant trees, and provides design strategies for preserving significant trees within future development. The memo will be illustrated with a map of the area tree inventory, site photos, and precedent images. This memo and its illustrations will aid in community conversations about neighborhood character and serve as a guide during development and public realm planning.

Street and trail demonstration plan and cross sections. As a first step in the public realm planning process, APG and Walker Macy will use the existing street network and planned street connections from Frog Pond West as a basis to develop a series of conceptual options for a public street and trail network in the master plan area (the first option will serve as the base map referenced in Task 2.3). We suggest that pedestrian and bike facilities, both on- and off-street, should be studied along with the public street network in order to ensure maximum connectivity. At a collaborative work session with City staff using maps of these conceptual options, we will gather feedback on potential connections and discuss the desired characteristics of major street corridors and trail connections. The team will then refine the options into a preferred network and produce a street and trail demonstration plan. The demonstration plan will be supplemented by illustrated, 3D cross-sections of key street corridors and their dimensions and amenities, including concepts for bike facilities and off-street trails. The draft street demonstration plan will be used as a framework for planning residential sub-districts and neighborhood commercial uses and may be informed by subsequent findings from these processes. The consultant team will draw from prior experience planning for the larger Frog Pond area to ensure public realm continuity and connectivity with Frog Pond West. Community input on walkability, bike-ability, and other types of connectivity will be incorporated into recommendations for streets and trails.

Park and open space framework. Concurrent with street and trail network planning, Walker Macy and APG will identify a framework of open spaces, well-connected by trails and walkable streets, which will serve future neighborhoods in the master plan area. The initial conceptual framework of open spaces will include multiple open space types and sizes, located based on criteria including surrounding need, connection to existing and planned parks, site suitability, and natural features including tree clusters and habitat., based on Area Plan inventory information. Based on City review and robust community input on desired parks and open space amenities, Walker Macy will develop a preferred parks and open space framework map along with recommendations for amenities within each type of planned park and open space. As part of these recommendations, the team will coordinate with Oregon State Parks regarding the Meridian Landing site on the Willamette River, and identify access issues and opportunities from

Frog Pond South.

Public Street Design Elements Memo. Building on the street and trail demonstration plan and cross sections, Walker Macy will develop more detailed recommendations for a number of design elements of public streets, including street trees, public lighting, and street signage and entry monuments. The goal of these recommendations will be to create a contiguous public realm with Frog Pond West and incorporate community input on the desired look and feel of streets. The street tree plan will build on street tree planning for Frog Pond West as well as current best practices for street tree species selection and will be tailored to street types in the master plan area. The public lighting plan will be developed in consultation with a lighting specialist, and will include a map of recommended lighting types and spacing for each street type. Guidelines for street signage and entry monuments will include a map of recommended locations for special street signage, including neighborhood entry signs and street toppers, and identify any key potential locations for gateway elements to mark entry to the Frog Pond area.

Deliverables:

- a. Tree Preservation Strategy Memo
- b. Up to three conceptual diagrammatic options for future street network
- c. Draft pedestrian and bike trails framework
- d. Street and Trail Demonstration Plan
- e. Park and Open Space Framework map and recommendations memo
- f. Public Street Design Elements memo, illustrated with maps, diagrams, and photos

Task 2.6: Development Code Updates

As necessary, the project team will produce a package of recommended development code updates to implement preferred alternatives developed in Tasks 2.3 and 2.4, specifically to the Residential Neighborhood (RN) Zone to:

1. Encourage the preferred mix of middle housing;
2. Otherwise help implement the preferred housing variety identified in the sub-district planning; and
3. Enable the preferred neighborhood commercial alternative.

Deliverables:

- a. Development Code updates (V1 through V4)

Task 2.7 Phase 2 Meetings and Outreach

Roles and services will be the same as described in Task 1.3.

Deliverables:

- a. Team work sessions (up to 8)
- b. Planning Commission or Advisory Committee meetings (up to 5)
- c. City Council meetings (up to 2)
- d. Outreach meetings (up to 10, one community event and online survey)

Phase 3: Implementation Strategies and Adoption

Task 3.1: Infrastructure Plan and Funding Strategy

Task 3.1.1 Water, Sewer and Storm Water Background, Plans, and Cost Estimates

Background research. Under this task, the consultant team will perform a review of requested background information provided by the City regarding infrastructure relevant to the Frog Pond area. This information will include the Frog Pond Area Plan, and current infrastructure master plans and subsequent studies and reports prepared for relevant facilities. The consultant team will coordinate with City staff regarding status of planned, underway, and recently completed projects that will serve the Frog Pond area. The team will coordinate with City staff regarding lessons learned from infrastructure development in the Frog Pond West area currently underway and recommend opportunities for implementation into the Frog Pond East and South areas. The consultant team will prepare a memorandum summarizing key considerations from the background research. The memorandum will build upon the concepts developed for infrastructure service as described in the Frog Pond Area Plan and will include preliminary observations regarding infrastructure to serve land uses anticipated for Frog Pond East and South.

Plans and Cost Estimates. Under this task, the consultant team will assess the public water, sanitary sewer and stormwater infrastructure as laid out in the Frog Pond Area Plan in coordination with the background review performed in Task 3.1. The evaluation will be conducted for the first scenario which requires infrastructure to support 20 net dwelling units (DU) per acre. The team will provide recommendations for specific projects to be added to the City's infrastructure master plans and will prepare a Class 5 cost estimate to implement the scenario. The team will perform an assessment to estimate changes to the infrastructure plan that are needed to support the second scenario of a preferred land use mix identified in Tasks 2.3 and 2.4. The assessment will include a Class 5 cost estimate for implementation of the second scenario. A direct comparison of the different infrastructure needs under the two scenarios will be summarized, including costs broken down by cost per dwelling unit.

Deliverables:

- a. Review background information/existing plans
- b. Research/review the current status of capital improvement projects
- c. Prepare memorandum summarizing existing conditions for water, sewer, storm infrastructure
- d. Prepare map of existing water/sewer/storm infrastructure, formatted to project mapping templates, with GIS data
- e. Provide mapping in GIS layers
- f. Develop preliminary infrastructure maps for water, sanitary sewer and stormwater systems on both a local planning scale and a regional City-wide scale for the 20 net DU/acre scenario
- g. Estimate sizing and costs of water, sanitary sewer and stormwater infrastructure for the 20 net DU/acre scenario
- h. Assess changes to infrastructure plan for the alternate land use scenario, with recommended infrastructure changes and cost estimates
- i. Prepare memorandum summarizing assessments, recommended projects, and cost estimates
- j. Provide mapping in GIS layers

Task 3.1.2 Transportation Analysis, Plans, and Cost Estimates

Motor Vehicle Evaluation. Building off the prior Frog Pond planning, DKS will conduct transportation analysis of the major intersections on the east side of Wilsonville. Up to 13 study intersections are assumed that are most likely to be impacted from the future Frog Pond land use.

As part of this Task, consultant shall utilize historical weekday PM peak hour traffic counts at intersections listed above. Due to Covid19 impacts to peak hour traffic volumes, it is not recommended to collect new traffic counts at this time due to reductions in traffic volumes. The study intersections will be evaluated for each of the following scenarios:

- Existing Conditions (2021) – Based on existing geometries and baseline traffic volumes
- Future Baseline (2040) – Using volume forecasts from Wilsonville TSP and geometries associated with High Priority Projects

Using the updated land use assumptions prepared for the East and South Neighborhoods, DKS will perform future transportation analysis to evaluate the impact the proposed land use would have on the transportation system to meet Transportation Planning Rule impacts. The Frog Pond land use will be compared to the land use assumptions provided in the Metro Travel Demand model to determine potential trip impacts. DKS will prepare a trip generation summary comparing up to three potential land use scenarios. DKS will conduct traffic analysis to support TPR findings for one future 2040 land use scenario. Additional traffic volume post processing will be performed to adjust the volumes based on how the trips vary from the Metro assumptions. Future analysis will also evaluate the impact to the I-5/Elligsen Road and I-5/Wilsonville Road interchanges (ramp terminals and junctions) as well as the remaining study intersections.

The High Priority Projects proposed in the City’s TSP will be assumed as part of the 2040 baseline transportation network. Applicable City and ODOT performance criteria will be assessed for each future transportation scenario. Should the study intersections not meet performance standards or safety/operational criteria, DKS will propose mitigation/improvements to address the specific deficiency.

DKS will evaluate the street and trail layouts for the proposed concept plans to assure pedestrian and bicycle connectivity has been addressed. We will make connectivity recommendations for all modes to assure the proposed neighborhoods are connected to existing and future schools and parks.

Consultant shall provide planning level cost estimates for any transportation mitigations and/or improvements identified in the transportation analysis noted above as well as new collector and arterial street improvements.

Pedestrian and Bicycle Evaluation. DKS will also evaluate pedestrian and bicycle connectivity and will make recommended locations for enhanced pedestrian crossings, and multiuse path and bicycle/pedestrian connectivity, coordinated with the recommendations in Task 2.5.

Deliverables:

- a. Transportation Technical Memorandum summarizing the transportation findings for all modes of travel (V1, V2 and final)
- b. Street, intersection, and pathway infrastructure project list with associated planning level cost estimates

Task 3.1.3 – Park Cost Estimates

The City will prepare cost estimates for proposed public park and open space.

Task 3.1.4 - Infrastructure Funding Strategy and Explore SDC Options

LCG will lead the team’s preparation of an Infrastructure Funding Strategy, which will incorporate the high-level cost estimates described above for infrastructure projects including transportation, utilities, and parks. Consistent with the Frog Pond West strategy, these costs will be categorized into different scales (e.g., major off sites, district/framework, and local projects), subdivided into the cost of the minimum infrastructure required vs. oversizing cost, and identified if already on an existing capital facilities or improvement plan.

Consistent with the Frog Pond West funding strategy, this scope assumes that the primary new funding source generated by Frog Pond East and South will be a supplemental fee that is calculated on a per-door and per commercial square foot, basis. This supplemental fee will likely be combined with City CIP funds and potentially other funding sources. The funding strategy will identify the cost and sources of funding for each major infrastructure element, and a fee revenue schedule that shows a projection of fees to be collected over an approximately 20-year period.

Concurrently with the funding analysis and strategy development, LCG will review both the City’s current SDC policies as well as alternative methods that could be utilized in the study area that are variable and based on different sizes and types of dwelling units, an approach that can more fairly reflect the more modest infrastructure system impacts of smaller units, and therefore make smaller units more affordable. LCG will focus on up to three SDC policies adopted by other Oregon cities that meet statutory requirements, could be applicable to Wilsonville, and may advance the City’s policy goals. The team will compare the pros and cons of the City’s current approach versus the other SDC policies.

LCG and APG will prepare recommended draft SDC code and policy language for the City. This code and policy language may implement the variable SDCs linked to different sized dwelling units that provide reduced fees for development that creates lower system impacts. We recommend participation by the City Attorney’s office for this task, and that they have the lead role for drafting the final, adoption-ready SDC regulations.

LCG and APG will participate in City-led meetings with property owners and developers (including market-rate and affordable housing developers) regarding the Infrastructure Funding Strategy and SDC options.

Deliverables:

- a. Infrastructure Funding Strategy
- b. Meetings with property owners/developers (up to 4 one-on-one or group interviews)
- c. SDC Options Evaluation Memorandum and SDC code and policy language The SDC options evaluation and code language will be delivered together with the Infrastructure Funding Strategy.

Task 3.3: Adoption

Master plan document and illustration. APG will prepare a master plan document incorporating the project outcomes from the project. The document will include the main master plan document and

appendices. The document will go through two reviews with staff, and work sessions with the Planning Commission, and City Council (minimum 3 each) prior to moving forward to the hearing process for adoption. The document will follow a format and level of detail similar to the Frog Pond West Master Plan adopted by the City in 2017. The report will include a water-color illustration similar to Frog Pond West.

Hearings-ready Comprehensive Plan and Development Code updates. The project team will facilitate public feedback on the entire package of proposals prior to public hearings as defined in the outreach plan in Task 1.2.

Outreach summary memorandum and report. The project team will produce a memorandum and related reports summarizing outreach efforts for the project. The memorandum will include brief reflection on lessons learned and recommendations for ongoing community engagement on a variety of projects.

Regulatory findings. APG and the City will write regulatory findings supporting the adoption of the master plan and other related documents. APG will write findings for the statewide planning goals, the transportation planning rule and middle housing rules, Metro Urban Growth Management Functional Plan, and the conditions of Metro's 2018 UGB expansion. If an economic, social, environmental, and energy (ESEE) analysis is required for Goal 5, the City and APG will scope the extent of it and agree on the level of detail that matches budget resources prior to APG commencing the findings. The City will write findings of compliance with amendment criteria for the Wilsonville Development Code and Comprehensive Plan.

Deliverables:

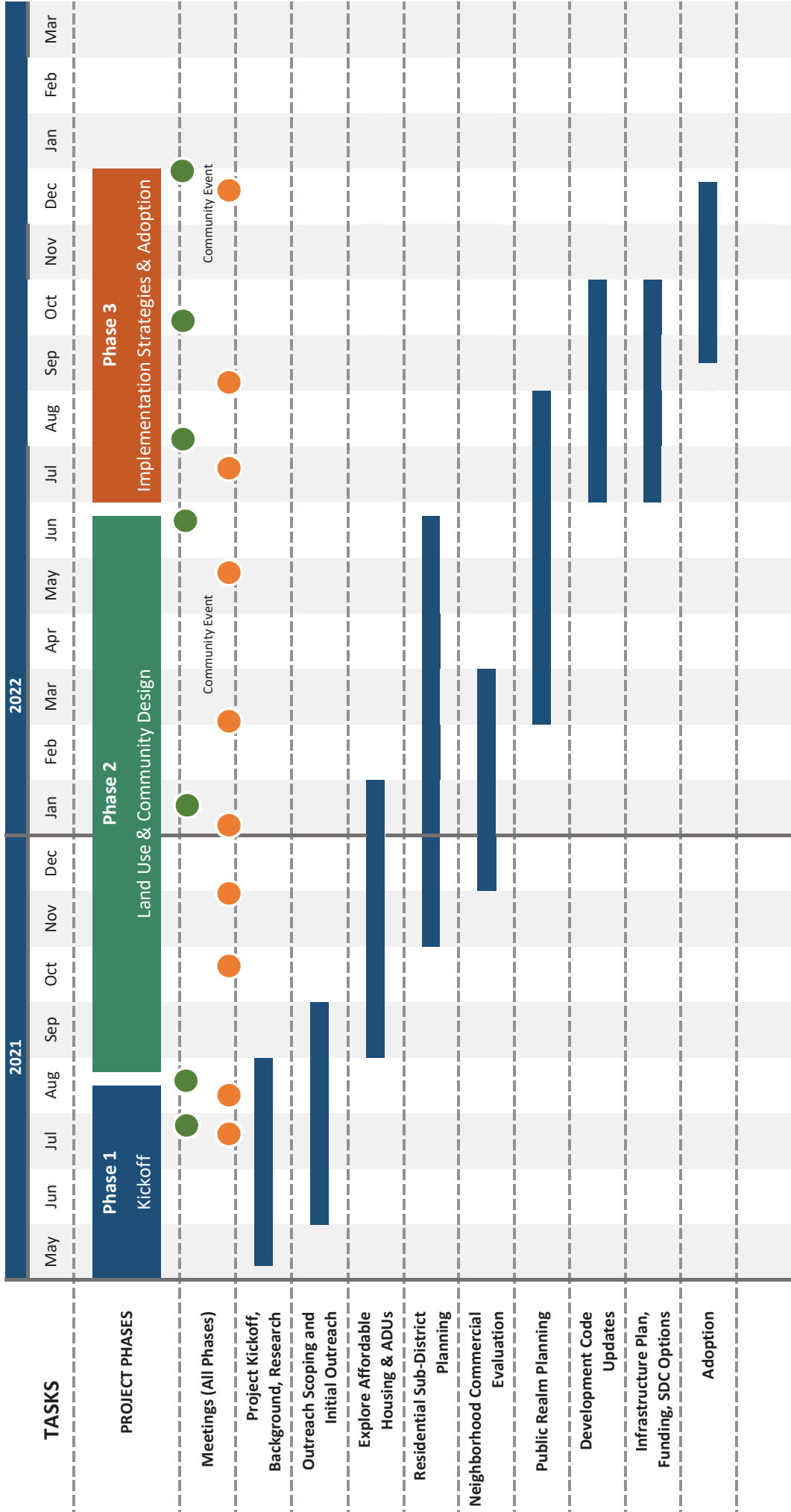
- a. Master Plan (V1, V2, final per Planning Commission guidance), and watercolor illustration.
- b. Hearings-ready Comprehensive Plan and Development Code updates (V1, V2, final per Planning Commission guidance)
- c. Outreach summary memorandum and report (V1, V2, final per Planning Commission guidance)
- d. Regulatory findings (V1, V2, final per Planning Commission guidance)

Task 3.4 Phase 3 Meetings and Outreach

Roles and services will be the same as described in Task 1.3.

Deliverables:

- a. Team work sessions (up to 6)
- b. Planning Commission meetings (3)
- c. City Council meetings (3)
- d. Outreach meetings, additional to Task 3.1.4 (up to 5, one community event and online survey)



rev. 6/16/2021

● Planning Commission
● City Council

Recommended Planning Commission and City Council Schedule

Planning Commission Meetings

City Council Meetings

Meeting Date	Planned Topic	Meeting Date
Wednesday, October 13, 2021	Intro, overall project guidance	Monday, October 18, 2021
Wednesday, November 10, 2021		
Wednesday, December 8, 2021	Project guidance, housing affordability (update, feedback, guidance)	Thursday, January 6, 2022
Wednesday, January 12, 2022		
Wednesday, February 9, 2022	Residential Subdistrict planning (update and feedback), housing affordability (present reports), neighborhood commercial (update, feedback, guidance)	Monday, March 7, 2022
Wednesday, March 9, 2022		
Wednesday, April 13, 2022	Residential (update), neighborhood commercial (final prel. report out), public realm (feedback and guidance)	Monday, May 2, 2022
Wednesday, May 11, 2022		
Wednesday, June 8, 2022	Public realm (update, feedback), SDCs & infrastructure (intro and guidance)	Thursday, July 7, 2022
Wednesday, July 13, 2022		
Wednesday, August 10, 2022	Residential subdistricts (final prel. Report out) infrastructure plan, SDC options (update, feedback)	Thursday, September 8, 2022
Wednesday, September 14, 2022	Public realm (final prel. Report out), infrastructure plan, SDC options (update, feedback), Code and plan text review (update, feedback)	Monday, October 3, 2022
Wednesday, October 12, 2022	Full draft plan, code text review, SDC options, infrastructure (goal for final prel. report out)	Monday, November 7, 2022
Wednesday, November 9, 2022	Public Hearing	Monday, December 5, 2022
		Monday, December 19, 2022



BACKGROUND AND REGULATORY RESEARCH

TO: Dan Pauly, City of Wilsonville

FROM: Andrew Parish, Joe Dills, and Emma Porricolo, APG

CC:

DATE: September 28, 2021

Introduction

The purpose of this memorandum is to summarize background information and issues of regulatory compliance as they relate to opportunities and constraints for the Frog Pond East and South Master Plan. Per Task 1.1 of the project scope, we reviewed the following information, as available.

- (1) Residential standards currently used in Wilsonville including general standards, Old Town Single-Family Design Standards, Villebois Pattern Books and other design requirements, and Residential Neighborhood (RN) Zone design standards.*
- (2) Historic residential development patterns in Wilsonville, including in large master plans including Charbonneau, Villebois, and Frog Pond West.*
- (3) The City's Equitable Housing Strategic Plan adopted in June 2020.*
- (4) The City's Middle Housing Project including updated Development Code standards and Comprehensive Plan language and related outreach to historically marginalized communities of color. This project is underway with substantial hearings-ready documents complete in Spring 2021 and hearings anticipated in Summer/Fall 2021.*
- (5) State statute and rules related to housing, including those related to Middle Housing and SDCs.*
- (6) Metro code related to housing.*
- (7) State and regional land use regulations related to planning in new urban growth areas.*
- (8) The conditions of Metro's 2018 urban growth boundary decision applicable to the Frog Pond area and Wilsonville in general.*
- (9) Industry best practices related to residential standards including how good design can occur that does not add significant cost.*
- (10) Existing published materials, especially emerging discussions, regarding impact on residential planning and standards on historically marginalized communities of color.*



The above-listed topics span a wide range of material and a deep well of details. For this memo, we focus on key take-aways that are opportunities and constraints for the Frog Pond East and South Master Plan. Where possible, we note best planning and design practices that do not add significant costs and impacts of residential planning on historically marginalized communities of color.

We have organized the review three jurisdictional levels, and included an “Emerging Trends and Other Topics” category:

- Wilsonville Planning Context
- Regional Planning Context
- State Statutes and Administrative Rules
- Emerging Trends and Other Topics

Summary of Key Points

Major takeaways of these background materials are described below.

City of Wilsonville Regulatory Context

- The Frog Pond area is Wilsonville’s next great neighborhood, and this plan aims to build on the tradition of high-quality design and livability seen in other Wilsonville communities. The specific context of Frog Pond differs from Villebois, for example, in the number of different property owners and prevailing economic environment, but the plan will build on the City’s prior successes and lessons learned.
- The Wilsonville Middle Housing Project will include changes to the City’s development code and inform how housing is provided in the Frog Pond area.
- The policy direction in the Wilsonville Equitable Housing Strategic Plan will directly inform the Master Plan goals and public engagement process.

Regional Regulatory Context

- The conditions of approval included in Ordinance 18-1427 apply to the area, most notably the requirement for at least 1,325 new homes. The appropriateness of a Metro 2040 Growth Concept “Corridor” designation in the area will be evaluated.
- Findings of compliance with the Urban Growth Management Functional Plan will be required upon completion of the Master Plan.

State of Oregon Regulatory Context

- House Bill 2001 and its implementing statutes and rules apply to the area. Middle housing types, including duplexes, triplexes, quadplexes, townhouses, and cottage clusters must be permitted in all residential zones that permit single family detached dwellings.
- Per ORS 197.303(4) ADUs must be permitted on all lots with one single-family home. ADU development standards cannot require owner occupancy or off-street parking.

Emerging Trends and Other Topics

- The City of Wilsonville is very interested in ways that the City can achieve a greater level of affordability for housing in the Frog Pond area. Early tasks will examine these issues, including an analysis of affordable housing needs and opportunities, research into encouraging ADU’s, as well as a significant effort creating an infrastructure plan and funding strategy later in the project.



City of Wilsonville - Local Planning Context

This section summarizes opportunities and constraints for Frog Pond East and South regarding residential standards, recent planning efforts, and other relevant documents for the City of Wilsonville.

Residential Standards

Wilsonville makes extensive use of residential design standards throughout its code. There are standards that are zone-specific and others that are area-specific, summarized below.

- WDC 4.113 provides residential development standards that are applicable to all zones. Unless the text of specific zones or master plans address the topics in WDC 4.113, these standards apply. These standards address open space (a blanket requirement of 25% of the Gross Development Area), setbacks, height guidelines, parking, fences, accessory dwelling units, and other topics.
- WDC 4.124 provides standards applicable to Planned Development Residential zones, which cover much of the City.
- WDC 4.125 provides the standards used in Villebois. They reflect the high level of design quality expected for this award-winning master-planned community. Villebois' design standards are applied under the umbrella of the overall Villebois Master Plan, Villebois Pattern Book, and comprehensive Village Zone standards.
- WDC 4.138 contains the Old Town (O) Overlay Zone. These standards are intended to create a consistent architectural pattern and building orientation among a variety of use types to create a pleasing and pedestrian-friendly environment.
- WDC 4.127 contains the Residential Neighborhood (RN) Zone, which was created specifically for use in implementing the Frog Pond Master Plans. The RN Zone regulates:
 - Use and general development standards
 - Lot standards specific to portions of the Frog Pond West Neighborhood, e.g. adjacent to Boeckman and Stafford Roads, and adjacent to Willow Creek Road
 - Open space standards that recognize the public open space provided by the neighborhood parks, Boeckman Creek area, and other greenspaces.
 - Block, access, and connectivity standards that reference the Frog Pond West Street Demonstration Plan.
 - Main entrance standards
 - Garage standards
 - Residential design standards, including façade articulation, glazing requirements, a menu of design elements, housing plan variety in subdivisions, and other requirements.

Relevance for Frog Pond East & South: The Frog Pond East & South Master Plan will be implemented through the City's development code. As part of the plan's development, the project team will evaluate whether portions of the WDC need to be amended or new sections are needed to achieve the vision for Frog Pond East and South.



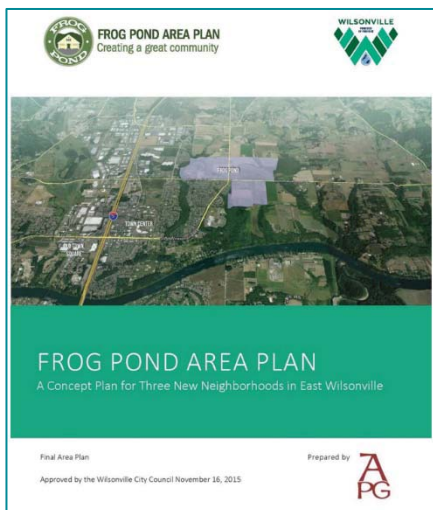
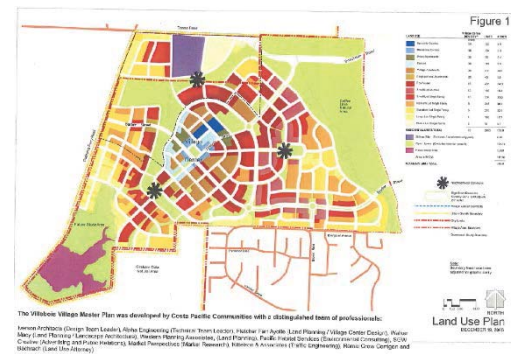
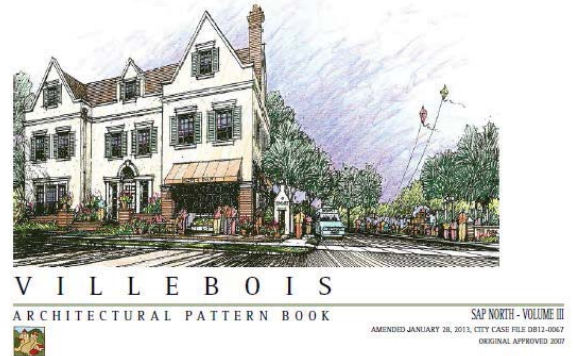
Patterns of Residential Development in Wilsonville

Wilsonville’s residential development history is marked by master-planned developments with a variety of housing. As the next large residential master plan is considered it is helpful to review what has occurred 40 plus years of master-planned residential neighborhoods in Wilsonville.

The first large-scale master planned residential neighborhood was Charbonneau. Planned in the 1970’s and primarily built during the 1970’s through early 1990’s, Charbonneau includes a variety of housing types around a golf course, a riverside greenspace, and a commercial village center. Notably Charbonneau includes many attached single-family homes or townhouses. Beyond single-family homes it also includes apartments, condos, and assisted living. At build out Charbonneau includes 1,708 residential units over approximately 421 acres.

In the 1980’s and 1990’s Wilsonville saw additional smaller master-planned communities planned and built. A number of these included multi-family and single-family development. I prime example is the apartments and single-family homes planned by the Randall company along Wilsonville Road near Wilsonville High School.

The 2000’s brought forward the new urbanist master-planned community of Villebois on the site of the former Dammasch State Hospital and surrounding land on the west side of Wilsonville. The Villebois Village Master Plan, originally adopted in 2003, has guided the development of a neighborhood of diverse unit types integrated around green spaces which, upon writing, is nearing complete build out. The current projection is 2,556 residential units at build out over approximately 481 acres.



The Frog Pond area is another area with plans for diverse housing types planned for new master-planned neighborhoods. The Frog Pond West neighborhood, under development, will be primarily single-family. The Frog Pond East and South neighborhoods will be thoughtfully planned for a wider array of housing to meet a variety of needs. At build out, the Frog Pond Area (West, East, and South neighborhoods) is anticipated to have approximately 1900 residential units over approximately 500 acres. The Frog Pond East and South planning will build on the legacy of great master-planned neighborhoods in Wilsonville with diverse housing types planned and built over the last 40 years.



Frog Pond Context: The Frog Pond East and South Master Plan will continue Wilsonville’s history of well-planned communities. The planning team will use the successes and lessons learned from previous developments in Wilsonville to create a connected and well-designed addition to the City.

Wilsonville Equitable Housing Strategic Plan

Adopted in June 2020, the primary goal of the Equitable Housing Strategic Plan is to identify gaps that are currently present in Wilsonville’s housing market and develop a plan with prioritized strategies to fill these gaps, providing Wilsonville residents and employees housing opportunities for different household compositions, ages, and income ranges. Plan documents are available at:

<https://www.ci.wilsonville.or.us/planning/page/equitable-housing-strategic-plan>

Frog Pond Context: The Equitable Housing Strategic Plan will inform how this Master Plan addresses housing in Frog Pond. Implementation Action 1C specifically calls for the City to “Define Equitable Housing Approaches in New Urban Growth Areas.” These approaches are anticipated to include goals/targets for accessibility to services and amenities, unit types, and unit affordability levels. The targets for these affordability levels should be reasonably achievable, allowing for sufficient market-rate development to support key infrastructure investments. The approach will provide a framework that can be applied in other growth areas beyond Frog Pond.

Wilsonville Middle Housing Project

The Wilsonville Middle Housing Project is an update of the City’s code to comply with Oregon House Bill 2001 (HB2001). These updates will expand housing options and variety in Wilsonville’s residential areas to provide more equitable housing choices and outcomes. The project is currently going through final adoption. Project documents are available at <https://www.letstalkwilsonville.com/middle-housing-code-update>

Frog Pond Context: The Master Plan will build on the City’s outreach on the topics of housing diversity and affordability. Frog Pond East and South will be planned to include middle housing – though the specific zoning designations and other regulatory requirements have yet to be determined.

Regional Regulatory Context

This section summarizes Metro code related to housing and regional land use regulations related to planning in new urban growth areas.

Metro Urban Growth Management Functional Plan

The Urban Growth Management Functional Plan is Section 3.07 of the Metro Code.¹ The plan provides tools to meet goals of the 2040 Growth Concept, Metro’s long-range growth management plan for the Portland metropolitan area. The functional plan addresses a range of topics:

- Housing capacity (Title 1)

¹ <https://www.oregonmetro.gov/urban-growth-management-functional-plan>



EAST & SOUTH MASTER PLAN

- Water quality and flood management (Title 3)
- Employment areas (Title 4)
- Centers, Corridors, Station Communities, and Main Streets (Title 6)
- Housing Choice (Title 7)
- Compliance measures (Title 8)
- Planning for New Urban Areas (Title 11)
- Protection of Residential Neighborhoods (Title 12)
- Nature in Neighborhoods (Title 13)
- Urban Growth Boundary (Title 14)

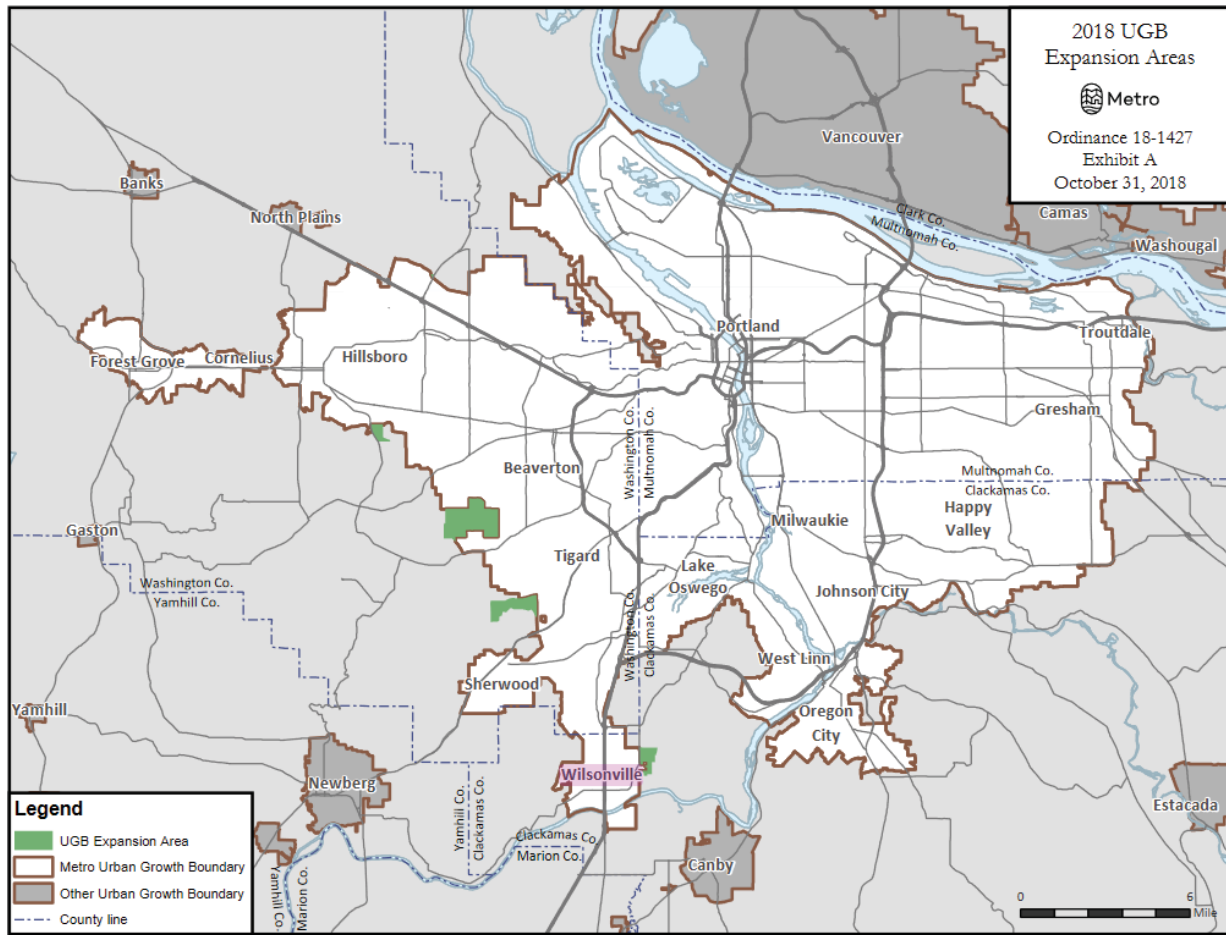
Metro jurisdictions are required to be consistent with the Functional Plan in their comprehensive plans and implementing ordinances.

Frog Pond Context: The Urban Growth Management Functional Plan guides long range planning for the Frog Pond area and was a foundational item for the previous Frog Pond Concept Plan effort. The adoption of the Frog Pond East and South Master Plan will require findings of compliance with Metro's Urban Growth Management Functional Plan.



2018 Urban Growth Boundary Amendment and Conditions of Approval

Figure 1. 2018 UGB Expansion Areas



The City of Wilsonville submitted a request to include the Frog Pond East and South area (also known as the “Advance Road” expansion area) to the regional UGB as part of the 2018 growth management decision.² The Frog Pond West area was already within the UGB at that time. Ordinance 18-1427³ amended the Metro UGB to include this area and contains conditions general of approval, as well as conditions specific to Wilsonville.

A partial list of general requirements includes:

- Updating the Wilsonville Comprehensive Plan to include the UGB expansion area

² <https://www.oregonmetro.gov/sites/default/files/2018/06/01/Wilsonville-expansion-narrative.pdf>

³ https://www.oregonmetro.gov/sites/default/files/2019/08/01/MetroCouncil-MetroLegislation-Ordinances-18-1427_0.pdf



- Housing types permitted at a minimum must include duplexes, triplexes, fourplexes, townhomes, and accessory-dwelling units (in addition to single-family homes) in all zones that permit single-family homes. Wilsonville's RN zone lists all such uses as permitted uses, but limits Frog Pond West to a maximum of two attached units generally, with three on corners. For the Frog Pond East and South expansion areas, middle housing will be allowed more broadly in terms of variety of units.
- Exploring ways to encourage the construction of ADUs in the expansion area.
- Exploring adoption of variable system development charges designed to reduce the costs of building smaller homes in order to make them more affordable to purchasers and renters.

Requirements specific to Wilsonville include:

1. Wilsonville shall plan for at least 1,325 homes in the Advance Road expansion area.
2. The expansion area shall be designated Neighborhood on the 2040 Growth Concept map.
3. The city may propose the addition of Corridors for depiction on the 2040 Growth Concept map as an outcome of comprehensive planning for the area.

Frog Pond Context: The Master Plan will need to show how it meets the conditions of approval in the 2018 UGB decision. As part of the planning effort, the team will examine whether a “Corridor” designation on the Metro 2040 Growth Concept Map is appropriate for the area.

State Statute and Administrative Rules

This section summarizes State of Oregon Revised Statutes (ORS), Oregon Administrative Rules (OAR), and other items relevant to the Master Plan effort.

Middle Housing Requirements (House Bill 2001 and its implementation)

The Oregon Legislature passed House Bill (HB) 2001 in August 2019 to help provide Oregonians with a wider range of housing choices. HB 2001 requires Oregon cities with populations over 25,000 and those within the Portland Metro boundary (collectively referred to as “Large Cities”) to adopt zoning code regulations and comprehensive plan amendments to permit middle housing types in residential zones. Specifically, Wilsonville and other Large Cities will need to allow:

- Duplexes on each lot or parcel zoned for residential use that allows for the development of detached single-family dwellings; and
- Triplexes, quadplexes, cottage clusters, and townhouses in areas zoned for residential use that allow for the development of detached single-family dwellings.

The City “may regulate siting and design of middle housing.” However, it may not adopt standards or requirements that result in unreasonable cost or delay in the development of middle housing. The City is in the process of final adoption of code and plan amendments to comply with HB 2001 through the Wilsonville Middle Housing Project.



Frog Pond Context: HB 2001’s requirements for master planned communities are a key topic for the Frog Pond area. Master planning for Frog Pond East and South will need to consider how to comply with the state requirements while meeting other project goals. Master plans completed after January 1, 2021, must allow all middle housing types defined in OAR 660-046 (duplex, triplex, quadplex, townhouse, and cottage cluster), and regulations for middle housing must comply with all applicable requirements of OAR 660-046.

Accessory Dwelling Unit Requirements

Implementing Senate Bill 1051, ORS 197.312 requires cities greater than 2,000 population must allow at least one accessory dwelling unit (ADU) per single-family detached dwelling, subject to reasonable local regulations relating to siting and design. DLCDC created a packet providing guidance of implementing ADU requirements, but its provisions are not required by law.

House Bill 2001 established that off-street parking and owner occupancy requirements are not reasonable local regulations relating to siting and design. Therefore, as of January 1, 2020, local jurisdictions cannot require off-street parking spaces for ADUs, nor can they require a property owner live in a primary or accessory dwelling. The law provides an exception for ADUs that are used as vacation rentals, which may be mandated to provide off- street parking or have owner-occupancy requirements.

Frog Pond Context: Residential standards in the master plan area must allow at least one ADU on lots with single family detached dwellings, and cannot require off-street parking or owner occupancy requirements for the ADUs. Today, Wilsonville’s city-wide residential standards are consistent with these state requirements today or will be with the adoption of the updates with the Middle Housing in Wilsonville Project.

Systems Development Charges

State statute related to Systems Development Charges (SDCs) are contained in ORS 223.297 to 223.314, which provide a uniform framework to provide equitable funding for orderly growth and development in Oregon’s communities and to establish that these funds may only be used for capital improvements. Statutes define the types of activities that may be subject to SDCs, the process by which a jurisdiction may levy such a fee, and what SDC funds may be used for.

Frog Pond Context: The funding of infrastructure for Frog Pond East and South will come from a variety of sources, including through SDCs. The Master Plan process will include an analysis of expected infrastructure costs and funding strategies that are consistent with state law and the goals of the project.

Clear and Objective Standards for Housing

ORS 197.307(4) requires that local governments adopt and apply clear and objective standards, conditions, and procedures regulating the development of “needed housing.” Pursuant to 197.303, needed housing means “all housing types on land zoned for residential use or mixed residential and commercial use that is determined to meet the need shown for housing within an urban growth boundary at particular price ranges and rent levels...” This is to ensure that communities do not use



discretionary or subjective criteria to deny housing projects. The clear and objective standards, conditions, and procedures cannot discourage housing through unreasonable cost or delay. This includes development standards such as setbacks and building height that apply to housing at the time of building permit, as well as land use application criteria that apply to partitions, subdivisions, site reviews, conditional use permits and planned unit developments that will provide housing. In response to the requirements for clear and objective standards, some cities have created a two-track development review system, a clear and objective track and a discretionary track.

Frog Pond Context: The City must provide a pathway for development of housing in Frog Pond East and South that is “clear and objective.” The City may also provide a separate “discretionary” path as desired.

Emerging Trends & Other Topics

The Role of Land Use Regulation in Marginalizing Communities of Color

The book “The Color of Law” by Richard Rothstein, published in 2017, quickly became a must-read item for planners and policymakers. The book differentiates the activities of unscrupulous real estate agents, unethical mortgage lenders, and other examples of “*de facto* segregation” – impacts that are the result of private individuals – with the explicit government policies designed to ensure the separation of African Americans from whites (*de jure* segregation). Impacts of these policies have lasted generations and affected everything from household wealth accumulation to educational attainment to health outcomes.

Frog Pond Context: The Frog Pond Master Plan will engage with the City’s newly formed Diversity, Equity, and Inclusion (DEI) committee to discuss the ways this planning effort can best help the City of Wilsonville create housing opportunities for all. It will also include targeted multi-cultural outreach modeled on the outreach conducted as part of the City’s 2020 housing efforts.

The Role of Design Review in Housing Affordability

Michael Anderson of Sightline recently authored an article about the impacts of design review, and the risk of lengthy appeals processes, on housing production in the Portland metropolitan region. Anderson notes that housing projects are 20 times more likely than other projects to face design appeals, and this process can kill a project that lacks deep-pocketed investors and may chill housing development that would otherwise occur.

<https://www.sightline.org/2021/06/04/portlands-new-design-rules-could-kill-housing-but-they-dont-have-to/>

Frog Pond Context: The Master Plan will establish the process by which housing will be developed in Frog Pond East and South. Regulatory hurdles such as design requirements and the potential for appeals by neighboring homeowners may be in tension with some of the Plan’s goals for housing affordability. Achieving good neighborhood design while creating housing that is more affordable to Wilsonville residents will be a goal of the Master Plan.

Construction Practices and Design Impacts on Affordability

The Joint Center for Housing Studies at Harvard University and Neighborworks America published a paper in March 2020 titled “More for Less? An Inquiry into Design and Construction Strategies for



EAST & SOUTH MASTER PLAN

Addressing Multifamily Housing Costs.” The report notes that “Many new multifamily units are renting at prices that are prohibitive for middle- and low-income renters. The need for more affordable multifamily housing is clear, but developers, architects and contractors face rising construction and land costs as they build multifamily housing.” The authors conducted 30 interviews to create a report oriented primarily toward developers of large multifamily projects, but also has lessons for public officials.

Frog Pond Context: Several strategies identified in this report are relevant for Frog Pond. 1. Land costs are generally 10-20% of all costs – having a site that is fully constructable at the desired scale is key. 2. Constructing the massing with a few big moves rather than many small moves. 3. Simplify facades while still creating variation through materials. The extent to which the City of Wilsonville can mitigate land costs and enact design requirements that allow for less costly massing and façade solutions, the more affordable the outcome is likely to be. These topics will be addressed in greater detail through early Master Plan tasks.



Memorandum

September 23, 2021

To: Dan Pauly
Cc: Project Team
From: Joe Dills, Andrew Parish and Mariana Valenzuela
Re: Community Engagement Plan – Frog Pond East and South Master Plan

This memo presents a draft Community Engagement Plan (Engagement Plan) for the Frog Pond East and South Master Plan. The Engagement Plan is a living document that will be adapted over time to meet the evolving needs of the project.

PURPOSE AND DRAFT GOALS

The purpose of this Engagement Plan is to guide community involvement and engagement during the Frog Pond East and South Master Plan (Master Plan) process. The draft goals of the engagement process are to:

- **Create opportunities for inclusive participation**
- **Involve a broad range of the Wilsonville Community, including those who have been historically underrepresented**
- **Gather feedback from participants by implementing a variety of community engagement strategies**
- **Use the feedback during the planning process to inform the Master Plan**

GUIDING PRINCIPLES

The following principles will guide outreach and engagement:

- **Many voices** - The voices of those who will be affected by the Master Plan will have opportunities for meaningful input into the decision-making process
- **Equity lens** - An equity and inclusion lens will be applied at each step
- **Responsiveness** - The engagement process will include “feedback loops” that demonstrate how community input has been addressed
- **Many ways to participate** – There will be multiple ways to learn about the project, provide input, and participate
- **Clarity**- The process will provide clear and accurate information to help all participants understand the process
- **Welcoming process** – The process will provide a safe and welcoming space for participants to share their opinions and ideas regarding the project



COMMUNITY PARTICIPANTS

The following is an initial list of community participants brainstormed with the City in May 2021.

- The three neighboring Homeowners Associations
- Frog Pond West residents
- Property owners
- Traditional and non-traditional developers
- School District
- Rural residents in the area
- Latino community
- Youth
- Wilsonville renters
- Bonneville Power Administration
- Seniors
- Metro

KEY MESSAGES

WHAT –The Frog Pond East and South Master Plan will set the stage for Wilsonville’s next great neighborhoods. The plan will identify the types and locations of homes, parks, open space, streets, trails, and neighborhood services that will be built over the next 10-20 years. It will also plan the water, sewer, stormwater, and transportation infrastructure that are needed and how they will be funded. It will look closely at the costs of housing and how good planning can help keep those costs in line with what future residents can afford.

WHERE – The “Frog Pond Area” includes three distinct neighborhoods in the Northwest, Northeast, and Southeast corners of Boeckman/Advance/Stafford/Wilsonville Roads, as shown in the map on the following page. Frog Pond West has an adopted master plan and is developing today – the East and South neighborhoods are the subject of this planning effort.

WHY -

1. **A great neighborhood starts with a great plan.** There are many property owners and stakeholders in this area – the master plan will create certainty for all and lead to the type of quality development that Wilsonville expects.
2. **Housing opportunities, especially more affordable housing choices, are needed and a priority for this plan.** In order to achieve this, the City will be looking closely at housing costs and what can be done to create more affordable options.
3. **A master plan is required by Wilsonville’s Comprehensive Plan prior to annexation and development.** Other additions to the City – Charbonneau, Villebois, Frog Pond West – have all had similar plans.
4. **Frog Pond East and South were added to the Urban Growth Boundary in December, 2018.** The City of Wilsonville has received a planning grant from Metro to prepare the Master Plan



WHO – The plan will be created by a diverse range of participants representing the full breadth of Wilsonville community members and other partners. The City is intent on crafting a plan that embodies its goals for public participation and equitable housing outcomes. In order to accomplish this, the Frog Pond East and South plan will engage underrepresented and historically disadvantaged groups, those with limited English proficiency, and others who are often left out of important planning processes.



COMMUNITY INPUT AND DECISION-MAKING STRUCTURE

The diagram below is a generalized structure of input and decision making:

Draft Input and Decision-Making Structure



ENGAGEMENT TOOLS AND ACTIVITIES

Public information – Initial Ideas

- Let's Talk Wilsonville page. This will be the primary “project website” – City staff will lead updates to the site with support and content from the consultant team. The page will provide information as well as be the site of (non-scientific) community surveys.
- Social Media announcements, including through groups such as Latinos de Wilsonville and the Arts & Cultural Council
- Tabling events (farmers market, library, El Grito)
- Pop-ups at community events
- Interested parties email list
- Boones Ferry Messenger

Meetings

- Two general types of Planning Commission meetings are planned:
 - a. **Work sessions.** The Planning Commission will hold work sessions with the project team to review working documents and project issues. Citizens may comment during the standing Citizen's Input item on the agenda. The work session format will be similar to the Middle Housing project work sessions and all meetings will be streamed over YouTube in real time.
 - b. **“CCI” meetings.** These meetings will be dedicated to dialog between the Planning Commission and community members, with project team member present to listen and



provide visuals and other supporting information. The Planning Commission will convene in its role as the Wilsonville Committee for Community Involvement (CCI).

- c. **Schedule** – A schedule of meeting dates and topics will be prepared. The general approach is to schedule CCI meetings approximately every other month so there is on-going and timely opportunity to comment on project ideas as they evolve.
- City Council work sessions
 - a. The City Council will be briefed approximately every other month so they can provide guidance and have on-going knowledge about the plan
- Other outreach meetings to be determined and scheduled:
 - a. Diversity Equity and Inclusion Committee engagement
 - b. Community forums/events
 - c. Focus groups and stakeholder meetings, including multi-cultural outreach meetings

ENGAGING UNDERREPRESENTED COMMUNITIES IN WILSONVILLE

Introduction – Reducing barriers to participation

There are several models of community engagement strategies to gather input from the public. However, it is important to keep in mind that all these methods must adapt to the specific needs of the target population. When planning the community engagement process for historically marginalized communities it is essential that we consider the barriers which prevent or hinder their participation on focus groups or advisory committees. To engage the community for the Frog Pond East and South project, we will adapt our outreach strategies to make the process accessible to these groups by providing written material in their language and hire interpretation services for community conversation activities. Furthermore, we will consider their cultural background, and will apply best practices for public participation.

Transportation, language, and technology are some of the obstacles to consider. To provide access and increase participation from our target population, we will distribute material in Spanish and conduct virtual meetings with simultaneous interpretation. During the multicultural Housing Outreach in 2020, we learned that social media is an effective tool to spark interest in community events and conversations. The Latino community has responded positively to public participation invitations, and they are very grateful for these opportunities. However, although they respond to social media requests, it is essential to connect with them with a phone call rather than via email. The community participants engaged during the Housing Outreach will be re-engaged during the Frog Pond process.

Community engagement framework

Our core values

- **Inclusivity:** The voice of those who would be impacted must be part of the decision-making process, particularly members of historically marginalized groups. The level of community participation must be determined during the inception of the planning process.
- **Communication:** Clear communication must be a part of all community engagement activities. Opinions and concerns expressed by participants will be considered.
- **Accountability:** Participants must be part of the entire process, and they must be informed of the evolution of the planning project.



- **Transparency and accuracy** are essential to ensure all participants understand all relevant information. Most importantly, these elements are the foundation to build trust between entities.

Steps

- Define objectives and outcomes
- Identify key stakeholders and potential participants
- Determine which community outreach strategies will be used
- Create a timeline for community outreach activities

During the community outreach process, we will implement the following best practices:

- Build trust through community partnerships
- Provide communication in the language of preference for participants
- Provide clear and accurate information
- Provide a safe place for conversation events
- Respect cultural norms
- Offer participants compensation for their time

We will address the challenges that hinder public participation of marginalized community members by implementing these set of practices. By doing so, our community engagement activities will result in increased participation, reliable input from participants, and most importantly, the voice of community members will be present during the planning process of this project.

ENGAGEMENT PHASES AND DRAFT WORK PLAN

The following engagement phases are aligned with the project work plan. Using this structure, outreach activities will be brainstormed with the team and refined during Phase 1.

Phase 1 – Project Kick-off, Background, and Regulatory Research

- Engagement – This is a **“Listening”** phase, focused on communicating project basics, and obtaining input/listening to input on how best to engage the community, aspirations for Frog Pond, and key issues.
- Work plan and schedule:
 - August-September – prepare Community Engagement Plan
 - September – Prepare fact sheet, Let’s Talk page, and other initial public information materials
 - September-October – initial outreach meetings:
 - Property owners informational meeting (September 23)
 - Frog Pond West residents and property owners (September 28)
 - Neighboring Homeowners Associations (October 7)
 - Planning Commission – October 13
 - City Council – October 18

Phase 2 – Land Use and Community Design

- Engagement – This will be an **“Exploring”** phase, where working ideas and options are communicated and there are feedback loops for community input to be considered by the



Planning Commission and team. Master Plan elements are anticipated to evolve and become working recommendations during this phase.

- Work plan and schedule scope:
 - December 2021 – July 2022
 - Planning Commission and City Council – see schedule
 - Outreach meetings – tbd

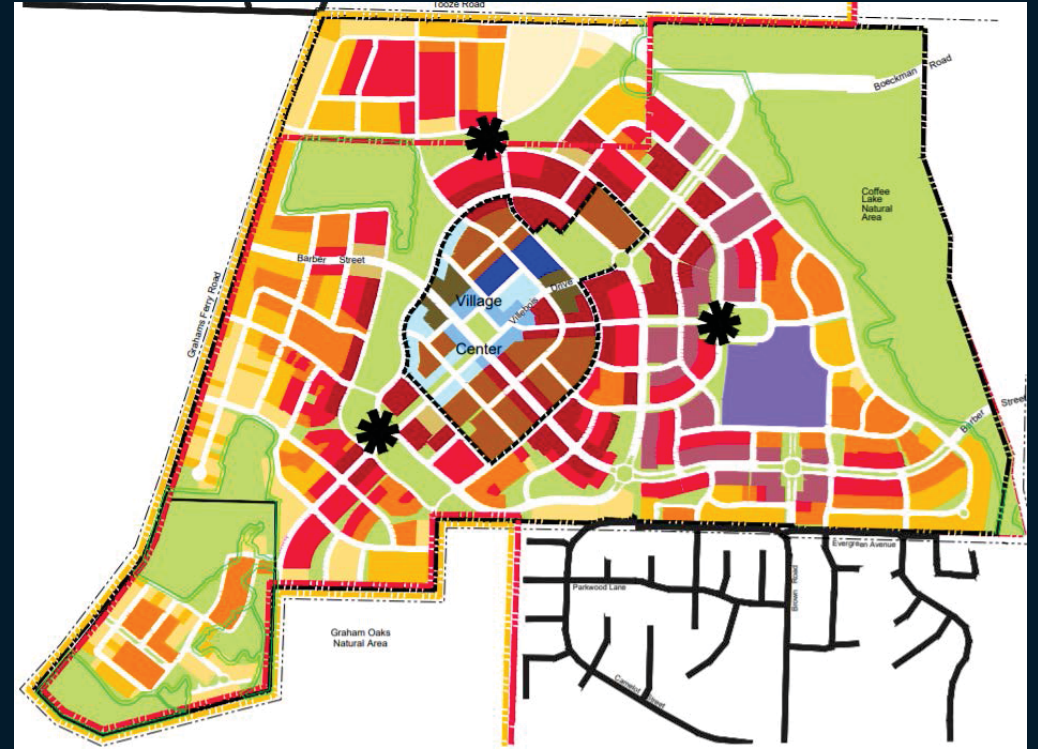
Phase 3 – Implementation Strategies and Adoption

- Engagement – This will be a “**Refining**” stage where the zoning, funding and other implementation is developed, stakeholder feedback is engaged, and working recommendations are finalized.
- Work plan and schedule scope:
 - July 2022 – December 2022
 - Planning Commission and City Council – see schedule
 - Outreach meetings – tbd



**Planning Commission
Work Session
October 13, 2021**

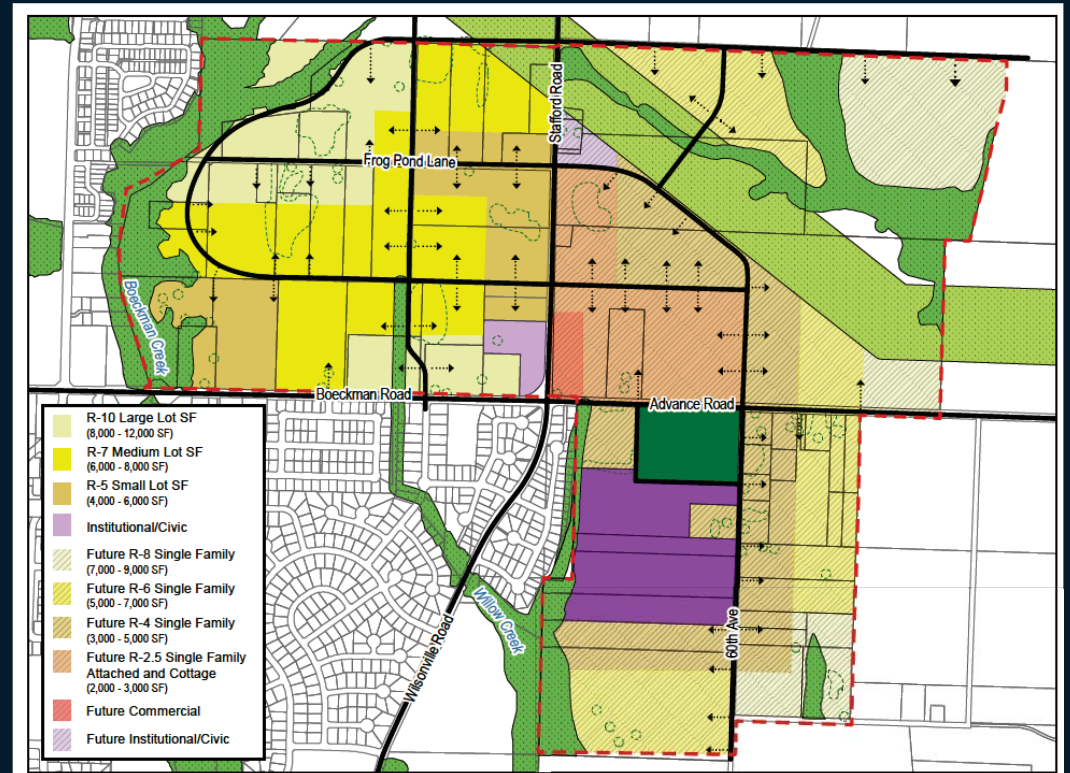
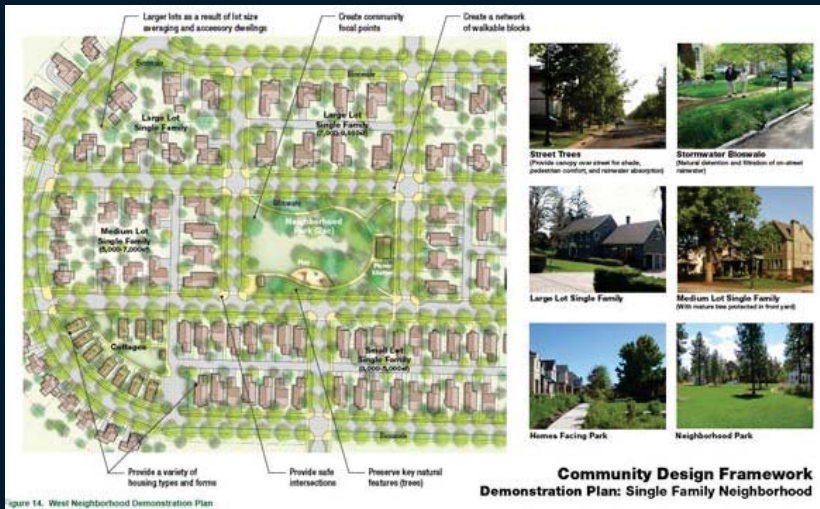
Background



Frog Pond Planning Timeline



Frog Pond Area Plan



Key Regulations and Trends

- Housing variety for a variety of people
 - Especially ADU's and middle housing
 - How can infrastructure planning and funding support meeting a variety of housing needs?

Discussion

- Topics missing or needing more discussion in the Background and Regulatory Research Memo?
- Other questions or feedback on the background report?

Project Area



What is the Frog Pond East and South Master Plan?

- A plan to guide:
 - Land uses
 - The type and variety of housing
 - Streets, trails, future transit
 - Parks, open space, tree preservation
 - Preservation of the Grange
 - Funding strategies for infrastructure
 - Community design



For East and South planning, what's the same as before?

- Basic neighborhood structure
- Rural and resource lands to the north, east and south
- Street framework, utility alignments
- Commitment to Community Park
- Mostly residential uses
- Study of neighborhood commercial center
- Commitment to quality design, walkable neighborhoods and tree preservation



For East and South planning, what's different than past planning?

- New State requirements, and City code, addressing “middle housing”
- Additional thoughtful outreach to a variety of groups, including those historically not involved in planning
- Exploration of new and additional infrastructure funding strategies to ensure costs are equitably covered by development

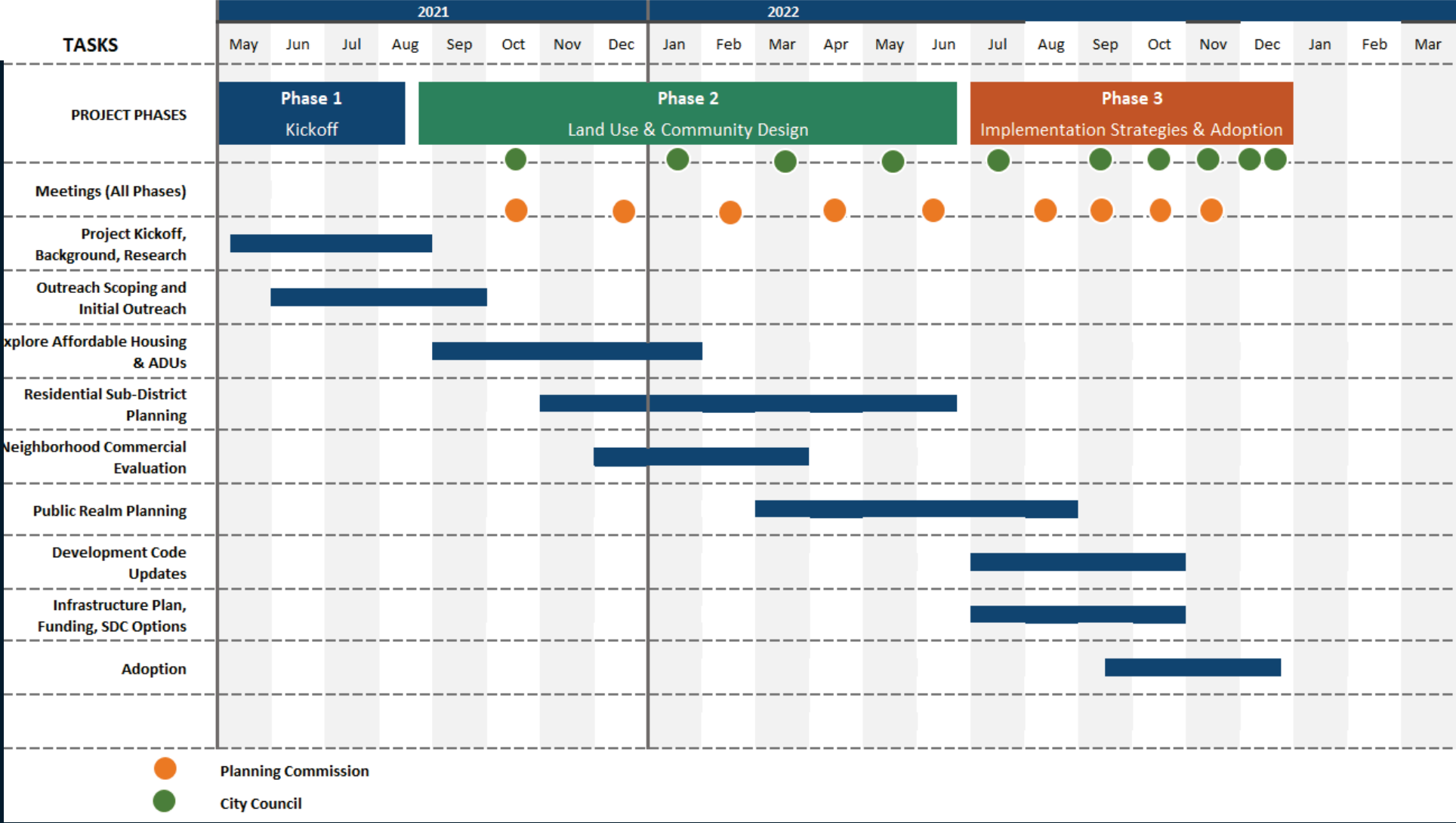


For East and South planning, what's different than past planning?

- Wilsonville's priority for equitable housing – consideration of the City's Equitable Housing Strategic Plan
- A fresh look at housing variety and distribution:
 - Additional focus on the variety of income levels and how to encourage options not usually provided in the market
 - Less focus on mathematical density and more on the “look and feel” of the neighborhood



Schedule



- Planning Commission
- City Council

Discussion

- Questions or concerns about the project scope and schedule?

Outreach



Options for Community Dialogue

- **Option 1:** Alternating Work Sessions/ Listening Sessions (at regular PC meetings)
- **Option 2:** Combined Work Sessions and Listening Sessions
- **Option 3:** Alternate Time for Listening Sessions



Begin with the End in Mind



Imagine walking through Frog Pond East and South in 2035. You take a photo of what you feel represents success for the neighborhood.

- Who do you see in the photo?
- What kind of housing do you see?
- What are the key public realm (street, parks, pathways) design features?
- What else represents success?
- What might you see in the photo that you wish came out better?

Next Steps

- Council work session on October 18th
- Other targeted “listening” outreach
- Next PC work session in December focusing on housing



- He confirmed trees in an HOA commons area would be dealt with by the HOA, but trees on private property were the responsibility of the owner.
- Community engagement and educating the public would be the key to the success of all of this effort. A new person coming into the city or even a resident of 30 years would not know City approval was needed to remove a tree with a 6-inch DBH without being educated. Many trees were probably removed improperly because people did not know about the requirement.
 - Mr. Rappold agreed. He noted one finding from the updated Street Tree Inventory was that most of the lost trees with stumps might have been related to the winter storm. Lost trees with no stumps likely came out prior to the winter storm. People needed to be educated on what was and was not allowed.
- Given the size of the UFMP, moving forward identifying the changes made from prior versions would be helpful for future reviews.

Mr. Rappold noted the team appreciated the Commission's input, which would be reflected in the final UFMP presented at the public hearing in November. He added the UFMP would go to City Council for a work session before the Planning Commission meeting, and the team would make the Commission aware of the input received from City Council.

B. Frog Pond East and South Master Plan (Pauly)

Miranda Bateschell, Planning Director, noted the Frog Pond Area Plan was very familiar for some Commissioners and a bit newer for others. The Area Plan was adopted in 2015 and consisted basically of three neighborhoods, Frog Pond West, East, and South, as one larger community and area plan. Frog Pond West was already in the Urban Growth Boundary (UGB) and its Master Plan was adopted in 2017 and that was the area of Frog Pond that was developing today. In 2018, Frog Pond East and South were added to the UGB and those areas would be the focus master planning over the next year plus. A lot of conversation would occur about the prior area planning, as well as the future planning for these areas, as things had changed at both the State and City levels, which the project team would talk more about. Consistency with the Area Plan would be maintained, as well as for what was envisioned for those neighborhoods moving into the future housing growth for the city. Launching this project and coming full circle while integrating changes evolving at the State and local levels was exciting. She noted the project team was doing exciting housing work for the City, having rolled straight from Middle Housing into Frog Pond East and South, which would have more middle housing. The second reading for Middle Housing was coming up on Monday night at City Council.

Daniel Pauly, Planning Director, and project team members, Joe Dills and Andrew Parish from Angelo Planning Group (APG) presented the Frog Pond East and South Master Plan via PowerPoint, noting Metro required that the Master Plan be adopted within four years of the UGB expansion, which was 2022. The team highlighted the Frog Pond planning timeline and Frog Pond Area Plan, as well as the key regulations and trends. The components of the Frog Pond East and South Master Plan were outlined, along with the similarities and what differed from past planning efforts, which had been also been presented in various outreach meetings. The public outreach process and schedule for the master planning process were also reviewed. Key additional comments were as follows:

- A background and regulatory research memo was included in the packet that highlighted the background, context, emerging topics and research of the project. These memos were generally prepared by consultant teams to make sure the salient issues were correct. The project team sought feedback from the Commission on whether any other Wilsonville planning efforts or other emerging trends should be addressed early on.
- Public engagement would be different this time with the use of Zoom and the potential combination of online and in-person meetings. The team would update the Commission about how the public process would work.
- The topic of infrastructure funding was of statewide interest for Frog Pond East and South because it was one of the first area plans to be undertaken with the new middle housing rules. The State was interested in learning how cities needed to plan infrastructure if more middle housing was allowed, so infrastructure would be a big topic for the planning work in the next year.

Comments, as well as feedback on key discussion items, from the Commission were as follow with responses by Staff to Commissioner questions as noted:

- While the 2015 Area Plan did not have a regulatory or statutory standing, the Plan did have understandings embedded that were quite important in the community at that time. The work done was discussed in the community with a workable understanding about how the future would roll out in Frog Pond East and South, and the City had an obligation to remain true to that understanding as much as possible, given the changes in State requirements since 2015.
 - Early on, in the Area planning, a compromise was incorporated to allow for Frog Pond West to be all single-family housing and have a suitable accommodation of the community expressed need for medium and large lots along with small lots. He was very pleased with how Frog Pond West was building out and believed it satisfied the Commission's best hopes from 2015. At the same time, it might seem they were kicking the can down the road regarding density in Frog Pond East and South.
 - It was clearly expressed that higher density should be expected to have higher density in Frog Pond East, including some apartments. The community had to be prepared to accept that as a need going forward in order to meet Metro's required number of residential units and to meet the City's obligation to provide for affordable housing in Wilsonville. The affordable housing should be consistent with the quality across the road in Frog Pond West and in the older neighborhoods, but would be denser than many people had been comfortable with back in 2015. The density had been forewarned and would have to happen. The City had to embrace that fact as intelligently and sensitively as possible.
- Frog Pond West was a bit trickier since people had already purchased property and were building, it was challenging to come in and superimpose middle housing on their expectations. What obligations were already on the land of East and South; was anything under contract yet?
 - Mr. Pauly replied that developers with interest in Frog Pond East and South understood the points being made about higher density and that development would be different than Frog Pond West.
 - He confirmed no development could occur without this Master Plan, so whatever the City defined in the Plan would be the ground rules for the development moving forward, just like for Frog Pond West.
- Knowing what the planning options were for the Bonneville Power Administration (BPA) land moving forward would be helpful.
 - Mr. Pauly stated some work would be needed with the BPA, as well as researching if anything else had been done with those areas across the nation besides open space or parking.
 - Perhaps the City could push the boundaries of what was acceptable. Getting creative and proposing new things for the land might be an opportunity to lead in that effort.
- When looking at the urban fabric of Wilsonville, a more formal transect concept should have been used for a small community to create density in the middle and taper it out on the edges, so that most dense commercial activities would be in the center, associated with more dense transit service availability and an end of bike trails, etc.
 - The Frog Pond neighborhood was not shaping up that way, because density was being added on the edges, and even though the edge of the neighborhood was a walkable quarter of a mile, no destination was at the edge of neighborhood. As a result, the area would be car dependent. The neighborhood center should be a new node in the city's urban fabric, balancing the Town Center as another node, and the west side as another node, but that was not the case. The Village Center would be pretty small, so it would be car dependent. Designing new, market-competitive commercial centers in the middle of a neighborhood was difficult, but did that need to be given up altogether or was there any other option?
 - Mr. Dills replied the project team had no conclusions at this point. The market assessment for the Area Plan asked how much retail, commercial and mixed use could be supported at the location and concluded it was in the small neighborhood center range. The Area Plan took that as a small, neighborhood serving node. The housing on the Area Plan was grouped around that node with the

higher density feathering out. The transect was not a citywide type, but more of the neighborhood scale node concept, all of which was subject to updates, new ideas, and reassessment.

- He confirmed the yet-to-happen commercial center for Villebois was similar in that its neighborhood center was relatively small, and it was the last piece to develop because "rooftops before retail" was still the paradigm. Some of the more dense housing in Villebois
- He also confirmed the Area Plan proposed a small retail center with a small market, coffee shop, and maybe a restaurant, for everyday needs, but there was not unanimous support from the community and ultimately from the City Council in the adoption, but interest was expressed to study the proposal again at this stage.
- A small retail center and the convenience it provided was almost an essential part of community living, especially when in an area not directly accessible to a Safeway or Fred Meyer, for example.
 - Mr. Pauly added that a key difference in this plan from the Charbonneau commercial center or from Villebois was its location at an existing intersection with passerby traffic, which was key to retail and had the potential to serve a broader area out into the Stafford Basin versus an area in the middle of a new neighborhood without existing passerby traffic. The entire single-family neighborhood in Charbonneau was zoned commercial, and if the area with the office building near the I-5 interchange was the commercial node of Charbonneau, would it be more today because of its location rather than being in the center of the neighborhood without passerby traffic.
- Another considerable change since the project was visited originally was that a developed community was now right across the road. Rooftops now existed that were not there in 2015.
 - Mr. Pauly confirmed the Commission had interest in further studies being conducted for the project and noted he looked forward to continued conversation regarding the project's scope. He noted the team would have some good, quality market information, particularly with the experience from Villebois and Charbonneau, to make the best call in the Frog Pond scenario.
- Outreach and Community Dialogue Options, involving the Commission's work as the Committee for Citizen Involvement (CCI) (Slide 15):
 - Having a design session about every three months would be helpful if doable. The meetings would not be formal Commission meetings, but would allow Commissioners to openly brainstorm and problem-solve with those present about sticky issues. A design session would be more meaningful than a listening session, which would not allow for back-and-forth dialogue or problem solving.
 - Mr. Dills agreed design sessions would be meaningful and collaborative. Two parts of the work plan itself lent themselves to a design-oriented meeting format. One was the subdistrict alternatives where different options were laid out for how housing might be arranged. Public realm proposals was another. Budget and scope would need to be considered, but he supported the design-oriented meeting idea from the perspective of good process and good product. The infrastructure funding work was more focused on particular stakeholders and some of that discussion occurred offline from the Planning Commission, but then, all of the parties could be brought to the Commission to discuss what ideas were being generated.
 - Combined listening sessions prior to the formal Planning Commission meeting allowed for a less formal conversation with the public, as opposed to the formal hearing format which listening sessions ended up being.
 - A classic public relations rule stated that when there was opportunity to engage the party that might be the most critical or doubting in any situation, bring them on early. When planning Frog Pond West, a lot of people felt that the Commission was making decisions behind closed doors before asking the public what it thought rather than asking for public input while moving along in the planning. The Commission had an opportunity to do things better.
 - Naysayers would probably not get involved and problem-solve, but when creating a community vision, it was necessary to engage with as much of the community that was willing. All of the conditions and regulations that had to be met would be constraints, but within those constraints, a collective vision could still be achieved that was best for Wilsonville.

- The middle housing forum done online a few months ago was set up well and possibly something to be used in the future. The forum was not a hybrid, but now that things were opening up more, perhaps outreach meetings could be hybrid. The middle housing forum gave a brief overview at the beginning followed by a question-and-answer format, and it was helpful to hear from a lot of the people in the community; getting their burning question answered help a lot as well.
- Having a hybrid meeting would be helpful because everybody could get out and get to a meeting. Hybrid meetings were accessible, and the doors needed to be open to the public as much as possible.
- Any of the options for community dialogue were acceptable as long as they captured the portions of the population that might not have been well represented in the past. With the development of the Frog Pond neighborhoods in the past, the Frog Pond Task Force did not receive enough input from the less vocal members of the community to help drive the development, or the decision on the density in Frog Pond West would have been different. As Frog Pond East and South were developed, getting that input and feedback was important, even if that meant different days or times for meetings.
- Output was as important as input. The Commission had a duty to inform as planning went along, because people could easily misinterpret what was being said or done. Information needed to be pushed out to the community and to those who might not necessarily know where or how to get the information. The City's information pushing apparatus had been perfected to a new level with *Let's Talk, Wilsonville!*, pamphlets, newsletters, etc.
- Including the Diversity, Equity, and Inclusion (DEI) Committee, as suggested by Commissioner Woods, on some of the Commission's undertakings would be good. Although it was unclear how ready the new DEI Committee was to help reach those members of the community who would normally not be involved, the Committee should be invited to collaborate and be a part of the planning process.
 - Mr. Pauly said the City wanted to let the DEI Committee set its own agenda, to some level, and he was not sure if the Committee could respond to a deadline quite yet. There was engagement the City wanted to do with the Committee, and it was exploring how best to do that based on the DEI's agenda and interests. Housing was certainly a big interest item, and Staff agreed with Commissioner Woods about engaging the DEI, so his e-mail was appreciated.
 - He agreed with inviting the DEI Committee, noting a number of Committee members had attended the last middle housing community event. The Committee was interested, and the City wanted to be sensitive to fully take in the Committee's input of how to be engaged and their work program.
 - Ms. Bateschell thanked Chair Mesbah for articulating the concept of inviting the DEI Committee to participate and allowing it to frame its level of interest and impact, which was at the forefront of Staff's mind.
 - Initiating a board from scratch and giving it a mission or allowing it to set the mission took time. The Committee was hitting the ground running, but still had a lot of set-up to do in how to conduct business, how to operate, identifying its key objectives, getting to know one another, and setting the framework for its charge.
 - An added challenge was that the DEI Committee meeting would always be the night before the Planning Commission, so conversations held with the DEI Committee would be delayed month before being presented to the Planning Commission.
 - Starting in either November or December, Staff planned to have each department go before the DEI Committee to describe the different things that department handled. She planned to get the Planning before the Committee sooner than later because of the great portfolio of work underway. Mr. Pauly and Ms. Bateschell would begin by outlining what the Planning Division did and what it was currently working on as potential areas of interest and influence for the Committee, and then hearing what the Committee was interested in and where it could add value in the City's projects and work program. The Committee could then decide whether to meet in the full board/committee format or small working groups that worked on different topics.

- Setting a clear work program timeline with the Committee at this point was difficult, but more of that process and timeline would be fleshed out by the end of the year.
- The DEI Committee had been and would continue to be invited to various meetings so any members interested in the specific topics being address would continue to be aware and engaged, even before the Committee had more of a formal role in the work done by the City.
- Perhaps a DEI Committee member could attend Planning Commission meetings.
- Mr. Pauly confirmed the Commission preferred to make the outreach and community dialogue work around the schedule as best as possible and to be flexible. One or more of the options could be used, depending on the Commission's work program.
- Mr. Dills summarized the hybrid ideas identified by the Commission, included a collaborate problem-solving component, a community discussion component like the CCI forum done for middle housing, outreach to those not normally involved, focus groups, and inviting the DEI Committee into the process. He confirmed the Commission agreed with having different days and times for meetings, if necessary.
- Visioning exercise for the Commissioners to imagine and share what a photo of the successful Frog Pond East and South neighborhoods would look like by 2035. (Slide 16) Comments were as follows:
 - Visioning involved what was seen, but also what was felt, such as how walking down a street felt. Feeling was just as important as the specifics of the eaves or colors or design. The community should feel settled, peaceful, safe, and should be aesthetically pleasing with beautiful trees. The sounds and feeling should make someone want to live there.
 - The community should be beautiful, active, vibrant, and harmonious with a lot of stuff going on and people out and about. Sounds should be heard as well.
 - The people present should be diverse, including the young, old, families, and even dogs.
 - The community should not be visually unappealing with a huge density of cars or trash cans, etc.
 - What represented success was a neighborhood that felt welcoming to everybody and served a diverse population without looking any different than the rest of the neighborhoods in Wilsonville in terms of quality and aesthetics. A denser or multi-family neighborhood did not have to look worse or be less functional and should be indistinguishable from another neighborhood.
 - The community should have a good commercial center. Shops created activity, and not just coffee shops, though a grocery store, even a co-op grocery store, was probably not possible.
 - A community garden for the residents would be desirable. Locating the garden on the BPA easement was suggested.

Mr. Pauly noted a similar, but shorter work session would be held with City Council next week ~~to~~ and the project team would continue to work on other targeted listening or kick off outreach for those not represented in the outreach done so far. The next Planning Commission work session on Frog Pond would be in December and would focus on housing.

II. INFORMATIONAL

A. City Council Action Minutes (September 9 & 20, 2021) (No staff presentation)

There were no comments.

B. 2021 PC Work Program (No staff presentation)

Chair Mesbah highlighted the upcoming work items.

Miranda Bateschell, Planning Director, confirmed the airport planning would be a work session item in November. Most cities with an airport or adjacent to an airport had elements in their comprehensive plans about that airport and coordination with the entity regarding the potential impacts and areas of influence for the community. Wilsonville historically had not had airport planning in its Comprehensive Plan, but it was intended given the proximity of the airport to the residents and community. A consultant had been brought in who had done airport planning type of work with cities before to help the City work with stakeholders, the Planning Commission, and



ENGAGEMENT SUMMARY: APRIL-MAY 2022

Overview

This document is a summary of community engagement activities conducted between April 30 and June 1, 2022, for the Frog Pond East and South Master Plan. The project and engagement was focused on issues and ideas to inform the development of the plan alternatives. Key themes from each engagement meeting or activity are summarized below. Attached are summaries for each of the meetings.

Meetings and Activities

Meetings and engagement activities are summarized below. In addition, City staff had (and continues to have) on-going informational and coordination meetings with individual property owners, community members and developers.

- Community Focus Group #1 (April 30, 2022)
- Affordable Housing Focus Group #1 (May 11, 2022)
- Community Design Workshop (May 12, 2022)
- Affordable Housing Focus Group #2 (May 13, 2022)
- Community Focus Group #2 (May 14, 2022)
- Online survey on Let's Talk Wilsonville! (May 12 – May 30, 2022)

Project information and meeting notices were provided through a variety of ways including: *Let's Talk Wilsonville!*, the Boones Ferry Messenger; the project Interested Parties email list; and social media postings.



Meeting Summary – Community Focus Group #1

When: April 30, 2022; 3:30 – 5:30 p.m.

Where: Zoom

Participants:

Project team: Dan Pauly, Georgia McAlister (City of Wilsonville); Joe Dills (MIG|APG); Mariana Valenzuela (Centro Cultural)

Attendees: 18 community members pre-registered through recruitment via Zoom. However, only 4 participants were confirmed as legitimate participants.

Meeting purpose: To share information, and receive feedback, regarding the Frog Pond East and South Master Plan project. The feedback will inform project alternatives. This focus group was intended to broaden the engagement to include community members who do not typically participate in planning processes and are part of underrepresented communities.

Welcome and project overview

Mariana welcomed participants and Zoom start-up was finalized for all participants.

Dan welcomed the group on behalf of the City. Dan described: Frog Pond location, focus group agenda-overview-relevance, why planning is occurring, planning to date and vision. Joe presented slides addressing working ideas for: affordable housing, a range/typology of housing choices, a neighborhood center, community gathering places, connections, and the BPA power line corridor.

Breakout groups

The participants then broke into groups for discussion of the issues described in the overview. The questions and summary of feedback is below.

Neighborhood Center: What do you think of the idea to locate a “Main Street” commercial area along SW Brisband Street at SW Stafford Road? What would make it somewhere you and your family would go?

- Coffee or “refreshment spot”
- Cinema
- Positive attractions, things that are fun
- Places to exercise
- Spa
- Restaurants
- Security is important

Housing Choices: For the range of housing choices that was presented – which ones should go where?

- Range of homes on the larger parcels
- Type 1 near the grange
- Type 1 near the Community Park



- Type 1 away from the Community Park – in a location where there is less noise and activity
- Housing away from traffic
- Type 2 in a quiet location
- Mix of home throughout
- Overall general preference for Type 2

Community Gathering Places: What are the potential uses for the Grange? What ideas do you have for the East Neighborhood Park? What other community gathering places should there be?

- Grange: history, library, small museum, environmental education, community center for occasions, place to vote,
- Park: a fun place, kiddies corner, visibility, drinking fountains, outdoor gym

Connecting Destinations – Regarding the design concept map that shows connections: Do these make sense to you? Are there other important destinations to connect? Where should trails be located?

- Trails: the red lines make sense, connect to Brisband Street

BPA Power Line Corridor: What would you like to see in this area?

- Sports courts, parking, trails, concern about safety, could be dangerous

Other comments/questions of interest:

- Is there security (e.g. a police station) nearby?
- Where is the closest healthcare?
- There should be access to food and personal needs. A small grocery would be good.

Reports, Next Steps and Adjourn

The participants reconvened and provided highlights from the discussions. Dan thanked everyone for the participation, described next steps, and adjourned the meeting.

Meeting Summary – Affordable Housing Focus Groups #1&2 With Renters

When: May 11th, 2022; 5:30-7 p.m. and May 13th, 2022; 12-1:30 p.m.

Where: Zoom

Participants:

Project team: Georgia McAlister (City of Wilsonville); Becky Hewitt (ECONorthwest); Virginia Wiltshire-Gordon (ECONorthwest)

Attendees: 11 renters living in Wilsonville (8 on May 11th and 3 on May 13th who pre-registered through recruitment via social media and posted flyers)

Meeting purpose: Seek the perspectives of renters about their preferences for housing.



Welcome and project overview

Georgia welcomed participants and Zoom start-up was finalized for all participants. She welcomed the group on behalf of the City and described the Frog Pond location, focus group relevance, and why planning is occurring. Becky gave an introduction to the focus group agenda.

Breakout Groups - Questions

Discussed the following questions:

Current housing

- What do you like about where you live now? What don't you like?
- What were the most important factors in deciding to live there?

- Future neighborhood

- Is anyone thinking about moving in the next few years? If so, would you be interested in living in a new neighborhood in Wilsonville at the edge of town?
- What would factor into your decision about whether that was a good place to live?
 - Prompt about both the unit itself and the neighborhood / surrounding amenities / location, ask about access to transit

Housing types

- What type or style of housing would be most appealing to you?
- Show different housing types and ask what they would think. If your ideal situation is unaffordable, what kind of housing would you be open to?

- Buying

- If not already covered, ask whether they are hoping to buy a home in the next few years or continue renting
- What challenges are you facing in buying a home?

- Anything else you want to share?

Breakout rooms closed when all questions had been discussed.

Comments and Key Themes from Participants

Wilsonville Community

- Positive experiences:

- Many participants love Wilsonville and love living in Wilsonville
- Family: living close to aging parents, living within driving distance to family, living with family
- Safety: participants expressed appreciating the safety they felt personally, for their property and for their children
- Access to work: living close to work, easy drive as a commute
- Character of neighborhoods: architecture, access to nature and open space, layout of the city



EAST & SOUTH MASTER PLAN

- Amenities: convenient to get around town, bike paths, access to shopping center, access to the highway, activities and play areas for children
- Schools
- Challenges
 - Displaced multiple times due to landlords wanting to sell, more applicable in units with smaller scale owners
 - Rent increases pricing people out
 - Participants recognized the need to build more units and the reality of a region-wide housing shortage
 - Transit is not well connected to other parts of the metro region
 - High levels of growth, people moving into the community and increasing demand. Some of those moving to the area have higher incomes or more access to resources.

Future Neighborhoods

- Everywhere in Wilsonville is nice
- Make sure traffic is addressed, public transportation within town was not as much of a priority at present but becomes more relevant as people age

Future Housing Types

- Middle income 55+ community: desire for communities reserved for older and retirement age people. Interest in amenities that would create recreation opportunities for people to gather.
- Housing appropriate for aging in place: single story, some interest in master on ground floor, smaller size units (less than 1,200 sqft)
- Detached housing: general preference for housing that doesn't share walls, some preference for detached with a shared yard relative to attached housing with a small individual yard
- Design: Interest in duets or duplexes that may not be as obvious, such as different door orientations for each unit and interest in units that have an individual feel. Interest in variety of styles and more individuality still with a consistent character. Some interest in ADU, preference for detached style.
- Unit amenities: Yard and privacy, parking, balconies, high ceilings
- Apartments/Condos: less interest, less attractive. Concerned about privacy, fees, space for younger children

Future Home Ownership

- Many expressed interest in owning a home in Wilsonville. Some people felt they were not yet at the stage of life to own a home.
- Prices were the key limiting factor. Some expressed willingness to compromise on features they wanted in order to afford a home in this location but some would prefer to continue renting unless or until the right home they could afford became available. For some, owning is price prohibitive in Wilsonville regardless.
- Concerns about HOA fees though some expressed appreciating the benefits they provide



Meeting Summary – Community Design Workshop

When: Thursday, May 12, 6-8 p.m.

Where: Zoom virtual meeting

Participants:

Project team: Miranda Bateschell, Georgia McAlister, Cindy Luxhoj, Joe Dills, Andrew Parish, Saumya Kini, Betty Lou Poston, Ken Pirie, Ryan Mottau, Mariana Valenzuela

Attendees: 10 participants

Meeting purpose:

- Share project information
- Obtain feedback to be used in preparing master plan alternatives

Welcome and Meeting Overview

Georgia convened the workshop, welcomed the group, and explained Zoom features

Project and Workshop overview

Georgia gave a short presentation, covering: why this project, why now; where is Frog Pond; 2015 vision and some new priorities; what will happen in the breakout groups; what we will do with your input

Breakout Groups

The attendees were divided into two discussion groups. After introductions, each group discussed:

1. Location and context – Where at the destinations for community gathering in southeast Wilsonville?
2. Connections – Based on a conceptual map of how to connect local destinations, the groups discussed ideas about places to connect and added ideas for additional connections.
3. Neighborhood commercial center – Following background information about a market study and discussions with the Planning Commission, the groups addressed:
 - a. What do you think of the idea to locate a “Main Street” commercial area at SW Brisband Street at SW Stafford Road?
 - b. What would make it somewhere you and your family would go?
 - c. For our work today, can we proceed with Brisband Main Street as the location for our discussions? (One group supported and moved forward with the Brisband Street location. The other group placed their commercial “chip” on the Frog Pond Lane location)
4. Housing types – Background information was provided regarding the City’s focus on providing a range of housing types. Housing Types 1, 2, and 3 were explained, along with principles for their placement on the maps. The groups then proceeded to place housing chips on their maps. See below



EAST & SOUTH MASTER PLAN

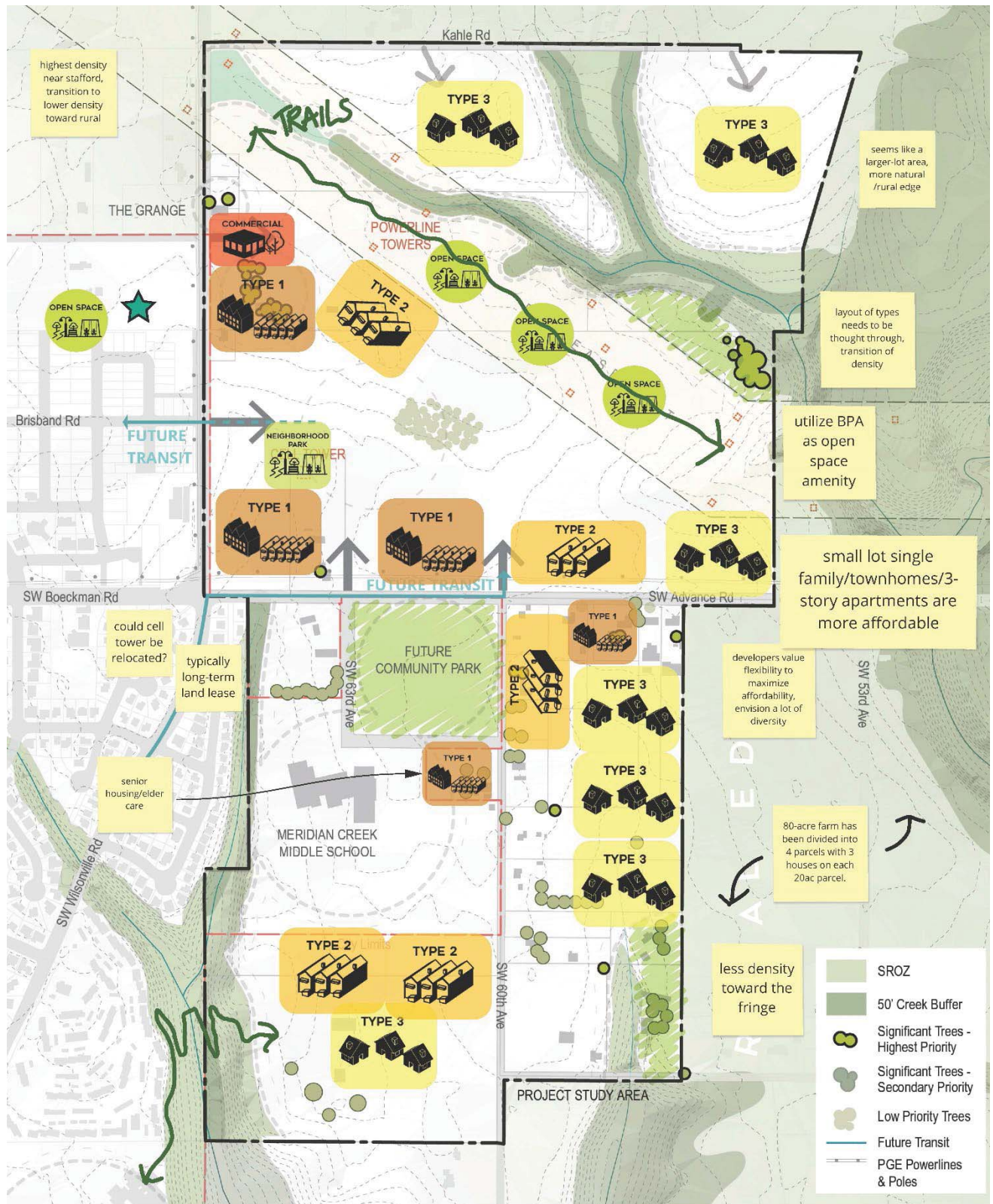
5. Parks and neighborhood destinations – The groups then placed chips for the East Neighborhood Park and small neighborhood destinations distributed around the map.

Breakout Group Feedback

Comments and ideas from workshop participants were recorded on maps – see below.

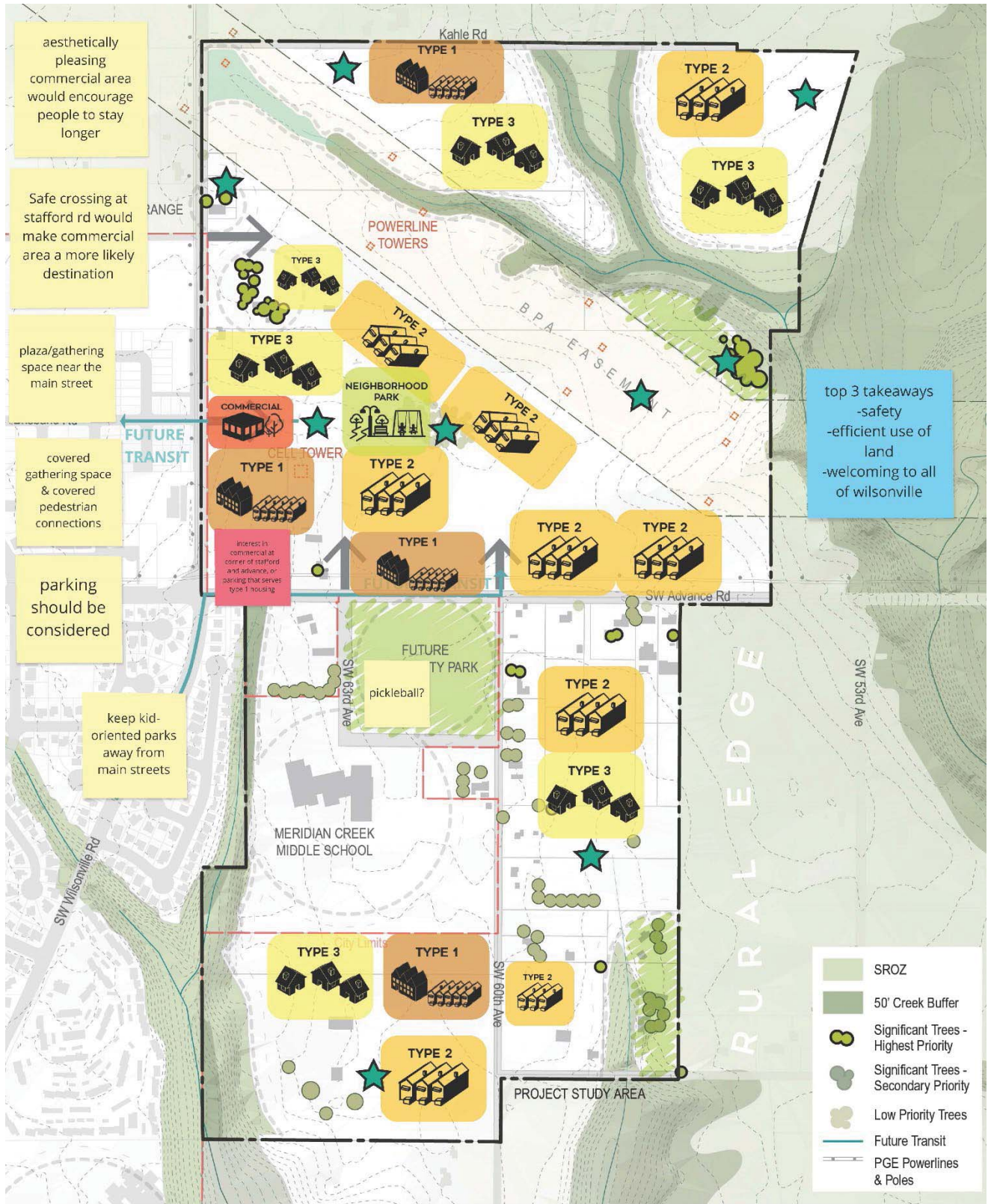


EAST & SOUTH MASTER PLAN





EAST & SOUTH MASTER PLAN



Report backs



Attendees returned from their groups and summarized highlights from their discussions:

Group 1:

- Type 1 housing should be focused towards the center with Type 3 towards the edge
- Make efficient use of the Frog Pond land supply including the BPA corridor and potential commercial area
- The neighborhood should include opportunities for affordable home ownership

Group 2:

- Pedestrian routes and should provide for safe walking and connectivity
- Make efficient use of the Frog Pond land supply
- Make these neighborhoods welcoming places

At 8:00 p.m., Georgia thanked everyone and the meeting was adjourned.

Community Focus Group 2

Overview

This event was delivered in English and Spanish using consecutive interpretation services to serve members of the Latinx Community in the area. Georgia presented the Frog Pond East & West Master Plan in the following sequence:

1. Description of the Frog Pond area
2. Goals of the development for the City of Wilsonville
3. Objective of focus group
4. Project update
5. Vision of Frog Pond – It is important to mention that this vision was built on feedback received during focus group events related to HB 2001 which took place last year.
6. Description and potential location of three home types
7. “Main Street” at Frog Pond-location and potential use
8. Community gathering places
9. Options to connect the neighborhood destinations
10. What to do at the BPA Corridor?
11. Group discussion
12. Next steps-Stay connected

There were seven participants who provided valuable input regarding the potential features and components of the future Frog Pond Neighborhood.

Most of the participants had already heard about Frog Pond since they had attended earlier community engagement events organized by the City of Wilsonville to provide information and gather feedback on HB 2001. They were very excited to have the opportunity to return and continue to be part of the urban planning process.



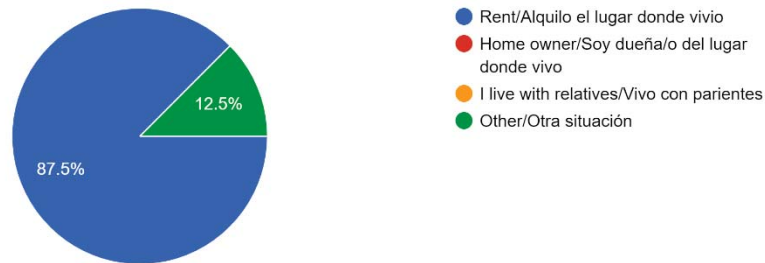
Pre-Meeting Survey

Participants completed a survey prior to the focus group event. These are the findings from that survey:

1. Living situation

¿Cuál de las siguientes opciones describe mejor su situación de vivienda?

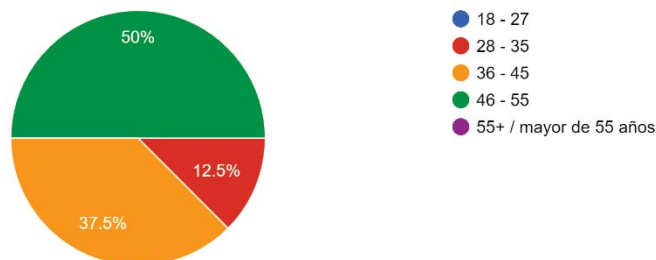
8 responses



2. Age group

¿Qué edad tiene usted?

8 responses

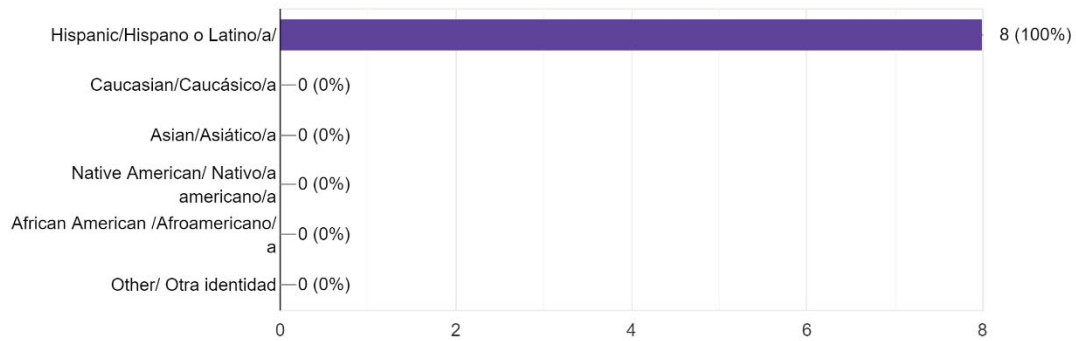


3. Ethnicity



¿Dónde ubica usted su raza o identidad étnica? (marque todas las respuestas relevantes)

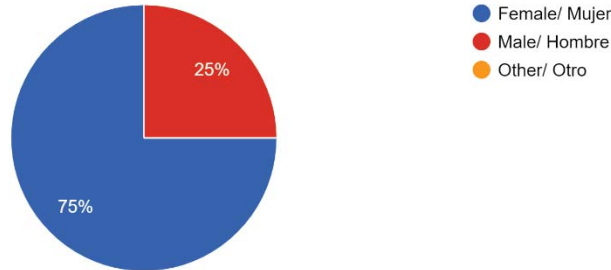
8 responses



4. Gender

¿Con cuál género se identifica usted?

8 responses

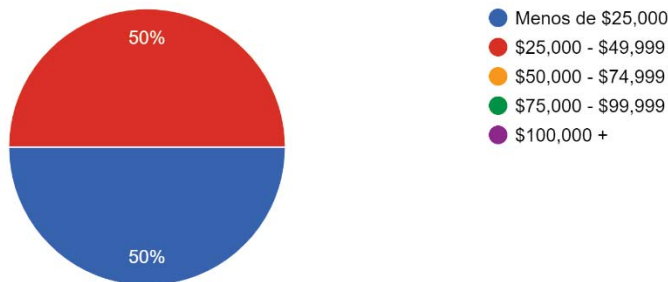


5. Annual Income



¿Cuál de las siguientes categorías representa mejor su ingreso anual? (marque una respuesta)

8 responses



Group Discussion

During the discussion, participants responded to the following questions:

1. **Neighborhood Center-** *What do you think of the idea to locate a “Main Street” commercial area along SW Brisband Street at SW Stafford Road? What would make it somewhere you and your family would go?*

Responses and comments:

- Ethnic food restaurants
 - Family-owned small businesses
 - Services: Beauty salon, Coffee shops, small market, ice cream shop
 - Affordable rent for small businesses
 - “Main Street” idea is good for the family, places you can walk to
 - I really like the idea, but for small businesses rental is challenging. It would be important to know who the owner is. These businesses are small. For a business to be successful, rent needs to be affordable.
 - Yes, a commercial area is a great idea, particularly if there is a focus on cultural exchange with arts & crafts, diversity of ethnic foods.
 - Cultural exchange, as the gentleman mentioned, is very important. This space, if affordable, could be the place for that exchange. Great idea for families to connect.
 - Spectacular idea. It would be wonderful. We don’t have such a place. A Colombian food restaurant would be great.
 - It would be great to have a grocery store, so you can go to do the shopping for the week, and then stop at an ice cream shop.
 - I love this idea of returning to a place where you can create community, connect with others.
2. **Housing Choices-** *For the range of housing choices that was presented – which ones should go where?*



Responses and comments:

- There were many questions about home affordability. How will they make these homes more affordable? Andrew responded to this concern. He explained that the City is thinking that a percentage of the homes will be subsidized. The same participant asked what is the percentage of subsidized homes. Georgia explained that there are three models. The most optimistic is a 15% of homes will be subsidized. Then the participant asked if 15% is the most optimistic, what is the most realistic or lowest? Georgia explained that they do not have the exact percent, that it all depends on the support of the community, but that affordable housing is a goal for the City so they are optimistic.
- **Type 1**-Participants agree that these homes should be near schools for safety since there are more children. Least focus should be on building Type 3 homes. Most houses in Wilsonville are single-family homes and are less affordable.
- **Type 2**-Near retail stores- Near “Main Street”
- **Type 3** closer to the Grange, more isolated- Again, participants concur with that opinion. Focus the least on building this type of home.
- The tallest buildings should be placed far away from power lines, and whatever is built, make sure there is a lot of parking space.
- 3. **Community Gathering Places:** *Which are the potential uses for the Grange? What ideas do you have for the East Neighborhood Park? What other community gathering places should there be?*
 - A Community Center near the park; Park and community center should be located away from traffic for safety
 - Picnic tables
 - Place to barbecue
 - Swimming Pool
 - Sports fields- soccer, tennis
 - Walking and biking trails
 - A road so we could drive and carry food to barbecue
 - A covered space due to rainy days, so families can celebrate birthdays
- 4. **Connecting Destinations:** *Regarding the design concept map that shows connections, do these make sense to you? Are there other important destinations to connect? Where should trails be located?*
 - Biking trails
 - Walking trails
 - Consider those who have mobility issues
 - These trails
 - Connecting path should have the shape of an “S” instead of a “C”

After the discussion, Georgia and Andrew thanked participants for their meaningful contributions.



Online Survey

Overview

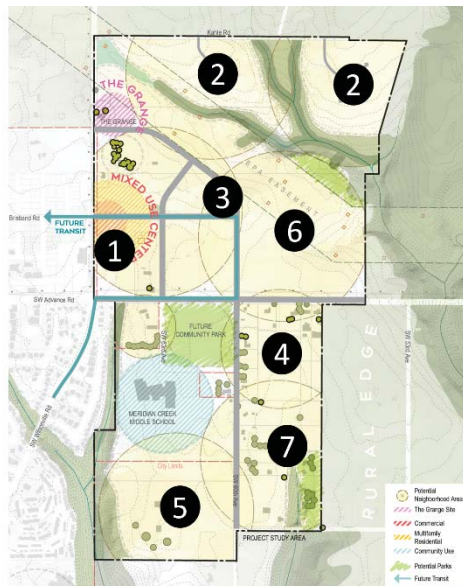
A survey was posted to *Let's Talk Wilsonville!* on May 17 and ran through May 31. The survey had three components: housing history and preference, location of housing types in Frog Pond East and South, and feedback on proposed amenities such as use of the historic grange and park programming. Through May 31 the survey had 46 respondents. More information on responses to individual questions can be found in attached summary.

Of the 46 respondents, 40 currently live in a detached single-family home. A preference for detached single-family homes from this group remained consistent throughout the survey. Detached single-family was by far the predominant preference for respondents if they were to seek a different home in the coming years. In addition, the overall preference for the Type 3 Housing Form was clear. Only 5 respondents indicated they did not prefer Type 3, compared to 14 for Type 2 and 25 for Type 1. It was not unexpected existing single-family homeowners would have this type of response.

Other survey questions brought additional insights about preferences and potential future needs. As can be seen in some of the other outreach results, generally there is a preference for detached units. The ideal of the detached home runs strong. A particularly interesting survey question was if respondents could not afford a detached single-family home what other type of housing they would consider. Half of respondents (23) said a townhouse, the next most frequently selected options were cottage cluster (19), plexes (16), cluster housing (13), and apartment or condo (11).

Respondents were also asked best and preferred location for different housing forms in Frog Pond East and South, referencing the map below.

1. Adjacent to the neighborhood retail and next to Stafford road
2. Outer area of East Neighborhood between creek corridors
3. Central area of East Neighborhood, near power line easement areas
4. South Neighborhood near future community park
5. Southern portion of South Neighborhood area near middle school
6. Central East Neighborhood
7. Southeastern corner of South Neighborhood near natural area and rural residences



Locations 1 and 3 were the only locations where a majority of respondents did not indicate a preference for the Type 3 housing form. A majority of respondents indicated Type 1 housing form as the appropriate housing form for Location 1. Type 2 housing form had the most respondents feeling it is most appropriate for Location 3.



Respondents were also asked to rank all seven locations in order of preference for each Type of housing form. The results indicated as follows:

- For Type 1 housing form, Location 1 was most preferred, followed by Location 3, with locations 7 and 2 being the least preferred
- For Type 2 housing form, Location 3 was most preferred, followed by Location 4, with locations 6 and 7 being the least preferred
- For Type 3 housing form, Location 7 was most preferred, followed by Location 5, with Location 1 being by far the least preferred, followed by Location 3.

Detailed responses to use of the grange and parks will be retained for reference during further work on designing and programming these areas in the coming months.

May 2022 Community Survey

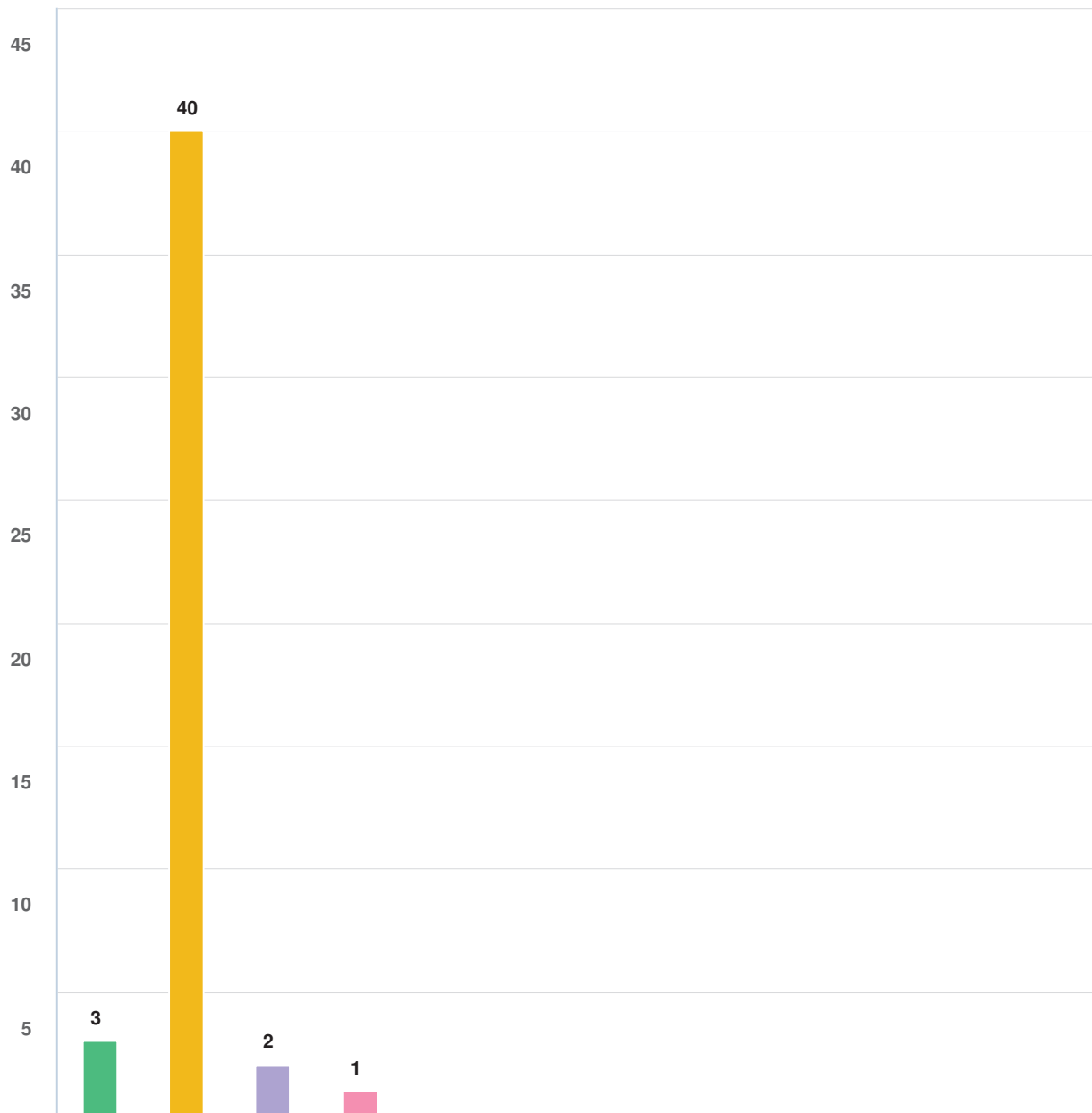
SURVEY RESPONSE REPORT

01 May 2022 - 30 May 2022

PROJECT NAME:

Frog Pond East and South Master Plan

Q1 Which of the following types of housing do you currently live in?



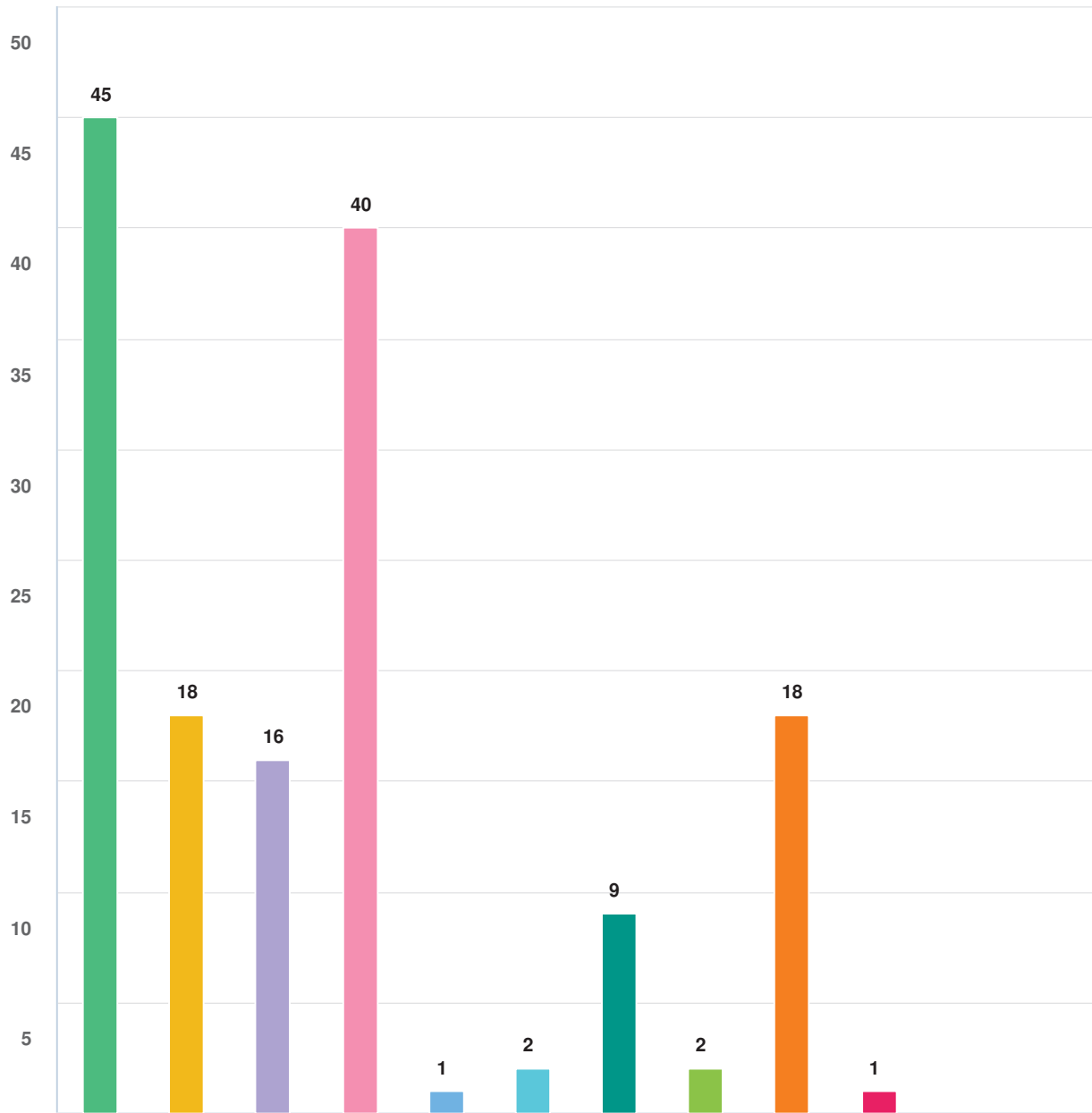
Question options

- Townhouse
- Detached single-family home
- Apartment or Condo
- Accessory Dwelling Unit "ADU"
- Duplex, triplex, quadplex
- Manufactured Home or Mobile Home
- Cluster Housing
- Cottage Cluster
- Congregate housing (i.e. dorms, etc.)
- RV (more than 30 days in a row without another home)
- I am currently houseless
- Other (please specify)

Mandatory Question (46 response(s))

Question type: Checkbox Question

Q2 Which of the following types of housing have you lived in during your life? (select all that apply)

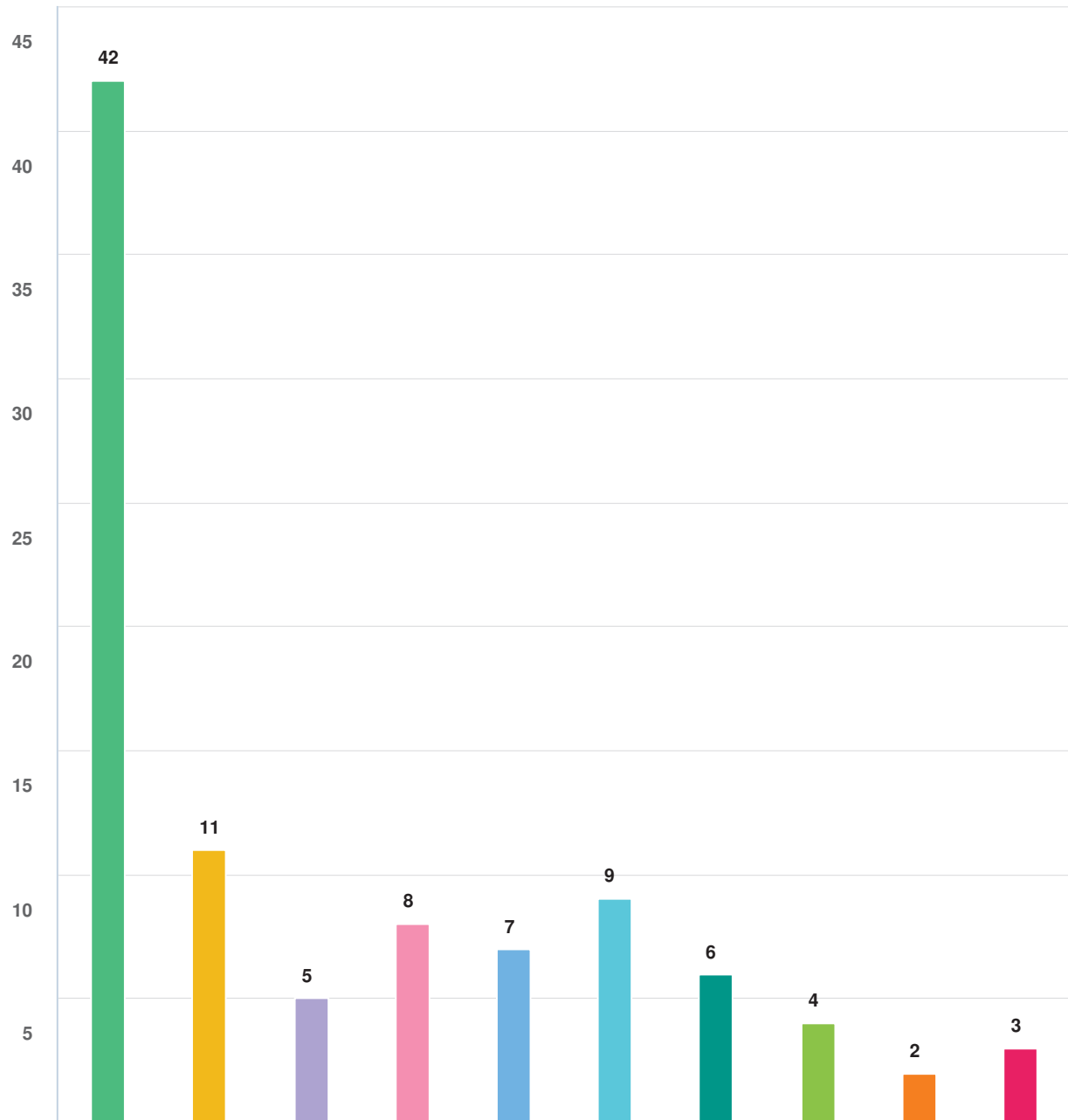


Question options

- Detached single-family home
 ● Duplex, triplex, quadplex
● Townhouse
● Apartment or Condo
- Cottage Cluster
 ● Accessory Dwelling Unit "ADU"
● Manufactured Home or Mobile Home
- RV (more than 30 days in a row without another home)
 ● Congregate housing (i.e. dorms, etc.)
- I have experienced being houseless
 ● Cluster Housing
● Other (please specify)

Mandatory Question (46 response(s))
 Question type: Checkbox Question

**Q3 Which of the following types of housing do you think you may live in in the future?
(select all that apply)**

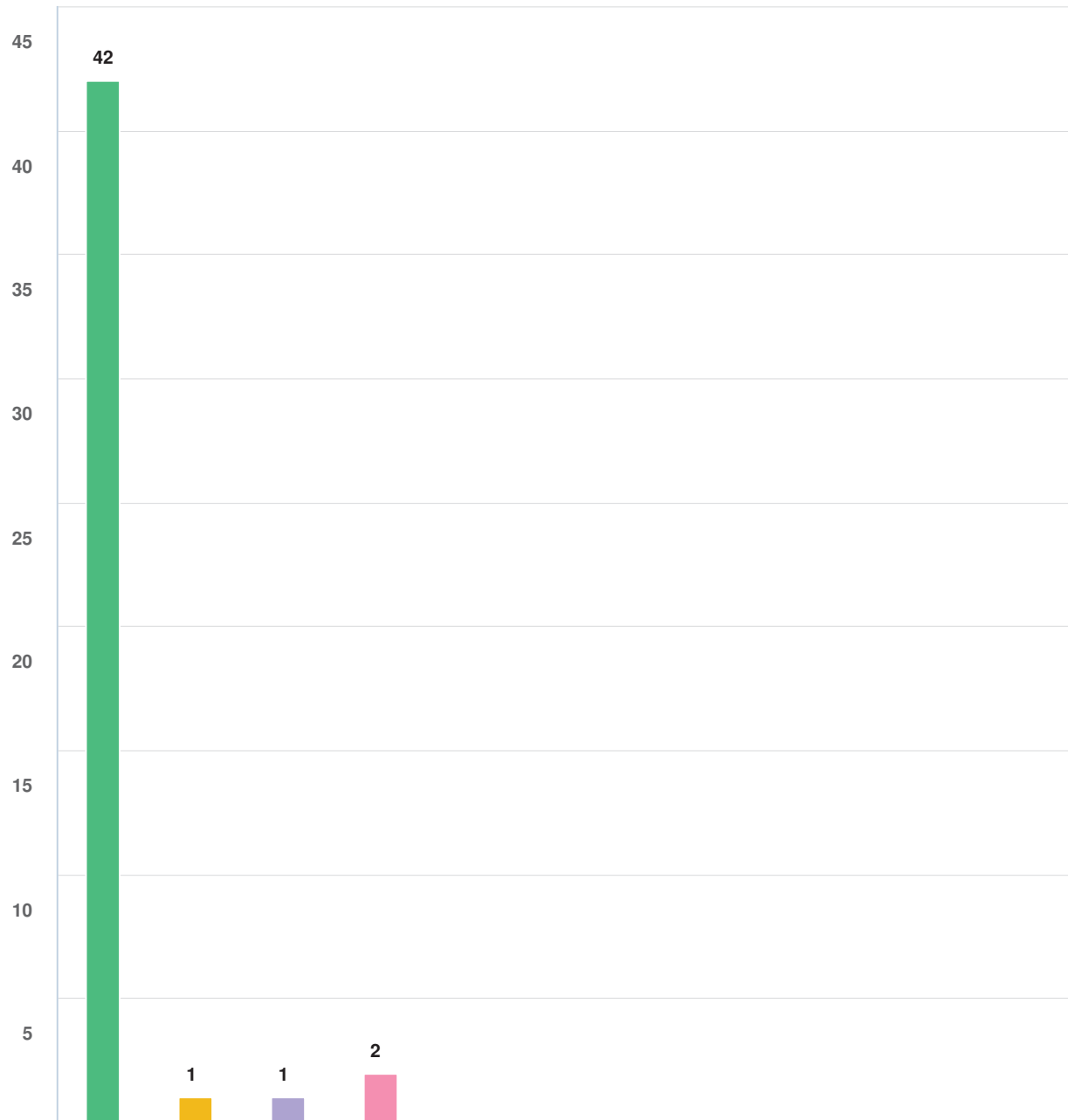


Question options

- Detached single-family home
- Apartment or Condo
- Duplex, triplex, quadplex
- Townhouse
- Cluster Housing
- Cottage Cluster
- Accessory Dwelling Unit "ADU"
- Manufactured Home or Mobile Home
- RV (more than 30 days in a row without another home)
- Congregate housing (i.e. dorms, etc.)

Mandatory Question (46 response(s))
Question type: Checkbox Question

Q4 If you were searching for a home in Wilsonville today or in the next few years, and cost was not a consideration, which of ...

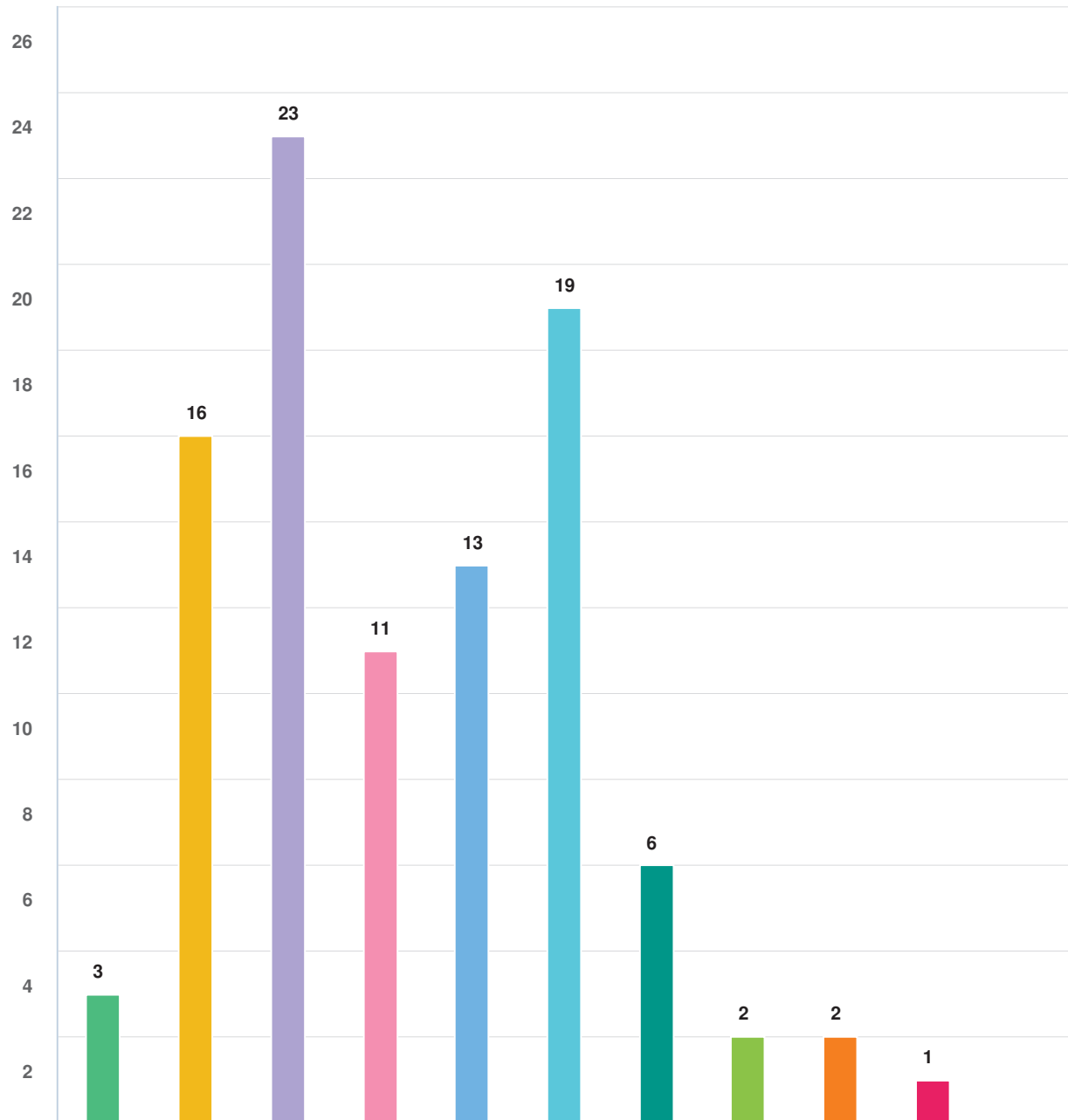


Question options

- Detached single-family home
- Townhouse
- Cluster Housing
- Cottage Cluster
- Duplex, triplex, quadplex
- Apartment or Condo
- Accessory Dwelling Unit "ADU"
- Manufactured Home or Mobile Home
- RV
- Congregate housing (i.e. dorms, etc.)
- Other (please specify)

Mandatory Question (46 response(s))
Question type: Checkbox Question

Q5 If you could not afford the preferred type of housing indicated in Question 5, which of the following types of housing woul...

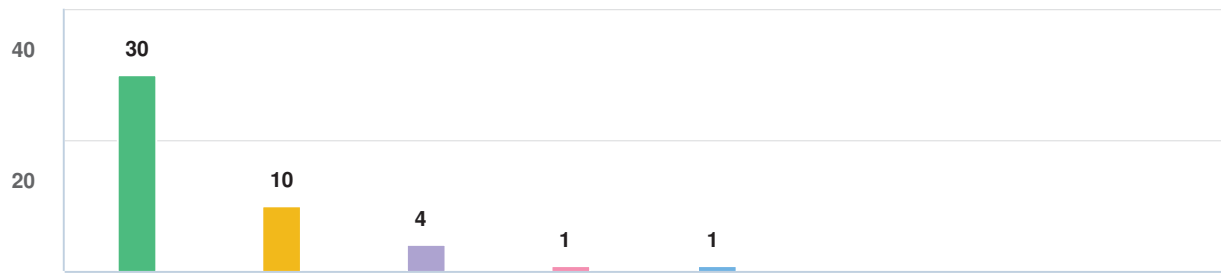


Question options

- Detached single-family home ● Duplex, triplex, or quadplex ● Townhouse ● Apartment or Condo
- Cluster Housing ● Cottage Cluster ● Accessory Dwelling Unit "ADU" ● Manufactured Home or Mobile Home
- RV ● Congregate housing (i.e. dorms, etc.) ● Other (please specify)

Mandatory Question (46 response(s))
 Question type: Checkbox Question

Q6 Which of the following best describes your current living situation?

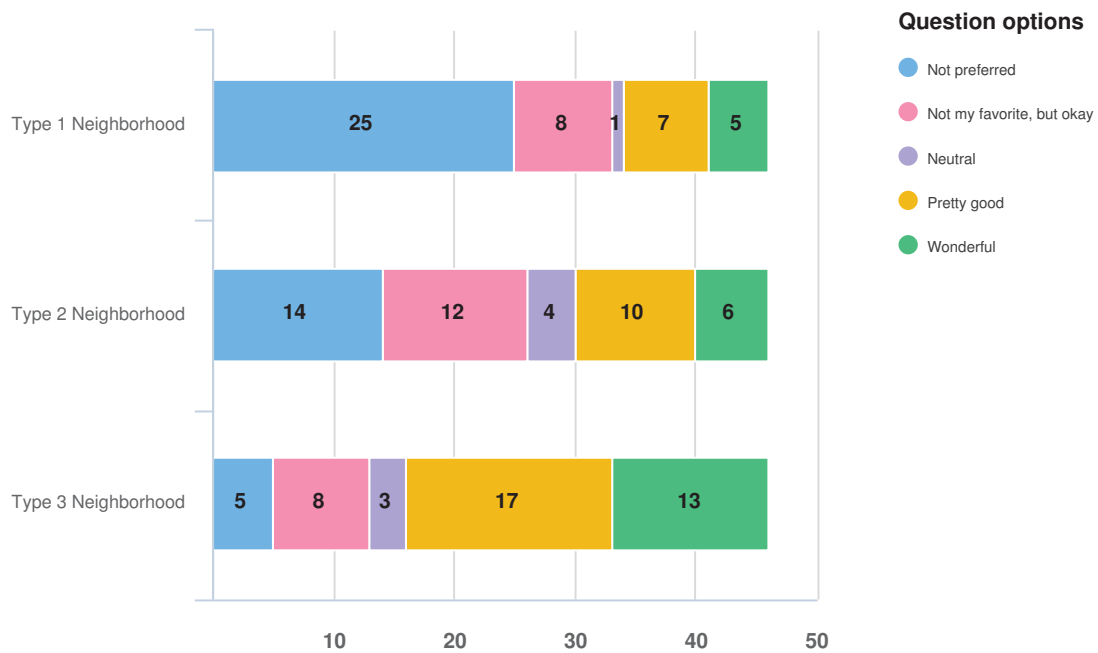


Question options

- I own my home and have or share primary responsibility for the mortgage
- I own my home and it is paid off
- I rent my home and have or share primary responsibility for the rent
- I live in a home owned by family or friends but do not help pay the mortgage
- I live in a home rented by family or friends but do not help pay the rent
- I do not have secure housing or I am currently houseless
- Unsure
- Other (please specify)

Mandatory Question (46 response(s))
Question type: Checkbox Question

Q7 How do you generally feel about the different neighborhood design types

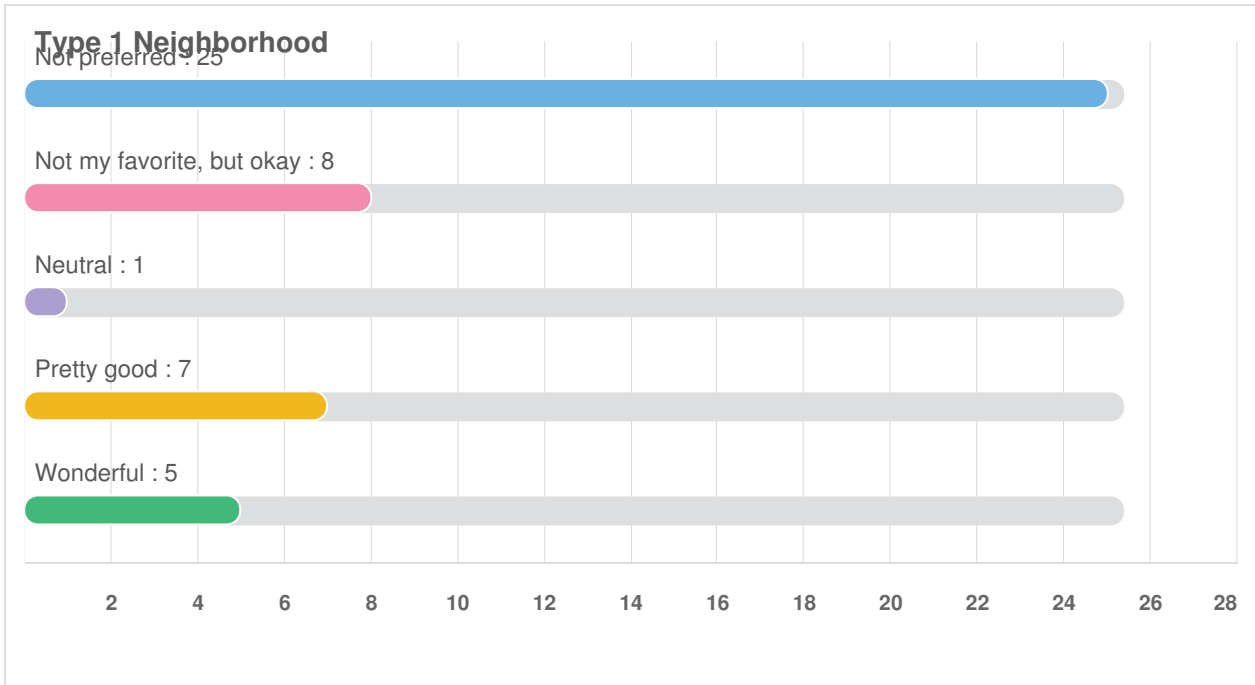


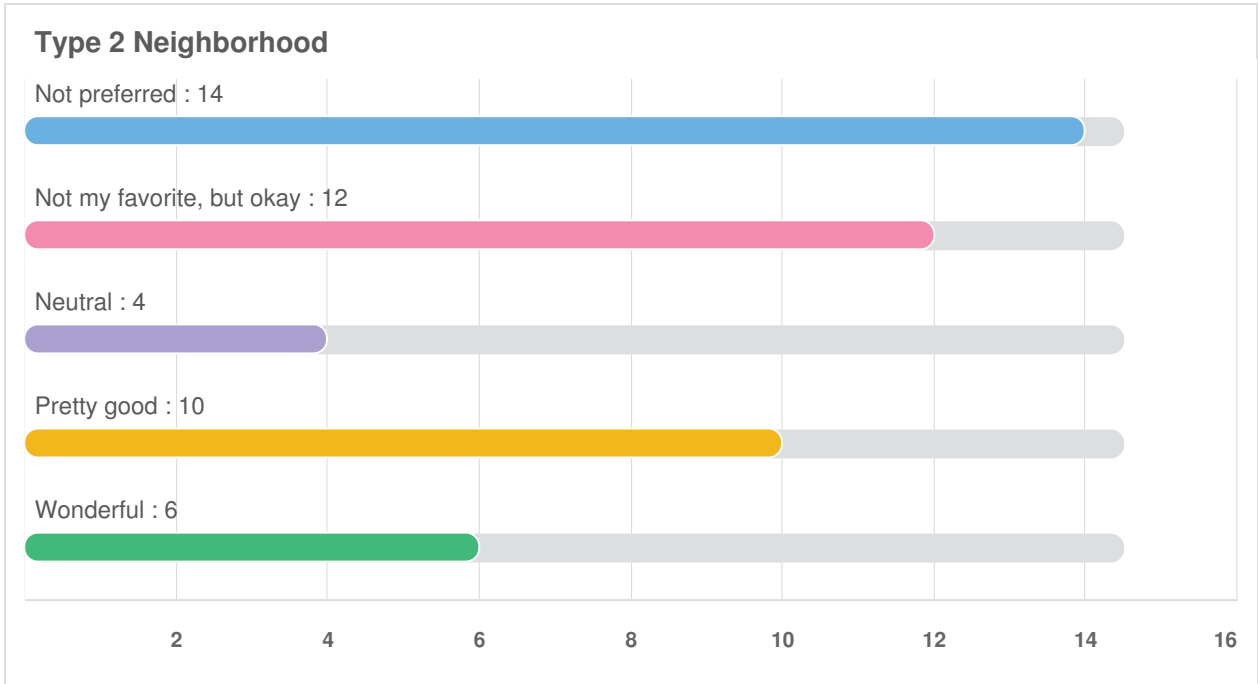
Question options

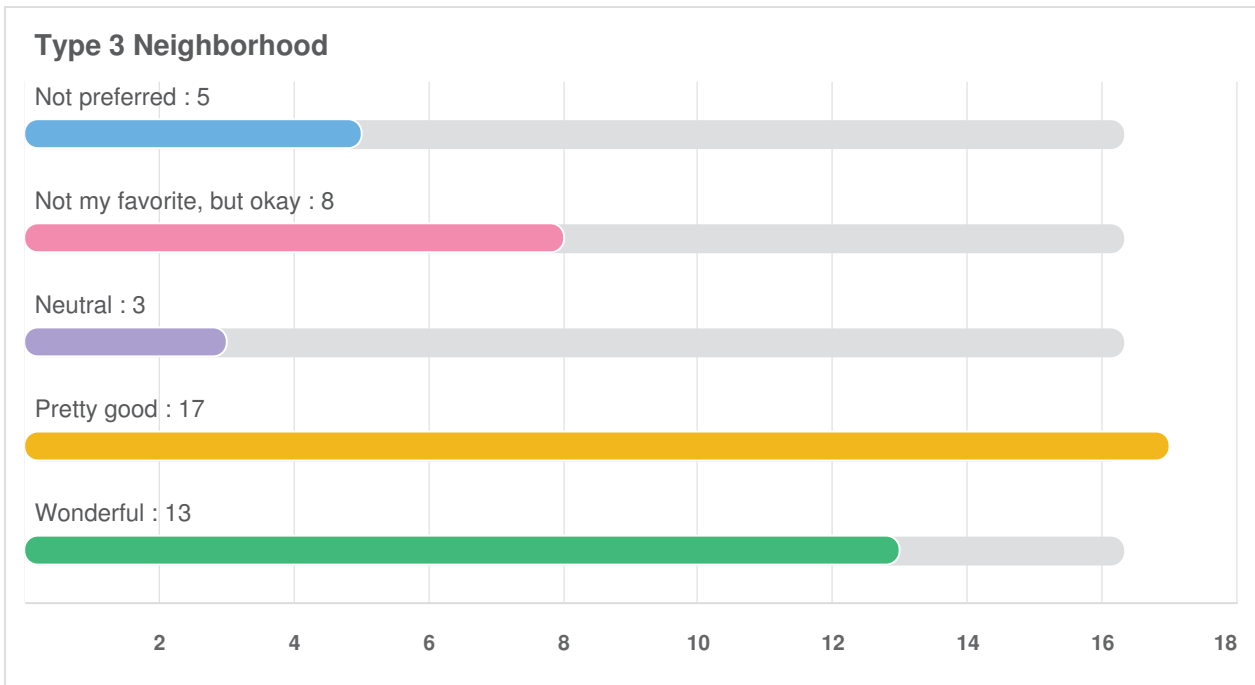
- Not preferred
- Not my favorite, but okay
- Neutral
- Pretty good
- Wonderful

Optional question (46 response(s), 0 skipped)
Question type: Likert Question

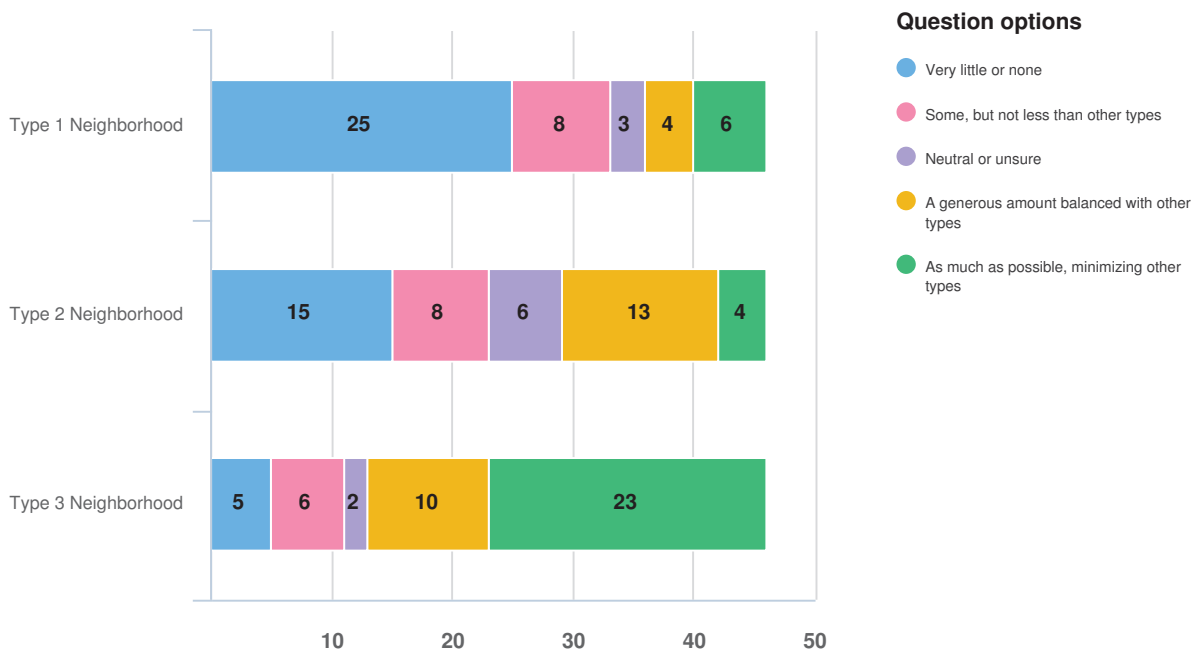
Q7 | How do you generally feel about the different neighborhood design types





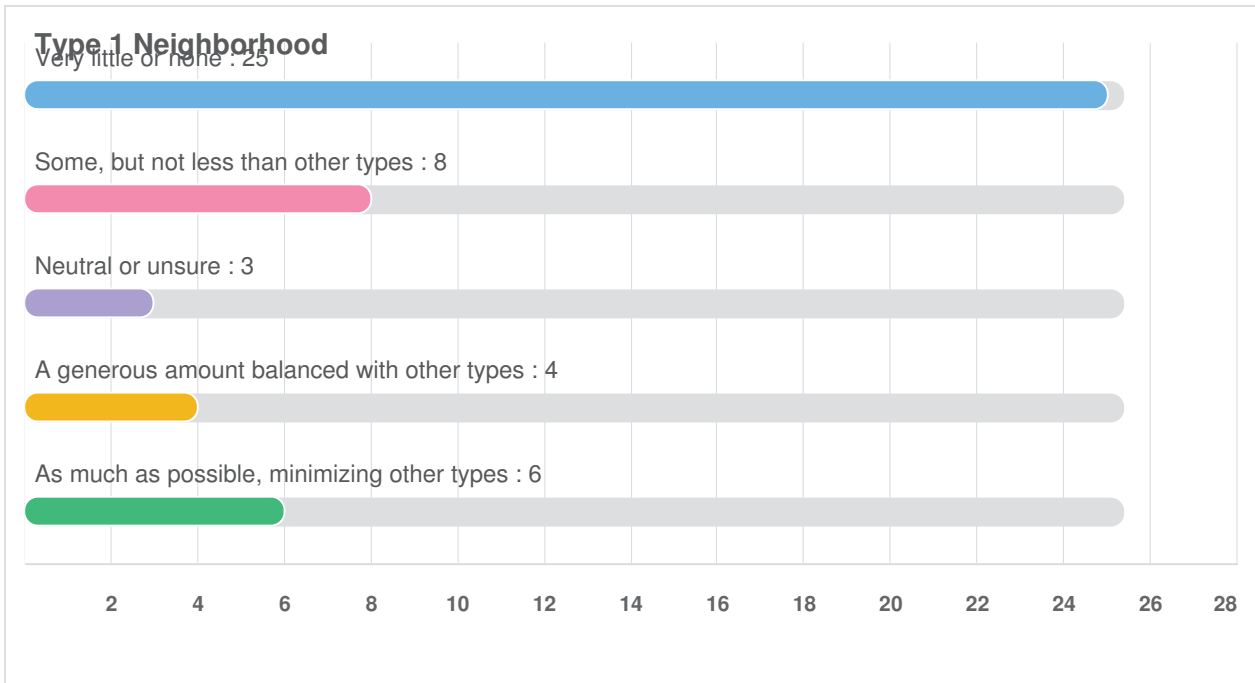


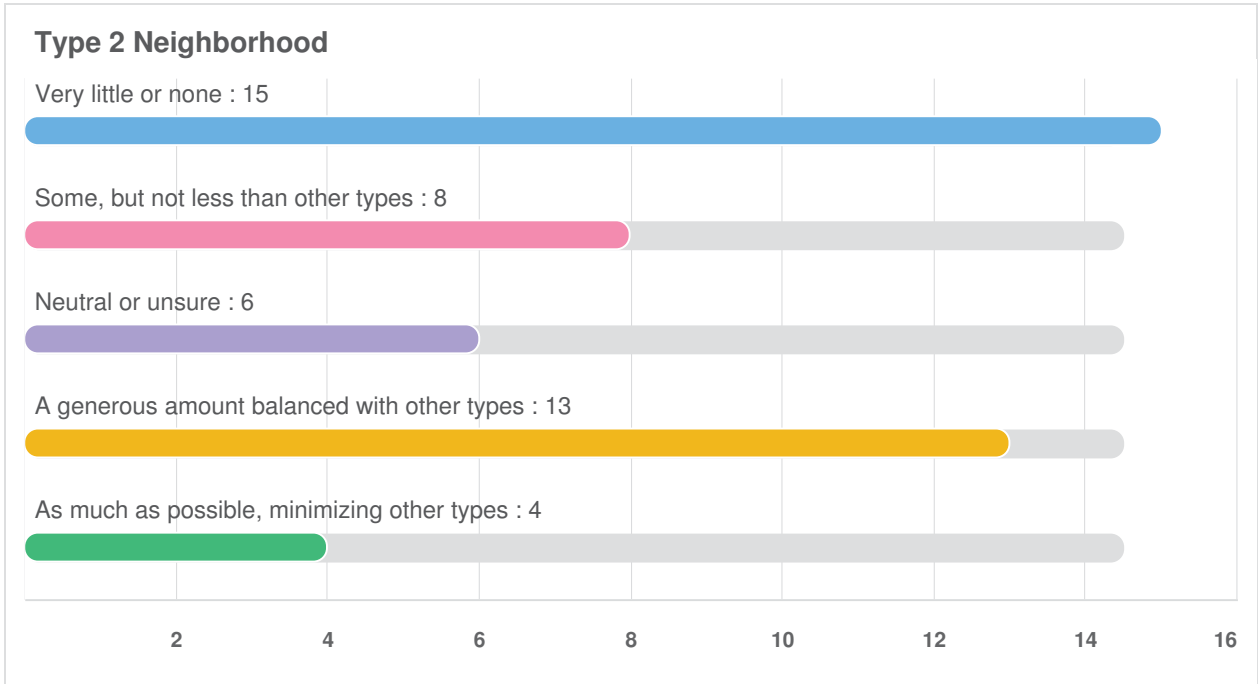
Q8 In your opinion, how much of each neighborhood type should be planned for in the Frog Pond East and South neighborhoods (sh...

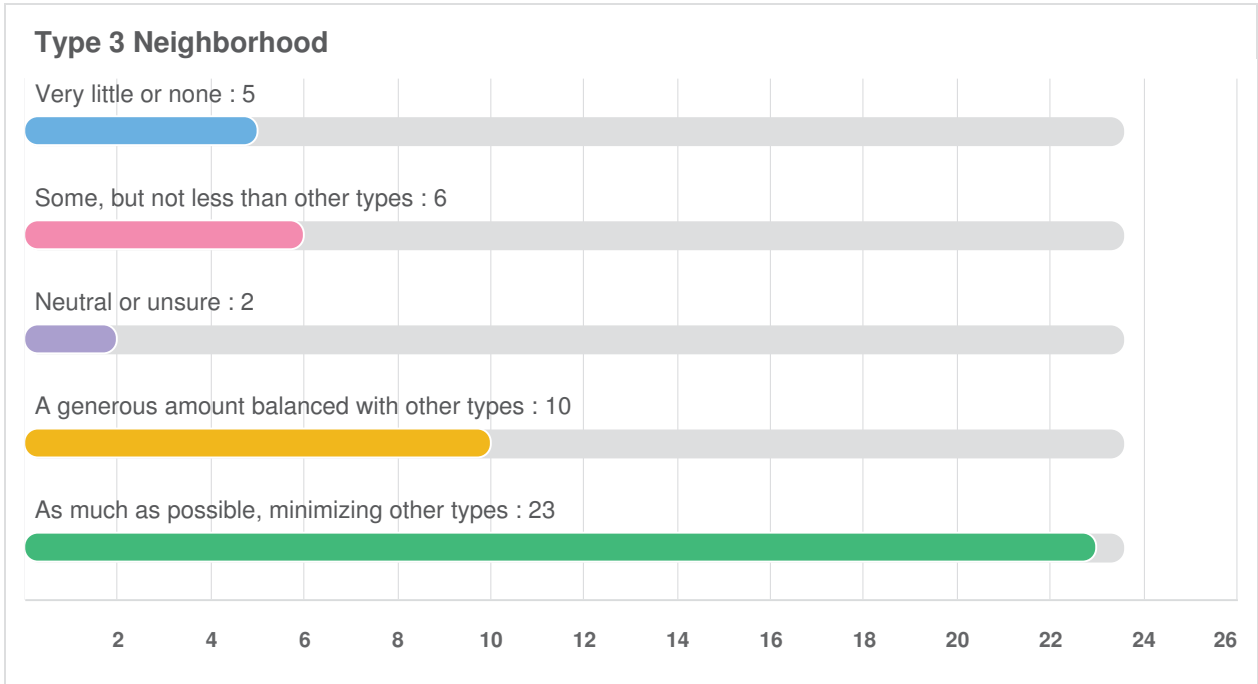


Mandatory Question (46 response(s))
Question type: Likert Question

Q8 In your opinion, how much of each neighborhood type should be planned for in the Frog Pond East and South neighborhoods (sh...





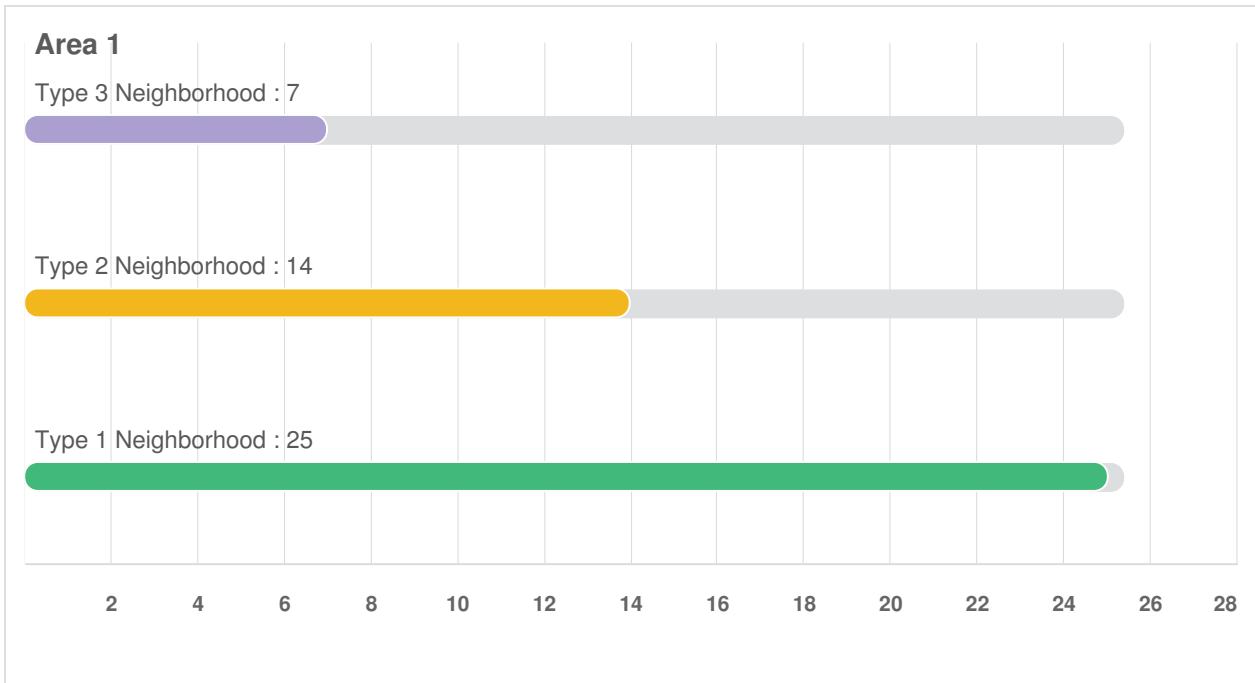


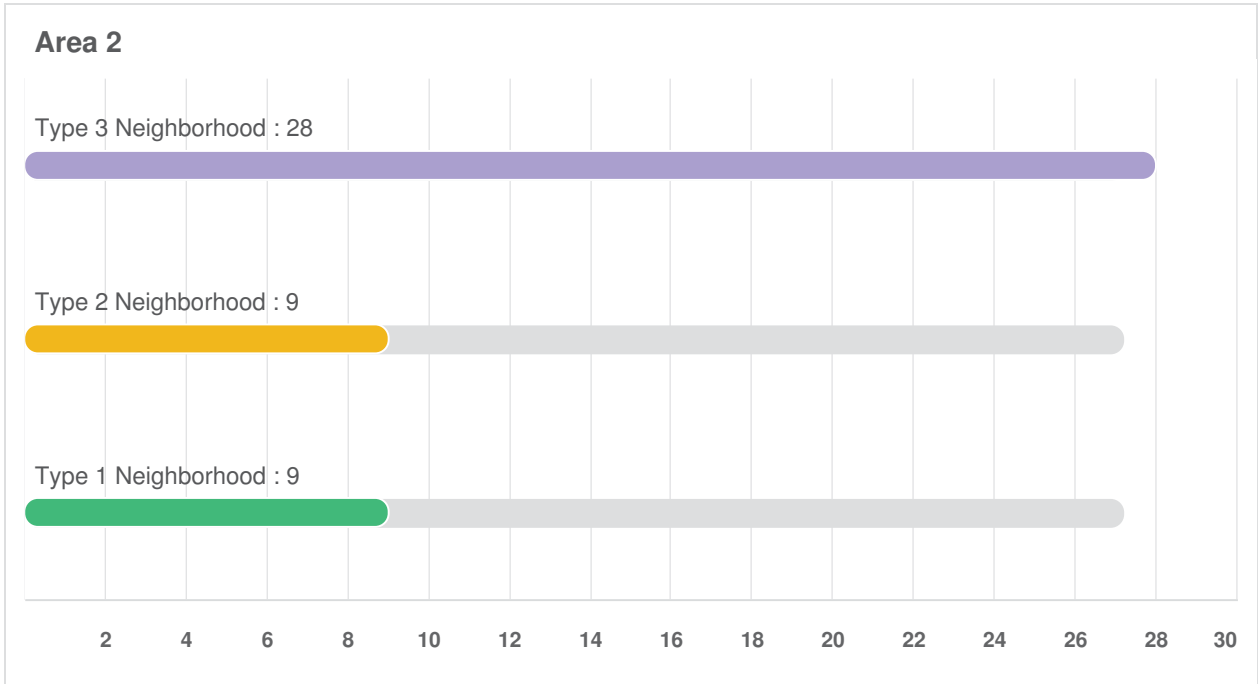
Q9 In your opinion, what neighborhood design type is most appropriate for each location in the map above

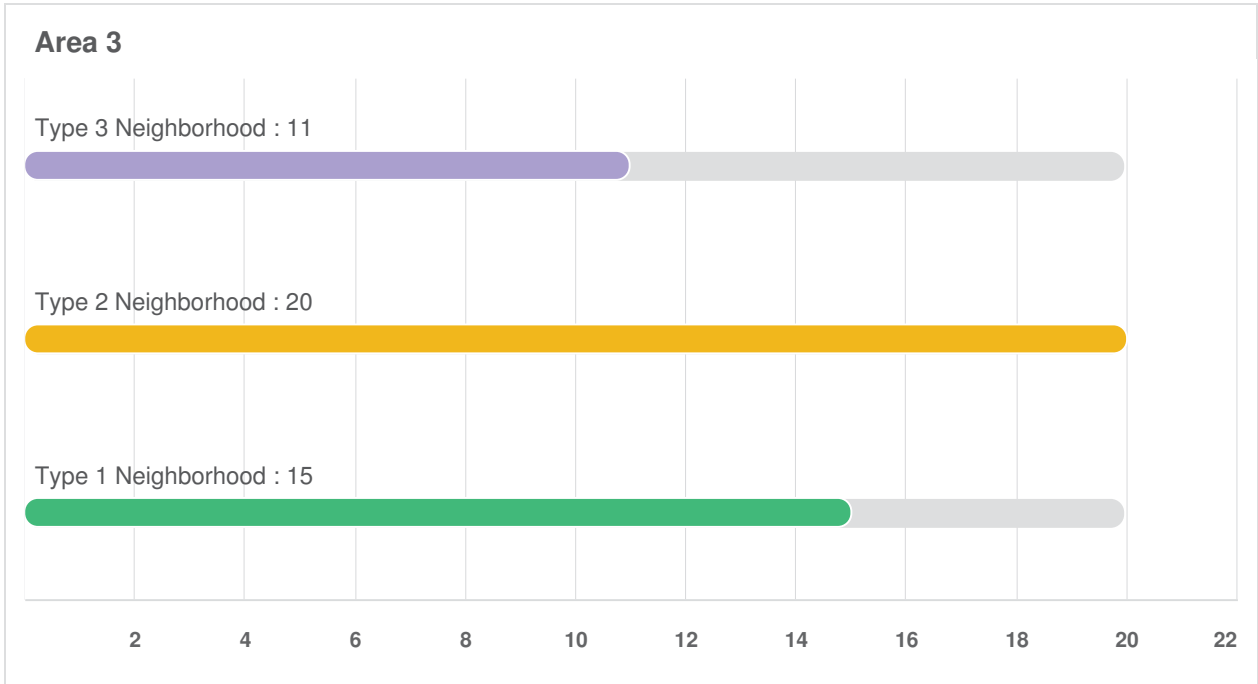


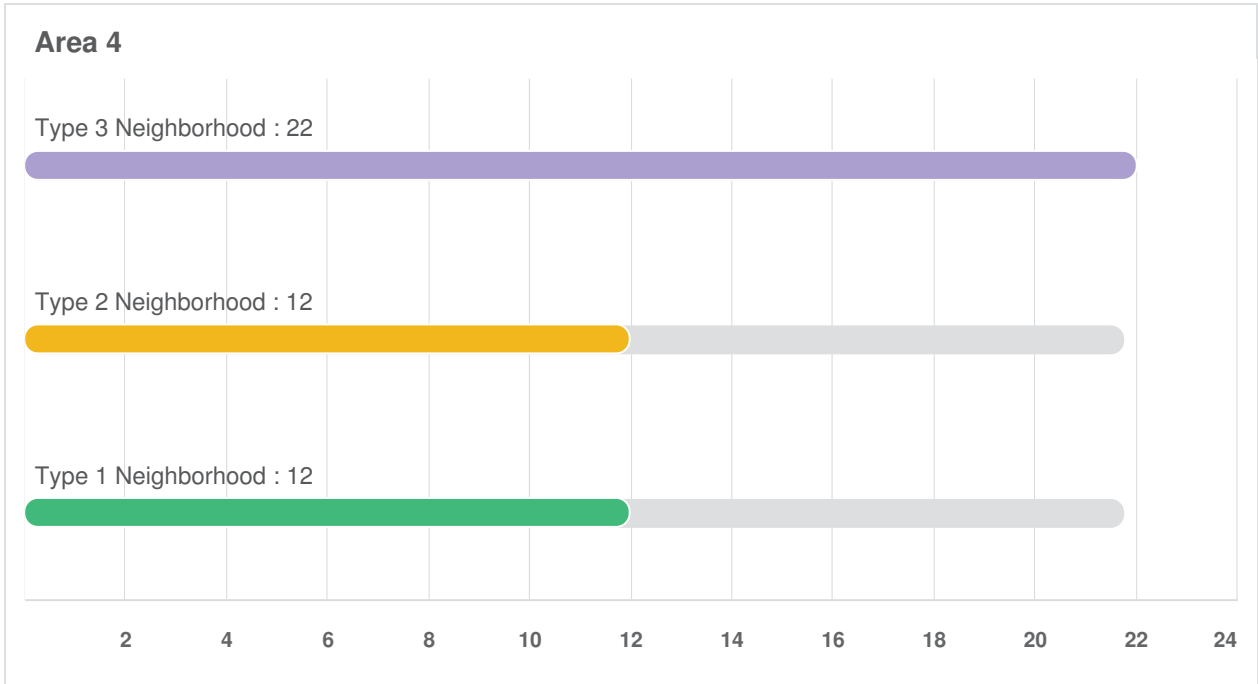
Mandatory Question (46 response(s))
Question type: Likert Question

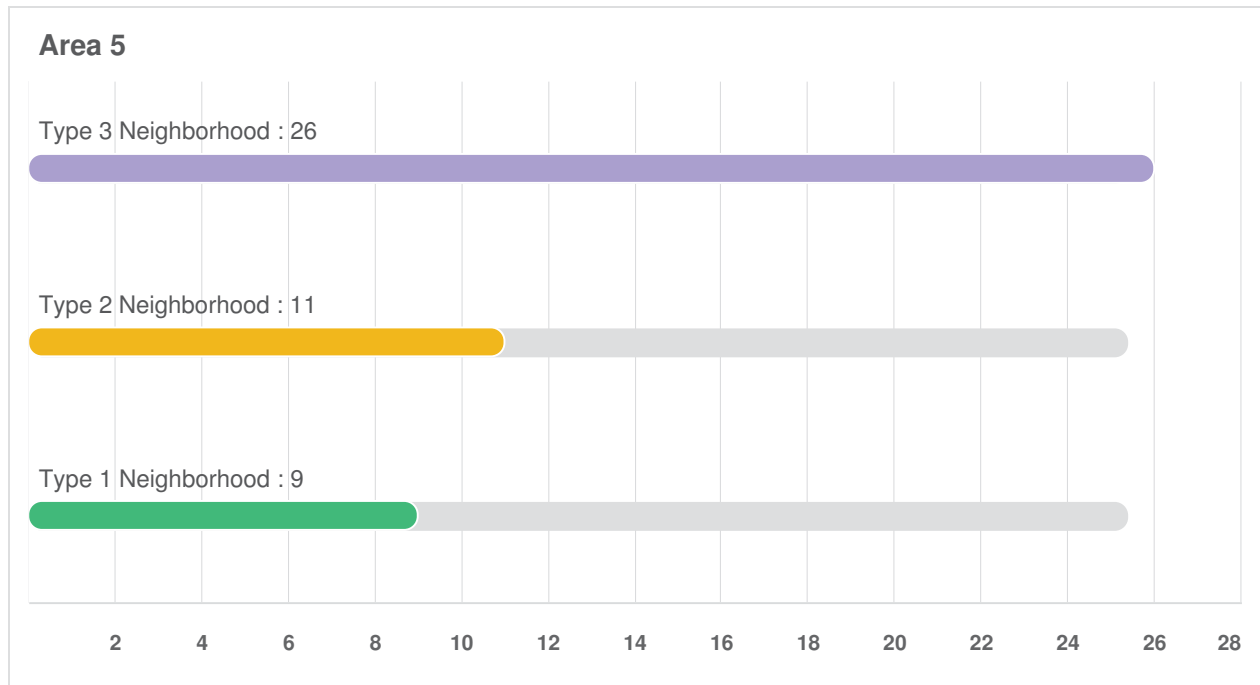
Q9 | In your opinion, what neighborhood design type is most appropriate for each location in the map above

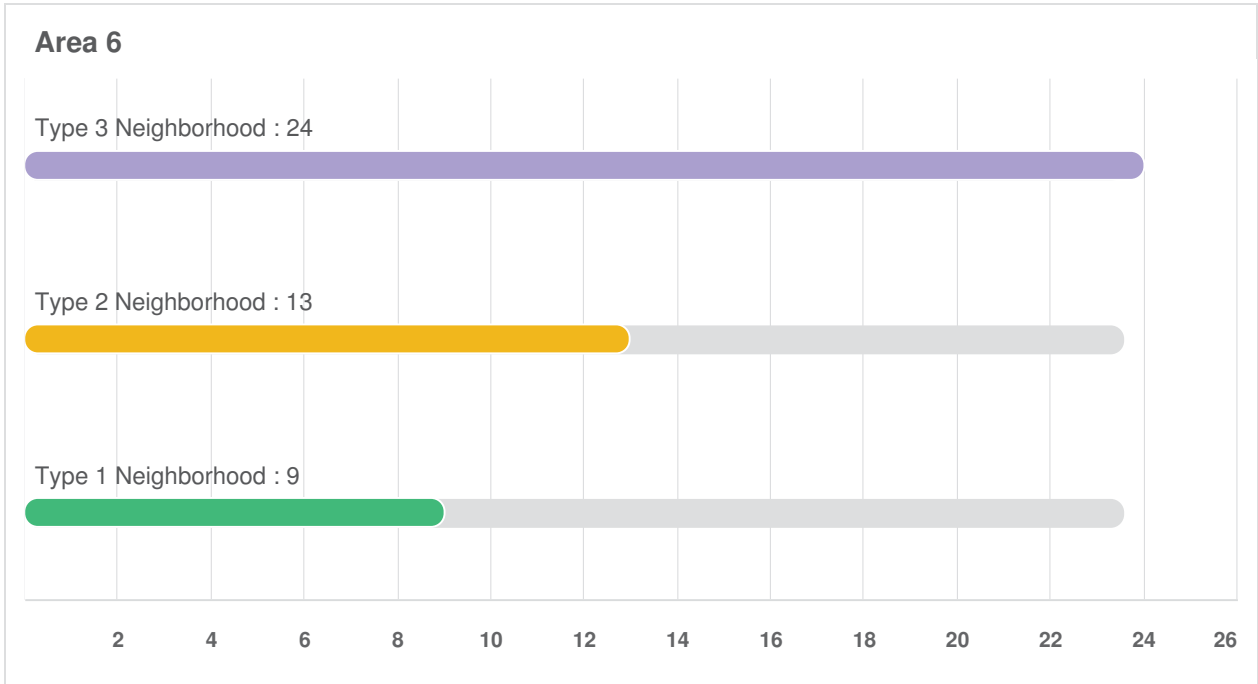


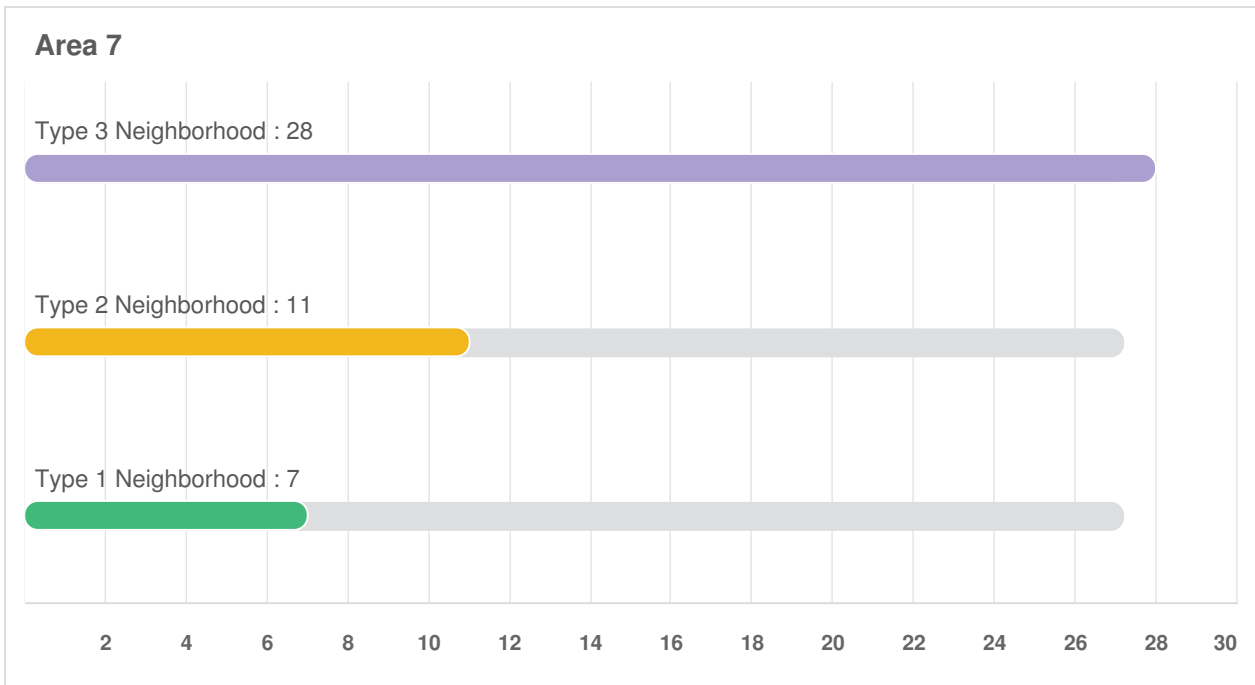












Q10 Rank the locations in the neighborhoods from most preferred location (1) to least preferred location (7) for the Type 1 Nei...

OPTIONS	AVG. RANK
Area 1	2.46
Area 3	3.40
Area 4	3.71
Area 6	4.36
Area 2	4.60
Area 5	4.62
Area 7	4.82

*Optional question (46 response(s), 0 skipped)
Question type: Ranking Question*

Q11 Rank the locations in the neighborhoods from most preferred location (1) to least preferred location (7) for the Type 2 Neighborhood design type. (optional)

OPTIONS	AVG. RANK
Area 3	3.23
Area 4	3.44
Area 1	3.58
Area 2	4.16
Area 5	4.44
Area 6	4.56
Area 7	4.58

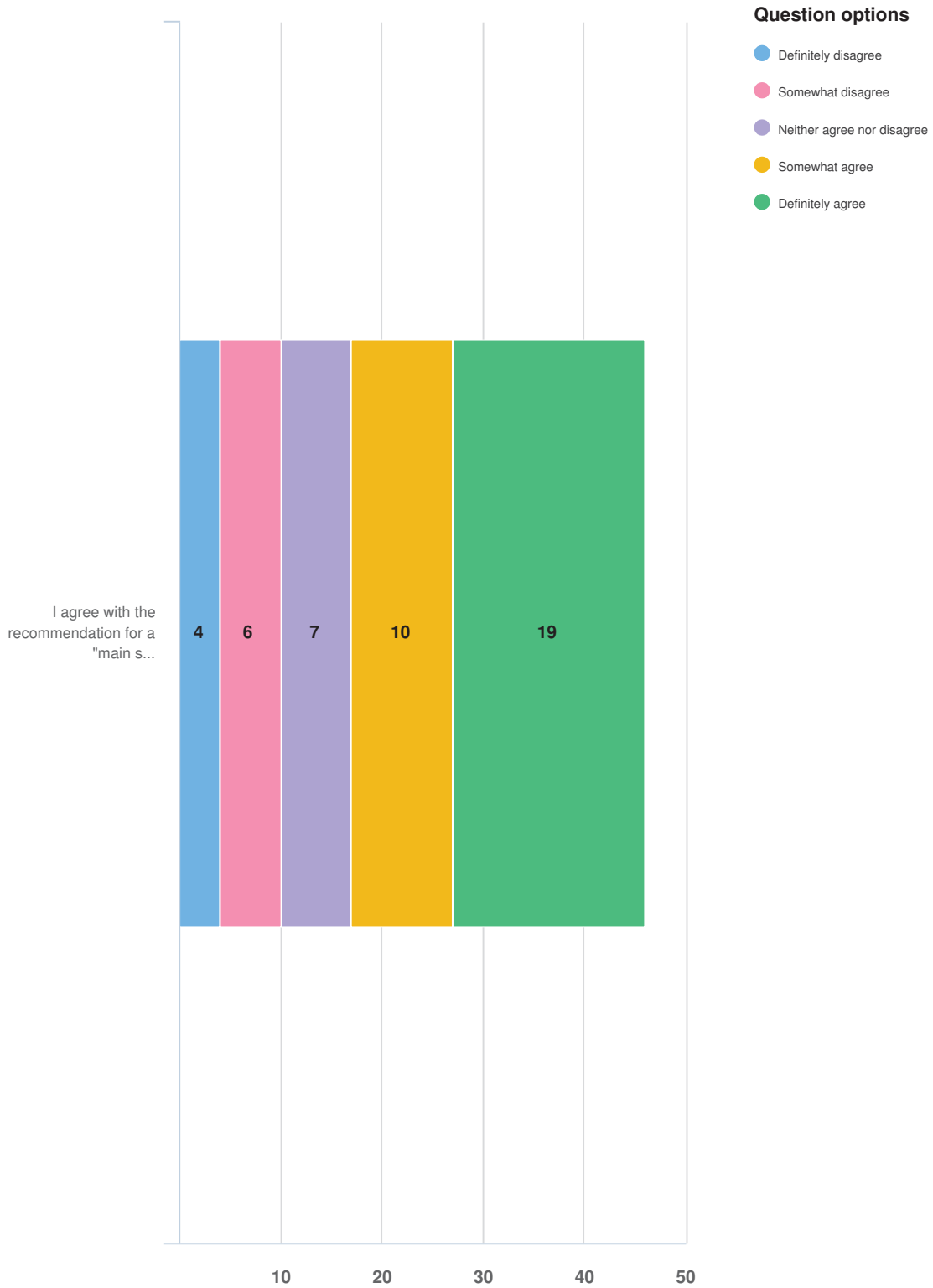
*Optional question (43 response(s), 3 skipped)
Question type: Ranking Question*

Q12 Rank the locations in the neighborhoods from most preferred location (1) to least preferred location (7) for the Type 3 Neighborhood design type. (optional)

OPTIONS	AVG. RANK
Area 7	3.21
Area 5	3.48
Area 2	3.81
Area 6	3.81
Area 4	4.02
Area 3	4.62
Area 1	5.05

*Optional question (42 response(s), 4 skipped)
Question type: Ranking Question*

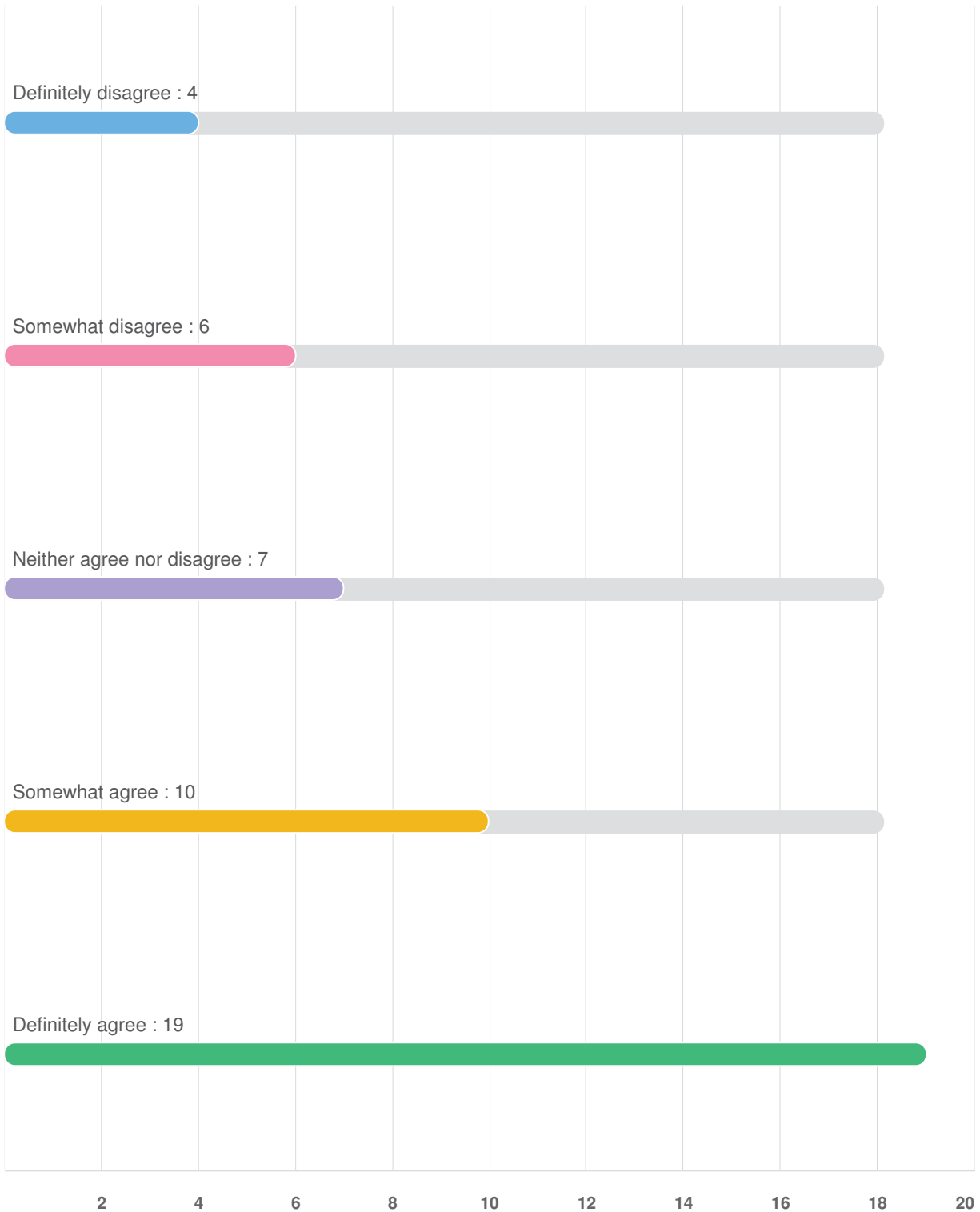
Q13 Indicate the degree to which you agree with the following statement:



Mandatory Question (46 response(s))
Question type: Likert Question

Q13 | Indicate the degree to which you agree with the following statement:

I agree with the recommendation for a "main street style" neighborhood commercial center on Brisband Street off Stafford Road.



Meeting Summary – Affordable Housing Focus Group with First-Time Homebuyers

When: June 6th, 2022; 5:30-7 p.m.

Where: Zoom

Participants:

Project team: Georgia McAlister (City of Wilsonville); Dan Pauly (City of Wilsonville); Becky Hewitt (ECONorthwest); Virginia Wiltshire-Gordon (ECONorthwest)

Attendees: 5 first-time homebuyers living in the Portland metro regions, recruited primarily via Proud Ground

Meeting purpose: Seek the perspectives of about their preferences for housing.

Welcome and project overview

Georgia welcomed participants and Zoom start-up was finalized for all participants. She welcomed the group on behalf of the City and described the Frog Pond location, focus group relevance, and why planning is occurring. Becky gave an introduction to the focus group agenda.

Questions

Discussed the following questions:

- Home buying criteria
 - **Price range**
 - Poll question: What is your approximate price range as you are looking for homes?
 - <\$350k
 - \$350-400k
 - \$400-450k
 - \$450-500k
 - \$500-600k
 - >\$600k
 - Poll question: Are you expecting to receive financial support for your home purchase?
 - Yes, nonprofit (e.g. Proud Ground) or public support
 - Yes, family support
 - Yes, employer support
 - No support
 - Have you seen homes in your price range that you think would meet your needs?
 - **Home type and size:**
 - What type of homes are you looking at or willing to consider and why?
 - What size of home do you need for your household?
 - What characteristics of the home itself are most important to you (e.g., condition, size, attached vs. detached, private outdoor space, particular features or design)?
 - An “accessory dwelling unit” or ADU is a second small unit on the same property with a larger home. They can be attached to the main home or separate. If you could afford to buy a home that had an ADU, would that appeal to you? Why or why not? What about an ADU sold separately?
 - **Location & Neighborhood amenities generally:**
 - Where have you been looking in the region so far (e.g. neighborhoods, cities)?

- What places are most important for you to have easy access to (e.g., job, daycare/school, family, transit, etc.)?
- What is most important to you about a future neighborhood (e.g., safety, access to parks/recreation, community, school ratings, being near certain types of businesses)?
- **Wilsonville:**
 - Have you considered buying a home in Wilsonville specifically? Why or why not?
 - If you could afford an attached or small detached home with a small yard in a new neighborhood in Wilsonville, do you think that would be a good fit for your household's needs and priorities?
- Anything else you want to share?

The session ended when all questions had been discussed.

Comments and Key Themes from Participants

Price Range and Financial support:

- Most looking for homes under the approximate median home price in Wilsonville of \$600,000, with two looking between \$350k-\$450k, two looking around \$300k and one with the potential for lower or higher values.
- Multiple participants were receiving support from Proud Ground or a similar organization and the others had considered or pursued support previously.
- All participants commented on the high prices of housing and that this created barriers to being able to purchase their ideal home though a few had seen some options around the region that would fit their needs in their price range.

Home types and size:

- All participants expressed that their ideal housing type would be a single-family detached home with a yard though other options were acceptable to some if this type of housing was not available in their price range.
- Families with children were looking for housing with more than two bedrooms, those without children would consider a one or two bedroom. A few participants had found single-family detached housing potentially in their price range with a combination of small footprint housing (such as a small bungalow), older homes or homes outside the city.
- Yards were particularly important to families with children however participants without children were also interested in private outdoor spaces.
- ADA access was important for some, including for multi-generational households and those hoping to accommodate aging parents.
- Additional desires included for good parking, not having a driveway on a busy street, having a garage, space for gardening.

Home-buying choices and trade offs

- Generally, the more space and privacy from neighbors the better.
- Cottage clusters were the most desirable option if a single-family detached home was not available. However, most participants expressed concerned with having a shared

yard based on potential difficulty dealing with neighbors or feeling concerned about their children in a shared area.

- Some participants were open to ADUs, especially to provide housing within a family such as for a sibling with their own family, an adult child or aging parents. Fewer participants were interested in an ADU shared outside of family but some were open to it.
- Home-buying process itself described as difficult or intimidating, steep learning curve. Multiple participants indicated that they were seeking out resources to better understand the process, but not with universal success.
- Multiple participants expressed willingness to sacrifice the size (of housing, of the yard) for more privacy.
- In a few cases, participants expressed that they would be more likely to wait to purchase until they found the right fit while others were open to or actively pursuing a home purchase that was not their ideal as a 'starter home' with the expectation of selling in the future to be able to purchase something closer to what they were looking for.

Location and Neighborhood Amenities:

- Most consistent interests were for neighborhood safety and access to shopping such as grocery stores and the mall. Being close to family and/or childcare was also important for most.
- Additional Interest in: schools, quietness, walkability and ADA access, public transportation, access to work, access to the freeway
- Many people liked the idea of staying close to where they are already located, especially in terms of maintaining family and school access. Those who were more willing to move to a new neighborhood included those without children and those with connections to many areas in the region.

Wilsonville

- Generally positive associations but multiple participants knew very little about Wilsonville, including where in the region it was located.
- Factors when considering moving to Wilsonville
 - Price of housing
 - Maintaining access to school and family
- Positives
 - Perception of safety
 - Access to the freeway
 - Access to jobs
- Negatives
 - One person noted they had noticed that housing being close together with small yards in Wilsonville which was off-putting.



Wilsonville Middle-Housing Project

Focus Group Report # 5

September 17th, 2022

Attending

Facilitator: Georgia McAlister, City of Wilsonville

Attendees: Mariana Valenzuela, Director of Community Partnerships, Centro Cultural

Alexander Ibarra, Project Coordinator

Leticia Muñoz, Interpreter

Participants:

María Estrada

Johana Baquero

Diana Jiménez

José Duarte

José Mojica

Materials:

-PowerPoint Presentation (Spanish version)

Questions to participants:

I. Community Park

1. What types of larger amenities or areas (sports fields, trails, shelters, natural areas) would you like to see? Why do you like them?
 - Reading space for children and adults
 - Area for physical activities, like volleyball and/or tennis, and outdoor gym equipment
 - Natural areas
 - They mentioned that amenities should consider different age groups, particularly for the youth
 - Water fountain, or something similar
 - Reading and physical activities are essential to take our youth away from the screen and technology
 - I love the project. I have visited the area, and Frog Pond is very pretty, and I love that the project will include that space
 - Walking trails are very important
2. What types of smaller amenities or areas (benches, sitting areas, picnic covers, playgrounds) would you like to see? Why do you like them?

- Shelters and tables for picnics to have family gatherings, barbecue, to interact with family and friends
- Trees are important to give shade, particularly during the summer time
- benches along the walking paths
- playground equipment for children

3. What is the most important thing that should be considered for Frog Pond's neighborhood park?

- Good lighting
- Family oriented
- safety
- A place for all

II. Streets and crossings

1. What makes a street crossing or sidewalk comfortable for you?

- I would like for the access to other roads to be safe
- Trees along the walking paths are also important
- It is very important to have these walking paths to take our kids away from technology
- Sidewalks need to be safe as well to walk comfortably and to be around nature
- Green zones that are safe.
- Walking trails should be separated from the road
- Traffic lights safe for pedestrians and drivers
- Pedestrian crossings with lights to warn drivers

The following design was preferred since it separates the bike and walking lanes from car traffic:



III. Bike lanes

1. What is your favorite place to ride a bicycle?
 - Distinction between biking for work and biking for fun, for which a natural trail is best.
 - Hwy 47 is Forest Grove
 - I have heard that there are many trails to ride a bike in Portland within the city, but I prefer to be out in nature

“I imagine being there, I see myself there. I love bike riding and I love nature. I ride my bike on natural trails, but at times I’ve had to ride my bike to work. So, safety is the most important consideration here”.

Preferred design for bike lanes:



- This design is spacious enough, there is a physical separation, it provides more protection.
 - When there is a tangible separation the lanes provide more safety.
 - A physical separation it’s an obstacle in case a car crosses to the bike lanes.
2. What are the most important things that should be considered in designing bicycle lanes and paths in Frog Pond East and South?
 - It is best to have a sidewalk, or some kind of barrier between car traffic and bike lanes. It has to be high enough to be visible.
 - All participants agree that there should be a visible barrier separating bike and car lanes



Key Findings

Themes:

1. Safety- One cannot enjoy if a place does not feel safe.
2. Family & Community time- Focus on children to provide a space for them to be physically active, to be out in nature away from technology
3. Holistic perspective

May y 2000a n i t o

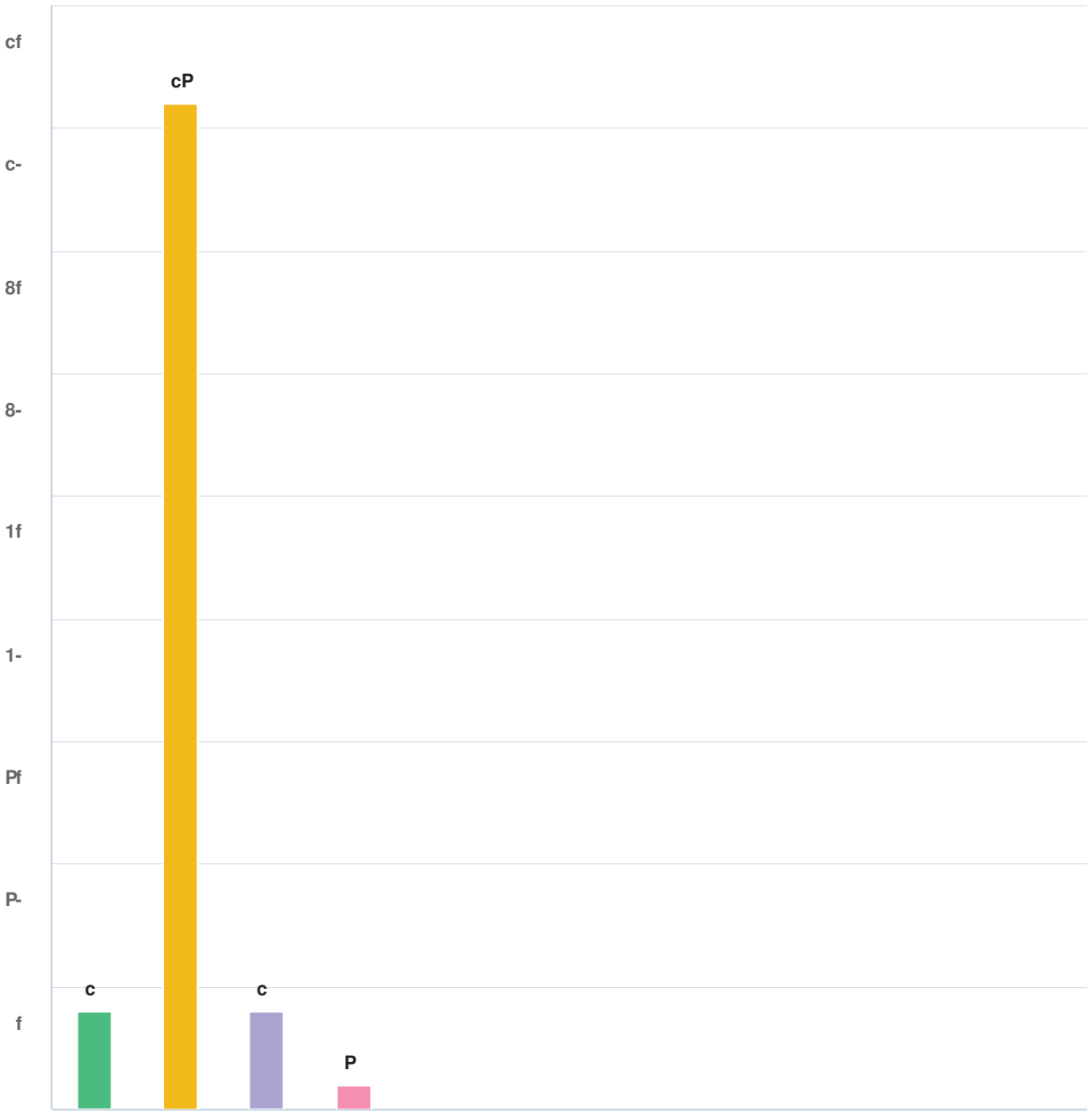
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SURVEY QUESTIONS

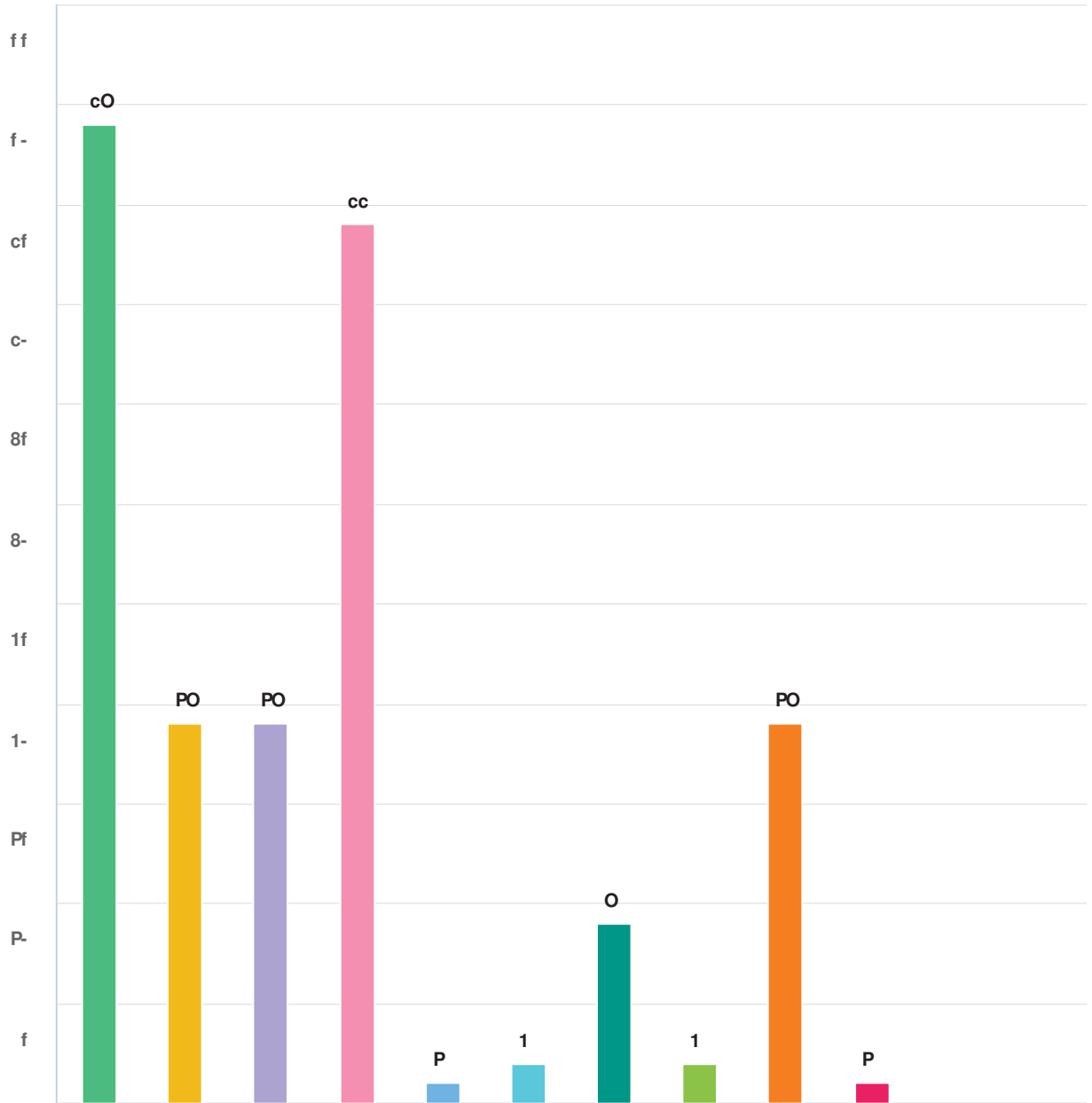
What is your primary housing type? (Select all that apply)



- What is your primary housing type? (Select all that apply)
- Townhouse
 - Detached single-family home
 - Apartment or Condo
 - Accessory Dwelling Unit "ADU"
 - Duplex, triplex, quadplex
 - Manufactured Home or Mobile Home
 - Cluster Housing
 - Cottage Cluster
 - Congregate housing (i.e. dorms, etc.)
 - RV (more than 30 days in a row without another home)
 - I am currently houseless
 - Other (please specify)

Mandatory Question (50 response(s))
 Question type: Checkbox Question

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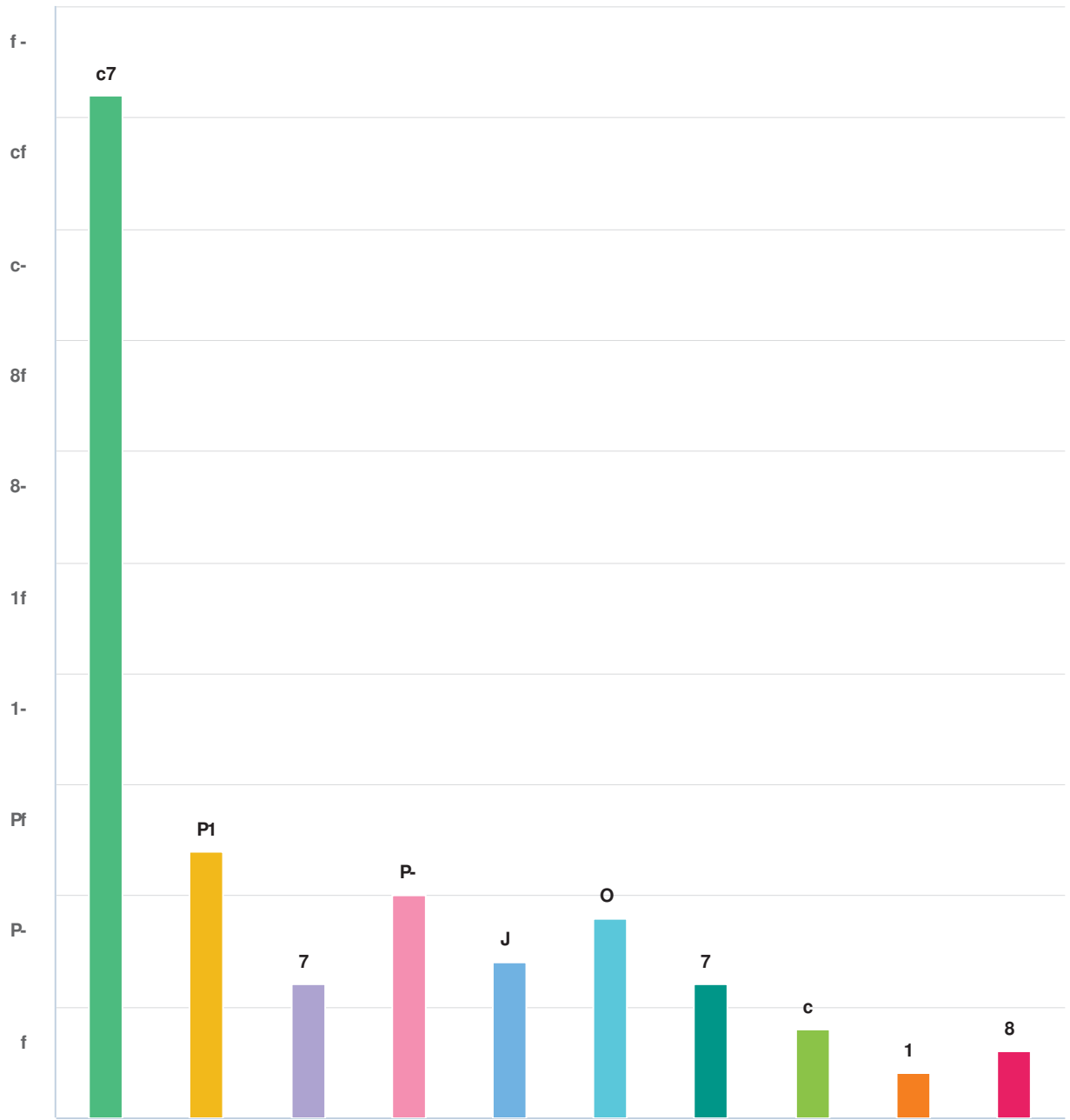


w t Qa 2 ra (Qa 2 Q

- Detached single-family home ● Duplex, triplex, quadplex ● Townhouse ● Apartment or Condo
- Cottage Cluster ● Accessory Dwelling Unit "ADU" ● Manufactured Home or Mobile Home
- RV (more than 30 days in a row without another home) ● Congregate housing (i.e. dorms, etc.)
- I have experienced being houseless ● Cluster Housing ● Other (please specify)

Mandatory Question (50 response(s))
Question type: Checkbox Question

What is your primary housing type? (Select all that apply)

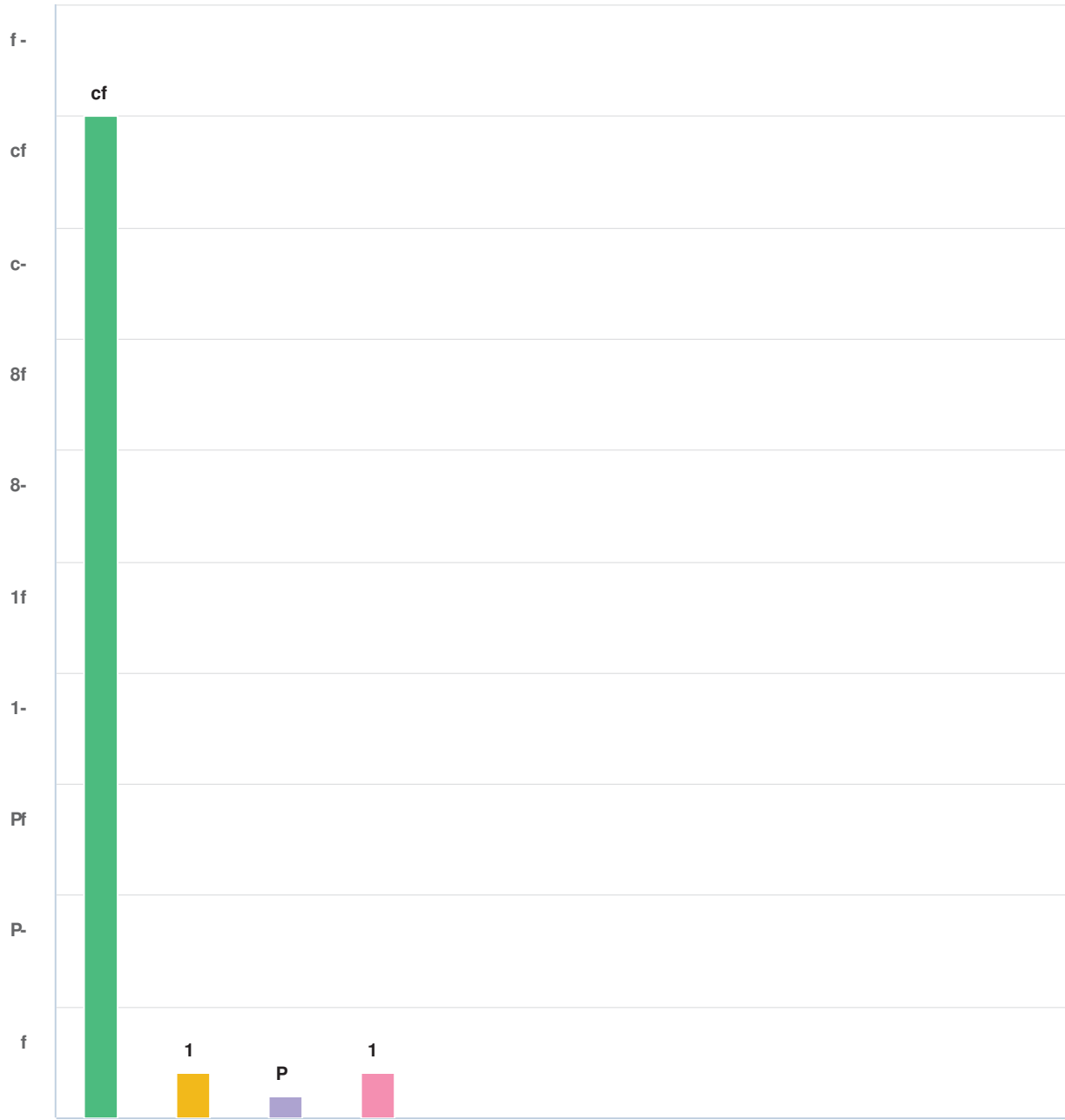


What is your housing type?

- Detached single-family home
- Apartment or Condo
- Duplex, triplex, quadplex
- Townhouse
- Cluster Housing
- Cottage Cluster
- Accessory Dwelling Unit "ADU"
- Manufactured Home or Mobile Home
- RV (more than 30 days in a row without another home)
- Congregate housing (i.e. dorms, etc.)

Mandatory Question (50 response(s))
Question type: Checkbox Question

What is the primary type of housing unit? (Select all that apply)

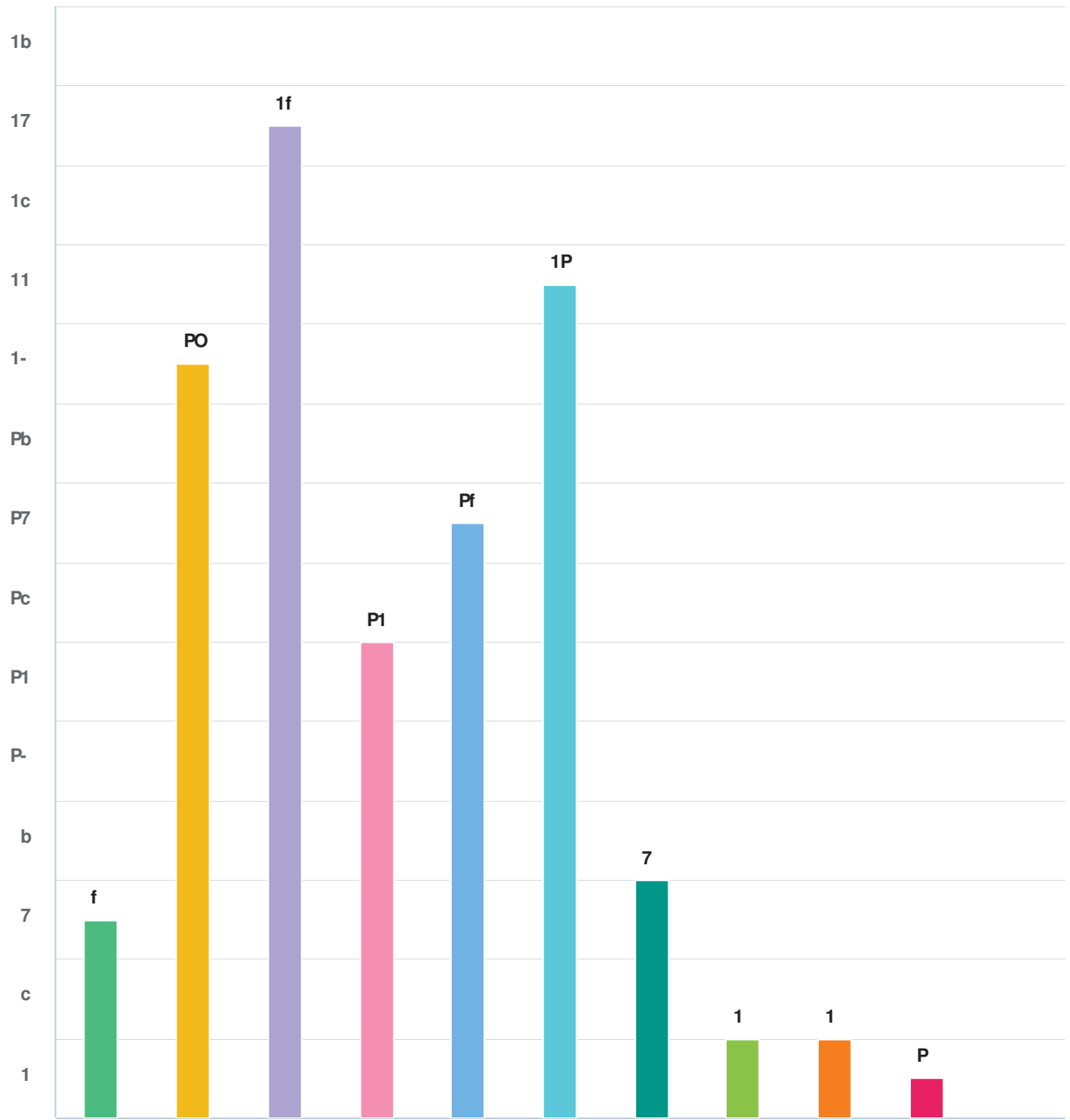


What is the primary type of housing unit?

- Detached single-family home
 ● Townhouse
● Cluster Housing
● Cottage Cluster
● Duplex, triplex, quadplex
- Apartment or Condo
 ● Accessory Dwelling Unit "ADU"
● Manufactured Home or Mobile Home
● RV
- Congregate housing (i.e. dorms, etc.)
 ● Other (please specify)

Mandatory Question (50 response(s))
Question type: Checkbox Question

What is the primary type of housing unit you own or rent? (Select all that apply)



What is the primary type of housing unit you own or rent?

- Detached single-family home
- Duplex, triplex, or quadplex
- Townhouse
- Apartment or Condo
- Cluster Housing
- Cottage Cluster
- Accessory Dwelling Unit "ADU"
- Manufactured Home or Mobile Home
- RV
- Congregate housing (i.e. dorms, etc.)
- Other (please specify)

Mandatory Question (50 response(s))
Question type: Checkbox Question

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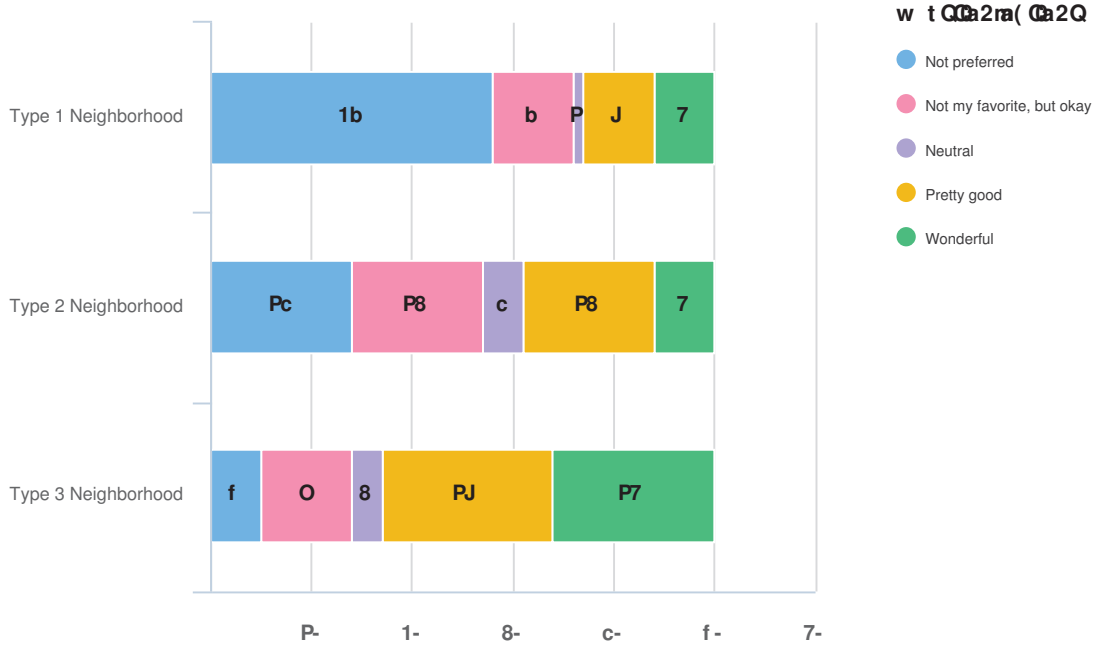


w t Qa 2ra (Qa 2Q

- I own my home and have or share primary responsibility for the mortgage
- I own my home and it is paid off
- I rent my home and have or share primary responsibility for the rent
- I live in a home owned by family or friends but do not help pay the mortgage
- I live in a home rented by family or friends but do not help pay the rent
- I do not have secure housing or I am currently houseless
- Unsure
- Other (please specify)

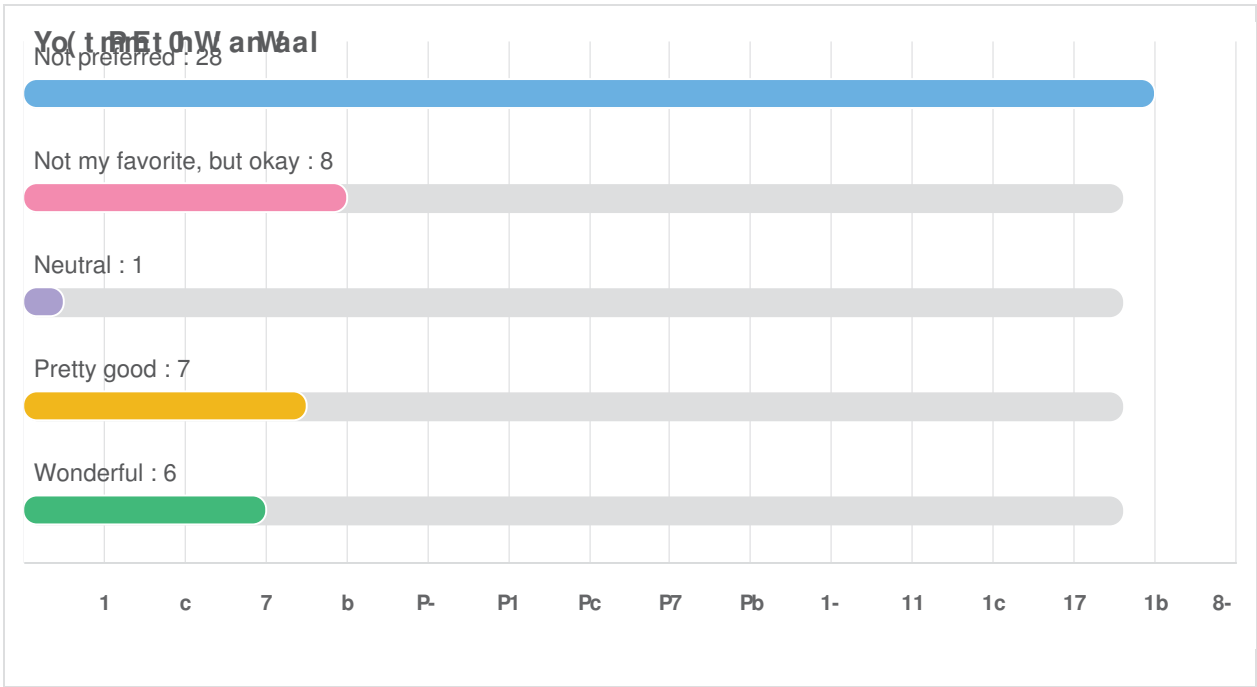
Mandatory Question (50 response(s))
Question type: Checkbox Question

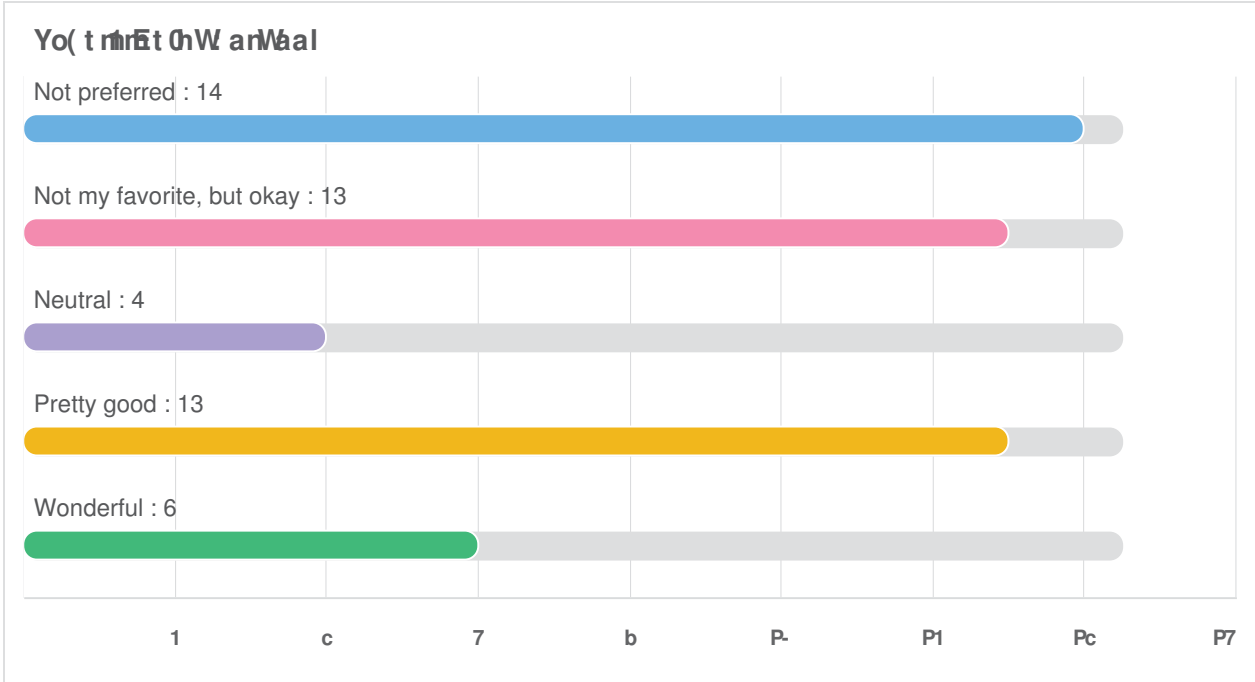
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Optional question (50 response(s), 0 skipped)
Question type: Likert Question

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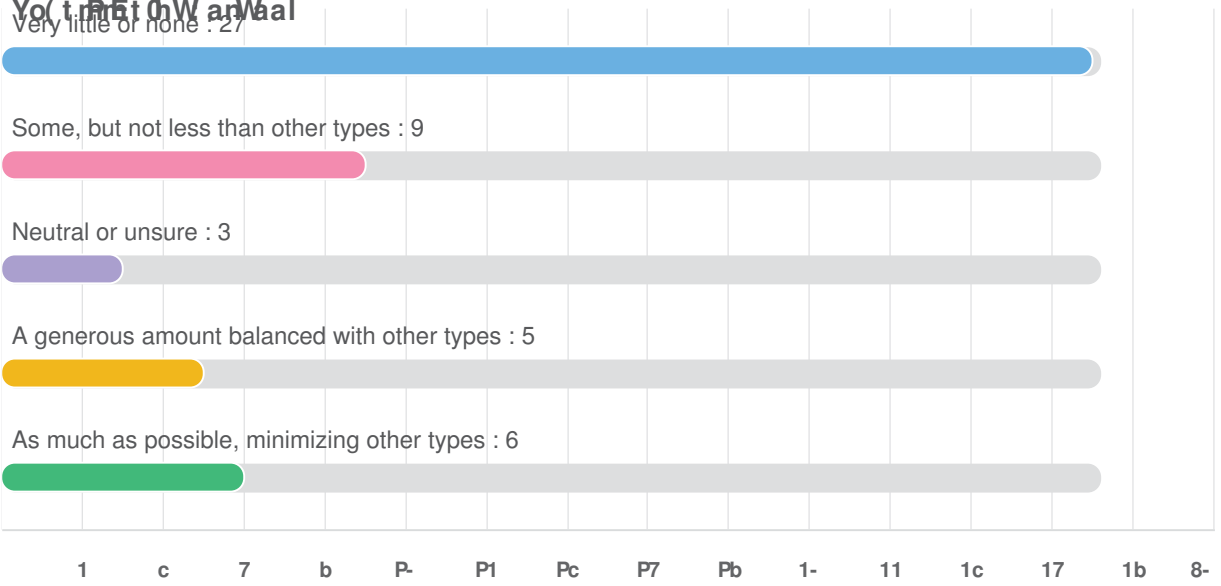
Very little or none : 27

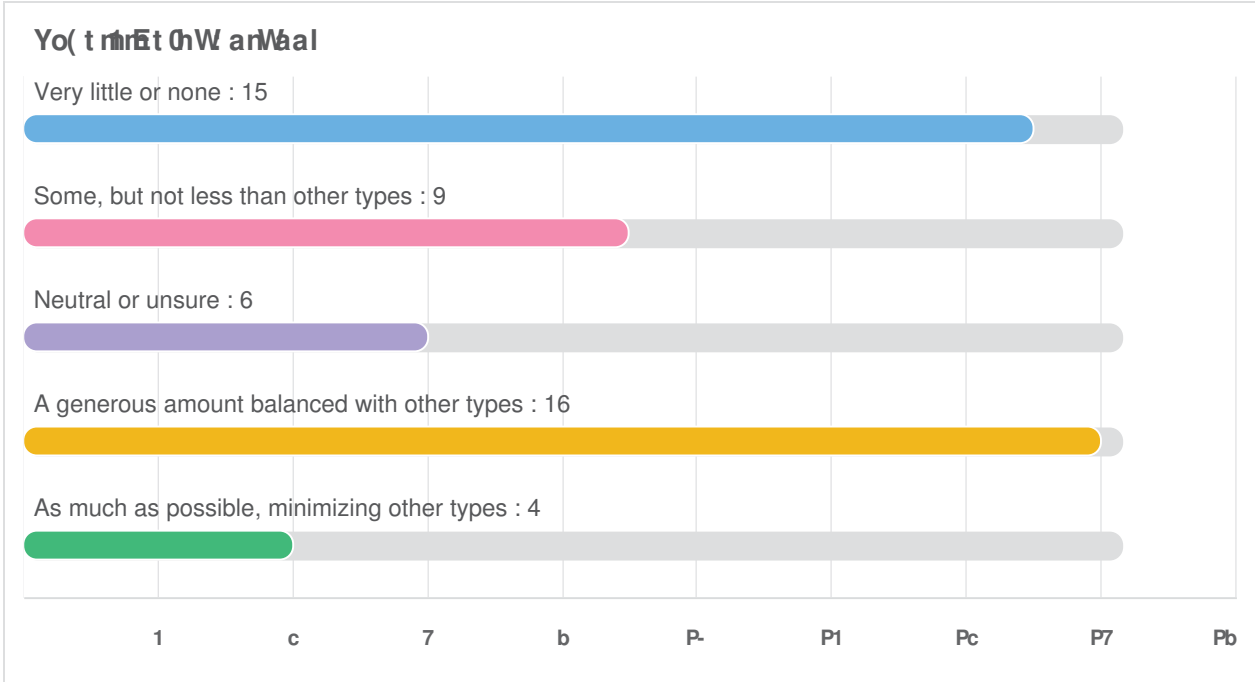
Some, but not less than other types : 9

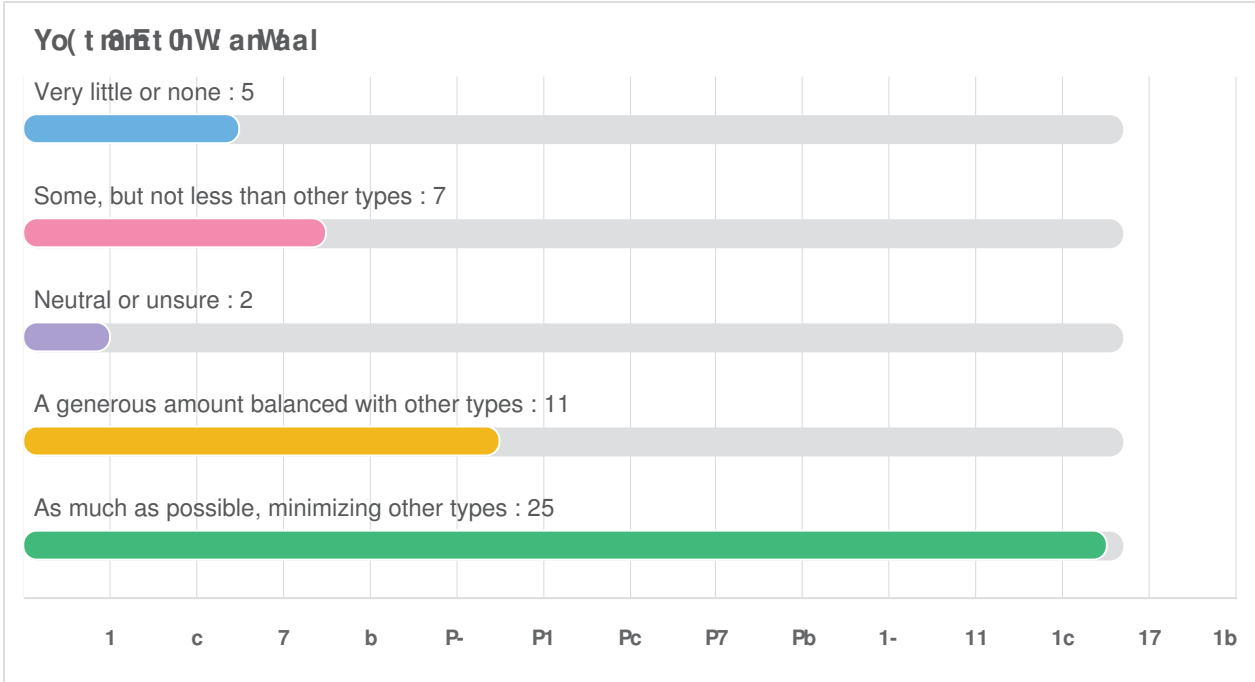
Neutral or unsure : 3

A generous amount balanced with other types : 5

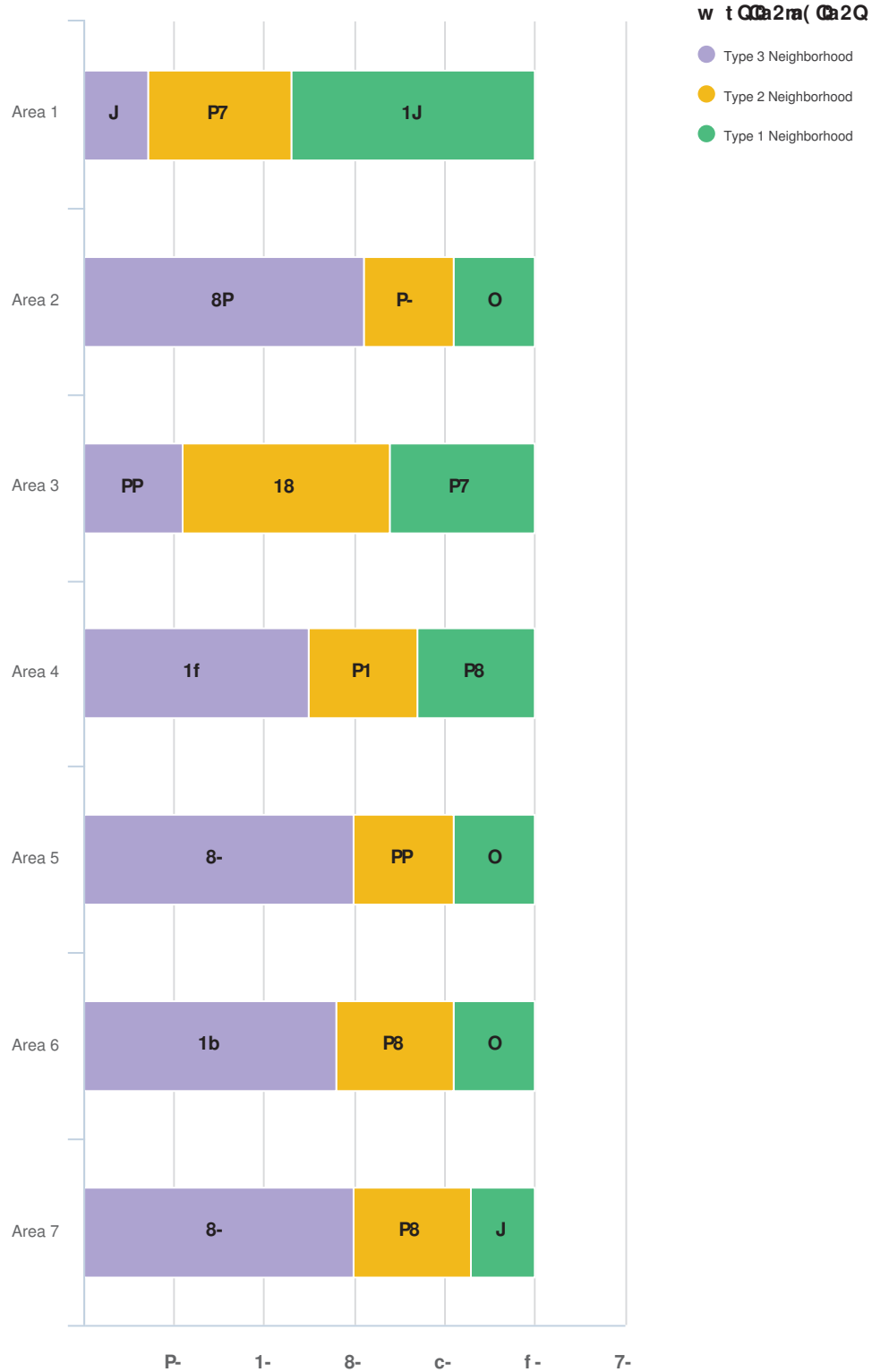
As much as possible, minimizing other types : 6





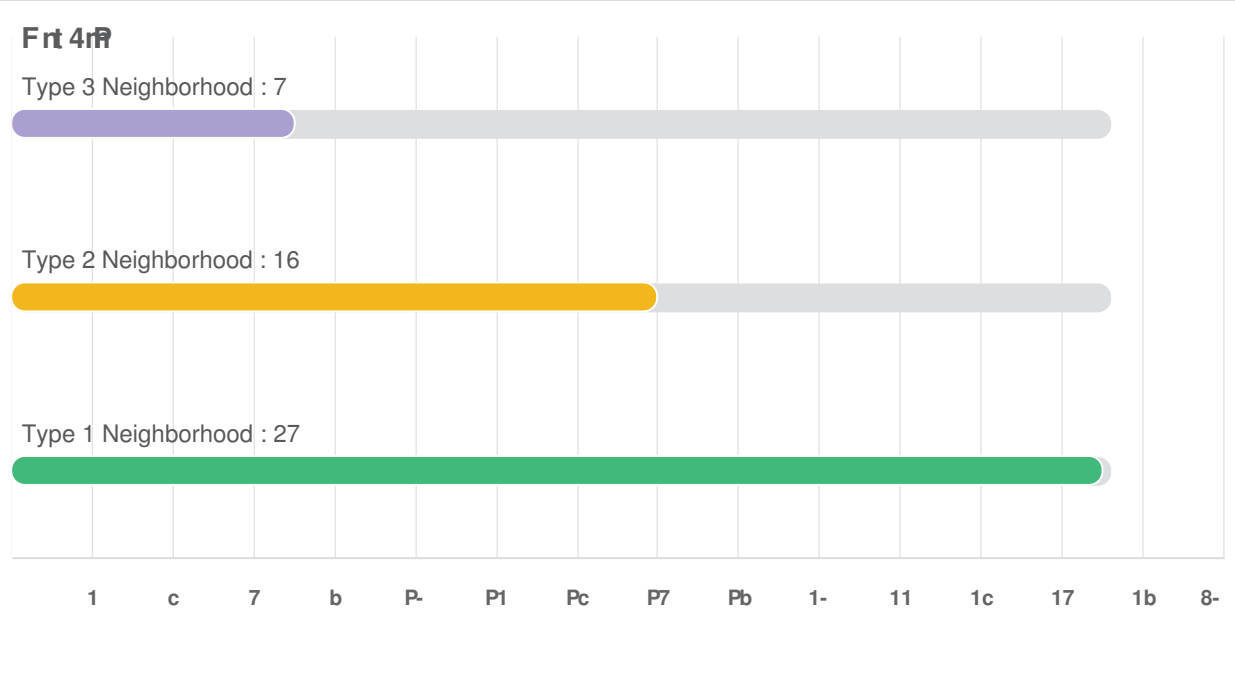


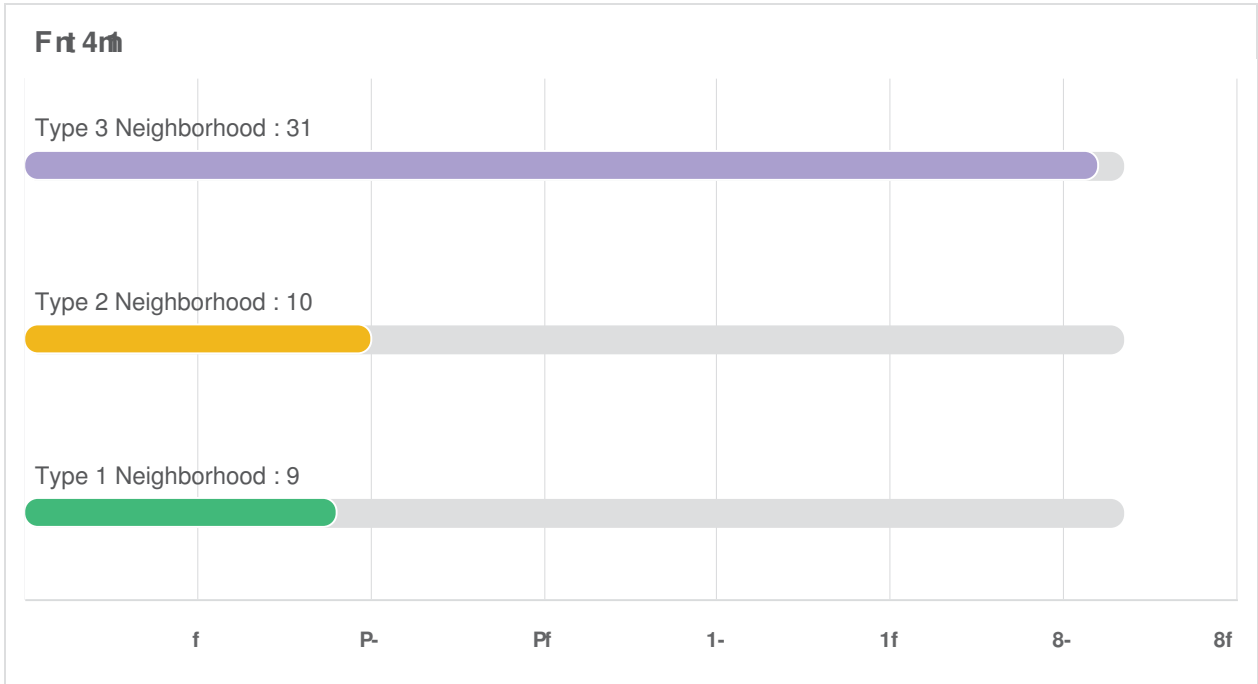
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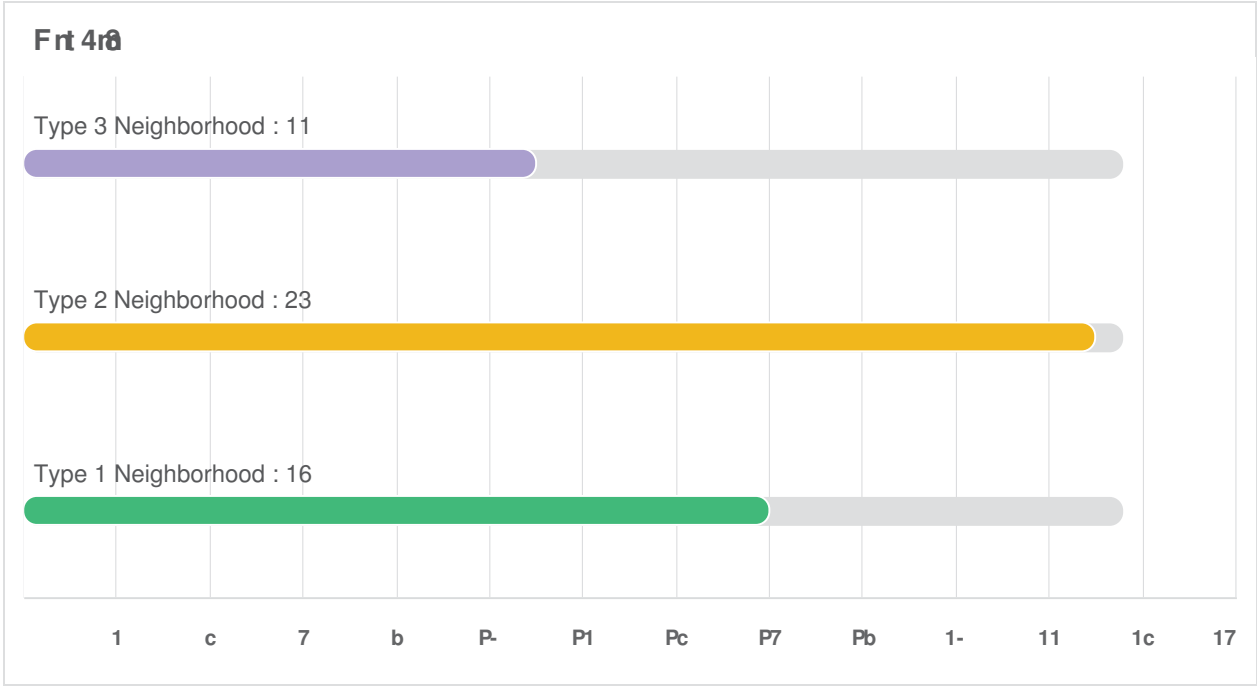


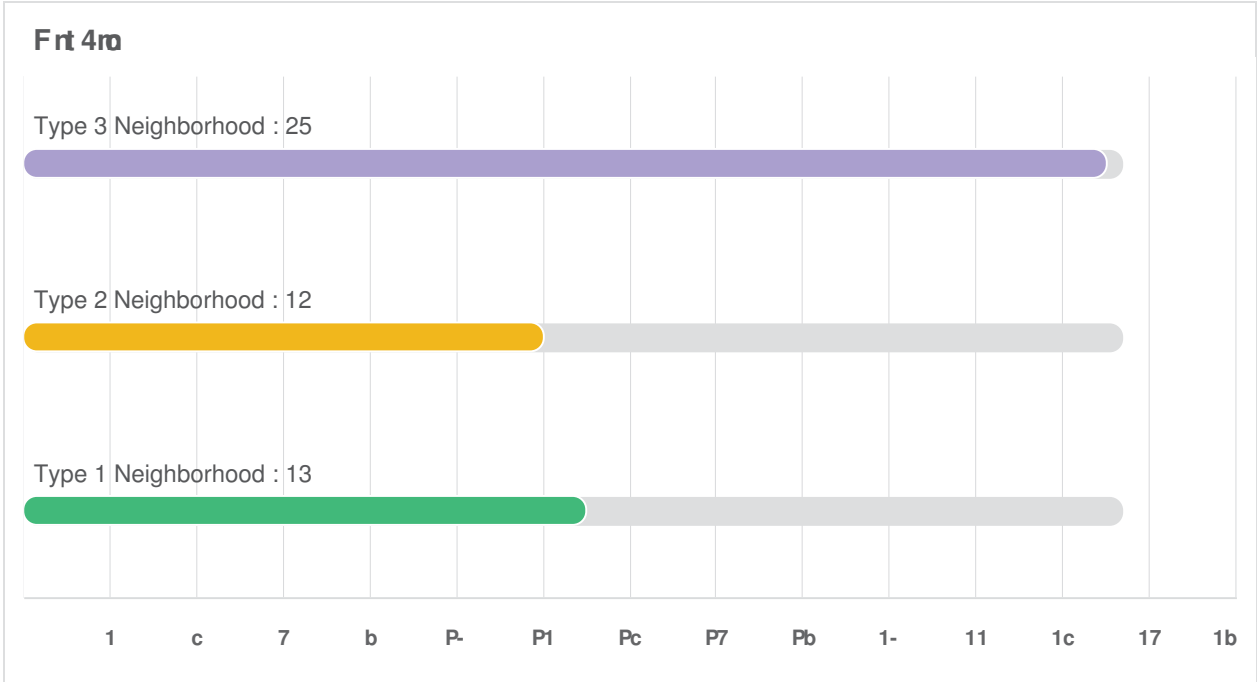
Mandatory Question (50 response(s))
 Question type: Likert Question

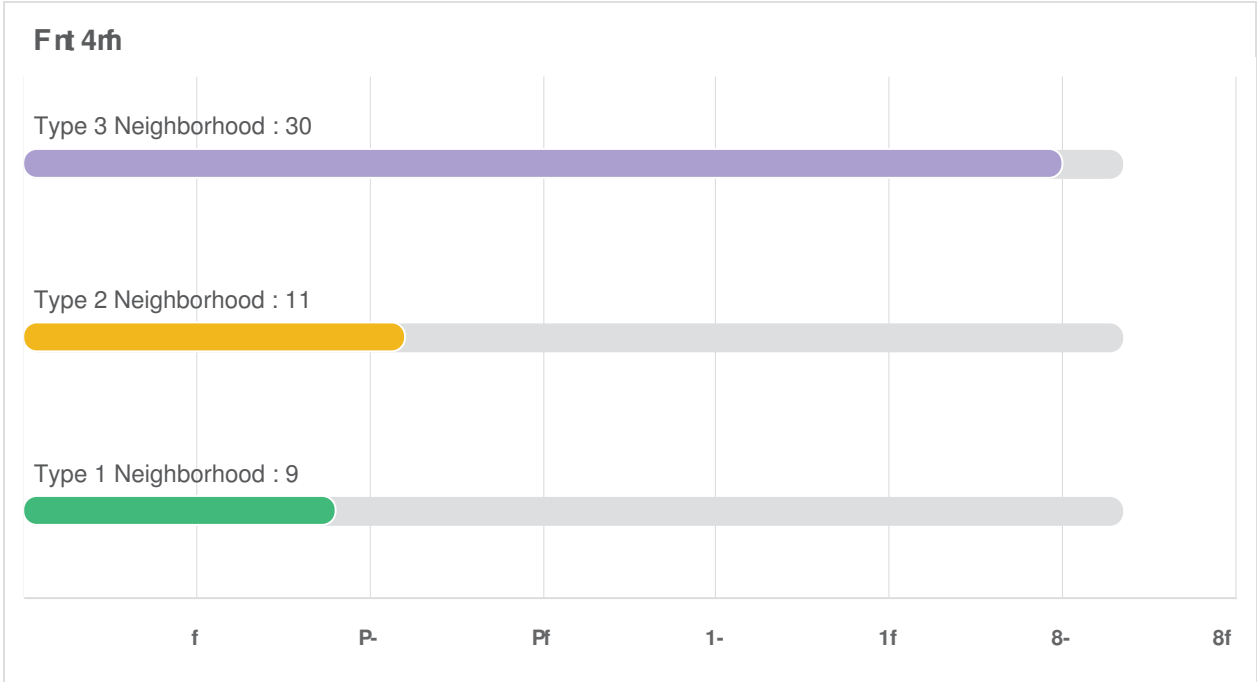
Worship (202, 14.4%)
Type 3 Neighborhood : 7

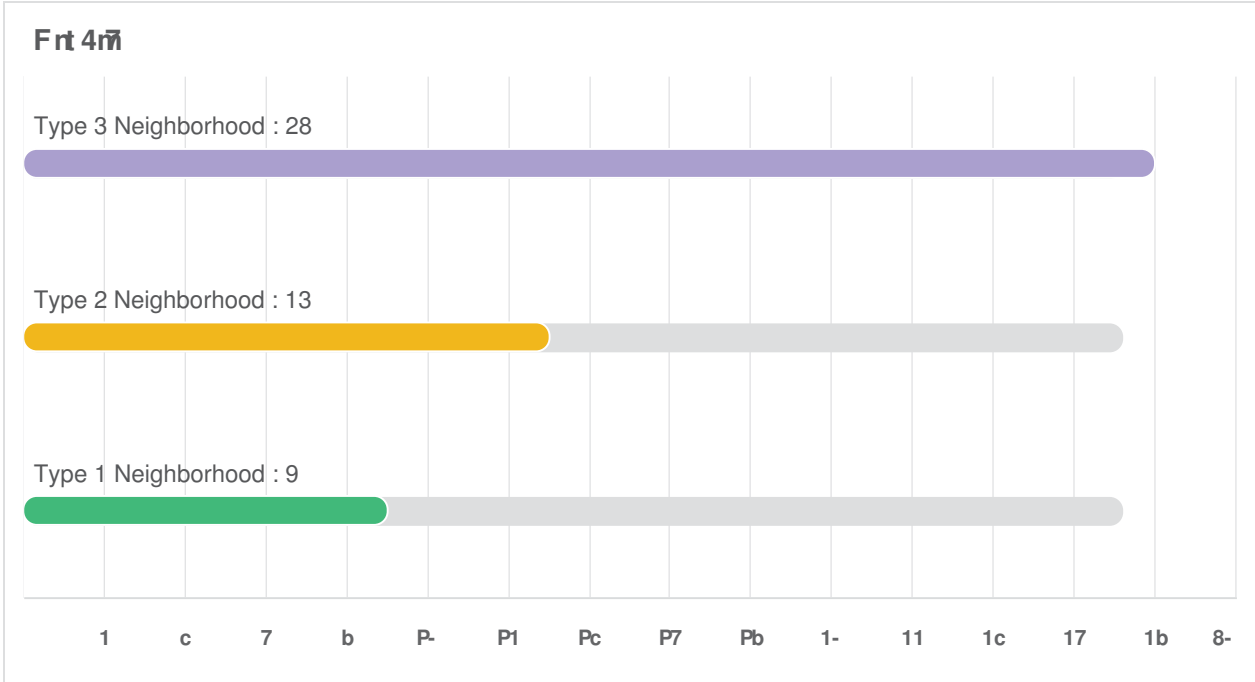


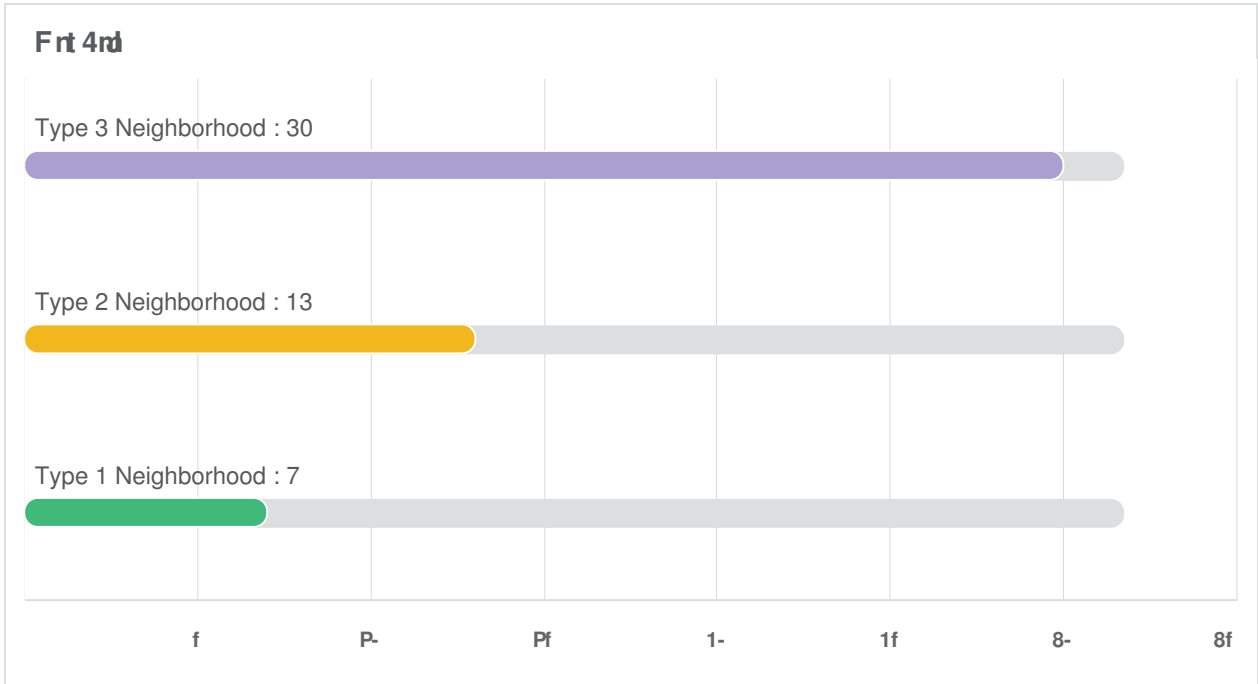












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 (rt ? mt l nA4C2r0J9C nI nO (t rFrEt 0..

VRVIVEu	FvG.mFEK
Area 1	2.44
Area 3	3.37
Area 4	3.78
Area 6	4.24
Area 2	4.61
Area 5	4.63
Area 7	4.90

Optional question (50 response(s), 0 skipped)
 Question type: Ranking Question

wPP m42kr0V nA4Ca2Q2r0V r0t 0hW anWaal Qr0ay n0 aQ0rt ? mt l nA4Ca2r0P90n0 4QC
(rt ? mt l nA4Ca2r0P90n0 n0 (t n0r0t 0hW anWaal rht Qh2r0 (t .r0a (Ca24D

VRVIVEu	FvG.mFEK
Area 3	3.23
Area 4	3.53
Area 1	3.57
Area 2	4.21
Area 5	4.47
Area 7	4.47
Area 6	4.51

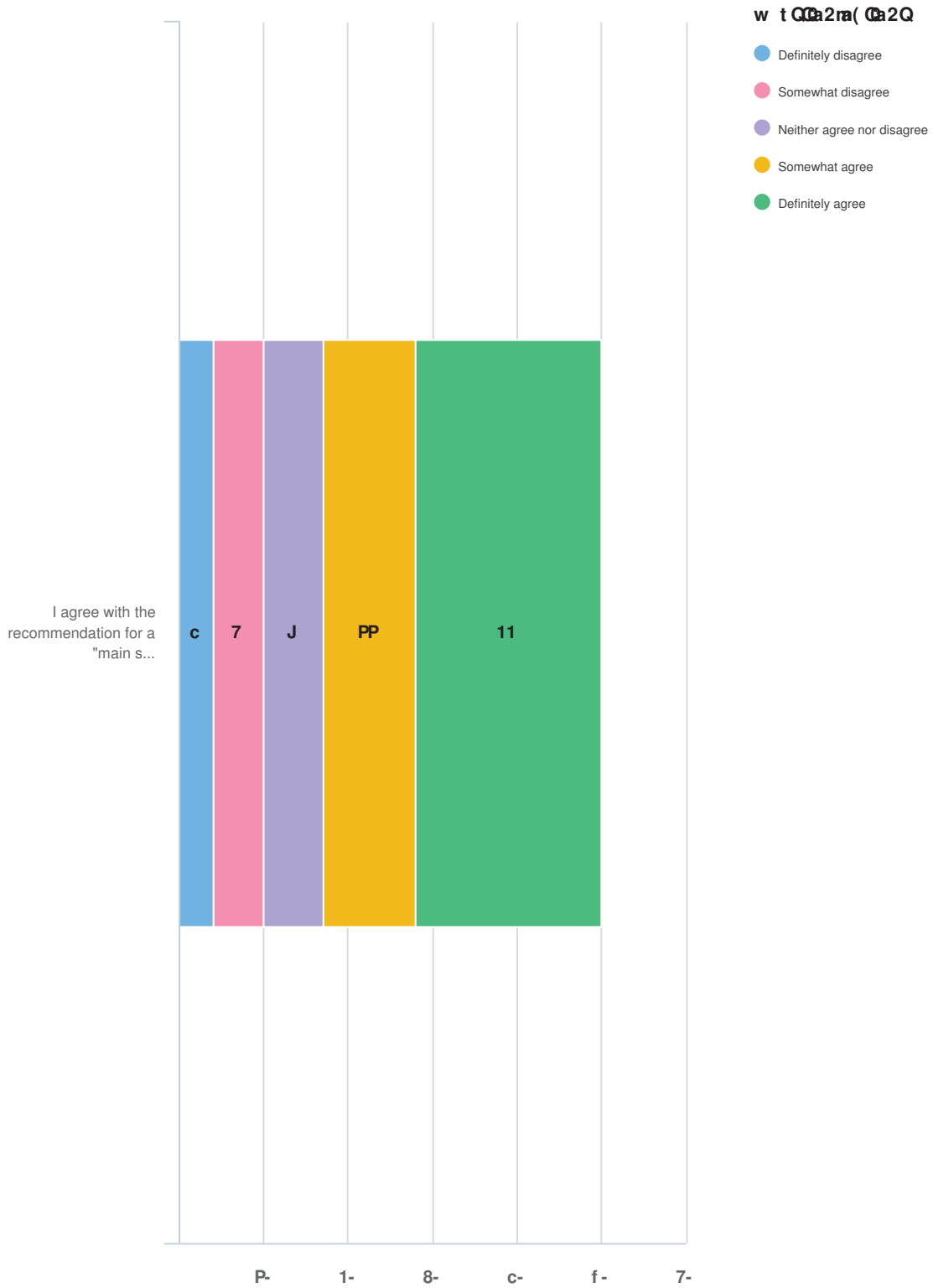
Optional question (47 response(s), 3 skipped)
Question type: Ranking Question

wP1 m42kr0V nA4Ca2Q2r0V r0t 0hW anWaal Q0ay n0 aQ0rt ? mt l nA4Ca2r0P90n0 4QC
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VRVIVEu	FvG.mFEK
Area 7	3.22
Area 5	3.39
Area 2	3.74
Area 6	3.83
Area 4	4.02
Area 3	4.67
Area 1	5.13

Optional question (46 response(s), 4 skipped)
Question type: Ranking Question

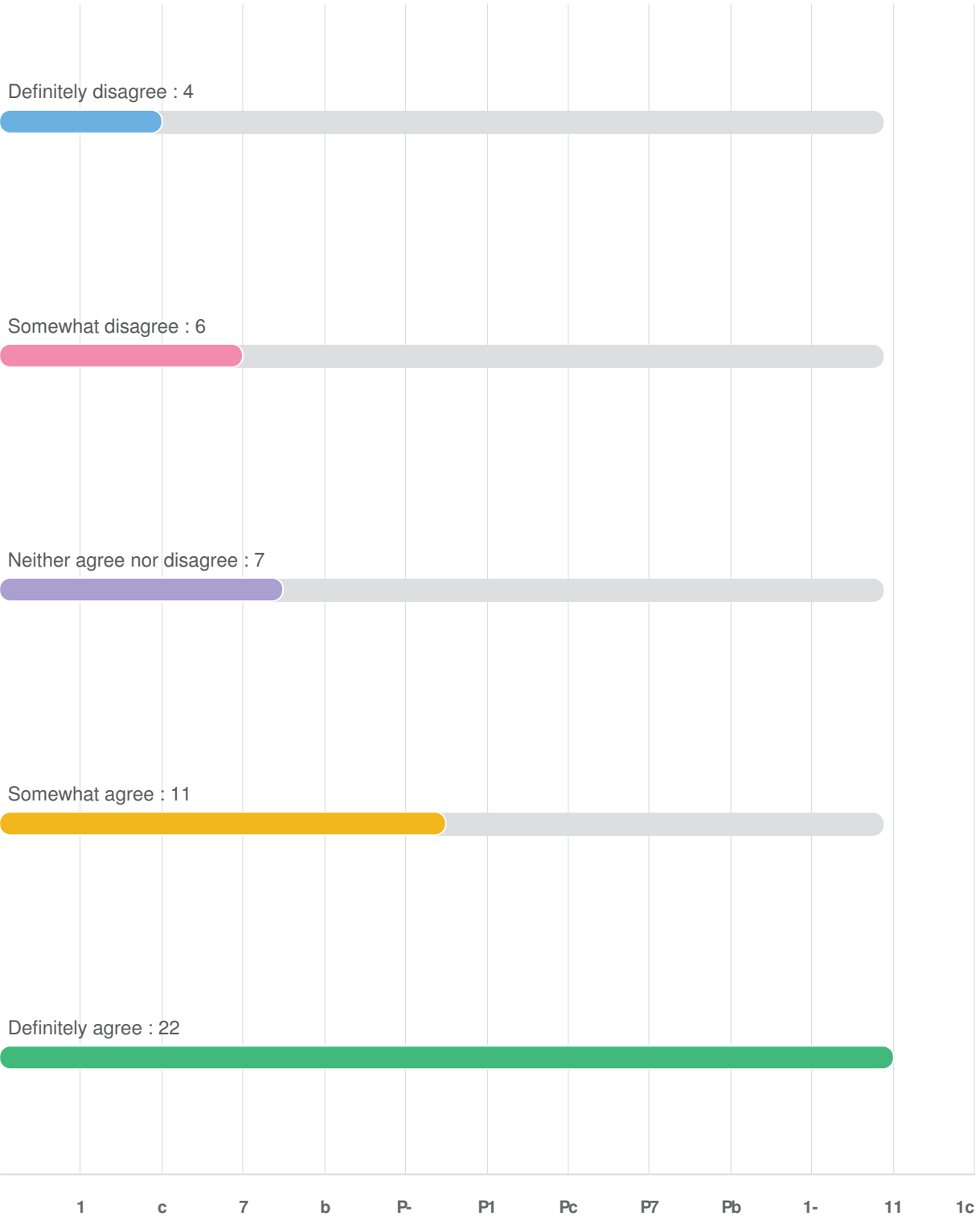
wP8 r2l 04G r0V rht hrt r r@5 WAWoa r4hrt r r5 0V0V r@Ta5 Qhr0G y t 2Gm



Mandatory Question (50 response(s))
Question type: Likert Question

wP8 r2l 04G r0V rht hrt t r0r5 WAWroa r4hrt t r5 0V0V r0Ta5 0hr00G y t 2Ch

Ir4hrt t r5 0V0V mt Aay y t 2l 40a2r0m4rly 40r00t t 000T "r0t 0hW arWaal rAay y t nA0T
At 2G ma2rBr0 42l m0t t Ca??uG??arl ma4l .



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rt Q3 n42Q,r0t ri 0At Q,rh40V r02hr0 4At QrA y 200nAt 2G nQr0A9

Chase687

5/16/2022 04:25 PM

Community center, gathering spaces

bbuhrow

5/16/2022 04:36 PM

This is a bad idea - I've seen this tried in other local communities and they don't work (see N College St in Newberg)

Mariana8182

5/16/2022 04:58 PM

Community center

hometown

5/16/2022 05:49 PM

Coffee shop, small businesses, bakery, small RX, small store, small performance area. Bike friendly

Old Man

5/16/2022 07:23 PM

coffee shop, restaurts

antjuanac
5/16/2022 09:24 PM

Parks, green space, soccer field

mirlwood
5/16/2022 09:16 PM

restaurants, trail connectors, seating, transit, farmer's market

PattyT
5/16/2022 10:07 PM

A community recreational center (gym, indoor swimming pool, space for workout classes)

Brobert
5/17/2022 01:27 PM

Coffee house, Gastropub, Brewery, Tap House, Wine bar, upscale dining (e.g., Tacos, Thai, Sushi, Italian, Brunch), Barber, Nail Salon, Ice Cream, Pet Boutique. Best case scenario would be to have the space modelled after downtown Bend (e.g., Wall Street and Brooks Street).

Mcajon6
5/17/2022 05:53 PM

More places to eat of higher quality

long time resident
5/18/2022 03:10 PM

coffee shop, beer hall, wine shop

Ann
5/18/2022 10:25 AM

Community center, coffee shop and restaurants

DonJ999
5/18/2022 11:00 AM

restaurants

bree
5/18/2022 12:10 PM

Restaurants, coffee shop, small market, locally owned boutique-style shops

Ala
5/18/2022 02:19 PM

Community center, coffee shops and restaurants.

Margie
5/19/2022 09:56 AM

Natural foods grocery store, Tesla supercharger station, sit down restaurant, trees and bike lanes, solar panels. Walking paths to neighborhoods. No fast food. No drive through. Benches or outdoor seating.

MJ

Not sure one is necessary.

5/22/2022 02:20 PM

Bill Ciz

5/19/2022 12:21 PM

A couple really good restaurants but I do not think any would locate in the commercial center.

Garet Prior

5/19/2022 08:13 PM

Food, daycare (in the center and in residential homes), gathering spaces that are well lit and designed, and lots of walk and bike paths. Little to no parking off-street. Overall, this neighborhood needs to address the following equity gaps: 1. People of color, and their need for affordable, multi-room homes to support multi-generational housing. In the past decade, Wilsonville's Latinx population doubled to 11% of the population and is growing. The cost of our multifamily housing is the higher end of the market, and cheaper homes do not have enough bedrooms to support multi-generation housing, which is common in immigrant and minority communities. 2. Single-parent homes and their need for affordable housing that is connected to jobs, transit, and services. It is entirely understandable that trying to balance work and raising children is a major emotional, physical, and economic stress. Single-parent households have the largest need for subsidized housing of any other household type. If we can lessen their burden for safe and affordable housing, we make a stronger Wilsonville. 3. Low or fixed-income individuals and families, and their need for homeownership. Combine the fact that only 9% of Wilsonville is middle income, with the average home sales price rising 40% in the last four years, and homeownership is a fleeting dream for many residents. Homeownership is central to American culture and a major source of generational wealth building, supported by a complex government and private market system. Not surprisingly, family wealth in America has a historic and systemic racial gap, where white families have on average 12 times the amount of wealth than black families. 4. People in need of emergency, transitional, or supportive housing. Major needs in Wilsonville exist for people who are looking for shelter immediately, occasional support when they miss a paycheck or receive an unexpected bill, or long-term because of a physical or mental disability. Currently, there are 44 students in the school district experiencing homelessness and only 8 beds to serve people experiencing homelessness in all of Clackamas County.

Blinds2001

5/19/2022 10:11 PM

Local shops, restaurants, boutiques. Not big name, or quick-I-Marts or service providers. Places that feel like community gathering spots.

Cdbarnes

5/19/2022 10:25 PM

Restaurants

JHerron

5/19/2022 10:19 PM

Small bistros, small retail relevant to residential community - maybe like a dry cleaner

Bergera728

5/19/2022 10:25 PM

Small Restaurant , bakery, locally owned, no chains

JRBD

5/19/2022 10:42 PM

Convenience store, pharmacy, boutiques, skating rink, etc.

Kasadie Neely

5/19/2022 11:25 PM

None. I don't want y'all to build on advance

Trepen

5/20/2022 08:31 AM

That would be great for the neighborhood

Alex2

5/20/2022 11:49 AM

Services, restaurants (not a chain) and a community center IF the Frog Pond Grange building is not designated to be a community center.

Mtnman67

5/20/2022 11:36 AM

Restaurants gathering spaces parks

Boldaddy

5/20/2022 01:00 PM

Pub/Bar, Restaurants, Housing, Plazas, No Drive-thrus, Bakery, Small grocery

Wayne Hickey

5/20/2022 12:43 PM

Coffee shop, dry cleaner, convenience store, liquor store, eat-in restaurant.

Jgreenfi

5/23/2022 04:31 PM

convenience store, services including child care, gathering space, coffee shop

Veronica

5/20/2022 02:52 PM

Restaurant, shops and gathering spaces.

ssmith

5/23/2022 02:46 PM

Green spaces, native gardens, community centers, sustainable buildings, independent coffee shops, stores, and restaurants. Wilsonville has too many chain food restaurants.

fbrwilsonville

Restaurants

5/23/2022 04:56 PM

Nmfteen

Shops, restaurants, fire station, rec center for middle/high school

5/23/2022 07:02 PM

Andrew Karr

Small Grocer, Coffee shop, daycare, financial services, restaurant

5/24/2022 06:23 AM

barbara

NEED ANOTHER FREEWAY ACCESS

5/24/2022 06:27 AM

Brad Williams

A convenience store, coffee shop, EV charging, splash park.

5/24/2022 09:54 AM

MissyCC

coffee shop, bakery, UPS store, restaurants, deli, gift/card shop (i.e. Hallmark-style store), Dollar Store - okay for some professional offices (accountants, etc.), possible Day Care center

5/24/2022 06:12 PM

sparkle

coffee shop

5/24/2022 06:35 PM

NR

Restaurants and shops

5/25/2022 08:57 AM

Holly Dixon

Restaurants

5/27/2022 01:59 PM

Debidokun

Groceries and childcare

6/02/2022 12:21 PM

Shannon

Salt & straw Local coffee place Farm-to-table restaurant Brewery or wine bar Square for a farmer's market + outdoor music

6/06/2022 11:15 PM

Philip Bradford

I want to see all of the above (shops, restaurants, services, gathering spaces, community centers) in the small retail center but I want this retail center to be mixed use with residences or offices on the above floors to make sure it still feels like a traditional neighborhood rather than having single use commercial in a residential area.

6/21/2022 11:50 AM

Zoe Gruen

Small community businesses, cafes, boutiques, nature preservation, parks, walkable & bikeable, family friendly.

7/12/2022 02:15 PM

Voting Question (46 response(s), 4 skipped)
w/ 2022 (1 of 1) Essay Question

What are your thoughts on the proposed commercial development in the town center?

- Chase687
5/16/2022 04:25 PM

No commercial space needed when town center has not been developed and has unused space
- bbuhrow
5/16/2022 04:36 PM

There's typically not enough business to keep shops open. Keep your retail located where it is currently
- Mariana8182
5/16/2022 04:58 PM

Will you create job opportunities
- hometown
5/16/2022 05:49 PM

Keep small. Not large commercial. Intimate spaces to gather.
- Old Man
5/16/2022 07:23 PM

gangs
- antjuanac
5/16/2022 09:24 PM

Concerned that most of the commercial spaces will remain empty.
- mirlwood
5/16/2022 09:16 PM

more walking paths, less parking lots
- Brobert
5/17/2022 01:27 PM

Concerns: 1. Commercial center getting overrun by big name/chain restaurants (Wilsonville is saturated with these types of eateries). 2. Traffic congestion and parking. 3. Noise levels for surrounding residence. 4. Safety
- long time resident
5/18/2022 03:10 PM

excessive traffic on Stafford
- Ann
5/18/2022 10:25 AM

Traffic at the corner of Stafford and Boeckman is already congested without adding a retail center adjacent to this area. How will the traffic issue be addressed?

DonJ999
5/18/2022 11:00 AM

none

bree
5/18/2022 12:10 PM

Concern for more of the same: bank, nail salons, chain restaurants, dentists, etc. Want it to be a more unique experience to that specific neighborhood.

Ala
5/18/2022 02:19 PM

Traffic at Stafford and Boeckman would be too congested with retail center at or close to that intersection. How would additional traffic affect quality of life in the area?

Margie
5/19/2022 09:56 AM

There should be a farmers market area. A daily market with fresh vegetables, cheeses, bakery items, flowers etc would be great

MJ
5/22/2022 02:20 PM

Not having enough parking and/or safe access to cross traffic (on Stafford Rd) to get to it.

Bill Ciz
5/19/2022 12:21 PM

Would it ever be developed?

Garet Prior
5/19/2022 08:13 PM

Only the need to have enough housing density to attract and sustain commercial clients and transit.

Blinds2001
5/19/2022 10:11 PM

Increased traffic near my home and additional traffic on Stafford

JHerron
5/19/2022 10:19 PM

N/a

Bergera728
5/19/2022 10:25 PM

Traffic, not enough parking if big restaurants in the area

JRBD
5/19/2022 10:42 PM

The rental space costs must be reasonable and controlled to retain good, stable business.

Kasadie Neely
5/19/2022 11:25 PM

I don't want yall to build on advance

Trepen

5/20/2022 08:31 AM

Would like local owned businesses so the care of neighborhood remains important.

Alex2

5/20/2022 11:49 AM

Something that will be truly useful for the residents of that development. But I have a MAJOR concern about traffic congestion for that area due to the increased population from the new homes. For starters, how the streets are/will be configured to have enough room for emergency vehicles to pass through. Villebois has some streets where it is almost impossible to have two way traffic. Boeckman and Stafford roads in their present state will not be able to accommodate the additional traffic more development will bring. Currently the nearby intersection of SW Ellingsen Rd, SW 65th Ave (that gets backed up for a mile waiting for cars to do left or right turns due to the stop sign) and SW Stafford Rd gets very busy during peak traffic hours. Then once the I-5 and I-205 tolling starts, off highway streets will become even more congested creating a nightmare for driving. Traffic really needs to be addressed BEFORE building an people moving in.....please be proactive and ask the community for input about solutions and vs. how it seems the I-5/I-205 tolling is being implemented without citizens' approval, etc.

Mtnman67

5/20/2022 11:36 AM

Road unable to handle all the additional traffic

Boldaddy

5/20/2022 01:00 PM

Worry that developers will want to build auto-oriented parking lots in front of buildings.

Wayne Hickey

5/20/2022 12:43 PM

Concern about parking spaces, ingress/egress that could interfere with traffic flow.

Jgreenfi

5/23/2022 04:31 PM

all-weather access, open plan, child-friendly

Veronica

5/20/2022 02:52 PM

Traffic

amygraphics

5/22/2022 09:10 AM

Parking concerns

ssmith

5/23/2022 02:46 PM

Please have affordable housing and public transit options. So many long-time Wilsonville residents are being pushed out of the community because it is becoming too unaffordable. Please consider

a diverse community when envisioning the new developments.

fbrwilsonville
5/23/2022 04:56 PM

Traffic

Nmfteen
5/23/2022 07:02 PM

Stafford, 65th and Elligsen already struggle heavily with traffic. This would create a greater burden. Especially in the event of a large scale emergency this could pose an evacuation risk as well. Damage to the ecosystem and wildlife is a major concern as well as impact on our farming / livestock families.

Andrew Karr
5/24/2022 06:23 AM

Proximity to 'Town Center, population to sustain, development only after build-out almost complete

barbara
5/24/2022 06:27 AM

NEED ANOTHER FREEWAY ACCESS

Brad Williams
5/24/2022 09:54 AM

I'm concerned that retail sapaces would not be successful and remain empty like Villebois.

MissyCC
5/24/2022 06:12 PM

NO MEDICAL (lots of traffic and parking demands); NO FITNESS CENTERS (parking problems and lots of noise)

sparkle
5/24/2022 06:35 PM

food carts at the grange

NR
5/25/2022 08:57 AM

Wilsonville needs more restaurants and stores to accommodate the growing city, we simply don't have nearly enough. We also need to figure out the traffic situation that these communities will generate.

Holly Dixon
5/27/2022 01:59 PM

Would be nice to integrate places to sit outside and incorporate greenery into the small neighborhood commercial center

Debidokun
6/02/2022 12:21 PM

Small business loans

Shannon
6/06/2022 11:15 PM

-traffic increase -public transit bringing in homeless to the area

Zoe Gruen
7/12/2022 02:15 PM

No more big box stores & multinational corporations. Less starbucks & fast food, more small local businesses with local goods. Preserve as much of the natural environment as possible. Minimize pollution, toxic pesticides, etc. Keep the car traffic to a minimum.

Voting Question (43 response(s), 7 skipped)
Writing Question

What is the most important thing to preserve in the area? (43 responses)

Chase687
5/16/2022 04:25 PM

Bulldoze it over

bbuhrow
5/16/2022 04:36 PM

No preference

Mariana8182
5/16/2022 04:58 PM

None

hometown
5/16/2022 05:49 PM

Small performance space. Community gathering. Short term rent for Community (2-3 days) for private sale.

Old Man
5/16/2022 07:23 PM

Theater

antjuanac
5/16/2022 09:24 PM

It should be preserved in its historic location and style.

mirlwood
5/16/2022 09:16 PM

more green space and green space, permeable landscape

Brobert
5/17/2022 01:27 PM

Turn it into an open air structure, allow a restaurant to use it for outdoor seating

long time resident
5/18/2022 03:10 PM

keep it as is, historically correct

Ann
5/18/2022 10:25 AM

noneWould

DonJ999

5/18/2022 11:00 AM

Garden

bree

5/18/2022 12:10 PM

Potentially move away from the road, have to opportunity for the neighborhood to host community events.

Margie

5/19/2022 09:56 AM

There should be something there that would actually draw people, a coffee counter (small business opportunity for someone). Picnic tables, walking trails, bird feeders, Guest speakers, comfortable seating.

MJ

5/22/2022 02:20 PM

Preserve as much of it in it's original state, as possible.

Bill Ciz

5/19/2022 12:21 PM

None

Garet Prior

5/19/2022 08:13 PM

Make it a feature that pedestrians can access.

Blinds2001

5/19/2022 10:11 PM

It's an under-utilized space, but needs some updating and increased parking

JHerron

5/19/2022 10:19 PM

N/a

JRBD

5/19/2022 10:42 PM

Museum, gift shop, books, coffee/wine/ice cream similar to Butteville Store but with performance stage/facilities rental capabilities.

Kasadie Neely

5/19/2022 11:25 PM

No

Trepen

5/20/2022 08:31 AM

None

Alex2

5/20/2022 11:49 AM

Definitely preserve that building! Wilsonville has lost so much of its history by the removal of old buildings.....not much left so it has lost its uniqueness and character. Aurora, Newberg, Oregon City, just to name a few nearby towns have character due to their preservation of

older buildings, especially in a specific area. The Frog Pond Grange building would be a good candidate for a community center with part of it being used as sort of a museum. Maybe at a minimum have old pictures hung to show what the building used to be used for as well as what the area used to look like when it was farmland nearby. It would be nice to have it as an active building for all to use vs. a building usually closed up unless someone rents it for an event.

Mtnman67

5/20/2022 11:36 AM

Turn it into a historical site for future gathering place for families to use as a place for parties

Boldaddy

5/20/2022 01:00 PM

Make it a brewery/winery or Maker Space

Wayne Hickey

5/20/2022 12:43 PM

Meeting space, arts center, educational opportunities for Wilsonville citizens.

Jgreenfi

5/23/2022 04:31 PM

Convenient and attractive walking access from the neighborhood, including pedestrian crossing from the West Neighborhood. Look for possible recreation facilities in the BPA easement. Perhaps a landscaped picnic area

Veronica

5/20/2022 02:52 PM

None

fbrwilsonville

5/23/2022 04:56 PM

Take it down

Nmfteen

5/23/2022 07:02 PM

Continual preservation, allowance as a place of worship or improving it to allow for use as a community/rec center

Andrew Karr

5/24/2022 06:23 AM

Park/open space surrounding

barbara

5/24/2022 06:27 AM

NEED ANOTHER FREEWAY ACCESS

MissyCC

5/24/2022 06:12 PM

insulation (noise as well as heat/cooling); benches for sitting (aging population), walkways with gradual slopes instead of stairs

sparkle
5/24/2022 06:35 PM
move it east to the power lines then you will have parking and access who pays for the land around the grange?

NR
5/25/2022 08:57 AM
Remodel for sure and make it into a breakfast/coffee place.

Debidokun
6/02/2022 12:21 PM
A lodge or performance venue

Shannon
6/06/2022 11:15 PM
Then it into a country restaurant! Farm-to-table.

Philip Bradford
6/21/2022 11:50 AM
Public plaza, community center, meeting rooms, additional green space around the building or complimentary new buildings to add to a sense of place by the grange building.

Zoe Gruen
7/12/2022 02:15 PM
Could be a community center, host youth activities, especially for teens.

V (Q 24 T t Q 2 (38 response(s), 12 skipped)
w t Q 2 r (t d Essay Question

wPJ | rp W 00 t 4 Q har M i t m: a C ay t 200 Q a r r at th W ar M a al r h 4 r k r ay t 5 W r t r 0 2 r a r h r a 2 l
e 4 Q

Chase687
5/16/2022 04:25 PM
Put the park in a location that allows maximum community enjoyment while discouraging camping.

bbuhrow
5/16/2022 04:36 PM
No preference

Mariana8182
5/16/2022 04:58 PM
None

hometown
5/16/2022 05:49 PM
Walking paths with accessibility for wheelchairs, dog walkers, dog poop bags with garbage cans close by. separate from bike paths, well divided for small children biking separated by adult bikes. Cement Benches for resting, accessibility along path to fill water bottles.

Old Man 5/16/2022 07:23 PM	for small children
antjuanac 5/16/2022 09:24 PM	Please include a kids bike park and a sports field.
mirlwood 5/16/2022 09:16 PM	natural park space, playground
PattyT 5/16/2022 10:07 PM	Bathrooms, sitting areas, covered patios that can be reserved
Brobert 5/17/2022 01:27 PM	Make it walkable with nature trails similar to the area near the river in Memorial Park with the natural play area (e.g., log usage for teepees). Minimize the amount of the park equipment (skate park, courts, etc.)
long time resident 5/18/2022 03:10 PM	none
Ann 5/18/2022 10:25 AM	Would be nice to include hiking trails and picnic areas.
DonJ999 5/18/2022 11:00 AM	no ideas
bree 5/18/2022 12:10 PM	Keep as natural as possible, more like grahams ferry nature park with peaceful walking trails.
Ala 5/18/2022 02:19 PM	Hiking trails, child playground area.
Margie 5/19/2022 09:56 AM	Leave the trees! Make the park fit into the landscape. Paths for walking, connecting paths through the neighborhood. Play equipment in various areas in the park. A place that birds and wildlife can survive in.
MJ 5/22/2022 02:20 PM	The neighborhood park on the corner of Advance and 60th is set to be 5-10 acres, as far as I know. A much smaller park with areas (swings, rubberized ground cover, etc.) for young toddlers may be all that's needed in Frog Pond East. (Similar to Murase Plaza, on a

smaller scale).

Bill Ciz

5/19/2022 12:21 PM

Typical small park amenities, swings for little kids, picnic tables...etc

Garet Prior

5/19/2022 08:13 PM

Playgrounds.

Blinds2001

5/19/2022 10:11 PM

Inclusive, nature inspired

Cdbarnes

5/19/2022 10:25 PM

Artificial turf Bocce ball courts

JHerron

5/19/2022 10:19 PM

N/a

JRBD

5/19/2022 10:42 PM

Indoor skating rink.

Kasadie Neely

5/19/2022 11:25 PM

No

Alex2

5/20/2022 11:49 AM

It would be nice to have a park with a playground for children and grass and trees for them to run around.

Mtnman67

5/20/2022 11:36 AM

More parks than housing

Boldaddy

5/20/2022 01:00 PM

cornhole, pump track, futsal court, pickle ball

Wayne Hickey

5/20/2022 12:43 PM

Sufficient play equipment for children, picnic tables and benches, a dog park (one park could have a large dog park and the other park could have a small dog park.)

Jgreenfi

5/23/2022 04:31 PM

Dog park community garden in the BPA easement, picnic area in a centrally located area unless located near the Grange;, basketball court centrally located unless provided adequately in the South Neighborhood park.

fbrwilsonville
5/23/2022 04:56 PM

Make it similar to the other parks in wilsonville

Nmfteen
5/23/2022 07:02 PM

Fountain/water feature as used in other areas of the city, tennis court,

Andrew Karr
5/24/2022 06:23 AM

picnic area, basketball hoops, walking areas, biking paths

barbara
5/24/2022 06:27 AM

NEED ANOTHER FREEWAY ACCESS

MissyCC
5/24/2022 06:12 PM

trees for shade, benches for sitting along a path, picnic benches near play areas, water features

sparkle
5/24/2022 06:35 PM

there is a small forrest on Kahle Lane who buys a park and who takes care of it?

Holly Dixon
5/27/2022 01:59 PM

Would be nice if it was easy to access from other neighborhood on a walking path; maybe a way to highlight native plant and animal species; water feature would be nice

Debidokun
6/02/2022 12:21 PM

Groceries and childcare

Shannon
6/06/2022 11:15 PM

Splash pad. Playground. Walking trails through neighborhood that preserve the natural habitat.

Philip Bradford
6/21/2022 11:50 AM

Not sure of specific amenities at this point but the neighborhood park in frog pond west and frog pond east should serve different purposes and have very unique designs so that people from both sides of the neighborhood cross over to use both depending on their needs.

Zoe Gruen
7/12/2022 02:15 PM

Community gardens, nature trails

V (Q24 T t Q2 (39 response(s), 11 skipped)
w t Q2 r t d Essay Question

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42I rfi i 42At ma4I rAar0V 400a 7g t r0 042rMrt t krg 0 I T mAVha T

bbuhrow
5/16/2022 04:36 PM

No preference

Mariana8182
5/16/2022 04:58 PM

None

hometown
5/16/2022 05:49 PM

Please see above.

Old Man
5/16/2022 07:23 PM

picnic shelter

antjuanac
5/16/2022 09:24 PM

It should include a large kids water park and several covered shelters.

mirlwood
5/16/2022 09:16 PM

picnic shelter, more natural park space

PattyT
5/16/2022 10:07 PM

Bathrooms, sitting areas, covered patios that can be reserved

Brobert
5/17/2022 01:27 PM

Make it walkable and dog friendly.

Ann
5/18/2022 10:25 AM

Would be nice to include hiking trails and picnic areas.

DonJ999
5/18/2022 11:00 AM

no ideas

bree
5/18/2022 12:10 PM

Add more activity areas for middle schoolers. Most parks tend to be geared toward little kids.

Ala
5/18/2022 02:19 PM

Hiking trail and playground.

Margie

Plant trees, leave some natural areas. Encourage walking and biking.

5/19/2022 09:56 AM	Use the middle school parking. No new parking! No road. Paths. We have enough sports fields in the other parks and schools in Wilsonville.
MJ 5/22/2022 02:20 PM	Given the size of it, rest-rooms, picnic tables, ball fields, etc., like a smaller version of Memorial Park. Some type of "water feature" like two other parks have in Wilsonville.
Bill Ciz 5/19/2022 12:21 PM	Tennis courts, a baseball field, and a soccer field for day use only.
Garet Prior 5/19/2022 08:13 PM	Public art.
Blinds2001 5/19/2022 10:11 PM	It would be nice to have a space that is geared toward younger kids- a toddler style park
Cdbarnes 5/19/2022 10:25 PM	Artificial turf Bocce ball court and Pickle ball courts
JHerron 5/19/2022 10:19 PM	N/a
Bergera728 5/19/2022 10:25 PM	Turf, sports fields
JRBD 5/19/2022 10:42 PM	Lots of shelter/covering/heat sources. This is Oregon, after all.
Kasadie Neely 5/19/2022 11:25 PM	No
Trepen 5/20/2022 08:31 AM	Possible a skate park would be nice.
Alex2 5/20/2022 11:49 AM	So much of development removes trees and it would be nice to have an area nearby residents can walk or drive to in order to relax and be part of nature, enjoying trees and more of a natural type of landscaping. Seems Wilsonville has lost a number of trees due to last year's ice storm plus with the changing climate, more trees is a plus. A number of people enjoy Graham Oaks and Memorial Park since

they have a natural setting people can walk through. Not sure if that is a viable option for that space.

Mtnman67

5/20/2022 11:36 AM

Large park playground for all abilities

Boldaddy

5/20/2022 01:00 PM

cornhole, pump track, futsal court, pickle ball

Wayne Hickey

5/20/2022 12:43 PM

Sufficient play equipment, picnic tables and benches, a dog park (one park could have a large dog park and the other park could have a small dog park.)

Jgreenfi

5/23/2022 04:31 PM

Coordinate with needs met in South Neighborhood Park and Memorial Park.

Veronica

5/20/2022 02:52 PM

Park with basketball courts, tennis courts and track. Playground for elementary age children.

fbrwilsonville

5/23/2022 04:56 PM

Make it similar to the other parks in wilsonville

Nmfteen

5/23/2022 07:02 PM

Pool

Andrew Karr

5/24/2022 06:23 AM

Sports fields, walking, and biking, enough parking for sports fields.

barbara

5/24/2022 06:27 AM

NEED ANOTHER FREEWAY ACCESS

Brad Williams

5/24/2022 09:54 AM

Splash park.

MissyCC

5/24/2022 06:12 PM

Noise barrier (trees, tall shrubs, etc.) restricted access - keep school functions separate

Holly Dixon

5/27/2022 01:59 PM

Public tennis courts would be nice!

Debidokun

6/02/2022 12:21 PM

Something geared towards community activities

Shannon

6/06/2022 11:15 PM

Exercise stations (eg pull-ups, sit-ups, etc) on pathway around fields.

Philip Bradford

6/21/2022 11:50 AM

Since it's near a school it should include many children friendly features such as play equipment and multi purpose areas within the park.

Zoe Gruen

7/12/2022 02:15 PM

Plenty of shade cover, picnic benches, playgrounds for little ones, water park or swimming/wading pool, restrooms, drinking fountains.

Voting Question (40 response(s), 10 skipped)

What is the best way to... Essay Question

Q1 An Accessory Dwelling Unit (ADU) is an independent living space located on the same property as a larger residential unit; either attached or unattached. What is your interest in ADUs?

Responder

Response

Anonymous

12/04/2021 02:39 PM

I'm a homeowner and I am not interested in building an ADU on my property but would be open to them in my neighborhood

Anonymous

12/05/2021 12:46 PM

I'm a homeowner and I am unsure about ADUs

Anonymous

12/09/2021 09:26 AM

I'm a homeowner and I am not interested in building an ADU

Anonymous

12/09/2021 11:17 AM

I'm a homeowner and I am interested in building an ADU

Anonymous

12/09/2021 11:26 AM

I'm a homeowner and I am not interested in building an ADU

Anonymous

12/09/2021 02:00 PM

I'm a homeowner and I am not interested in building an ADU

Anonymous

12/09/2021 06:19 PM

I'm a homeowner and I am not interested in building an ADU on my property but would be open to them in my neighborhood

Anonymous

12/09/2021 09:30 PM

I'm a homeowner and I am not interested in building an ADU

Anonymous

12/17/2021 11:33 AM

I'm a homeowner and I am interested in building an ADU

Anonymous

12/17/2021 12:49 PM

I'm a homeowner and I am not interested in building an ADU on my property but would be open to them in my neighborhood

Anonymous

1/10/2022 07:43 AM

I'm a homeowner and I am unsure about ADUs

Anonymous

1/10/2022 03:18 PM

I'm a homeowner and I am not interested in building an ADU

Anonymous

1/10/2022 03:32 PM

I'm a homeowner and I am not interested in building an ADU on my property but would be open to them in my neighborhood

Anonymous

1/10/2022 04:21 PM

I'm a homeowner and I am not interested in building an ADU

Anonymous

1/10/2022 07:35 PM

I'm a renter and I am unsure about ADUs

Anonymous

1/11/2022 07:49 AM

I'm a homeowner and I am interested in building an ADU

MissyCC

1/12/2022 09:16 PM

I'm a homeowner and I am interested in building an ADU

Anonymous

1/17/2022 01:17 PM

I'm a homeowner and I am interested in building an ADU

Anonymous

1/19/2022 08:52 PM

I'm a homeowner and I am not interested in building an ADU

Anonymous

1/24/2022 01:05 PM

I'm a homeowner and I am not interested in building an ADU on my property but would be open to them in my neighborhood

Anonymous

2/17/2022 06:20 PM

I'm a homeowner and I am not interested in building an ADU on my property but would be open to them in my neighborhood

Anonymous

2/23/2022 01:32 PM

I'm a homeowner and I am not interested in building an ADU on my property but would be open to them in my neighborhood

Sjames

2/28/2022 11:36 PM

I'm a homeowner and I am not interested in building an ADU

ssmith

3/01/2022 06:52 AM

I'm a homeowner and I am interested in building an ADU

Sean

3/06/2022 10:15 PM

I'm a homeowner and I am not interested in building an ADU

Anonymous

3/12/2022 07:04 AM

I'm a homeowner and I am not interested in building an ADU

Anonymous

3/18/2022 09:27 AM

I'm a homeowner and I am not interested in building an ADU on my property but would be open to them in my neighborhood

Rachelle

3/23/2022 01:15 AM

I'm a renter and I am interested in living in an ADU

Anonymous

5/02/2022 09:45 PM

I'm a renter and I am interested in living in an ADU

Anonymous

5/03/2022 02:47 PM

I'm a renter and I am interested in living in an ADU

PattyT

5/03/2022 04:08 PM

I'm a homeowner and I am interested in building an ADU

susanh

5/06/2022 07:08 AM

I'm a homeowner and I am not interested in building an ADU on my property but would be open to them in my neighborhood

Buttermilk

5/07/2022 03:40 PM

I'm a homeowner and I am not interested in building an ADU

Anonymous

5/08/2022 08:32 PM

I'm a homeowner and I am unsure about ADUs

mirlwood

5/10/2022 10:00 PM

I'm a homeowner and I am not interested in building an ADU on my property but would be open to them in my neighborhood

Anonymous

5/11/2022 09:08 AM

I'm a homeowner and I am not interested in building an ADU

Anonymous

5/12/2022 10:08 AM

I'm a homeowner and I am not interested in building an ADU

Anonymous

5/19/2022 10:04 PM

I'm a renter and I am interested in living in an ADU

Anonymous

5/19/2022 10:49 PM

I'm a homeowner and I am not interested in building an ADU on my property but would be open to them in my neighborhood

Wayne Hickey

5/20/2022 12:45 PM

I'm a homeowner and I am not interested in building an ADU

Anonymous

5/20/2022 05:08 PM

I'm a homeowner and I am not interested in building an ADU

Brad Williams

5/24/2022 09:38 AM

I'm a homeowner and I am interested in building an ADU

Holly Dixon

5/27/2022 02:00 PM

I'm a homeowner and I am not interested in building an ADU

Anonymous

5/31/2022 11:52 PM

I'm a homeowner and I am unsure about ADUs

Anonymous

7/11/2022 11:45 AM

I'm a homeowner and I am not interested in building an ADU

Anonymous

7/22/2022 04:37 PM

I'm a renter and I am interested in living in an ADU

Anonymous

8/01/2022 11:19 AM

I'm a homeowner and I am not interested in building an ADU

Anonymous

8/02/2022 04:16 PM

I'm a homeowner and I am not interested in building an ADU on my property but would be open to them in my neighborhood

SPWilsonville

8/09/2022 12:03 PM

I'm a homeowner and I am interested in building an ADU

elee

8/23/2022 12:34 PM

I'm a homeowner and I am not interested in building an ADU on my property but would be open to them in my neighborhood

Housing Survey

SURVEY RESPONSE REPORT

19 July 2019 - 27 October 2022

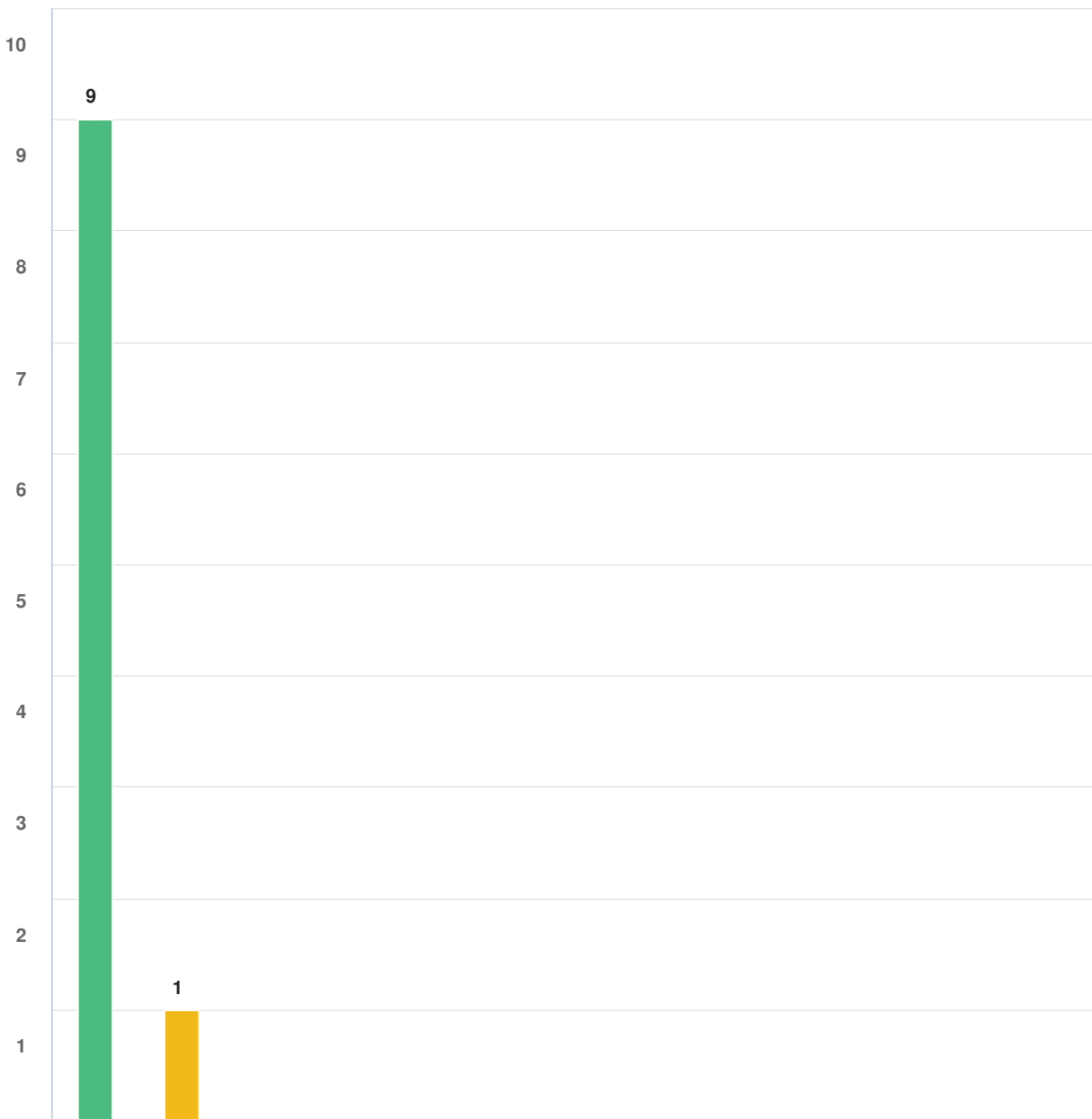
PROJECT NAME:

Frog Pond East and South Master Plan



SURVEY QUESTIONS

Q1 Which of the following types of housing do you currently live in?



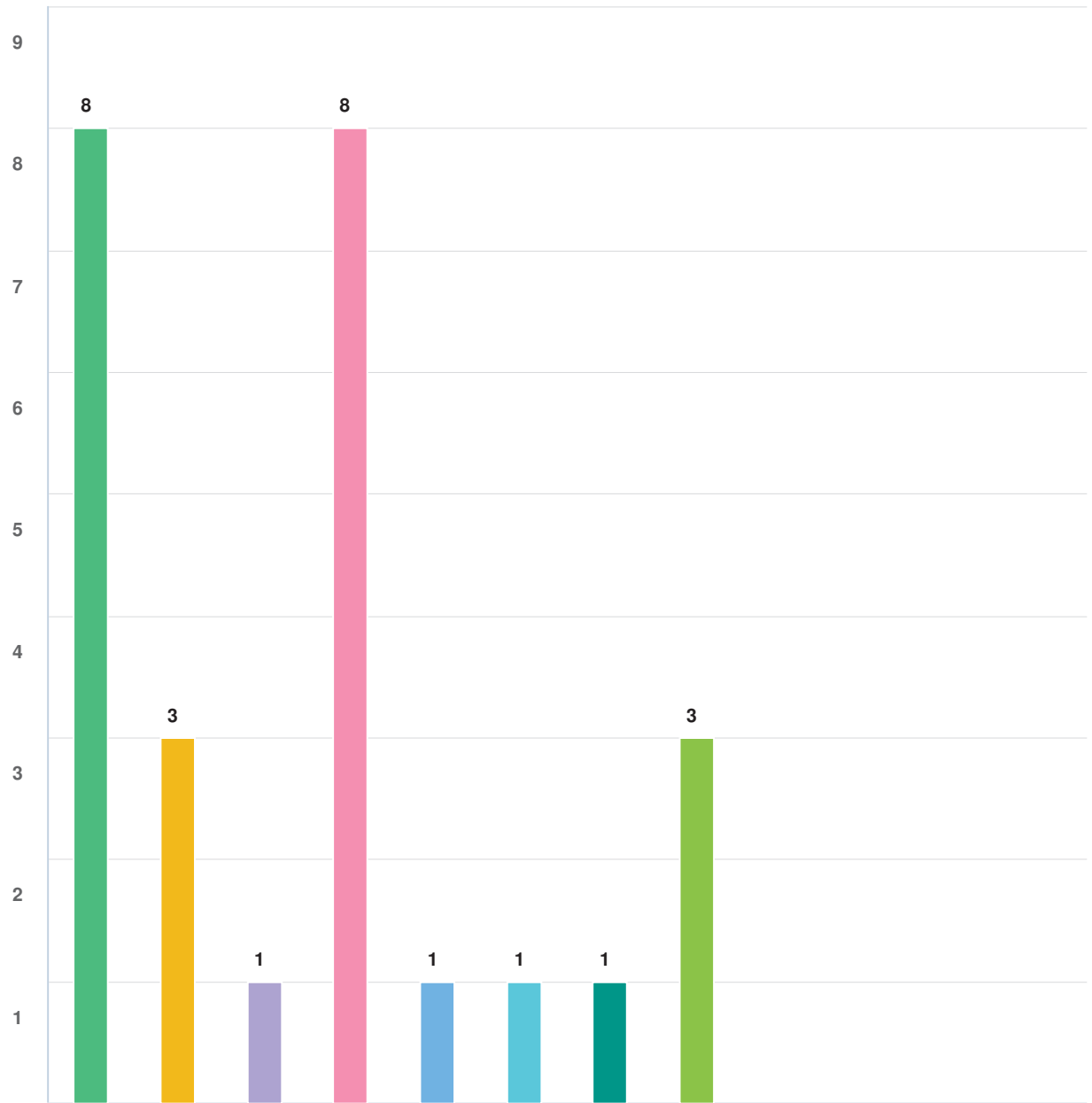
Question options

- Detached single-family home
- Apartment or Condo
- Duplex, triplex, quadplex
- Townhouse
- Manufactured Home or Mobile Home
- Cluster Housing
- Cottage Cluster
- Congregate housing (i.e. dorms, etc.)
- Accessory Dwelling Unit "ADU"
- RV (more than 30 days in a row without another home)
- I am currently houseless
- Other (please specify)

Mandatory Question (10 response(s))

Question type: Checkbox Question

Q2 Which of the following types of housing have you lived in during your life? (select all that apply)

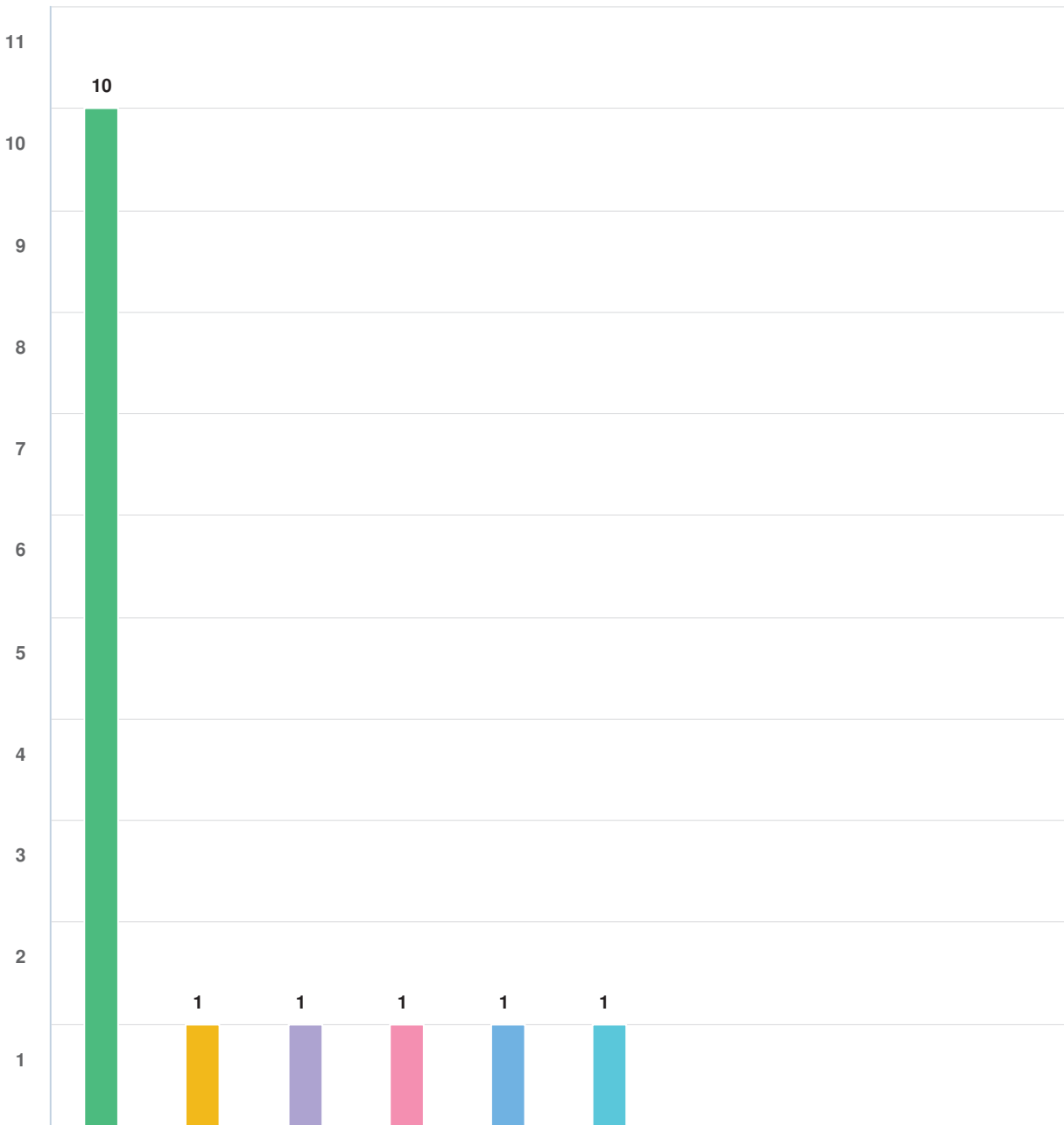


Question options

- Detached single-family home
 ● Duplex, triplex, quadplex
 ● Townhouse
 ● Apartment or Condo
- Cluster Housing
 ● Accessory Dwelling Unit "ADU"
 ● Manufactured Home or Mobile Home
- Congregate housing (i.e. dorms, etc.)
 ● Cottage Cluster
 ● RV (more than 30 days in a row without another home)
- I have experienced being houseless
 ● Other (please specify)

Mandatory Question (10 response(s))
Question type: Checkbox Question

**Q3 Which of the following types of housing do you think you may live in in the future?
(select all that apply)**

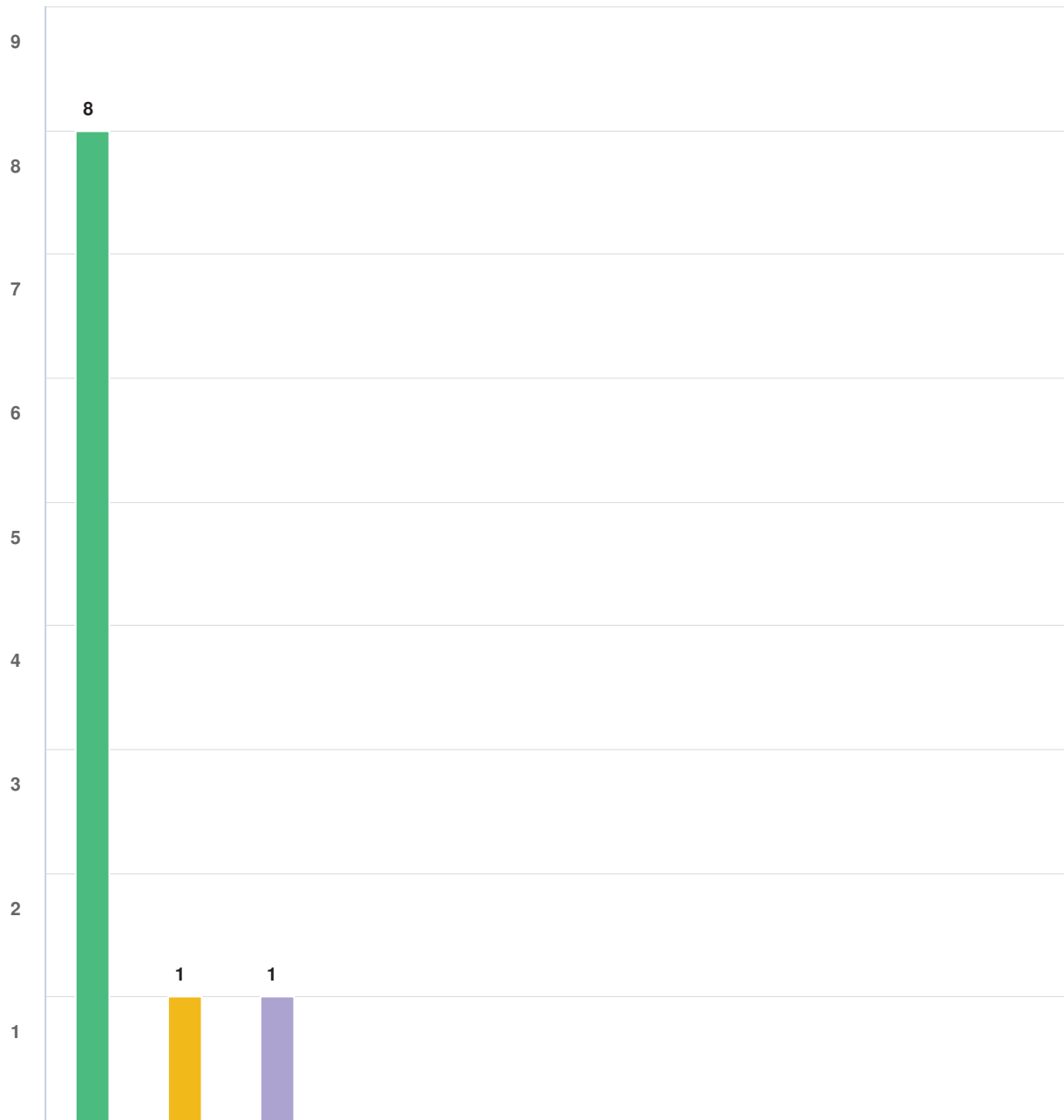


Question options

- Detached single-family home
- Duplex, triplex, quadplex
- Townhouse
- Cluster Housing
- Cottage Cluster
- Accessory Dwelling Unit "ADU"
- Apartment or Condo
- Manufactured Home or Mobile Home
- RV (more than 30 days in a row without another home)
- Congregate housing (i.e. dorms, etc.)

*Mandatory Question (10 response(s))
Question type: Checkbox Question*

Q4 If you were searching for a home in Wilsonville today or in the next few years, and cost was not a consideration, which of ...

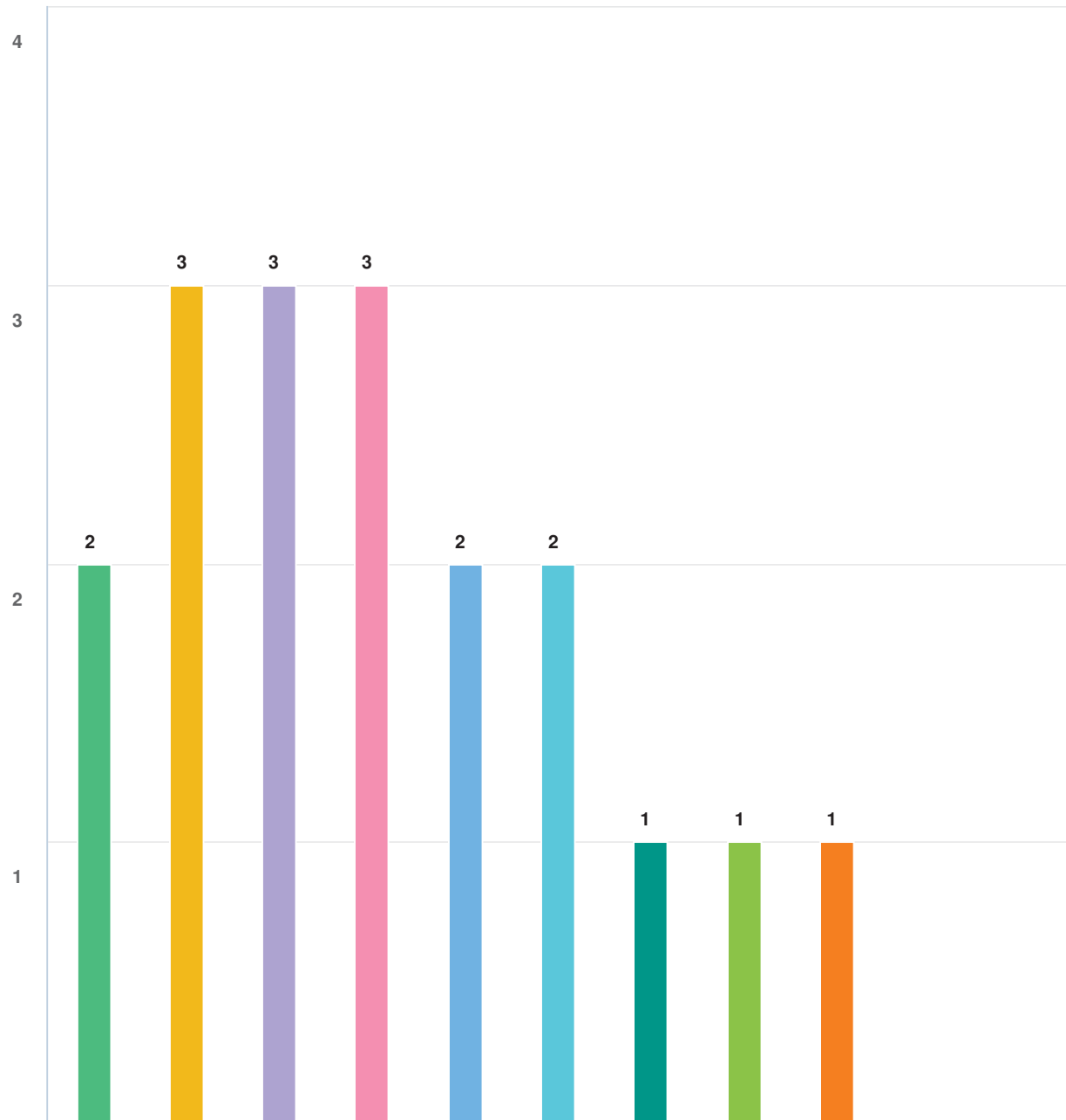


Question options

- Detached single-family home
- Townhouse
- Cottage Cluster
- Duplex, triplex, quadplex
- Apartment or Condo
- Cluster Housing
- Manufactured Home or Mobile Home
- Accessory Dwelling Unit "ADU"
- RV
- Congregate housing (i.e. dorms, etc.)
- Other (please specify)

Mandatory Question (10 response(s))
Question type: Checkbox Question

Q5 If you could not afford the preferred type of housing indicated in Question 5, which of the following types of housing woul...

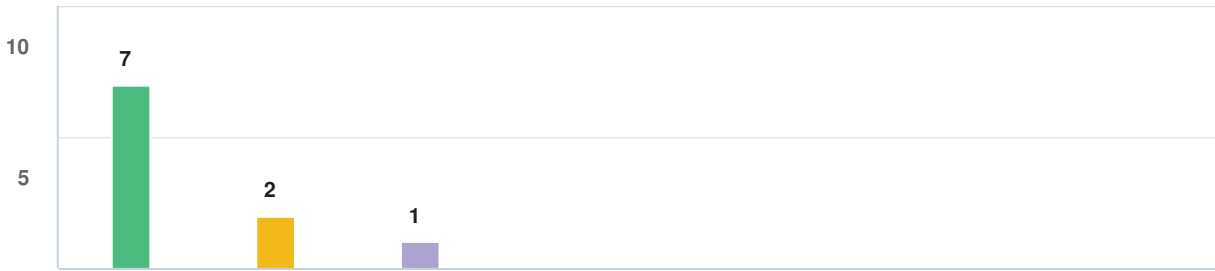


Question options

- Detached single-family home
 ● Duplex, triplex, or quadplex
● Townhouse
● Apartment or Condo
- Cluster Housing
 ● Cottage Cluster
● Accessory Dwelling Unit "ADU"
● Manufactured Home or Mobile Home
- RV
 ● Congregate housing (i.e. dorms, etc.)
● Other (please specify)

Mandatory Question (10 response(s))
 Question type: Checkbox Question

Q6 Which of the following best describes your current living situation?



Question options

- I own my home and have or share primary responsibility for the mortgage
- I own my home and it is paid off
- I rent my home and have or share primary responsibility for the rent
- I live in a home owned by family or friends but do not help pay the mortgage
- I live in a home rented by family or friends but do not help pay the rent
- I do not have secure housing or I am currently houseless
- Unsure
- Other (please specify)

Mandatory Question (10 response(s))

Question type: Checkbox Question

Encuesta Comunitaria

SURVEY RESPONSE REPORT

19 July 2019 - 27 October 2022

PROJECT NAME:

Frog Pond East and South Master Plan



SURVEY QUESTIONS

Q1 ¿Cuál es su nombre?

Anonymous

Araceli Modesto

8/25/2022 07:04 PM

Mandatory Question (1 response(s))

Question type: Single Line Question

Q2 ¿Cuál es su correo electrónico o número de teléfono?

Anonymous

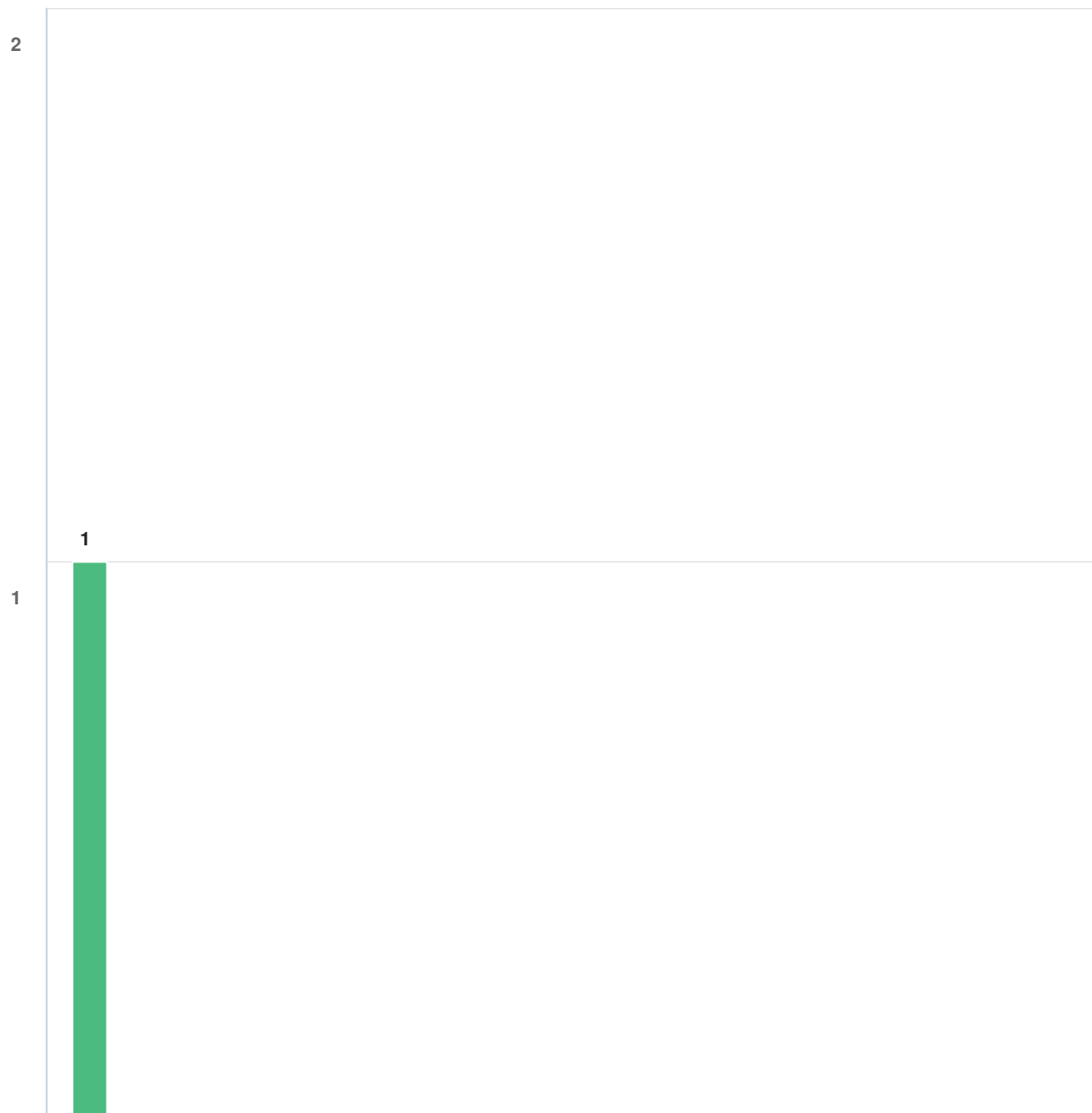
Aracelimodesto14@gmail.com

8/25/2022 07:04 PM

Mandatory Question (1 response(s))

Question type: Single Line Question

Q3 ¿En cuál de los tipos siguientes de vivienda vive actualmente?



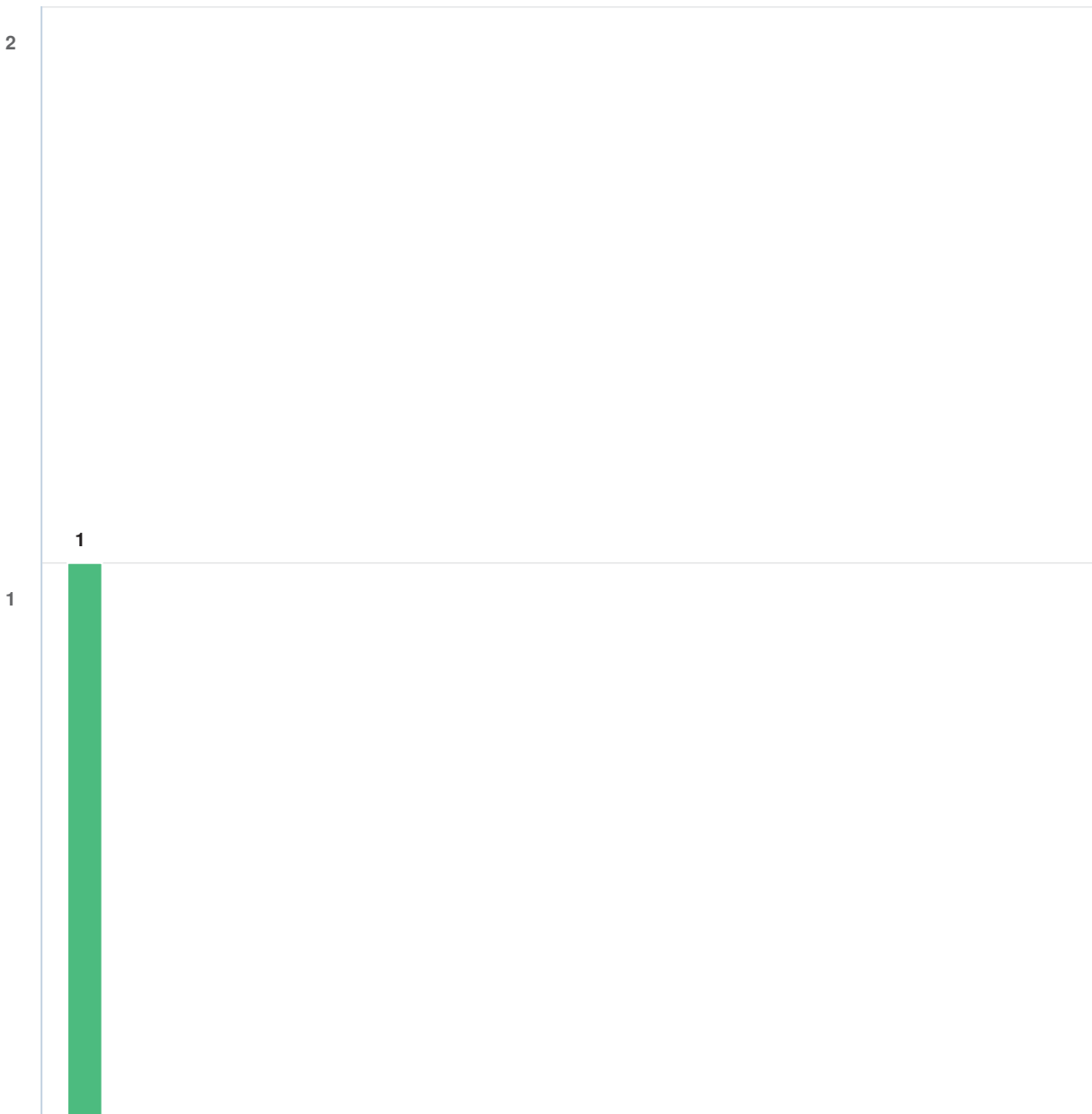
Question options

- Casa prefabricada o casa móvil
- Vivienda unifamiliar separada
- Dos unidades, tres unidades, cuatro unidades
- Casa adosada
- Apartamento o Condominio
- Vivienda en racimo
- Unidad de Vivienda Accesoría (ADU)
- Casas estilo cabaña
- Vivienda colectiva (es decir, dormitorios, etc.)
- RV (más de 30 días seguidos sin otra vivienda)
- Estoy sin casa ahorita
- Otro (por favor especifique)

Mandatory Question (1 response(s))

Question type: Checkbox Question

Q4 ¿En cuál de los tipos siguientes de vivienda ha vivido durante su vida (seleccione todas las que correspondan)

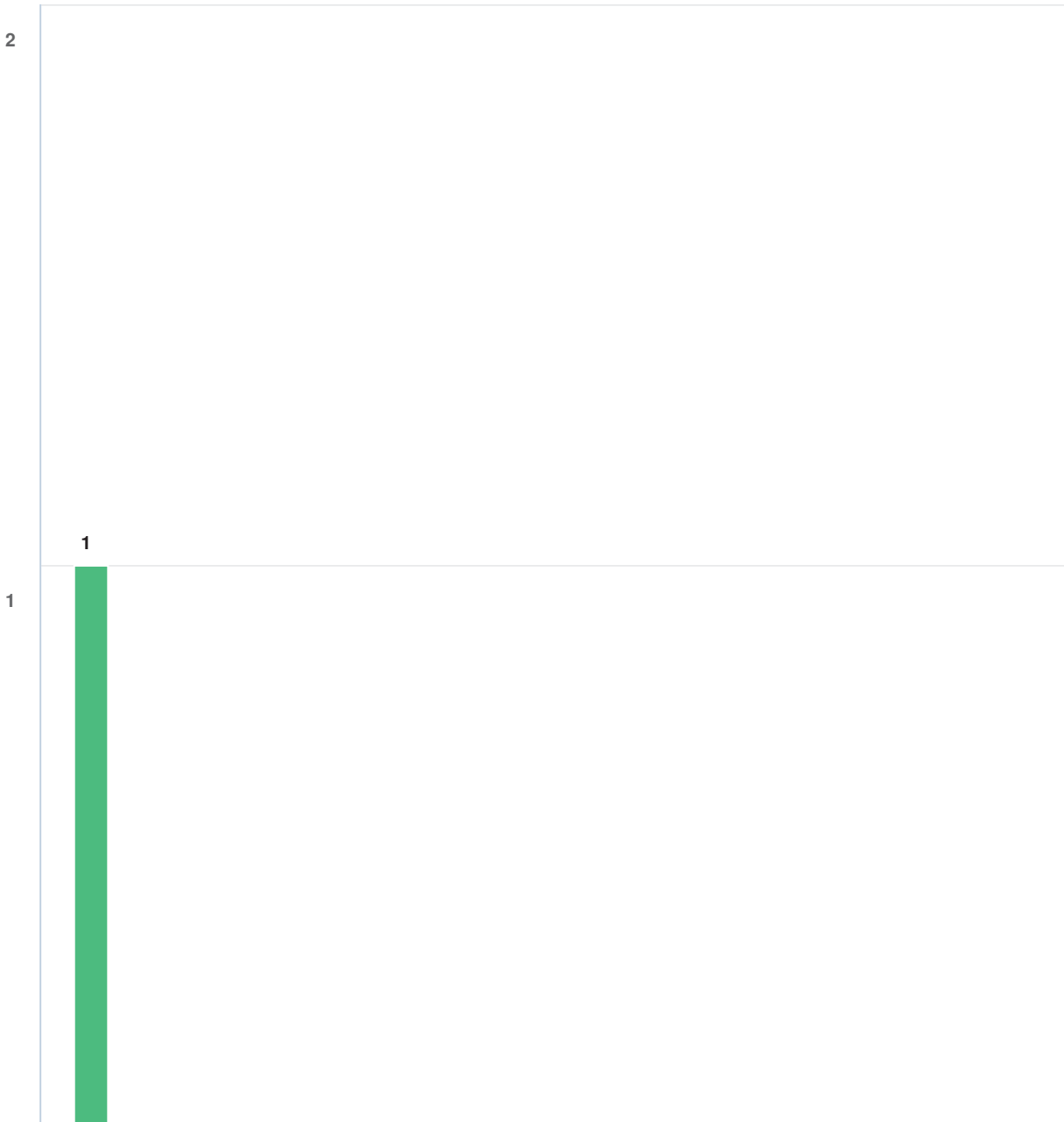


Question options

- Apartamento o Condominio
- Vivienda unifamiliar separada
- Dos unidades, tres unidades, cuatro unidades
- Casa adosada
- Casa prefabricada o casa móvil
- Vivienda en racimo
- Unidad de Vivienda Accesorio (ADU)
- Casas estilo cabaña
- Vivienda colectiva (es decir, dormitorios, etc.)
- RV (más de 30 días seguidos sin otra vivienda)
- He experimentado estar sin hogar
- Otro (por favor especifique)

Mandatory Question (1 response(s))
Question type: Checkbox Question

**Q5 ¿En cuál de los tipos siguientes de vivienda cree que podría vivir en el futuro?
(seleccione todas las que correspondan)**

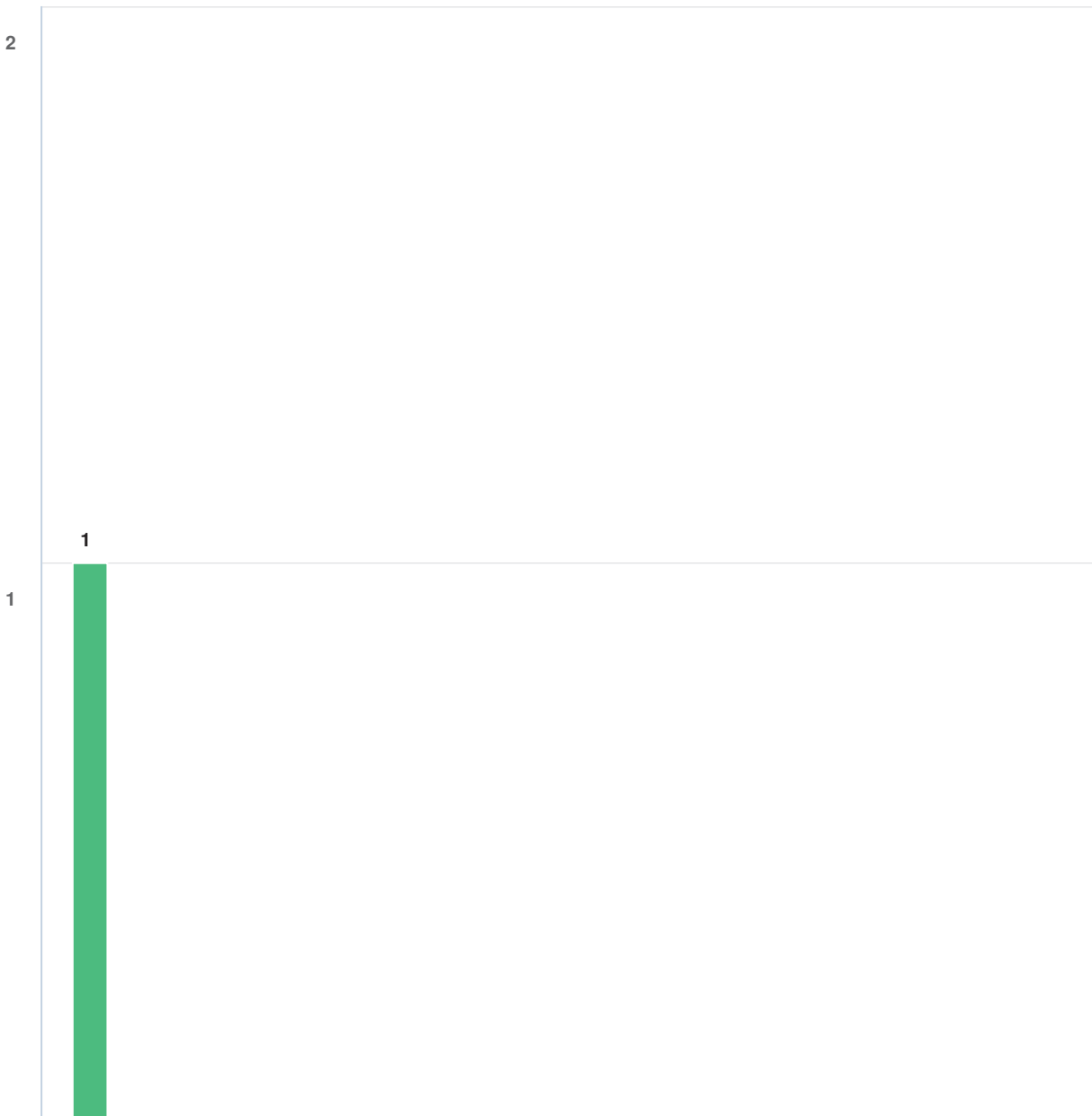


Question options

- Unidad de Vivienda Accesorio (ADU)
- Vivienda unifamiliar separada
- Dos unidades, tres unidades, cuatro unidades
- Casa adosada
- Apartamento o Condominio
- Casa prefabricada o casa móvil
- Vivienda en racimo
- Casas estilo cabaña
- Vivienda colectiva (es decir, dormitorios, etc.)
- RV (más de 30 días seguidos sin otra vivienda)

Mandatory Question (1 response(s))
Question type: Checkbox Question

Q6 Si estuviera buscando una casa en Wilsonville hoy o en los próximos años, y el costo no fuera una consideración, ¿cuál de l...

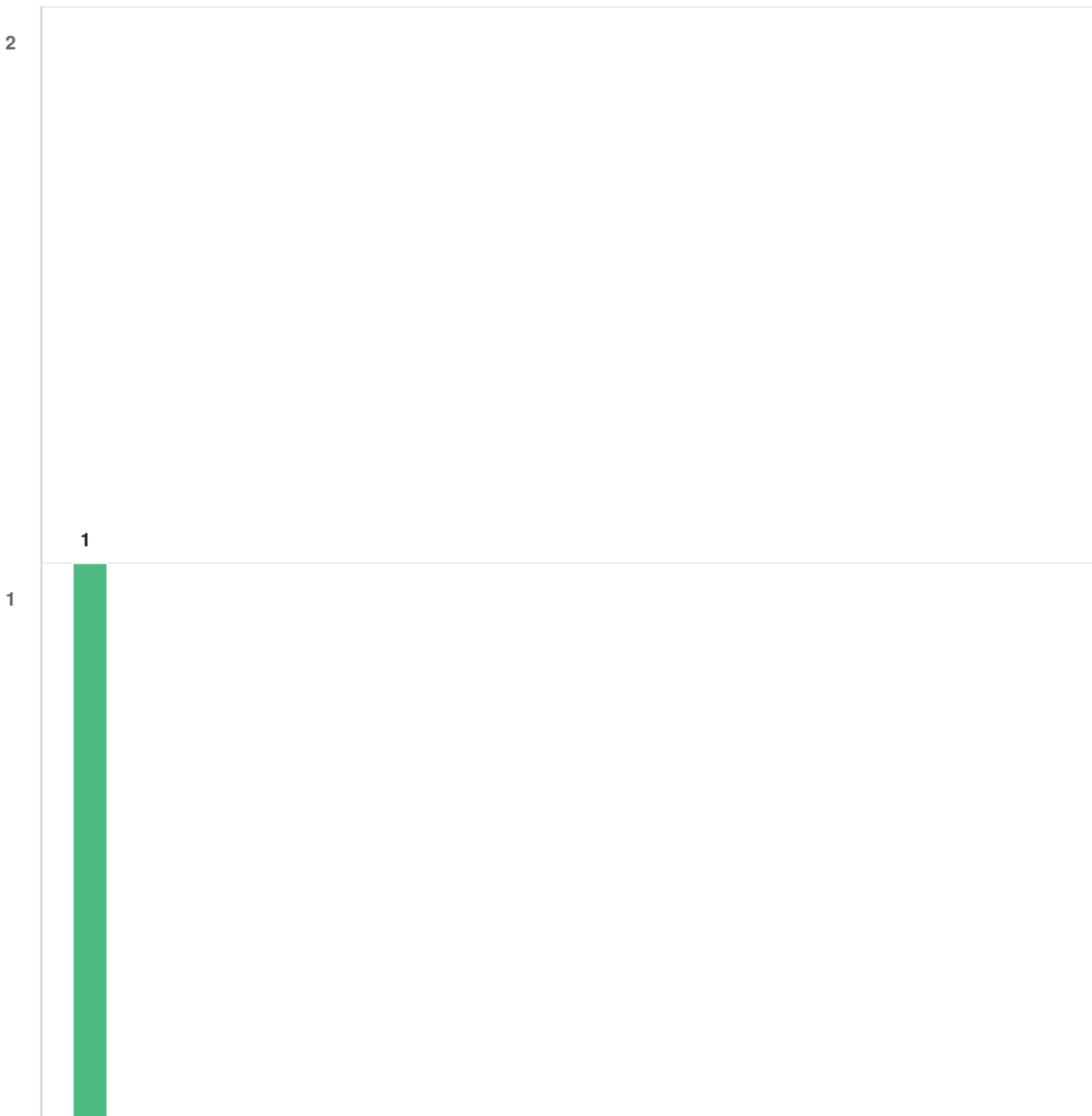


Question options

- Unidad de Vivienda Accesoría (ADU) ● Vivienda unifamiliar separada ● Dos unidades, tres unidades, cuatro unidades
- Casa adosada ● Apartamento o Condominio ● Casa prefabricada o casa móvil ● Vivienda en racimo
- Casas estilo cabaña ● Vivienda colectiva (es decir, dormitorios, etc.) ● RV (más de 30 días seguidos sin otra vivienda)
- Otro (por favor especifique)

Mandatory Question (1 response(s))
Question type: Checkbox Question

Q7 Si no pudiera pagar el tipo de vivienda preferido indicado en la Pregunta 4, ¿cuál de los tipos siguientes de vivienda cons...

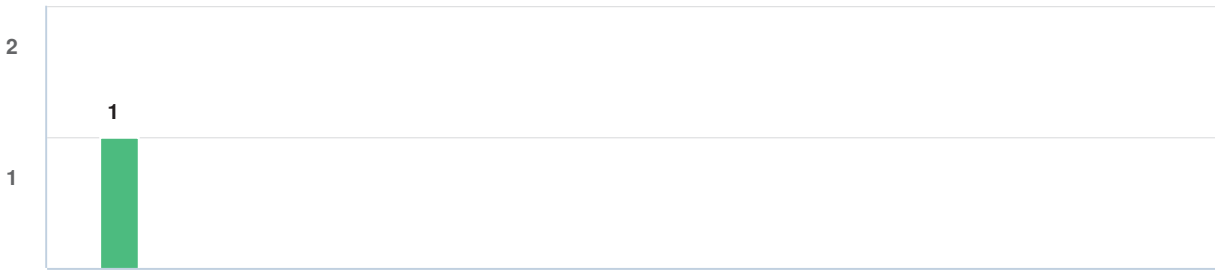


Question options

- Casa prefabricada o casa móvil
- Vivienda unifamiliar separada
- Dos unidades, tres unidades, cuatro unidades
- Casa adosada
- Apartamento o Condominio
- Vivienda en racimo
- Unidad de Vivienda Accesorio (ADU)
- Casas estilo cabaña
- Vivienda colectiva (es decir, dormitorios, etc.)
- RV (más de 30 días seguidos sin otra vivienda)
- Otro (por favor especifique)

Mandatory Question (1 response(s))
Question type: Checkbox Question

Q8 ¿Cuál de las siguientes describe mejor su situación de vida ahorita?



Question options

- Soy dueño de mi casa y está pagada
- Soy dueño de mi casa y tengo o comparto la responsabilidad principal de la hipoteca
- Alquilo mi casa y tengo o comparto la responsabilidad principal por el alquiler
- Vivo en una casa propiedad de familiares o amigos pero no ayudo a pagar la hipoteca
- Vivo en una casa alquilada por familiares o amigos pero no ayudo a pagar el alquiler
- No tengo una vivienda segura o estoy sin hogar ahorita
- Inseguro
- Otro (por favor especifique)

Mandatory Question (1 response(s))

Question type: Checkbox Question

Public Space Design

SURVEY RESPONSE REPORT

19 July 2019 - 27 October 2022

PROJECT NAME:

Frog Pond East and South Master Plan



SURVEY QUESTIONS

Q1 | What are your favorite large amenities or areas (i.e. sports fields, trails, shelters for large gatherings, natural areas, etc.) in Wilsonville's City parks? What do you like about these amenities or areas?

MOH

8/01/2022 11:31 AM

Trails for walking. I like being out in nature.

The Gannon Family

8/01/2022 11:29 AM

parks. good quality.

diagnosis_coder

8/01/2022 07:50 PM

Sports fields, trails and natural areas. I like that natural areas allow the wildlife a shelter as well.

michele

8/03/2022 09:42 AM

Sports fields-critical to the growing number of families in wilsonville

Francie

8/09/2022 05:10 PM

Wisoville memorial park water feature

ACurry3

8/09/2022 06:20 PM

Murase plaza park. I love the splash pad and lots of seating. I don't love how close the play area is tot he busy street though.

Natalie79

8/17/2022 06:34 PM

I love walking and biking trails and fun parks for the kids.

elee

8/23/2022 12:31 PM

Playgrounds for all ages, large gathering spaces, space for outdoor events, dog parks, community gardens. I like that they can offer larger programming opportunities closer to home.

swell23

8/25/2022 07:07 PM

Disc golf, water features and memorial park

Screenname

8/25/2022 07:11 PM

Disc golf, water features in memorial park. I like playing disc golf and cooling off in the water features.

Dolly44

8/27/2022 12:04 AM

Trails, shelters, natural areas. I like being able to get out and enjoy walks and nature.

Jgreenfi

8/27/2022 03:04 PM

We like to use the trails at Memorial Park, Graham Oaks Park, and the Boeckman Creek Crossing Trail

Breanna D

8/31/2022 01:08 PM

Memorial Park/Murase Plaza and Town Center splash park: My 4-year-old son loves to play in the water. Town Center Park is my favorite because it is not near busy roads and I can easily watch my son while taking care of my baby as well. It feels safer than the Murase Plaza splash park (especially with the busy road and no fence for running toddlers).

Optional question (13 response(s), 1 skipped)

Question type: Essay Question

Q2 | What are your favorite small to medium amenities or areas (i.e. benches, sitting areas, picnic covers, playgrounds, etc.) in Wilsonville's City parks? What do you like about these amenities or areas?

MOH

8/01/2022 11:31 AM

I don't use what is mentioned above.

diagnosis_coder

8/01/2022 07:50 PM

Playgrounds. What I like is the thoughtfully planned parks that allow the kids to play and be active, but also have a connection to nature.

michele

8/03/2022 09:42 AM

Playgrounds

Francie

8/09/2022 05:10 PM

Sitting areas and playground wilsonville memorial

ACurry3

8/09/2022 06:20 PM

Grove shelter, and town center park. Lots of covered areas for party's.

Natalie79

8/17/2022 06:34 PM

Villebois parks and play grounds.

elee

8/23/2022 12:31 PM

playground with swings / slides, covered areas to sit and eat lunch. A place to enjoy as a family without getting too crowded.

swell23

Playgrounds, water features and covered shelters

8/25/2022 07:07 PM

Screenname

8/25/2022 07:11 PM

Benches, playgrounds. I like sitting on the benches and playing in the playing in the playgrounds.

Dolly44

8/27/2022 12:04 AM

Sitting areas, picnic covers, benches and playgrounds. I like to have a place to picnic and enjoy the outdoors and to sit and relax and take in fresh air and the beauty.

Jgreenfi

8/27/2022 03:04 PM

We have used picnic tables at Memorial Park, both upper and near the river and would like to see more locations available for family use.

Breanna D

8/31/2022 01:08 PM

The parks and playgrounds in Wilsonville are great. Villebois has lots of very nice smaller parks.

Optional question (12 response(s), 2 skipped)

Question type: Essay Question

Q3 Is there an area or feature of in one or more of Wilsonville's City parks you avoid? If so, where? Please explain why.

diagnosis_coder
8/01/2022 07:50 PM

No, we like all the parks.

michele
8/03/2022 09:42 AM

Grass in the winter. We need more turfed spaces for people to enjoy throughout the year.

Francie
8/09/2022 05:10 PM

No

ACurry3
8/09/2022 06:20 PM

Splash area close to busy street.

Natalie79
8/17/2022 06:34 PM

No

swell23
8/25/2022 07:07 PM

No

Screenname
8/25/2022 07:11 PM

No

Jgreenfi
8/27/2022 03:04 PM

No problems at all

Breanna D
8/31/2022 01:08 PM

The upper area of Murase Plaza water feature (near the busy road) is challenging when managing multiple kids safely.

Optional question (9 response(s), 5 skipped)

Question type: Essay Question

Q4 What is the most important thing that should be considered in designing a City park in Frog Pond East and South?

MOH
8/01/2022 11:31 AM

walking paths, water feature, public art, clean, community garden, and big open space for public gatherings, ie concerts or farmers'

market

The Gannon Family

8/01/2022 11:29 AM

community pool please add

diagnosis_coder

8/01/2022 07:50 PM

Most important thing is to preserve all tree on the property. Second, have a good mix of natural preserve and play structures, sports amenities etc.

michele

8/03/2022 09:42 AM

Safe spaces for children to play. Areas for people to walk and perhaps spaces for dogs.

Francie

8/09/2022 05:10 PM

Picnic areas

ACurry3

8/09/2022 06:20 PM

Covered areas and plenty of seating. I'm a mom of three and it's the only time I sit down. It's so wonderful to have a shady place to watch the kids play

Natalie79

8/17/2022 06:34 PM

Safe & fun places for families, kids and dogs.

elee

8/23/2022 12:31 PM

I think a community garden that includes perennials shrubs and fruit trees along the perimeter would be fantastic. Something that can be shared and that inspires collaboration and sustainability.

swell23

8/25/2022 07:07 PM

Cool playground and water features and playinf areas for kids

Screenname

8/25/2022 07:11 PM

Homeless people

Jgreenfi

8/27/2022 03:04 PM

Accessibility, restrooms, and pleasant landscaping all equally important

Breanna D

8/31/2022 01:08 PM

safety, shade, fun

Optional question (12 response(s), 2 skipped)

Question type: Essay Question

Q5 Please rank the following in order of importance for inclusion in neighborhood parks and green spaces

OPTIONS	AVG. RANK
Trees and shade	3.31
Covered area for gatherings	3.73
Playground structure	3.85
Trails for walking/biking	3.92
Open grass areas	4.46
Benches	5.00
Community Garden	5.23
Pet Exercise Area	5.75

Optional question (13 response(s), 1 skipped)
Question type: Ranking Question

Q6 What other amenities not included in Question 5 are important to include in neighborhood parks and greenspaces?

MOH
8/01/2022 11:31 AM
water feature, public art

diagnosis_coder
8/01/2022 07:50 PM
Sports amenities like basketball hoop, tennis court etc.

Francie
8/09/2022 05:10 PM
Restrooms

ACurry3
8/09/2022 06:20 PM
Teatrooms

Natalie79
8/17/2022 06:34 PM

Community pool

elee
8/23/2022 12:31 PM

If doing a grassy area, making it not a monoculture, but a mix of micro clover as well. It's more sustainable, can be cut short just like grass, more drought tolerant and stays green longer, and doesn't burn from pet urination. It's also a nitrogen fixer, so the grass would not need fertilization to maintain it long term. I also think having a lot of tree canopy would be great for carbon reduction and lowering overall temperatures. The summers will only get hotter, so establishing good tree cover early will help keep everyone cooler.

swell23
8/25/2022 07:07 PM

Event space

Screenname
8/25/2022 07:11 PM

Deterring homeless people

Dolly44
8/27/2022 12:04 AM

Pools or water features that are fun for all.

Jgreenfi
8/27/2022 03:04 PM

restrooms, picnic tables

Breanna D
8/31/2022 01:08 PM

water features to play in, although Wilsonville already has great parks, so a bathroom

Optional question (11 response(s), 3 skipped)

Question type: Essay Question

Q7 What makes a street crossing or sidewalk comfortable for you?

MOH
8/01/2022 11:31 AM

pedestrian crossing light

diagnosis_coder
8/01/2022 07:50 PM

For a sidewalk - lots of trees. For a street crossing - pedestrian crossing lights (if it is a busy intersection)

michele
8/03/2022 09:42 AM

The freedom to cross in many places. Pedestrians need to take responsibility for their own safety when crossing in neighborhoods.

Francie

8/09/2022 05:10 PM

Good signage and a walk signal

ACurry3

8/09/2022 06:20 PM

High visibility

Natalie79

8/17/2022 06:34 PM

Good visibility

elee

8/23/2022 12:31 PM

Widely paved, not just a shoulder with a ditch (as is currently on Boeckman). Clearly marked crossings with a flashing sign for actively crossing busy streets.

swell23

8/25/2022 07:07 PM

Trees, flowers and grass

Screenname

8/25/2022 07:11 PM

No cars nearby at the time of crossing

Dolly44

8/27/2022 12:04 AM

To have a clear path and crosswalks

Jgreenfi

8/27/2022 03:04 PM

Well marked, on-demand signals, unobstructed view of traffic

Breanna D

8/31/2022 01:08 PM

standard safety features

Optional question (12 response(s), 2 skipped)

Question type: Essay Question

Q8 Not including parks, what is your favorite neighborhood or area to walk in Wilsonville?
What do you enjoy about the neighborhood or area?

MOH

8/01/2022 11:31 AM

Memorial Park

diagnosis_coder

8/01/2022 07:50 PM

Villebois - lots of trees on the side walk, integrated parks, good lighting.

Francie

8/09/2022 05:10 PM

Parks close to coffee shops

ACurry3

8/09/2022 06:20 PM

Graham oaks park.. love the wide trails.

Natalie79

8/17/2022 06:34 PM

Villebois. Beautiful. Quiet. Safe.

elee

8/23/2022 12:31 PM

Morgan Farm has a path near the ravine that is quite lovely to walk on.

swell23

8/25/2022 07:07 PM

I don't have a favorite location. A true downtown with trees, walking space and activities

Screenname

8/25/2022 07:11 PM

I have not visited anything besides a park in Wilsonville

Jgreenfi

8/27/2022 03:04 PM

Canyon Creek road and Siemens-Xerox vicinity

Breanna D

8/31/2022 01:08 PM

Villebois, Meadows, Jory Trail bc family lives there

Optional question (10 response(s), 4 skipped)

Question type: Essay Question

Q9 | Is there a certain neighborhood or area you avoid walking in Wilsonville? If yes, please explain why.

MOH

8/01/2022 11:31 AM

Wilsonville Road

diagnosis_coder

8/01/2022 07:50 PM

Wilsonville road because of too much traffic noise.

Francie

8/09/2022 05:10 PM

No

Natalie79

8/17/2022 06:34 PM

No

swell23

8/25/2022 07:07 PM

No

Screenname

8/25/2022 07:11 PM

No

Jgreenfi

8/27/2022 03:04 PM

There is no residential area in town we wouldn't feel comfortable walking.

Breanna D

8/31/2022 01:08 PM

busy roads

Optional question (8 response(s), 6 skipped)

Question type: Essay Question

Q10 | What are the most important things that should be considered in designing new sidewalks and pedestrian street crossings in Frog Pond East and South?

MOH

8/01/2022 11:31 AM

that they are all inter-connected.

diagnosis_coder

8/01/2022 07:50 PM

Make sure the sidewalk is wide enough for 2-3 people walk side-by-side. Lots of trees along the side walk.

michele

8/03/2022 09:42 AM

Wide and flat.

Francie

8/09/2022 05:10 PM

Flashing walk signal lights

ACurry3

8/09/2022 06:20 PM

Wide trails and flashing lights at crosswalks in busy areas

Natalie79

8/17/2022 06:34 PM

Wide enough

elee

8/23/2022 12:31 PM

Making everything feel intentional, and connecting all 3 neighborhoods together. Don't let Frog Pond West be separated from the connection to intentional community spaces in East and South. Make crossing Stafford safer as a cyclist or pedestrian, and have a crossing at more than just the Stafford-Boeckman intersection.

swell23

8/25/2022 07:07 PM

Grass, trees, flowerr

Screenname

8/25/2022 07:11 PM

No homeless people

Dolly44

8/27/2022 12:04 AM

Safety of all people.

Jgreenfi

8/27/2022 03:04 PM

Safe routes to schools, on-demand signals on major routes between neighborhoods

Breanna D

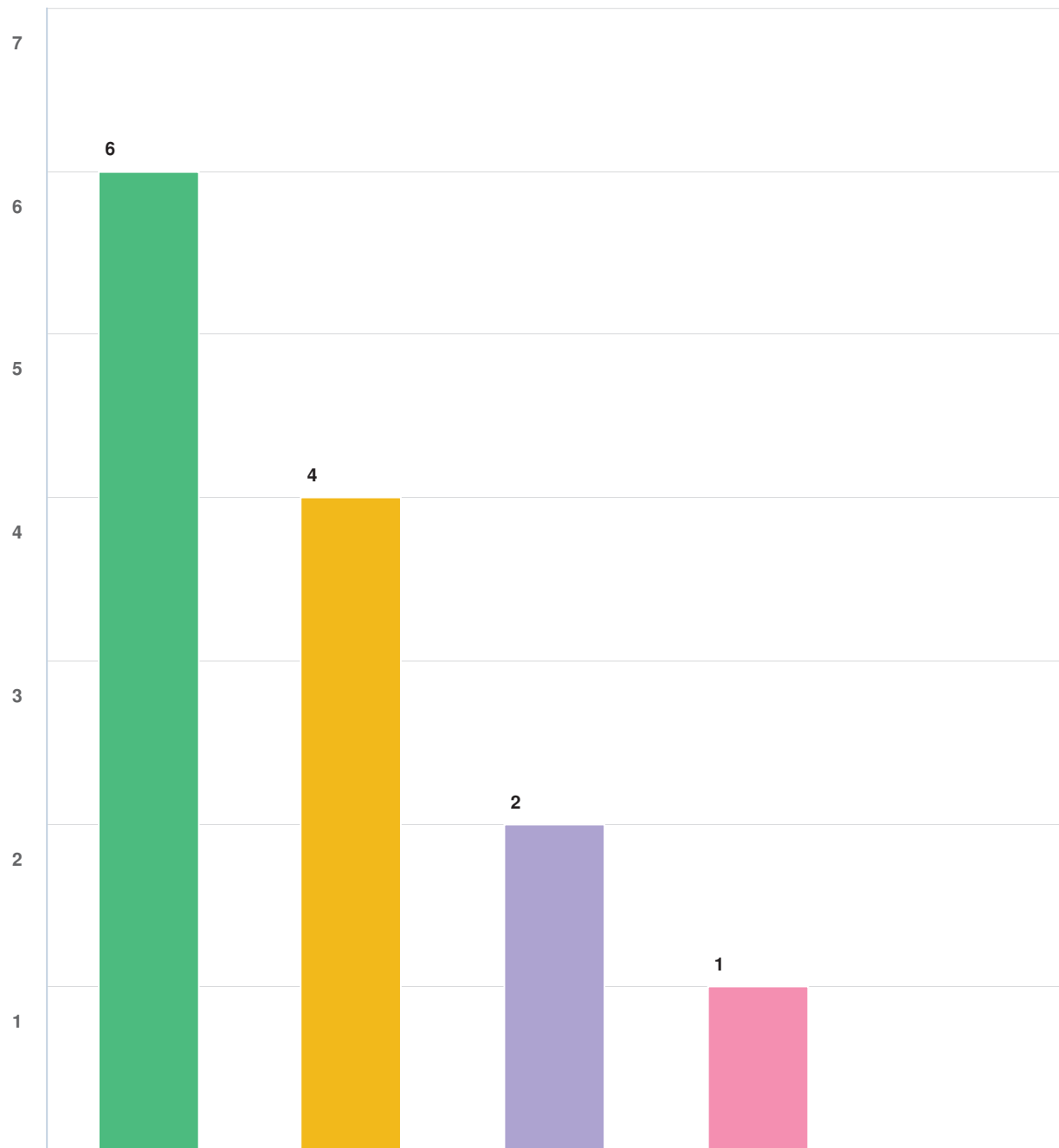
8/31/2022 01:08 PM

sidewalks don't end randomly

Optional question (12 response(s), 2 skipped)

Question type: Essay Question

Q11 How often do you ride a bicycle in Wilsonville?



Question options

- Never
- A few times a year or less
- Multiple times a month
- Daily or multiple times a week
- At least once a month on average

Optional question (13 response(s), 1 skipped)

Question type: Checkbox Question

Q12 | If you ride a bicycle in Wilsonville, where is your favorite place to ride? What do you enjoy about it?

diagnosis_coder
8/01/2022 07:50 PM

All over Wilsonville, except Wilsonville road due to too much traffic.
What I enjoy as clearly marked bike lanes on most roads.

Francie
8/09/2022 05:10 PM

N/a

ACurry3
8/09/2022 06:20 PM

Villebois, lots of space for bikes

Natalie79
8/17/2022 06:34 PM

Villebois. Beautiful. Safe. Quiet.

swell23
8/25/2022 07:07 PM

N/A

Screenname
8/25/2022 07:11 PM

Memorial park. I like the trees. Also your arborist has a sweet ass.

Dolly44
8/27/2022 12:04 AM

I don't ride

Jgreenfi
8/27/2022 03:04 PM

Through town to shops, post office, bank, etc.

Breanna D
8/31/2022 01:08 PM

I would like to ride in the future. My Mother-in-law rides in Meadows, Villebois, and Graham Oaks

Optional question (9 response(s), 5 skipped)
Question type: Essay Question

Q13 | What are the most important things that should be considered in designing bicycle lanes and paths in Frog Pond East and South?

MOH
8/01/2022 11:31 AM

Don't take away space from pedestrians or cars. No bike paths, please.

diagnosis_coder

8/01/2022 07:50 PM

Good visibility, trees for shade.

michele

8/03/2022 09:42 AM

Bicycles don't own the streets. They don't pay any gas taxes or any fees to maintain the roads. Require them to follow traffic rules just like we require cars to follow traffic rules.

Francie

8/09/2022 05:10 PM

Signage

Natalie79

8/17/2022 06:34 PM

Safety.

elee

8/23/2022 12:31 PM

Children will be using them a lot for the new primary school, as well as the middle school. Try to have some barriers or separation between the bike lanes and the vehicle traffic like PBOT does.

swell23

8/25/2022 07:07 PM

Safety and no cars

Screenname

8/25/2022 07:11 PM

Smooth concrete/asphalt

Dolly44

8/27/2022 12:04 AM

A safe path where cars can't go

Jgreenfi

8/27/2022 03:04 PM

Minimize share-the-road situations, clear Lane markings, surface and eye-level signage, enhanced major routes through and between neighborhoods

Breanna D

8/31/2022 01:08 PM

accessible for bikes, pedestrians, and strollers

Optional question (11 response(s), 3 skipped)

Question type: Essay Question

Q14 How comfortable and safe do you feel riding a bicycle on the following paths or streets?

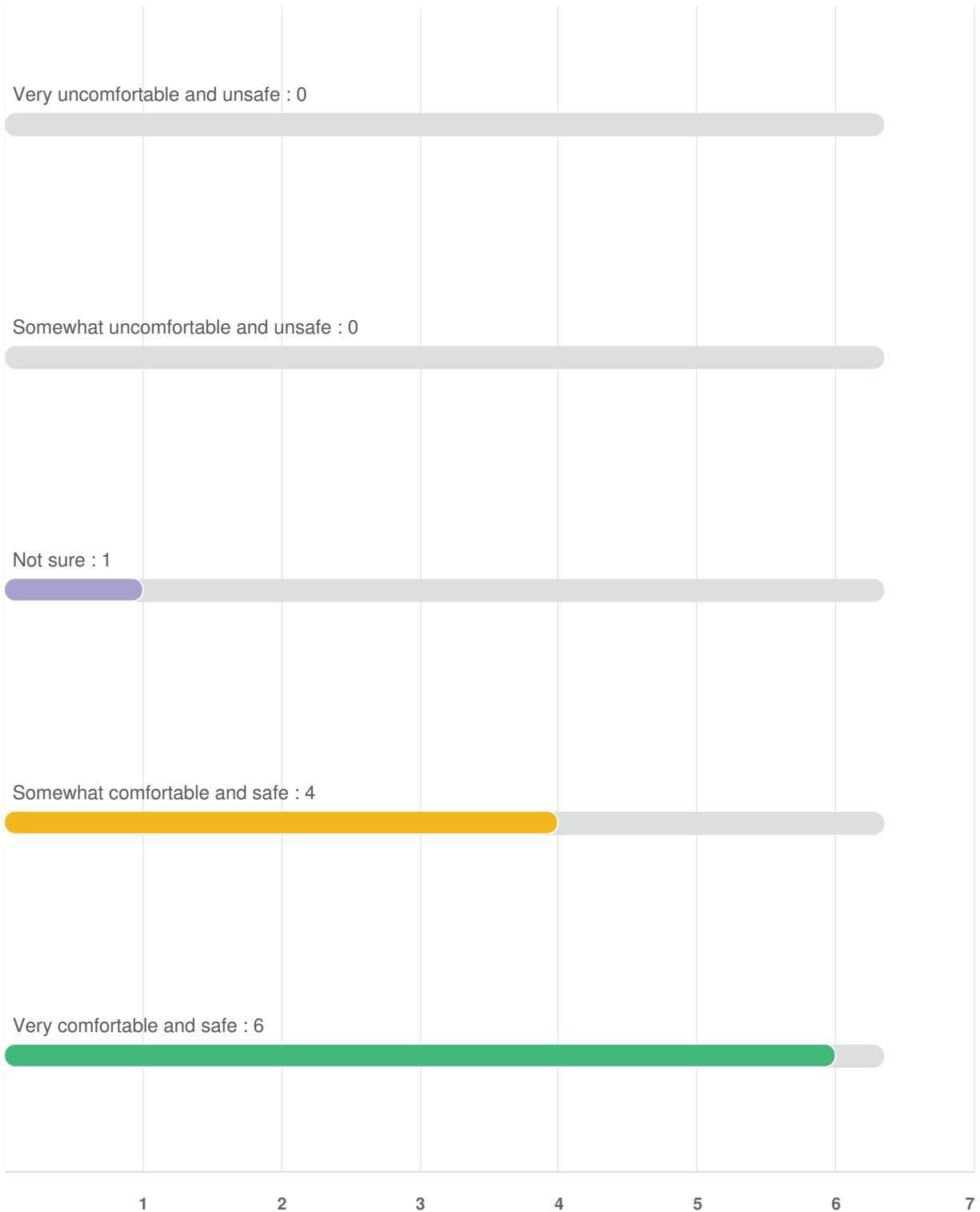


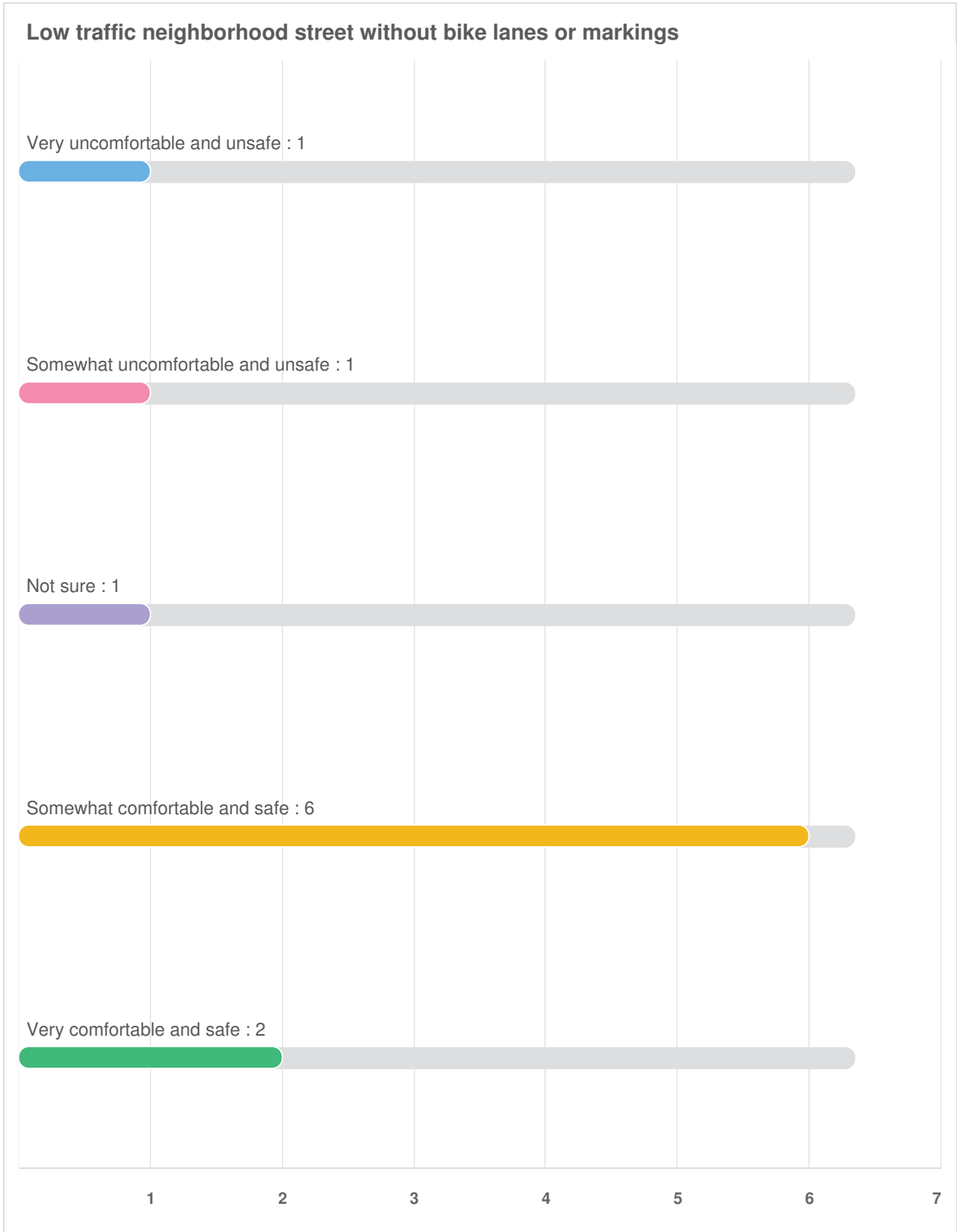
Optional question (11 response(s), 3 skipped)

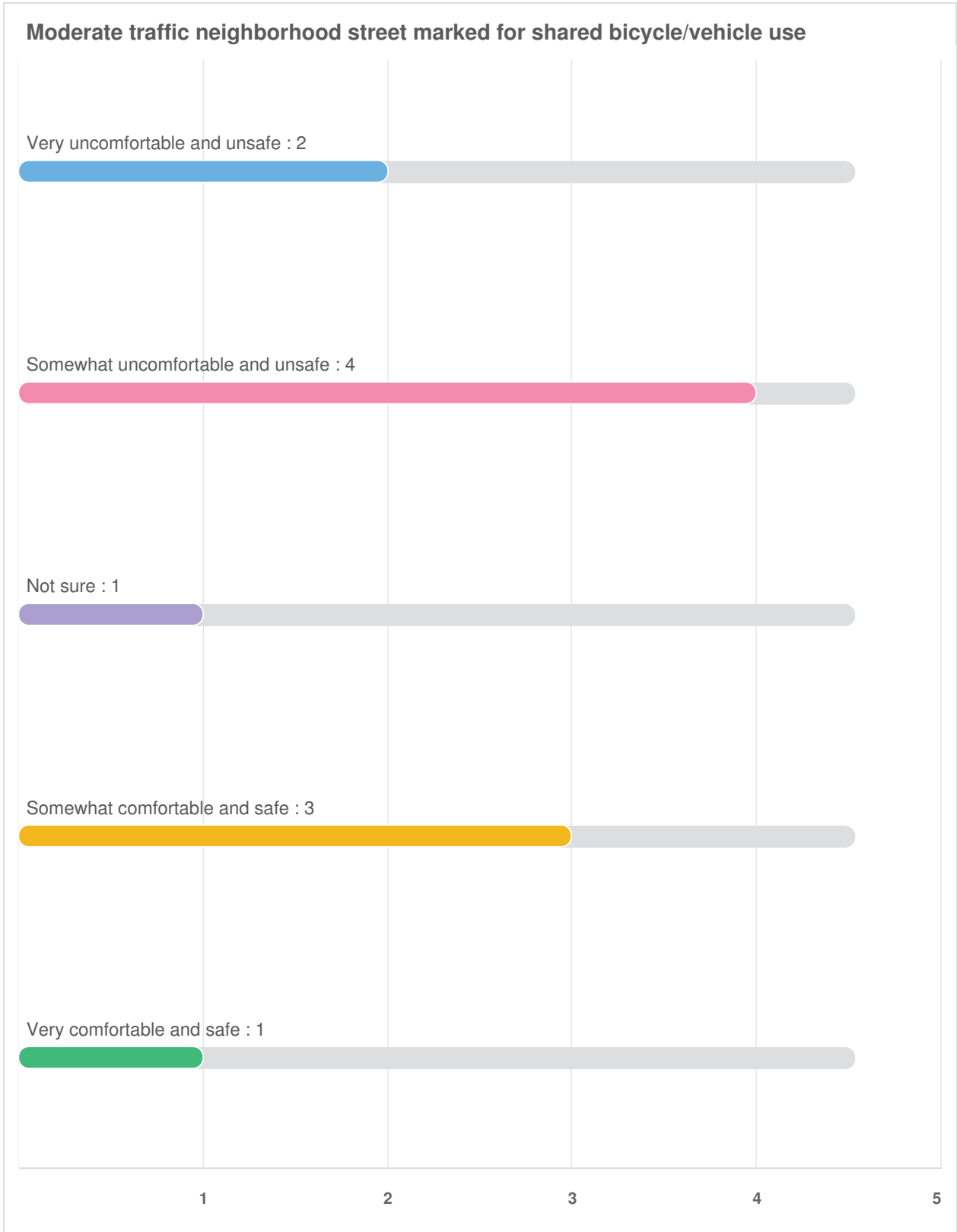
Question type: Likert Question

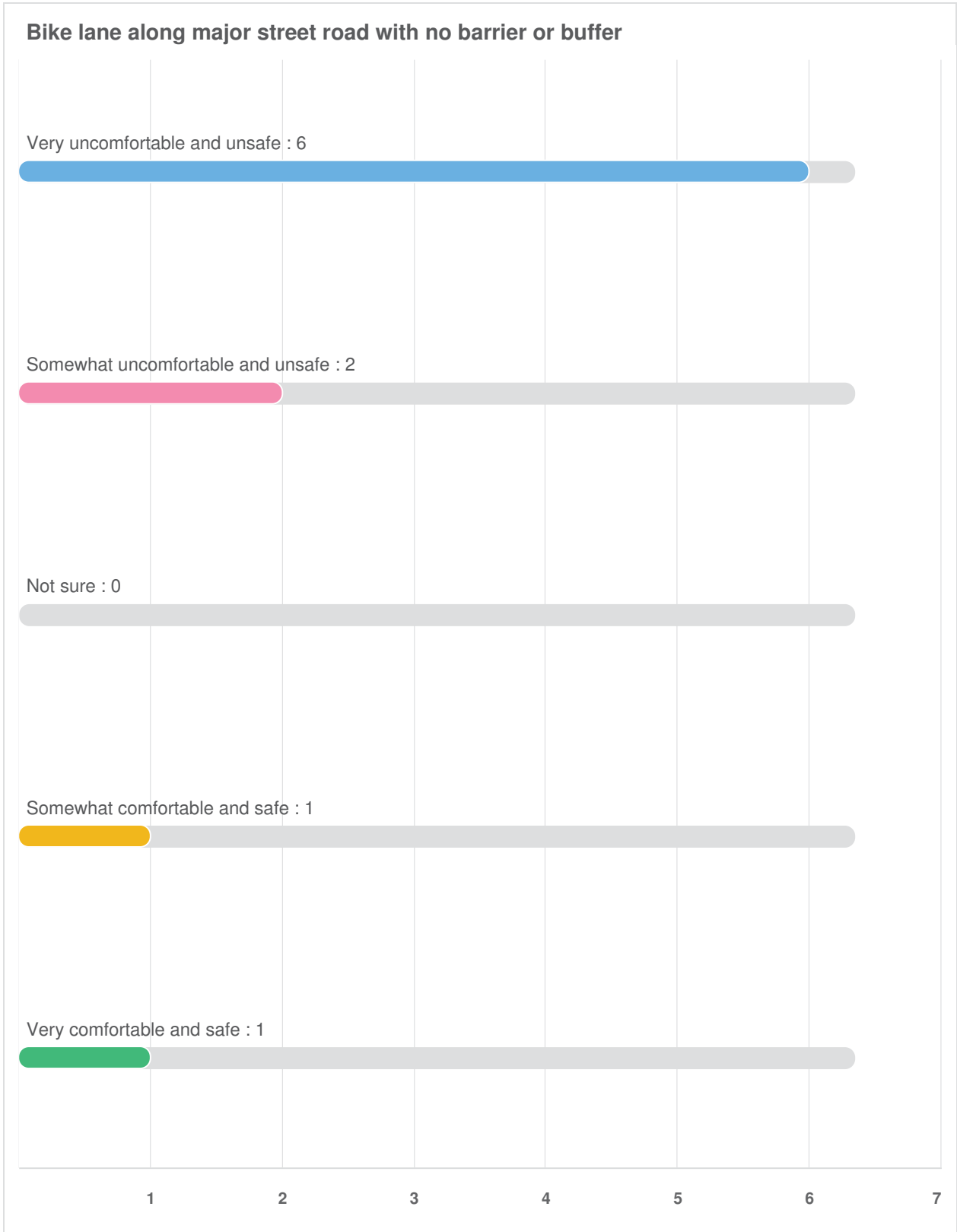
Q14 | How comfortable and safe do you feel riding a bicycle on the following paths or streets?

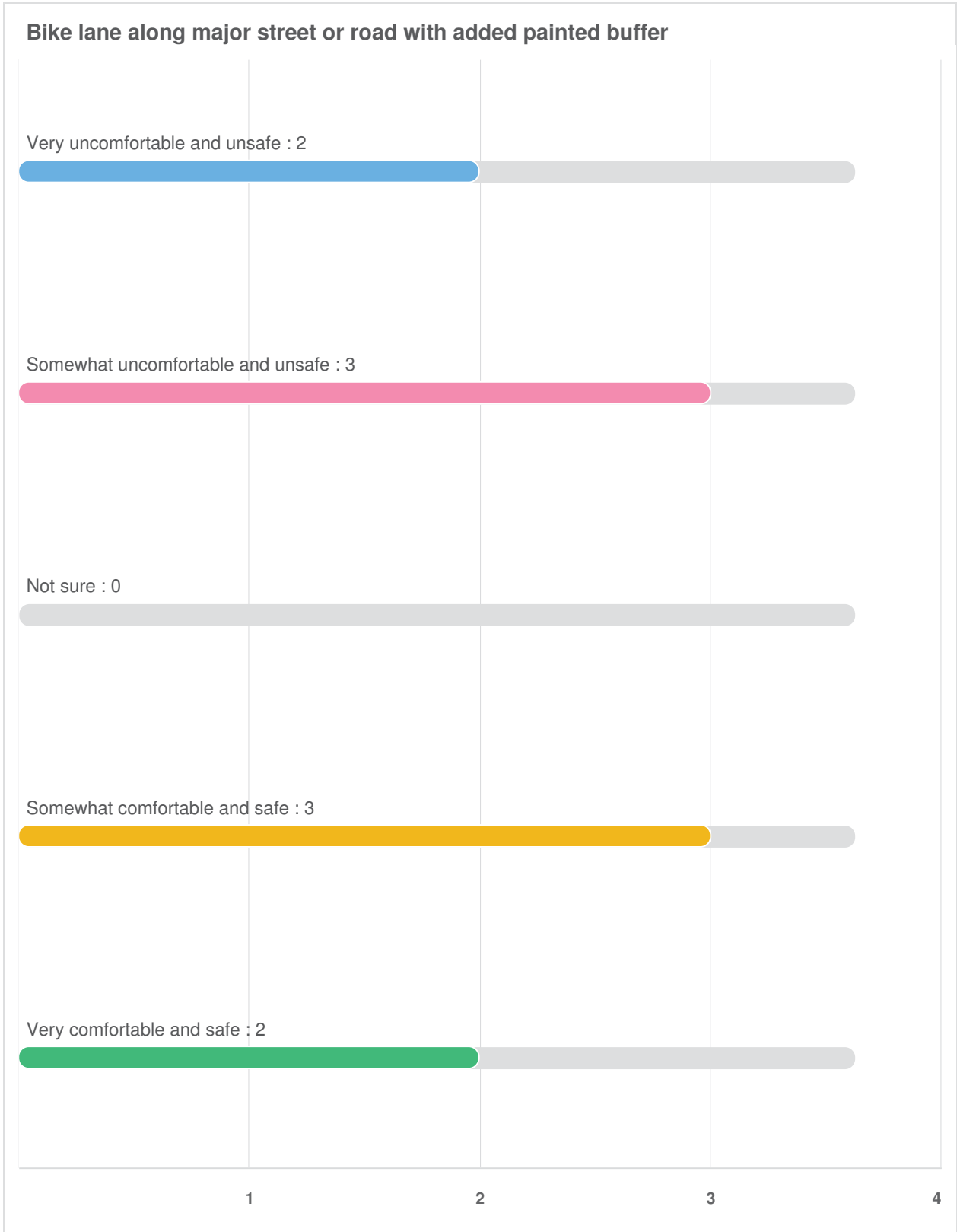
Dedicated bike and pedestrian path that is not along a street



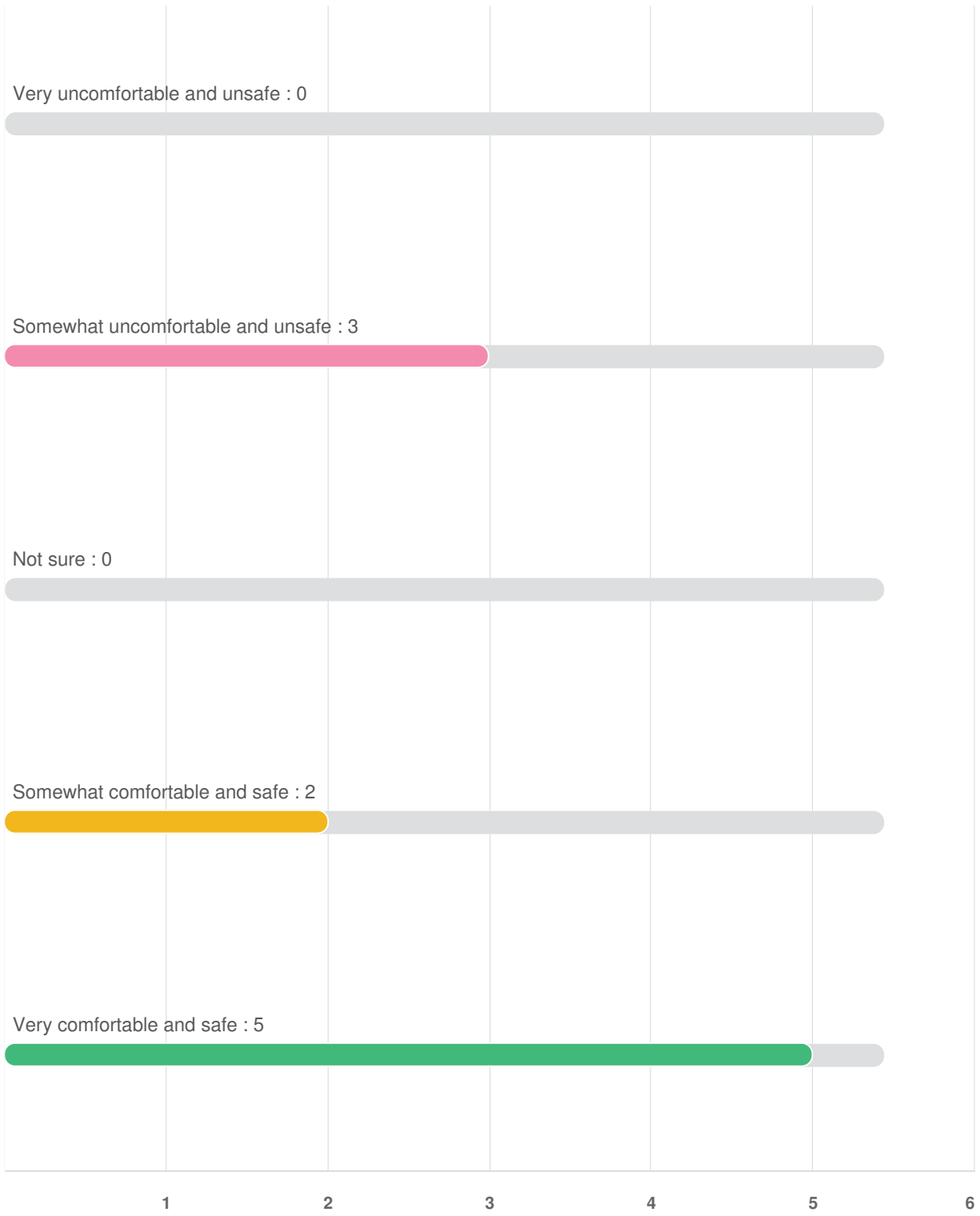








Bike lane along major street or road with physical separation such as with a landscape strip or curb



Diseño de espacios públicos

SURVEY RESPONSE REPORT

19 July 2019 - 27 October 2022

PROJECT NAME:

Frog Pond East and South Master Plan



SURVEY QUESTIONS

Q1 ¿Cuál es su nombre?

Anonymous
8/25/2022 07:43 PM

Araceli Modesto

Anonymous
8/29/2022 03:12 PM

Johana

Mandatory Question (2 response(s))

Question type: Single Line Question

Q2 ¿Cuál es su correo electrónico o número de teléfono?

Anonymous
8/25/2022 07:43 PM

9712192421

Anonymous
8/29/2022 03:12 PM

Johanabpedreros@gmail.com

Mandatory Question (2 response(s))

Question type: Single Line Question

Q3 ¿Cuáles son sus áreas o servicios grandes favoritos (es decir, campos deportivos, senderos, refugios para grandes reuniones, áreas naturales, etc.) en los parques de la ciudad de Wilsonville? ¿Qué le gusta de estos servicios o áreas?

Anonymous
8/25/2022 07:43 PM

Campos deportivos

Anonymous
8/29/2022 03:12 PM

Senderos, áreas naturales para caminar relajarme tomar aire estar en contacto con la naturaleza pero como la condición climática de Oregón en otoño e invierno es difícil por la lluvia y frío debería haber un sitio cubierto para reuniones o hacer alguna actividad deportiva

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q4 ¿Cuáles son sus áreas o servicios pequeños o medianos favoritos (es decir, bancos, áreas para sentarse, áreas cubiertas para picnic, áreas de juego, etc.) en los parques de la ciudad de Wilsonville? ¿Qué le gusta de estos servicios o áreas?

Anonymous

8/25/2022 07:43 PM

Áreas para picnic y de juegos

Anonymous

8/29/2022 03:12 PM

Todos es importante porque cada uno de estos presta un servicio diferente y muy necesario para el desarrollo de la comunidad

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q5 ¿Hay un área o alguna característica en uno o más de los parques de la ciudad de Wilsonville que usted evita? Si es así, ¿dónde? Explique por qué.

Anonymous

8/25/2022 07:43 PM

No

Anonymous

8/29/2022 03:12 PM

Algún sitio que tenga influencia se homeless

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q6 ¿Cuáles son las cosas más importantes que se deben considerar al diseñar un parque municipal en Frog Pond East y South?

Anonymous

8/25/2022 07:43 PM

La seguridad, baños públicos.

Anonymous

8/29/2022 03:12 PM

Fácil acceso a personas de la tercera edad y niños y cerca a casa

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q7 ¿Qué otros servicios no incluidos en la Pregunta 7 son importantes y se deben incluir en el diseño de los parques y espacios verdes del vecindario?

Anonymous

8/25/2022 07:43 PM

Ninguno

Anonymous

8/29/2022 03:12 PM

Si hubiera facilidad de tener una piscina para usar y poder también hacer deporte

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q8 Clasifique lo siguiente en orden de importancia que tienen estos elementos para usted con respecto a los parques y espacios...

OPTIONS	AVG. RANK
Áreas abiertas de césped	2.50
Área de ejercicio para mascotas	2.50
Bancos	3.00
Árboles y sombra	5.00
Área cubierta para reuniones	5.00
Senderos para caminar/andar en bicicleta	5.50
Jardín comunitario	5.50
Estructura de juegos	7.00

Optional question (2 response(s), 0 skipped)

Question type: Ranking Question

Q9 ¿Qué hace que un cruce de calles o una banqueta sea cómodo para usted?

Anonymous Y
8/25/2022 07:43 PM

Anonymous La seguridad y marcación
8/29/2022 03:12 PM

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q10 Sin incluir los parques, ¿Cuál es su vecindario o área favorita para caminar en Wilsonville? ¿Qué es lo que disfruta del vecindario o el área?

Anonymous Crossing lights
8/25/2022 07:43 PM

Anonymous Áreas verdes y limpias
8/29/2022 03:12 PM

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q11 ¿Hay algún vecindario o área en la que evite caminar en Wilsonville? En caso afirmativo, explique por qué.

Anonymous No
8/25/2022 07:43 PM

Anonymous Ninguno
8/29/2022 03:12 PM

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q12 ¿Cuáles son las cosas más importantes que se deben considerar al diseñar nuevas aceras y cruces de calles para peatones en Frog Pond East y South?

Anonymous

8/25/2022 07:43 PM

Crossing lights y luces para iluminar .

Anonymous

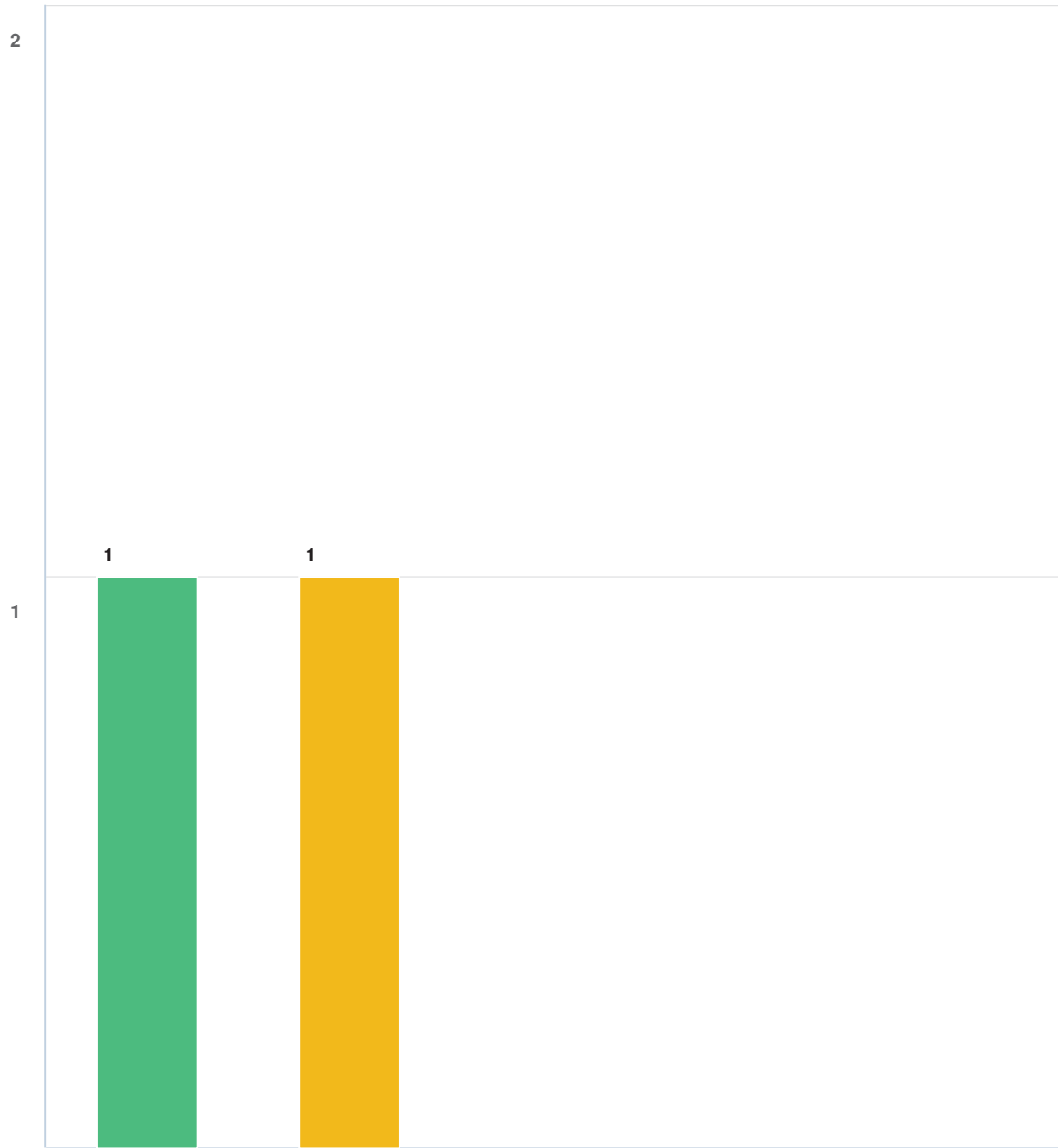
8/29/2022 03:12 PM

Que estén delimitadas señalizadas sería genial

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q13 ¿Con qué frecuencia anda en bicicleta en Wilsonville?



Question options

- Nunca
- Varias veces al mes
- Algunas veces al año o menos
- Al menos una vez al mes en promedio
- Diariamente o varias veces a la semana

Optional question (2 response(s), 0 skipped)

Question type: Checkbox Question

Q14 Si andas en bicicleta en Wilsonville, ¿Cuál es tu lugar favorito para andar en bicicleta?
¿Qué disfrutas al respecto?

Anonymous Parques
8/25/2022 07:43 PM

Anonymous No
8/29/2022 03:12 PM

Optional question (2 response(s), 0 skipped)
Question type: Essay Question

Q15 What are the most important things that should be considered in designing bicycle lanes and paths in Frog Pond East and South?

Anonymous Lighting
8/25/2022 07:43 PM

Anonymous No
8/29/2022 03:12 PM

Optional question (2 response(s), 0 skipped)
Question type: Essay Question

Q16 ¿Qué tan cómodo y seguro se siente usted al andar en bicicleta por los siguientes caminos o calles?



Optional question (2 response(s), 0 skipped)
Question type: Likert Question

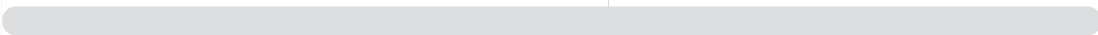
Q16 ¿Qué tan cómodo y seguro se siente usted al andar en bicicleta por los siguientes caminos o calles?

Sendero dedicado para bicicletas y peatones que no está a lo largo de una calle

Muy incómodo e inseguro : 0



Algo incómodo e inseguro : 0



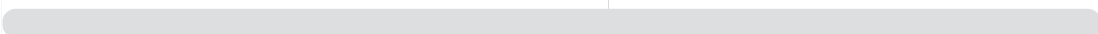
No estoy seguro : 1



Un poco cómodo y seguro : 1

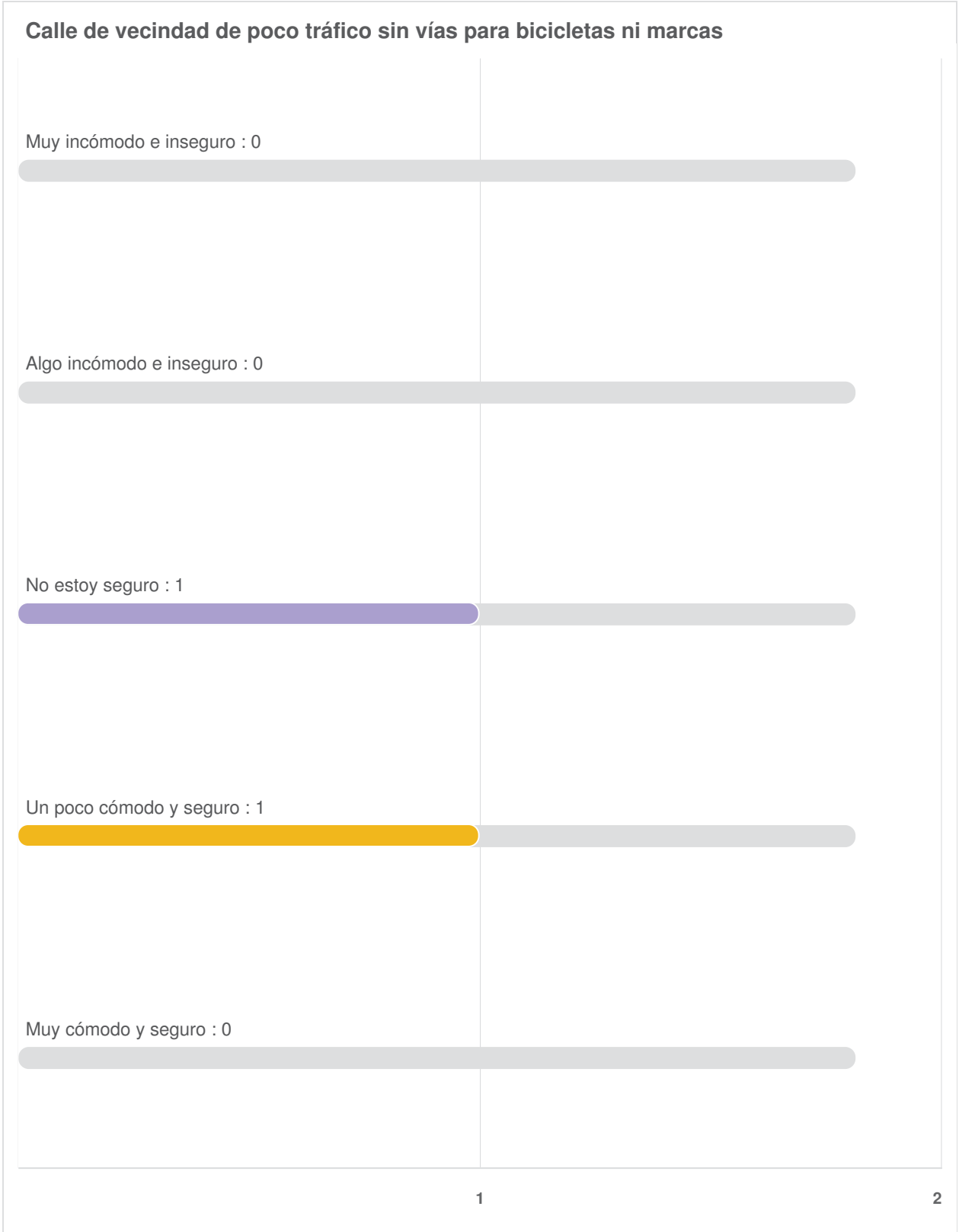


Muy cómodo y seguro : 0



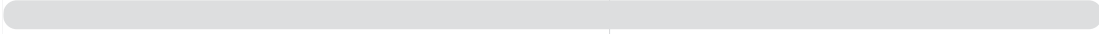
1

2



Calle del vecindario de tráfico moderado marcado para uso compartido de bicicletas/vehículos

Muy incómodo e inseguro : 0



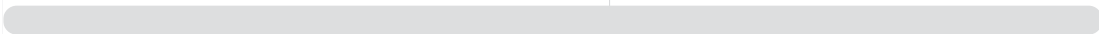
Algo incómodo e inseguro : 1



No estoy seguro : 0



Un poco cómodo y seguro : 0

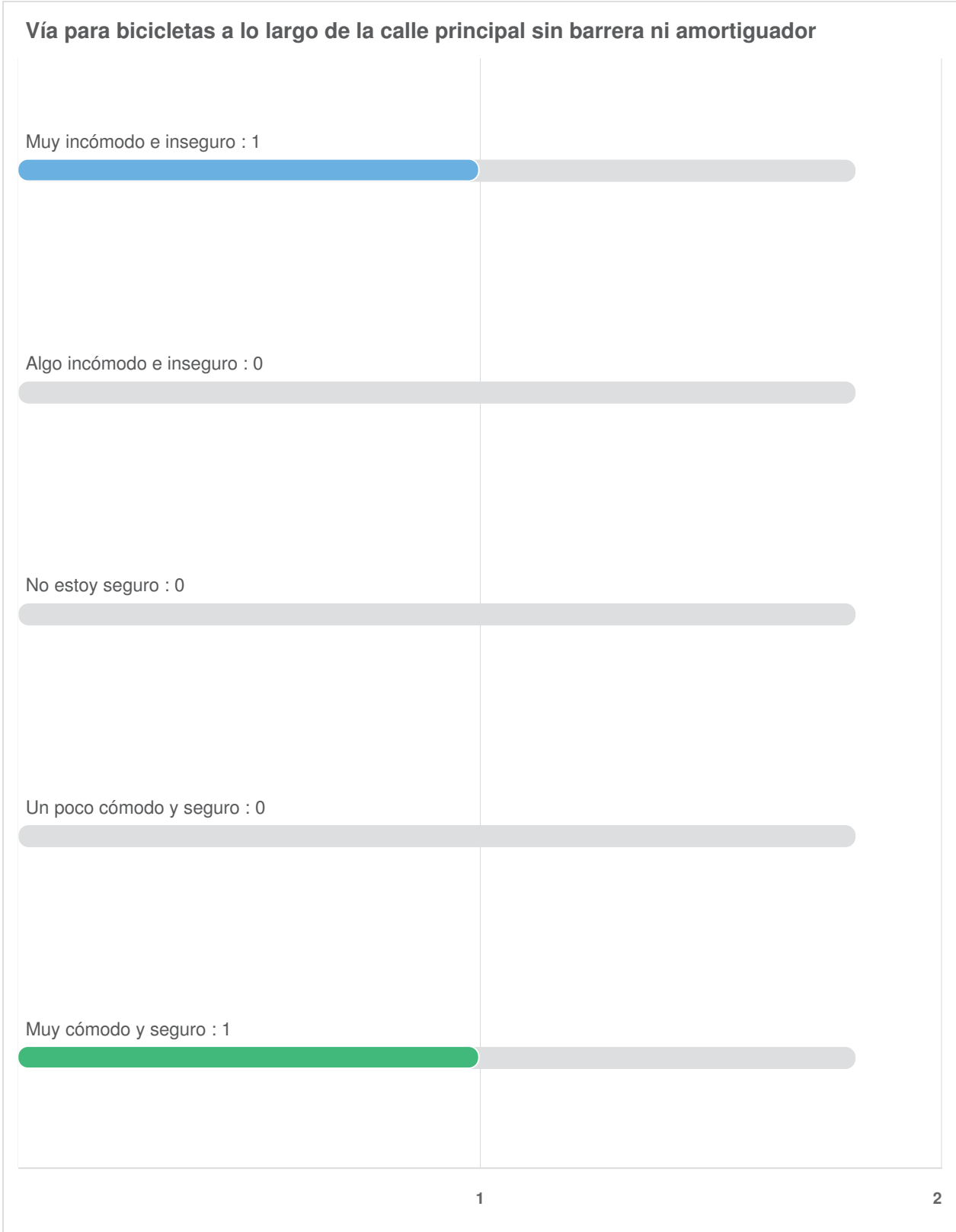


Muy cómodo y seguro : 1



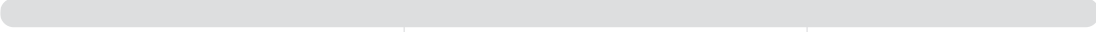
1

2



Vía para bicicletas a lo largo de una calle o carretera principal con protección adicional pintada

Muy incómodo e inseguro : 0



Algo incómodo e inseguro : 0



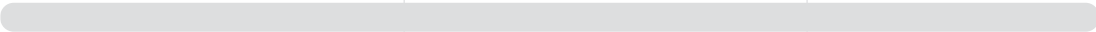
No estoy seguro : 0



Un poco cómodo y seguro : 2



Muy cómodo y seguro : 0



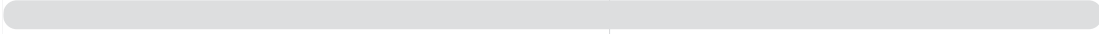
1

2

3

Vía para bicicletas a lo largo de una calle o carretera principal con separación física, como una franja ajardinada o un bordillo

Muy incómodo e inseguro : 0



Algo incómodo e inseguro : 0



No estoy seguro : 0



Un poco cómodo y seguro : 1



Muy cómodo y seguro : 1



1

2



ENGAGEMENT SUMMARY: AUGUST-SEPTEMBER 2022

Overview

This document summarizes community engagement activities conducted between in August and September 2022 for the Frog Pond East & South Master Plan. The project and engagement were focused on:

- Sharing ideas and obtaining feedback regarding public realm designs
- Updates on the Preferred Alternative

Key themes from each engagement meeting or activity are summarized below. Engagement is ongoing and this summary will be updated in the future. Future updates will also include additional explanation of how the various engagement activities are impacting decisions.

Meetings and Activities

Meetings and engagement activities are summarized below. In addition, City staff had (and continues to have) on-going informational and coordination meetings with individual property owners, community members and developers.

- Tabling Events
 - Popsicles in the Park (August 9, 2022)
 - Back to School Resource Event (August 17, 2022)
 - Wilsonville Block Party (August 25, 2022)
- Open House for Frog Pond Projects (August 23, 2022)
- Online survey on Let's Talk Wilsonville! (entire month of August 2022)
- Grupo de Enfoque en Espanol (Focus Group in Spanish, September 17, 2022)

Project information and meeting notices were provided through a variety of ways including: *Let's Talk Wilsonville!*, the Boones Ferry Messenger; the project Interested Parties email list; and social media postings.



Tabling Events

Summary

Popsicles in the Park was held on August 9, 2022 in two sessions: Noon to 2 p.m. and 4:30 to 6:30 p.m.. Tables were set up at the shelter area of the Murase Plaza in Memorial Park. Notice and event announcements were published in the online and print sources noted on page 1 of this report.

Displays and table-top information was provided for:

- The Frog Pond East and South Master Plan
- The Boeckman Bridge Replacement Project
- Frog Pond West Neighborhood Park
- Kids activities: a “draw your park” table, “catch and ask a question beach ball”, and raffle for arts supplies

The event was informal and emphasized chatting with attendees and answering their questions. Over the course of the two sessions, staff spoke with about 40 participants who viewed Frog Pond materials. Spanish speaking project team members were present to engage Spanish speakers. A significant portion of the engagement was playing the “beach ball game” with children visiting the park. Feedback regarding the parks was generally positive with existing parks in Wilsonville often used as examples of what participants would like to see in future parks.

The **Back to School Resource Event** was held on August 17, 2022 from 5:00-6:30pm at the Boeckman Creek Middle School. One table and two easels were set up to the right of the events entrance near other City and Public Service related outreach booths.

Displays and table-top information included:

- The Frog Pond East and South Master Plan
- Kids activities “catch and ask a question beach ball”, and raffle for arts supplies

The event was very well attended, with an estimated 400 (parents and children) people. At the Frog Pond station, staff spoke to approximately 50 people during the evening. The majority of conversations centered around the proposed land use map and housing type. Many residents expressed excitement regarding the proposed housing variety in the neighborhood. Some residents referenced Villebois as an example of a successful neighborhood that they would like to see reflected in the Frog Pond Development, especially regarding the parks and neighborhood connectivity. Several residents expressed their excitement to be included in the planning process and an appreciation of the transparency. A few residents expressed their concerns regarding potential traffic and the impact of more housing development within the City. Most questions surrounded the timeline for the construction of the neighborhood as well as the expected amenities including the future school.

The City of Wilsonville’s **Community Block Party** was held on August 25, 2022, at Town Center Park from 5:30 to 8:30pm. The event included live music, games, and activities hosted by numerous City departments. Members of the Wilsonville planning department and planning commissioners were on hand to discuss the Frog Pond East and South Master Plan and ask questions about elements of the public realm. Activities included a community chalk board and dot preference exercise, as well as a game aimed at children to answer preference questions in exchange for popsicles.



EAST & SOUTH MASTER PLAN









Frog Pond Feedback At the Tabling Events

The following is a summary of questions and feedback heard at the tabling events.

Questions

- Where will development begin?
 - Generally, in areas close to utilities. The Azar property north of Advance Road has a project developer and will likely be one of the first areas to develop.
- Will improvements be made east of the project area on Kruse Road?
 - No. The City requires improvements along developing properties within the Urban Growth Boundary.
- Why is Type 1 housing planned for south of the school property?
 - That element of the Preferred Alternative is part of the plan's strategies for "variety of housing throughout" and to plan housing choices that may be more affordable than lower density options.
- We farm the area north of Kahle Road. We are concerned about trespassing and moving our farm equipment in the future when those areas develop and we have urban neighbors. Can we work with the City in the future on those issues?
 - Yes. The City welcomes working with property owners.



- What intersection improvements are expected at SW Brisband and SW Stafford?
- What is the plan for parks in the West, East, and South neighborhoods?
- How much are new homes in Frog Pond expected to cost?

Feedback

- Bikers feel most comfortable riding bikes in designated bike lanes that allow separation from cars with protective features such as physical barriers and bike specific traffic signals.
- Event attendees expressed interest in parks with areas focused on natural resources, foraging and “managed wilderness”
- Residents expressed concerns about population growth within Wilsonville.
- Participants consistently acknowledged housing affordability issues in Wilsonville and expressed interest regarding the City’s current effort in planning a neighborhood with housing options and opportunities for diverse groups.
- Participants expressed interest in spaces formally dedicated to certain activities such as an amphitheater, splash pad, snack shack, disc golf course, bike park, and tennis courts.

Game Feedback

Games with the intention to spark discussion and help increase the participation of Wilsonville’s younger population were played at both the **Popsicles in the Park** event as well as the **Block Party**. Questions asked of children and adults during the beach ball and lily pad games at **Popsicles in the Park** and the **Block Party** along with a summary of responses are below:

- Which Park in Wilsonville is your favorite?
- Where do you feel unsafe riding your bike? Why?
- How do you get to your favorite park? Walk, drive, bike?
- Where do you like to ride your bike? Why?
- What is a unique park feature you would like to see in a new park?
- What is your favorite activity to do alone at the park? With friends?
- Do you prefer natural trails or paved trails?
- When you go for a walk or a hike is it about the destination or the journey?

Response Summary from **Popsicles in the Park**

- The most popular park mentioned was the Splash pad area of Murase Plaza followed by the lower Memorial Park trails.
- The majority of participants asked the above question drive to the park. Those who walked, biked or scooted to the park most often lived in close proximity to the park.
- Participants like to ride their bikes in areas separated from major roadways including in the park, on trails, at a bike park, or designated bike lanes.
- Participants feel unsafe riding their bikes both due to both the surrounding environment (cars) and physical conditions. Regarding the surrounding environment, people did not feel safe riding near or on busy streets or in apartment parking lots. Regarding physical conditions, participants do not feel unsafe on bumpy or very steep surfaces.



- Participants expressed interest in the following features for a new park; monkey bars, covered playground for rain/sun, paved path for scooters, interactive water features/splash pad, climbing wall, quiet place to walk, snack shack, jungle in the park, jungle gym, a zip line.
- Most participants enjoy playing games with friends or on playground equipment such as slides, swings, monkey bars, etc. Other less mentioned activities included soccer, hiking and biking.
- Participants expressed a preference for natural trails.
- The majority of participants like to go on a walk for the experience of the walk or “the journey”

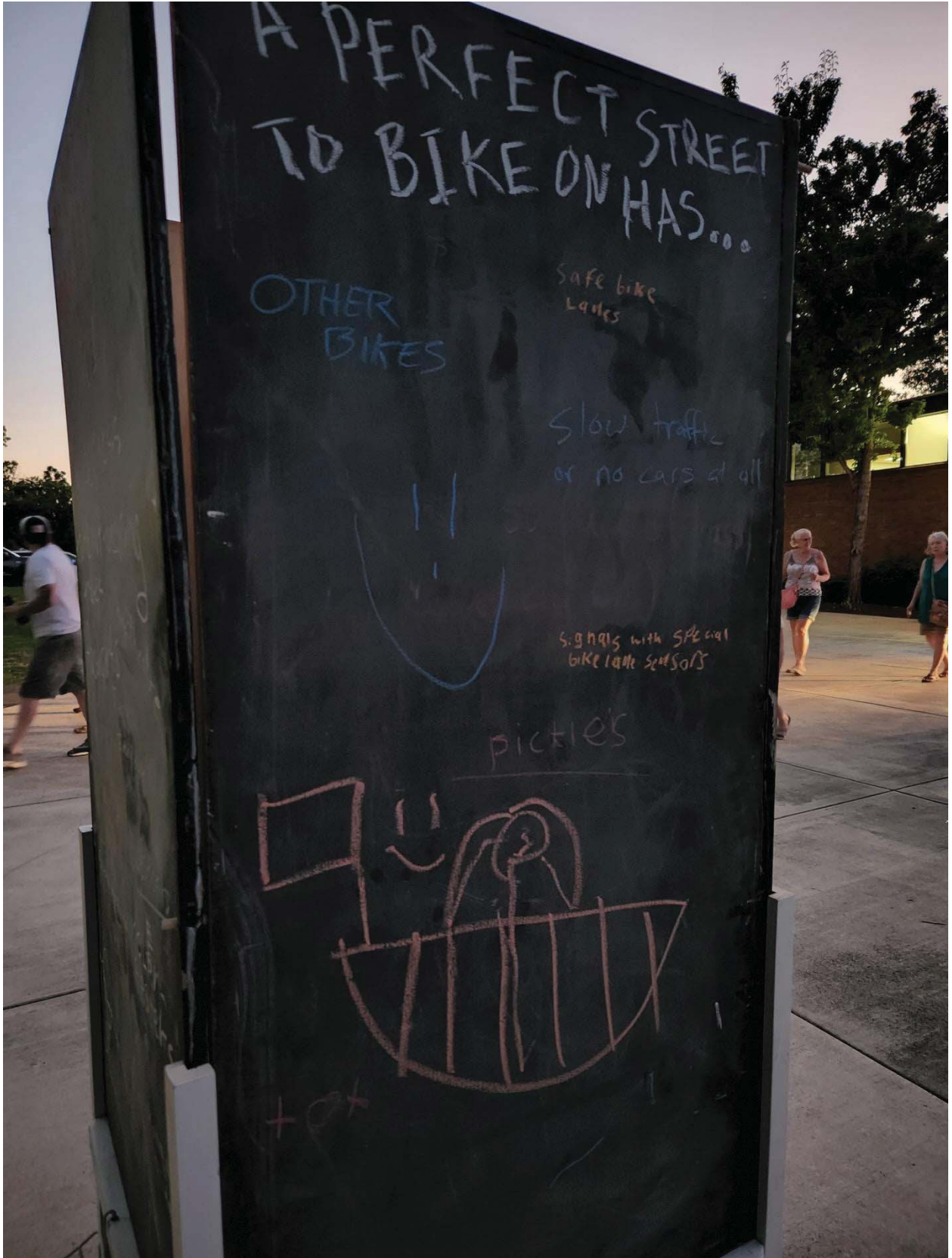
Response Summary from the **Block Party**

- The most popular parks among participants were Town Center Park and Memorial Park .
- The majority of participants asked the above question drive to the park. Those who walked, biked or scooted to the park most often lived in close proximity to the park.
- Participants like to ride their bikes in areas separated from major roadways including in the park, on trails, at a bike park, or designated bike lanes.
- Participants expressed a preference to walk within known areas such as their neighborhoods or parks.
- Participants expressed interest in the following features for a new park; a place to draw with chalk, a splash pad, slides, a zip line, swing sets, a climbing wall, a place to run.
- Participants like to “enjoy” the park. They expressed liking to walk on the trails, play in grass and talk with friends.
- There was a general preference among participants for natural trails with some preferences changing depending on the activity. Paved trail preferred
- Participants did not indicate an overall preference regarding whether they enjoy walking to get to destination or for the experience of the walk or “the journey”.

Chalk Board Feedback

A four sided chalk board was set up at the **Block Party** with the prompts “**A perfect street to bike on has...**” and “**My dream park has...**” for participants to respond to. A summary of responses are below:

- Participants expressed interest in parks that accommodate a wide variety of activities. Specifically participants indicated interest in including areas for pets, managed wilderness, forested trails, fruit bearing or edible vegetation and space for parties and food carts. Unique features mentioned on the chalk board includes amphitheater, poker table, concession stands, a playground within the forest, disk golf, trees to climb, indoor heated space, and waterslide.
- Safety was a priority when discussing the perfect street to bike on. Some of the mentioned safety measures were slower traffic, separation from cars, signals at walkways and traffic lights with bike lane sensors, and open space with clear site line.











Frog Pond Projects Open House

The City partnered with the West Linn-Wilsonville School District to co-host an open-house style meeting on August 23, 6-8 p.m. at the Meridian Creek Middle School. Information was shared about three significant projects taking place along Boeckman Road:

- A new primary school
- The Boeckman Road Corridor Improvements
- Frog Pond East & South Master Plan

The event was a drop-in/open house format and emphasized chatting with attendees and answering their questions. It was attended by approximately 100 people. Staff spoke with about 30 participants who viewed Frog Pond materials.

Frog Pond Feedback at the Open House

- General acknowledgement of and support for a variety of housing, and preferred alternative overall
- Limited feedback on public realm design

Spanish Public Realm Focus Group

The Spanish Public Realm Focus Group was held on September 17, 2022 at 1:30pm and ended at 2:30pm. The meeting was conducted in Spanish and English using live translation. The meeting began with a short presentation on the project background and current status of the Frog Pond East and South Master Plan. Prior to asking questions brief descriptions of the public realm elements were described to the group, allowing the opportunity for clarifying questions. Two sets of questions were asked of the group, one set focusing on walking path, trails, and bike lanes and the other focused on parks and gather spaces. The questions and key themes from the meeting are below.

Questions Asked

Parks

1. What types of larger amenities or areas (sports fields, trails, shelters, natural areas) would you like to see? Why do you like them?
2. What types of smaller amenities or areas (benches, sitting areas, picnic covers, playgrounds) would you like to see? Why do you like them?
3. What is the most important thing that should be considered for Frog Pond's neighborhood park?

Walking

1. What makes a street crossing or sidewalk comfortable for you?
2. Describe your favorite neighborhood or area to walk? What do you enjoy about it?

Biking

1. What is your favorite place to ride a bicycle?
2. What are the most important things that should be considered in designing bicycle lanes and paths in Frog Pond East and South?



Key Themes

Holistic Function- There was an emphasis on the importance of creating a space that serves everyone's needs in a cohesive way. Focus group members mentioned the need for active and passive spaces functioning together. For example, sports fields with adjacent gathering areas.

Recreation verse Transportation- There was discussion regarding how walking path, sidewalks, and bike path need to be designed differently depending on needs. They spoke to the differences in what would be needed for recreation verse transportation. There was a preference for natural walking and biking trails that allow the freedom to interact with the surrounding environment for trails intended for recreation. For bike paths and walkways intended for transportation there was a preference for protected areas that are physically separated from traffic and potential hazards.

Safety- Safety was emphasized repeatedly in the focus group conversation. This was the main concern regarding pedestrian connections and trails as well as visibility throughout the park. For this reason bike lanes and sidewalks with physical barriers were consistently the preferred design.

Family and Community Gathering- The function main function of parks, according to focus group members, is creating a space for gathering with friends and family. For that reason it is important to think about how the space allows groups to gather as well as provide a wide range of activities that facilitate group play.

Exercise and Outdoor Education – Parents in the focus group discussed the role the parks and trails can play in their children's and families lives. They emphasized the importance of creating the opportunity for exercise and exposing children to the outdoors. There was also significant discussion regarding screen usage among children and how the parks can counter the current screen focused culture among our youth.

Public Realm Survey (English and Spanish)

Key takeaways from Surveys:

- Respondents really like Memorial Park and especially value trails. Frog Pond East and South should keep design of large park consistent with other large City parks and include substantial opportunities for walking
- Playgrounds are a common request for small to medium amenities in parks and like the type of playgrounds in existing Wilsonville parks.
- In setting priorities for parks one respondent summarized other common responses well by stating the priorities should be safety, shade, and fun.
- When asked to rank amenities in order of importance, respondents most prioritized trees and shade, covered areas for gatherings, and playground structures. The lowest ranked amenities were pet exercise areas and a community garden.
- Other park features respondents would like to see include water features and restrooms
- Respondents feel key things that make a pedestrian street crossing comfortable are high visibility and crossing lights/signals.
- Respondents feel design of trails and paths should prioritize safety and connectivity



EAST & SOUTH MASTER PLAN

- Respondents feel Villebois is a great example of a neighborhood with good bicycle infrastructure and connectivity
- Input on bicycle facilities include request for separated and protected facilities especially for children and youth and these types of facilities were indicated, by a wide margin, as those that are very comfortable and safe.

Public Space Design

SURVEY RESPONSE REPORT

19 July 2019 - 27 October 2022

PROJECT NAME:

Frog Pond East and South Master Plan



SURVEY QUESTIONS

Q1 | What are your favorite large amenities or areas (i.e. sports fields, trails, shelters for large gatherings, natural areas, etc.) in Wilsonville's City parks? What do you like about these amenities or areas?

MOH

8/01/2022 11:31 AM

Trails for walking. I like being out in nature.

The Gannon Family

8/01/2022 11:29 AM

parks. good quality.

diagnosis_coder

8/01/2022 07:50 PM

Sports fields, trails and natural areas. I like that natural areas allow the wildlife a shelter as well.

michele

8/03/2022 09:42 AM

Sports fields-critical to the growing number of families in wilsonville

Francie

8/09/2022 05:10 PM

Wisoville memorial park water feature

ACurry3

8/09/2022 06:20 PM

Murase plaza park. I love the splash pad and lots of seating. I don't love how close the play area is tot he busy street though.

Natalie79

8/17/2022 06:34 PM

I love walking and biking trails and fun parks for the kids.

elee

8/23/2022 12:31 PM

Playgrounds for all ages, large gathering spaces, space for outdoor events, dog parks, community gardens. I like that they can offer larger programming opportunities closer to home.

swell23

8/25/2022 07:07 PM

Disc golf, water features and memorial park

Screenname

8/25/2022 07:11 PM

Disc golf, water features in memorial park. I like playing disc golf and cooling off in the water features.

Dolly44

8/27/2022 12:04 AM

Trails, shelters, natural areas. I like being able to get out and enjoy walks and nature.

Jgreenfi

8/27/2022 03:04 PM

We like to use the trails at Memorial Park, Graham Oaks Park, and the Boeckman Creek Crossing Trail

Breanna D

8/31/2022 01:08 PM

Memorial Park/Murase Plaza and Town Center splash park: My 4-year-old son loves to play in the water. Town Center Park is my favorite because it is not near busy roads and I can easily watch my son while taking care of my baby as well. It feels safer than the Murase Plaza splash park (especially with the busy road and no fence for running toddlers).

Optional question (13 response(s), 1 skipped)

Question type: Essay Question

Q2 | What are your favorite small to medium amenities or areas (i.e. benches, sitting areas, picnic covers, playgrounds, etc.) in Wilsonville's City parks? What do you like about these amenities or areas?

MOH

8/01/2022 11:31 AM

I don't use what is mentioned above.

diagnosis_coder

8/01/2022 07:50 PM

Playgrounds. What I like is the thoughtfully planned parks that allow the kids to play and be active, but also have a connection to nature.

michele

8/03/2022 09:42 AM

Playgrounds

Francie

8/09/2022 05:10 PM

Sitting areas and playground wilsonville memorial

ACurry3

8/09/2022 06:20 PM

Grove shelter, and town center park. Lots of covered areas for party's.

Natalie79

8/17/2022 06:34 PM

Villebois parks and play grounds.

elee

8/23/2022 12:31 PM

playground with swings / slides, covered areas to sit and eat lunch. A place to enjoy as a family without getting too crowded.

swell23

Playgrounds, water features and covered shelters

8/25/2022 07:07 PM

Screenname

8/25/2022 07:11 PM

Benches, playgrounds. I like sitting on the benches and playing in the playing in the playgrounds.

Dolly44

8/27/2022 12:04 AM

Sitting areas, picnic covers, benches and playgrounds. I like to have a place to picnic and enjoy the outdoors and to sit and relax and take in fresh air and the beauty.

Jgreenfi

8/27/2022 03:04 PM

We have used picnic tables at Memorial Park, both upper and near the river and would like to see more locations available for family use.

Breanna D

8/31/2022 01:08 PM

The parks and playgrounds in Wilsonville are great. Villebois has lots of very nice smaller parks.

Optional question (12 response(s), 2 skipped)

Question type: Essay Question

Q3 | Is there an area or feature of in one or more of Wilsonville's City parks you avoid? If so, where? Please explain why.

diagnosis_coder
8/01/2022 07:50 PM

No, we like all the parks.

michele
8/03/2022 09:42 AM

Grass in the winter. We need more turfed spaces for people to enjoy throughout the year.

Francie
8/09/2022 05:10 PM

No

ACurry3
8/09/2022 06:20 PM

Splash area close to busy street.

Natalie79
8/17/2022 06:34 PM

No

swell23
8/25/2022 07:07 PM

No

Screenname
8/25/2022 07:11 PM

No

Jgreenfi
8/27/2022 03:04 PM

No problems at all

Breanna D
8/31/2022 01:08 PM

The upper area of Murase Plaza water feature (near the busy road) is challenging when managing multiple kids safely.

Optional question (9 response(s), 5 skipped)
Question type: Essay Question

Q4 | What is the most important thing that should be considered in designing a City park in Frog Pond East and South?

MOH
8/01/2022 11:31 AM

walking paths, water feature, public art, clean, community garden, and big open space for public gatherings, ie concerts or farmers'

market

The Gannon Family

8/01/2022 11:29 AM

community pool please add

diagnosis_coder

8/01/2022 07:50 PM

Most important thing is to preserve all tree on the property. Second, have a good mix of natural preserve and play structures, sports amenities etc.

michele

8/03/2022 09:42 AM

Safe spaces for children to play. Areas for people to walk and perhaps spaces for dogs.

Francie

8/09/2022 05:10 PM

Picnic areas

ACurry3

8/09/2022 06:20 PM

Covered areas and plenty of seating. I'm a mom of three and it's the only time I sit down. It's so wonderful to have a shady place to watch the kids play

Natalie79

8/17/2022 06:34 PM

Safe & fun places for families, kids and dogs.

elee

8/23/2022 12:31 PM

I think a community garden that includes perennials shrubs and fruit trees along the perimeter would be fantastic. Something that can be shared and that inspires collaboration and sustainability.

swell23

8/25/2022 07:07 PM

Cool playground and water features and playinf areas for kids

Screenname

8/25/2022 07:11 PM

Homeless people

Jgreenfi

8/27/2022 03:04 PM

Accessibility, restrooms, and pleasant landscaping all equally important

Breanna D

8/31/2022 01:08 PM

safety, shade, fun

Optional question (12 response(s), 2 skipped)

Question type: Essay Question

Q5 | Please rank the following in order of importance for inclusion in neighborhood parks and green spaces

OPTIONS	AVG. RANK
Trees and shade	3.31
Covered area for gatherings	3.73
Playground structure	3.85
Trails for walking/biking	3.92
Open grass areas	4.46
Benches	5.00
Community Garden	5.23
Pet Exercise Area	5.75

Optional question (13 response(s), 1 skipped)
Question type: Ranking Question

Q6 | What other amenities not included in Question 5 are important to include in neighborhood parks and greenspaces?

MOH
 8/01/2022 11:31 AM
 water feature, public art

diagnosis_coder
 8/01/2022 07:50 PM
 Sports amenities like basketball hoop, tennis court etc.

Francie
 8/09/2022 05:10 PM
 Restrooms

ACurry3
 8/09/2022 06:20 PM
 Teatrooms

Natalie79
8/17/2022 06:34 PM

Community pool

elee
8/23/2022 12:31 PM

If doing a grassy area, making it not a monoculture, but a mix of micro clover as well. It's more sustainable, can be cut short just like grass, more drought tolerant and stays green longer, and doesn't burn from pet urination. It's also a nitrogen fixer, so the grass would not need fertilization to maintain it long term. I also think having a lot of tree canopy would be great for carbon reduction and lowering overall temperatures. The summers will only get hotter, so establishing good tree cover early will help keep everyone cooler.

swell23
8/25/2022 07:07 PM

Event space

Screenname
8/25/2022 07:11 PM

Deterring homeless people

Dolly44
8/27/2022 12:04 AM

Pools or water features that are fun for all.

Jgreenfi
8/27/2022 03:04 PM

restrooms, picnic tables

Breanna D
8/31/2022 01:08 PM

water features to play in, although Wilsonville already has great parks, so a bathroom

Optional question (11 response(s), 3 skipped)

Question type: Essay Question

Q7 What makes a street crossing or sidewalk comfortable for you?

MOH
8/01/2022 11:31 AM

pedestrian crossing light

diagnosis_coder
8/01/2022 07:50 PM

For a sidewalk - lots of trees. For a street crossing - pedestrian crossing lights (if it is a busy intersection)

michele
8/03/2022 09:42 AM

The freedom to cross in many places. Pedestrians need to take responsibility for their own safety when crossing in neighborhoods.

Francie

8/09/2022 05:10 PM

Good signage and a walk signal

ACurry3

8/09/2022 06:20 PM

High visibility

Natalie79

8/17/2022 06:34 PM

Good visibility

elee

8/23/2022 12:31 PM

Widely paved, not just a shoulder with a ditch (as is currently on Boeckman). Clearly marked crossings with a flashing sign for actively crossing busy streets.

swell23

8/25/2022 07:07 PM

Trees, flowers and grass

Screenname

8/25/2022 07:11 PM

No cars nearby at the time of crossing

Dolly44

8/27/2022 12:04 AM

To have a clear path and crosswalks

Jgreenfi

8/27/2022 03:04 PM

Well marked, on-demand signals, unobstructed view of traffic

Breanna D

8/31/2022 01:08 PM

standard safety features

Optional question (12 response(s), 2 skipped)

Question type: Essay Question

**Q8 | Not including parks, what is your favorite neighborhood or area to walk in Wilsonville?
What do you enjoy about the neighborhood or area?**

MOH

8/01/2022 11:31 AM

Memorial Park

diagnosis_coder

8/01/2022 07:50 PM

Villebois - lots of trees on the side walk, integrated parks, good lighting.

Francie

8/09/2022 05:10 PM

Parks close to coffee shops

ACurry3

8/09/2022 06:20 PM

Graham oaks park.. love the wide trails.

Natalie79

8/17/2022 06:34 PM

Villebois. Beautiful. Quiet. Safe.

elee

8/23/2022 12:31 PM

Morgan Farm has a path near the ravine that is quite lovely to walk on.

swell23

8/25/2022 07:07 PM

I don't have a favorite location. A true downtown with trees, walking space and activities

Screenname

8/25/2022 07:11 PM

I have not visited anything besides a park in Wilsonville

Jgreenfi

8/27/2022 03:04 PM

Canyon Creek road and Siemens-Xerox vicinity

Breanna D

8/31/2022 01:08 PM

Villebois, Meadows, Jory Trail bc family lives there

Optional question (10 response(s), 4 skipped)

Question type: Essay Question

Q9 | Is there a certain neighborhood or area you avoid walking in Wilsonville? If yes, please explain why.

MOH

8/01/2022 11:31 AM

Wilsonville Road

diagnosis_coder

8/01/2022 07:50 PM

Wilsonville road because of too much traffic noise.

Francie

8/09/2022 05:10 PM

No

Natalie79

8/17/2022 06:34 PM

No

swell23

8/25/2022 07:07 PM

No

Screenname

8/25/2022 07:11 PM

No

Jgreenfi

8/27/2022 03:04 PM

There is no residential area in town we wouldn't feel comfortable walking.

Breanna D

8/31/2022 01:08 PM

busy roads

Optional question (8 response(s), 6 skipped)

Question type: Essay Question

Q10 | What are the most important things that should be considered in designing new sidewalks and pedestrian street crossings in Frog Pond East and South?

MOH

8/01/2022 11:31 AM

that they are all inter-connected.

diagnosis_coder

8/01/2022 07:50 PM

Make sure the sidewalk is wide enough for 2-3 people walk side-by-side. Lots of trees along the side walk.

michele

8/03/2022 09:42 AM

Wide and flat.

Francie

8/09/2022 05:10 PM

Flashing walk signal lights

ACurry3

8/09/2022 06:20 PM

Wide trails and flashing lights at crosswalks in busy areas

Natalie79

8/17/2022 06:34 PM

Wide enough

elee

8/23/2022 12:31 PM

Making everything feel intentional, and connecting all 3 neighborhoods together. Don't let Frog Pond West be separated from the connection to intentional community spaces in East and South. Make crossing Stafford safer as a cyclist or pedestrian, and have a crossing at more than just the Stafford-Boeckman intersection.

swell23

8/25/2022 07:07 PM

Grass, trees, flowerr

Screenname

8/25/2022 07:11 PM

No homeless people

Dolly44

8/27/2022 12:04 AM

Safety of all people.

Jgreenfi

8/27/2022 03:04 PM

Safe routes to schools, on-demand signals on major routes between neighborhoods

Breanna D

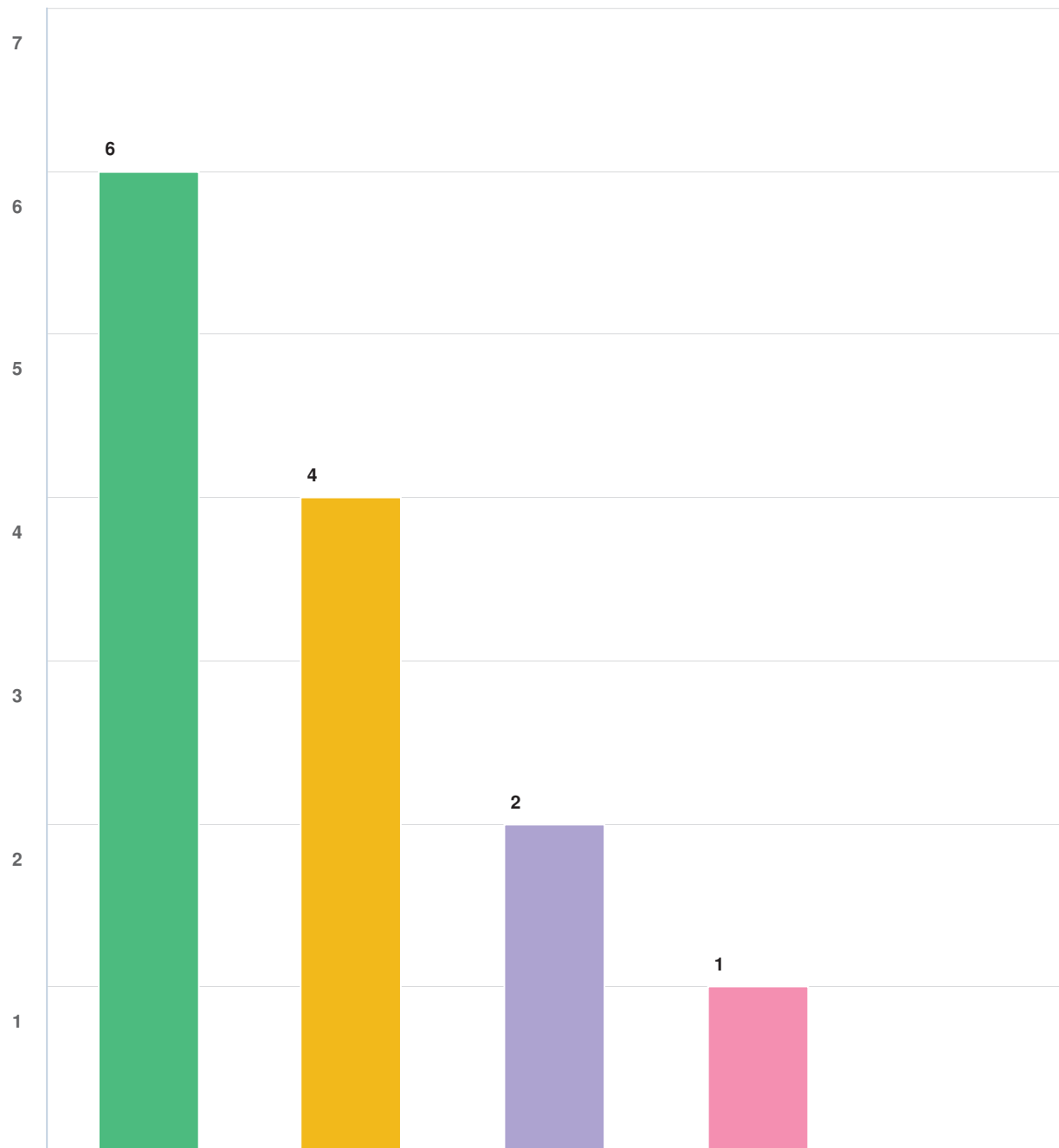
8/31/2022 01:08 PM

sidewalks don't end randomly

Optional question (12 response(s), 2 skipped)

Question type: Essay Question

Q11 How often do you ride a bicycle in Wilsonville?



Question options

- Never
- A few times a year or less
- Multiple times a month
- Daily or multiple times a week
- At least once a month on average

Optional question (13 response(s), 1 skipped)

Question type: Checkbox Question

Q12 | If you ride a bicycle in Wilsonville, where is your favorite place to ride? What do you enjoy about it?

diagnosis_coder
8/01/2022 07:50 PM

All over Wilsonville, except Wilsonville road due to too much traffic.
What I enjoy as clearly marked bike lanes on most roads.

Francie
8/09/2022 05:10 PM

N/a

ACurry3
8/09/2022 06:20 PM

Villebois, lots of space for bikes

Natalie79
8/17/2022 06:34 PM

Villebois. Beautiful. Safe. Quiet.

swell23
8/25/2022 07:07 PM

N/A

Screenname
8/25/2022 07:11 PM

Memorial park. I like the trees. Also your arborist has a sweet ass.

Dolly44
8/27/2022 12:04 AM

I don't ride

Jgreenfi
8/27/2022 03:04 PM

Through town to shops, post office, bank, etc.

Breanna D
8/31/2022 01:08 PM

I would like to ride in the future. My Mother-in-law rides in Meadows, Villebois, and Graham Oaks

Optional question (9 response(s), 5 skipped)
Question type: Essay Question

Q13 | What are the most important things that should be considered in designing bicycle lanes and paths in Frog Pond East and South?

MOH
8/01/2022 11:31 AM

Don't take away space from pedestrians or cars. No bike paths, please.

diagnosis_coder

8/01/2022 07:50 PM

Good visibility, trees for shade.

michele

8/03/2022 09:42 AM

Bicycles don't own the streets. They don't pay any gas taxes or any fees to maintain the roads. Require them to follow traffic rules just like we require cars to follow traffic rules.

Francie

8/09/2022 05:10 PM

Signage

Natalie79

8/17/2022 06:34 PM

Safety.

elee

8/23/2022 12:31 PM

Children will be using them a lot for the new primary school, as well as the middle school. Try to have some barriers or separation between the bike lanes and the vehicle traffic like PBOT does.

swell23

8/25/2022 07:07 PM

Safety and no cars

Screenname

8/25/2022 07:11 PM

Smooth concrete/asphalt

Dolly44

8/27/2022 12:04 AM

A safe path where cars can't go

Jgreenfi

8/27/2022 03:04 PM

Minimize share-the-road situations, clear Lane markings, surface and eye-level signage, enhanced major routes through and between neighborhoods

Breanna D

8/31/2022 01:08 PM

accessible for bikes, pedestrians, and strollers

Optional question (11 response(s), 3 skipped)

Question type: Essay Question

Q14 How comfortable and safe do you feel riding a bicycle on the following paths or streets?

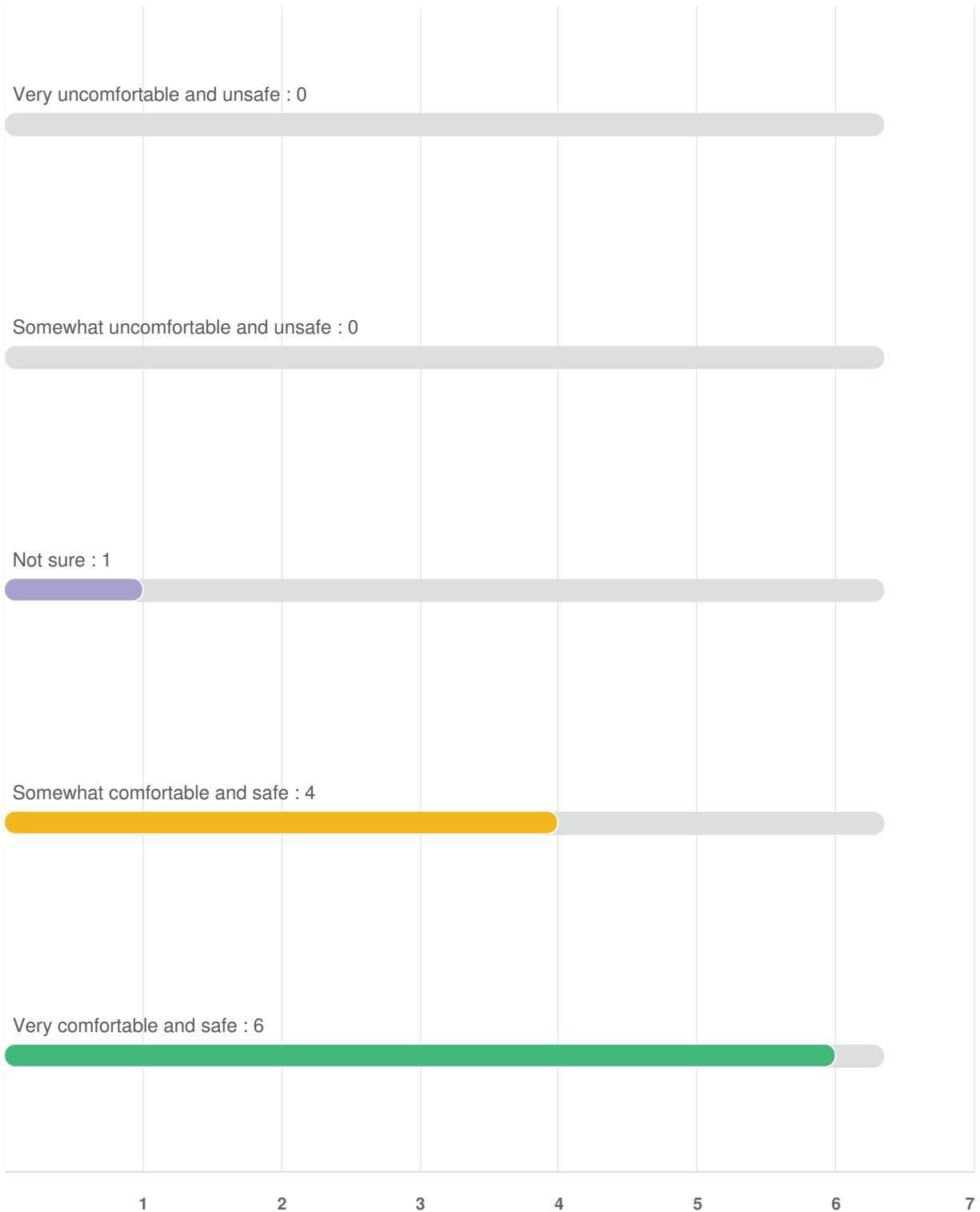


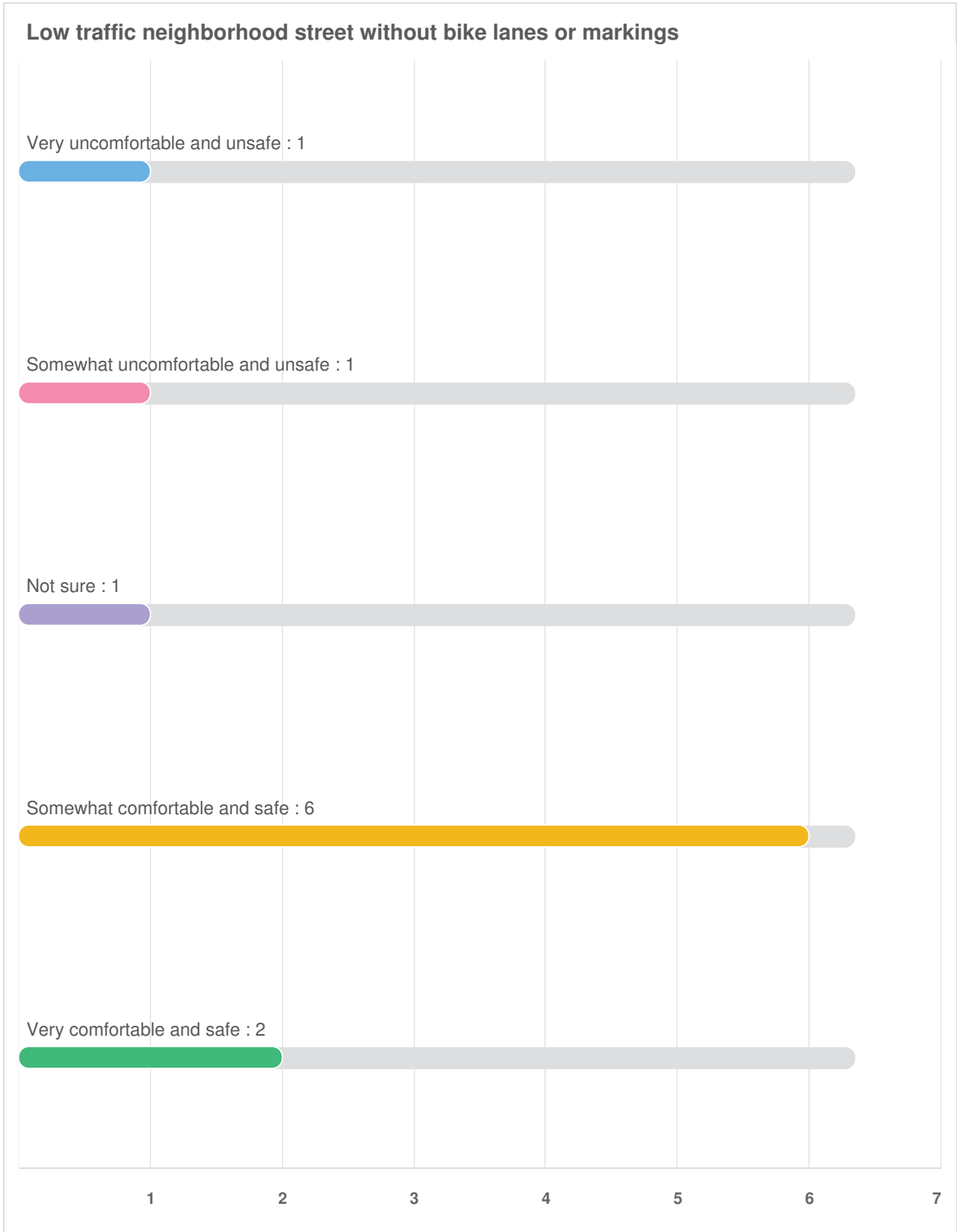
Optional question (11 response(s), 3 skipped)

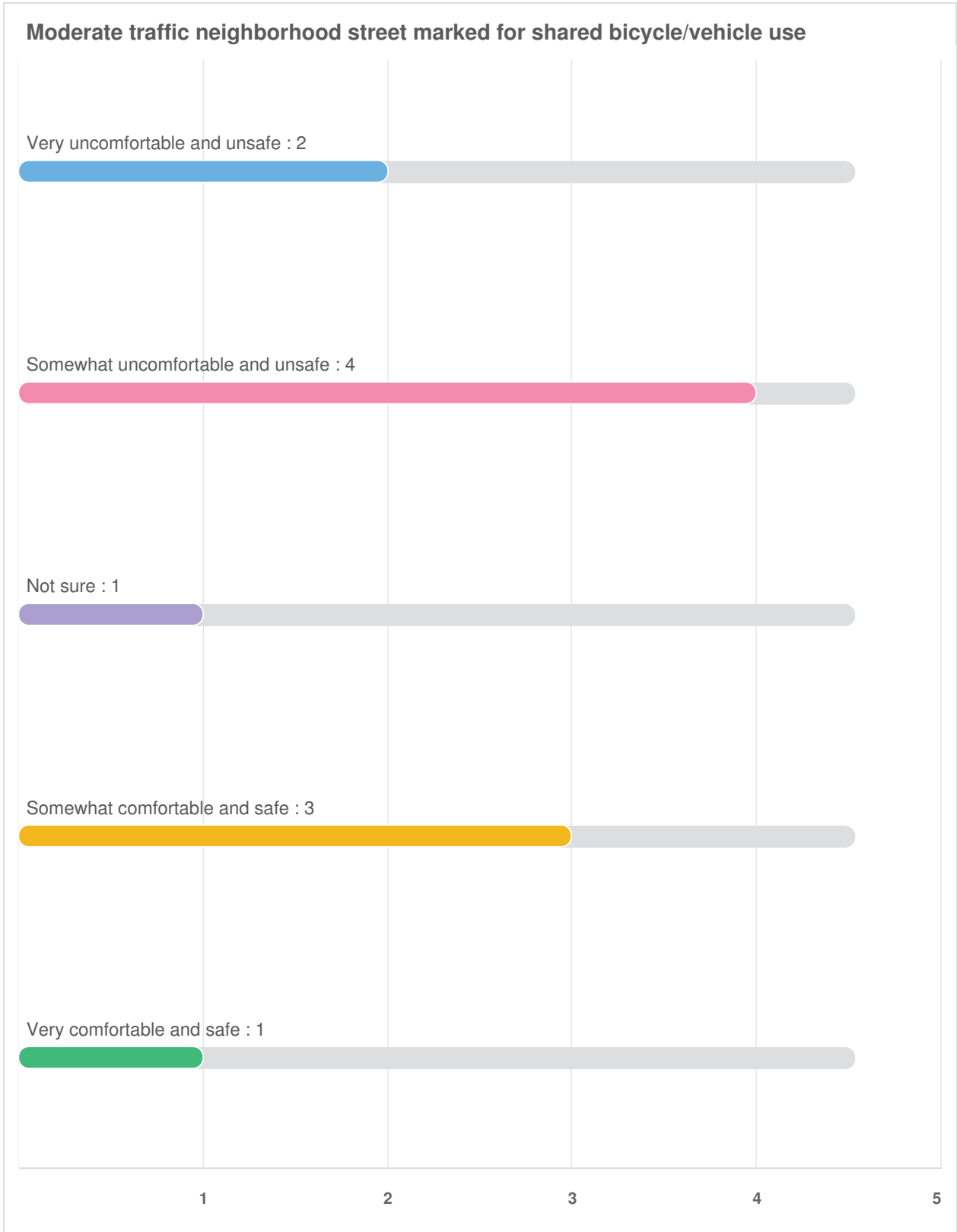
Question type: Likert Question

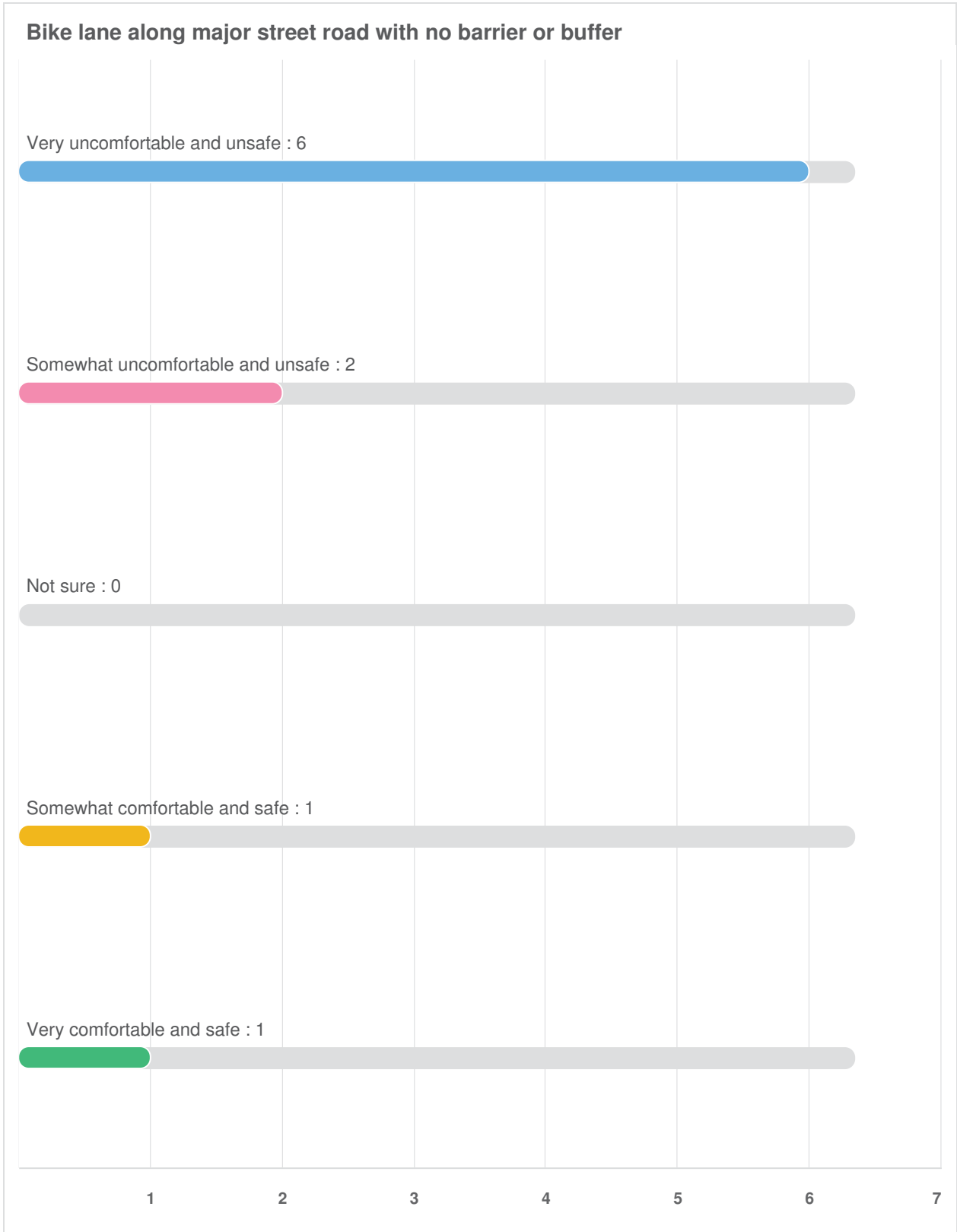
Q14 | How comfortable and safe do you feel riding a bicycle on the following paths or streets?

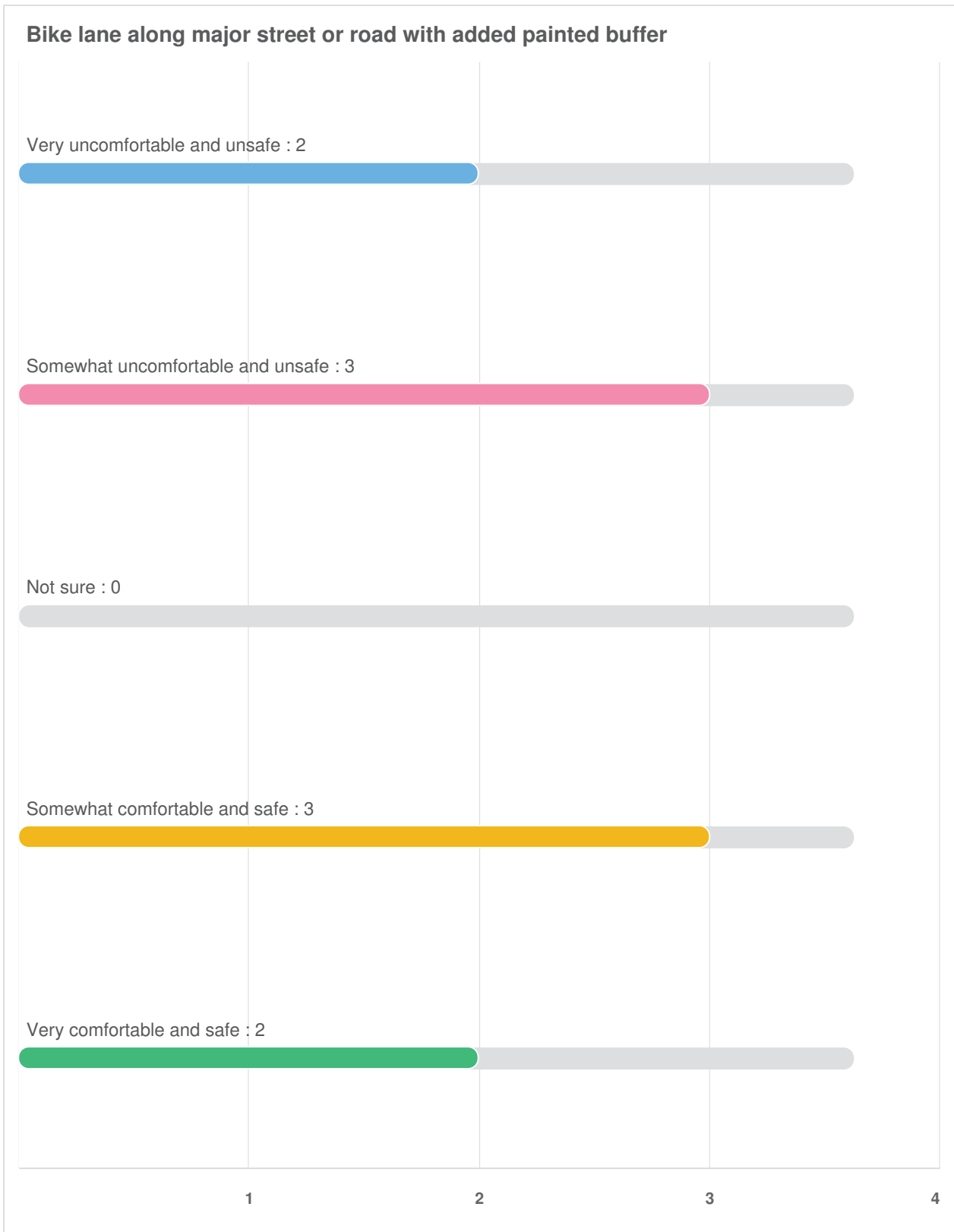
Dedicated bike and pedestrian path that is not along a street



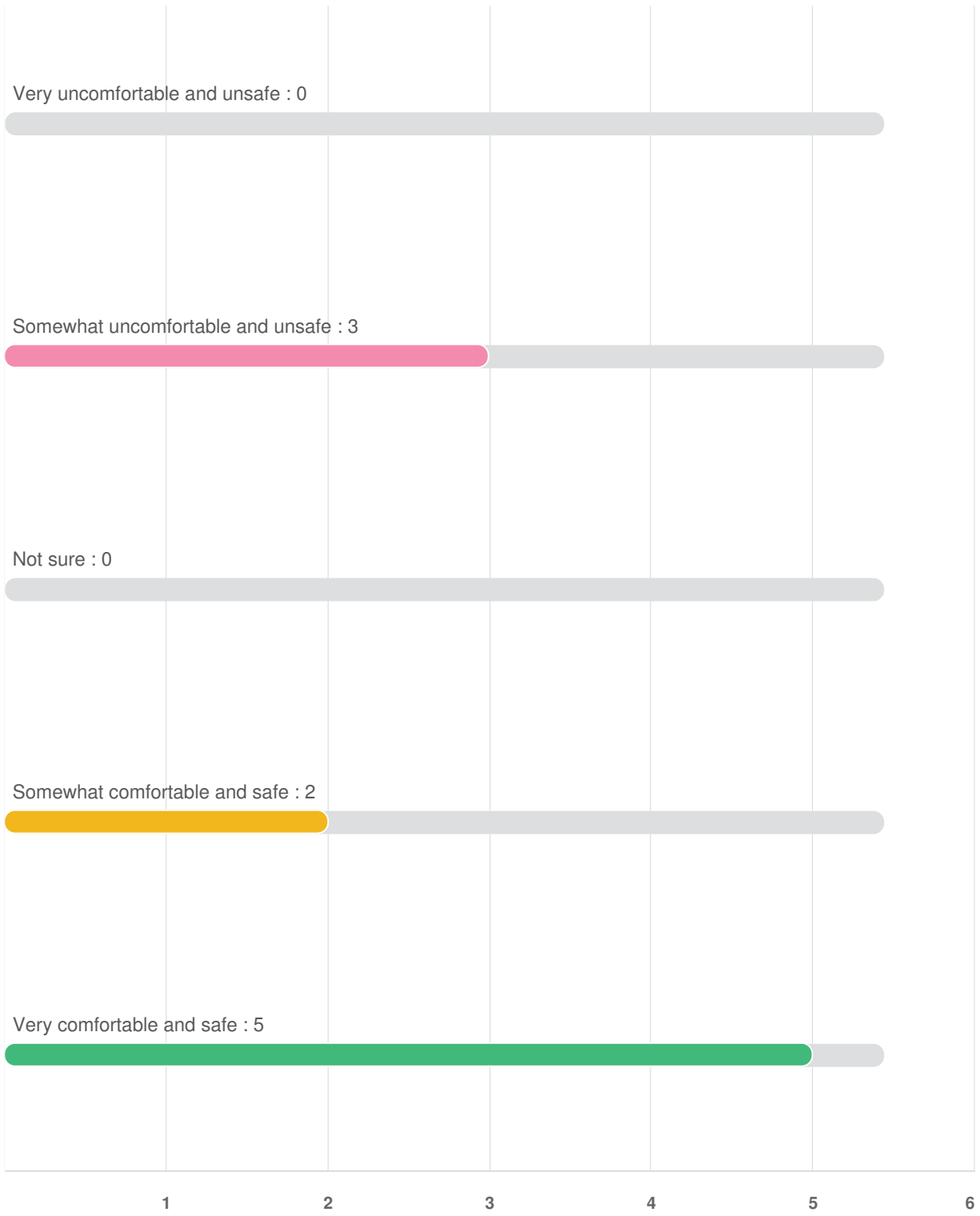








Bike lane along major street or road with physical separation such as with a landscape strip or curb



Diseño de espacios públicos

SURVEY RESPONSE REPORT

19 July 2019 - 27 October 2022

PROJECT NAME:

Frog Pond East and South Master Plan



SURVEY QUESTIONS

Q1 ¿Cuál es su nombre?

Anonymous

8/25/2022 07:43 PM

Araceli Modesto

Anonymous

8/29/2022 03:12 PM

Johana

Mandatory Question (2 response(s))

Question type: Single Line Question

Q2 ¿Cuál es su correo electrónico o número de teléfono?

Anonymous

8/25/2022 07:43 PM

9712192421

Anonymous

8/29/2022 03:12 PM

Johanabpedreros@gmail.com

Mandatory Question (2 response(s))

Question type: Single Line Question

Q3 ¿Cuáles son sus áreas o servicios grandes favoritos (es decir, campos deportivos, senderos, refugios para grandes reuniones, áreas naturales, etc.) en los parques de la ciudad de Wilsonville? ¿Qué le gusta de estos servicios o áreas?

Anonymous

8/25/2022 07:43 PM

Campos deportivos

Anonymous

8/29/2022 03:12 PM

Senderos, áreas naturales para caminar relajarme tomar aire estar en contacto con la naturaleza pero como la condición climática de Oregón en otoño e invierno es difícil por la lluvia y frío debería haber un sitio cubierto para reuniones o hacer alguna actividad deportiva

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q4 ¿Cuáles son sus áreas o servicios pequeños o medianos favoritos (es decir, bancos, áreas para sentarse, áreas cubiertas para picnic, áreas de juego, etc.) en los parques de la ciudad de Wilsonville? ¿Qué le gusta de estos servicios o áreas?

Anonymous

8/25/2022 07:43 PM

Áreas para picnic y de juegos

Anonymous

8/29/2022 03:12 PM

Todos es importante porque cada uno de estos presta un servicio diferente y muy necesario para el desarrollo de la comunidad

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q5 ¿Hay un área o alguna característica en uno o más de los parques de la ciudad de Wilsonville que usted evita? Si es así, ¿dónde? Explique por qué.

Anonymous

8/25/2022 07:43 PM

No

Anonymous

8/29/2022 03:12 PM

Algún sitio que tenga influencia se homeless

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q6 ¿Cuáles son las cosas más importantes que se deben considerar al diseñar un parque municipal en Frog Pond East y South?

Anonymous

8/25/2022 07:43 PM

La seguridad, baños públicos.

Anonymous

8/29/2022 03:12 PM

Fácil acceso a personas de la tercera edad y niños y cerca a casa

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q7 ¿Qué otros servicios no incluidos en la Pregunta 7 son importantes y se deben incluir en el diseño de los parques y espacios verdes del vecindario?

Anonymous

8/25/2022 07:43 PM

Ninguno

Anonymous

8/29/2022 03:12 PM

Si hubiera facilidad de tener una piscina para usar y poder también hacer deporte

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q8 Clasifique lo siguiente en orden de importancia que tienen estos elementos para usted con respecto a los parques y espacios...

OPTIONS	AVG. RANK
Áreas abiertas de césped	2.50
Área de ejercicio para mascotas	2.50
Bancos	3.00
Árboles y sombra	5.00
Área cubierta para reuniones	5.00
Senderos para caminar/andar en bicicleta	5.50
Jardín comunitario	5.50
Estructura de juegos	7.00

Optional question (2 response(s), 0 skipped)

Question type: Ranking Question

Q9 ¿Qué hace que un cruce de calles o una banqueta sea cómodo para usted?

Anonymous Y
8/25/2022 07:43 PM

Anonymous La seguridad y marcación
8/29/2022 03:12 PM

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q10 Sin incluir los parques, ¿Cuál es su vecindario o área favorita para caminar en Wilsonville? ¿Qué es lo que disfruta del vecindario o el área?

Anonymous Crossing lights
8/25/2022 07:43 PM

Anonymous Áreas verdes y limpias
8/29/2022 03:12 PM

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q11 ¿Hay algún vecindario o área en la que evite caminar en Wilsonville? En caso afirmativo, explique por qué.

Anonymous No
8/25/2022 07:43 PM

Anonymous Ninguno
8/29/2022 03:12 PM

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q12 ¿Cuáles son las cosas más importantes que se deben considerar al diseñar nuevas aceras y cruces de calles para peatones en Frog Pond East y South?

Anonymous

8/25/2022 07:43 PM

Crossing lights y luces para iluminar .

Anonymous

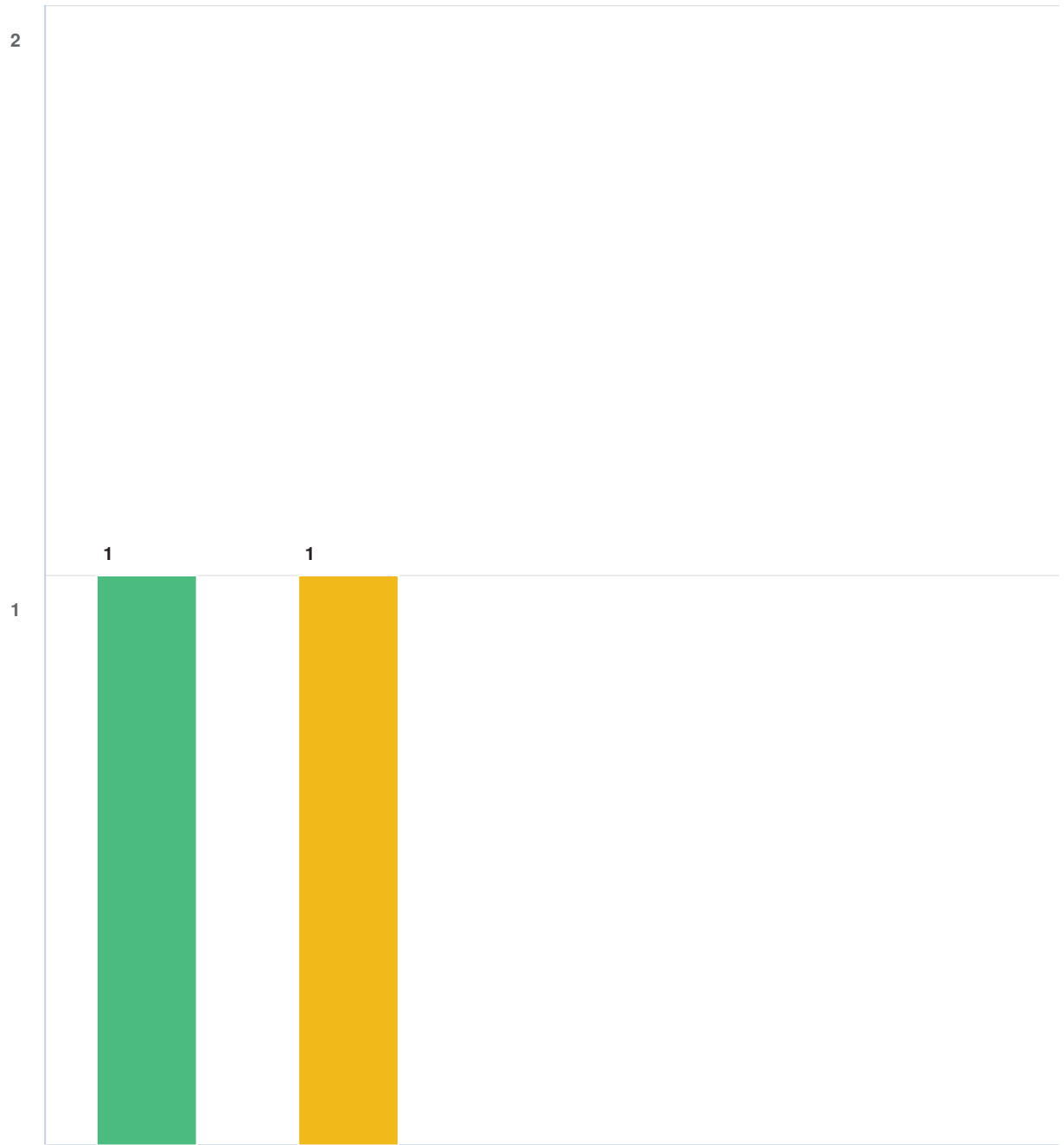
8/29/2022 03:12 PM

Que estén delimitadas señalizadas sería genial

Optional question (2 response(s), 0 skipped)

Question type: Essay Question

Q13 ¿Con qué frecuencia anda en bicicleta en Wilsonville?



Question options

- Nunca
- Varias veces al mes
- Algunas veces al año o menos
- Al menos una vez al mes en promedio
- Diariamente o varias veces a la semana

Optional question (2 response(s), 0 skipped)

Question type: Checkbox Question

Q14 Si andas en bicicleta en Wilsonville, ¿Cuál es tu lugar favorito para andar en bicicleta?
¿Qué disfrutas al respecto?

Anonymous Parques
8/25/2022 07:43 PM

Anonymous No
8/29/2022 03:12 PM

Optional question (2 response(s), 0 skipped)
Question type: Essay Question

Q15 What are the most important things that should be considered in designing bicycle lanes and paths in Frog Pond East and South?

Anonymous Lighting
8/25/2022 07:43 PM

Anonymous No
8/29/2022 03:12 PM

Optional question (2 response(s), 0 skipped)
Question type: Essay Question

Q16 ¿Qué tan cómodo y seguro se siente usted al andar en bicicleta por los siguientes caminos o calles?



Optional question (2 response(s), 0 skipped)
Question type: Likert Question

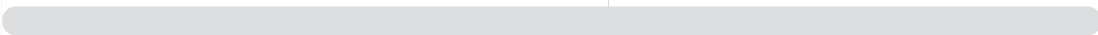
Q16 ¿Qué tan cómodo y seguro se siente usted al andar en bicicleta por los siguientes caminos o calles?

Sendero dedicado para bicicletas y peatones que no está a lo largo de una calle

Muy incómodo e inseguro : 0



Algo incómodo e inseguro : 0



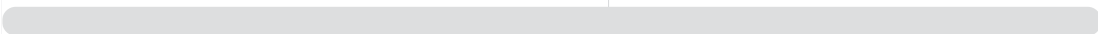
No estoy seguro : 1



Un poco cómodo y seguro : 1

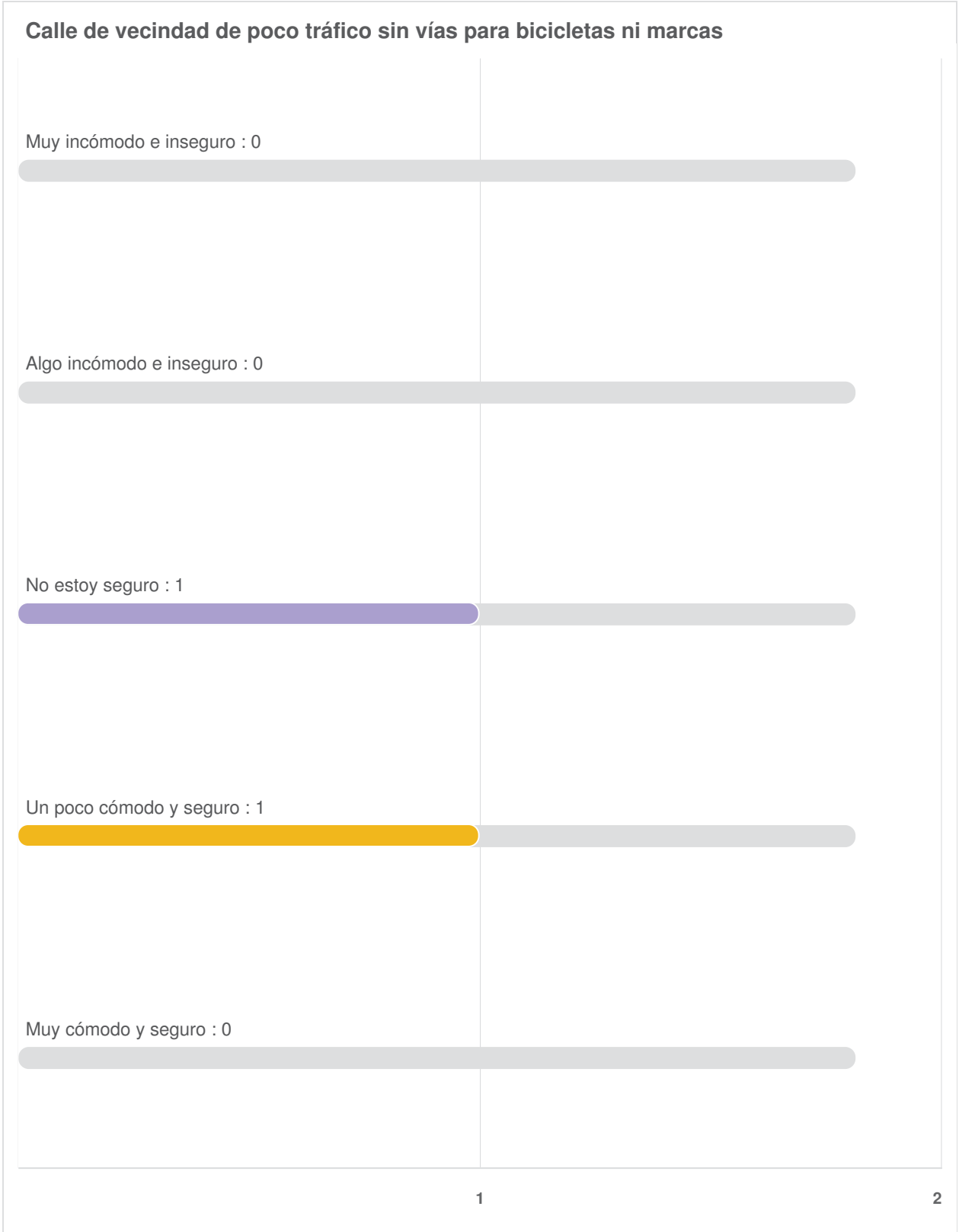


Muy cómodo y seguro : 0



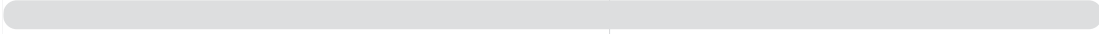
1

2



Calle del vecindario de tráfico moderado marcado para uso compartido de bicicletas/vehículos

Muy incómodo e inseguro : 0



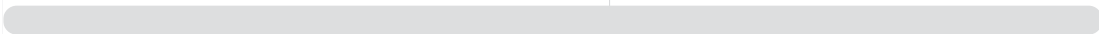
Algo incómodo e inseguro : 1



No estoy seguro : 0



Un poco cómodo y seguro : 0

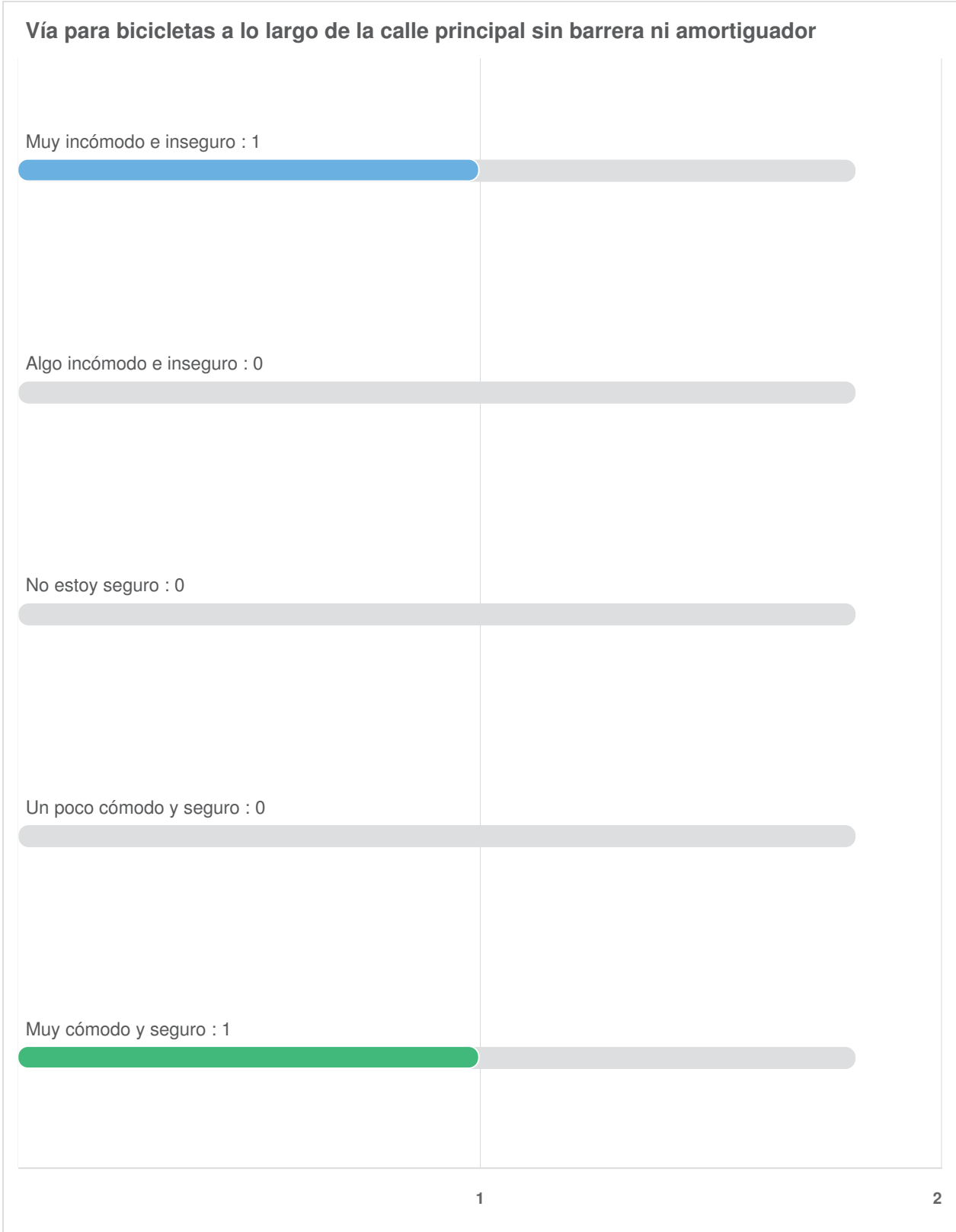


Muy cómodo y seguro : 1



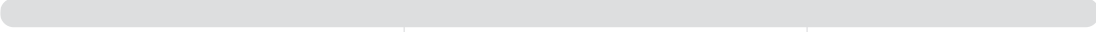
1

2



Vía para bicicletas a lo largo de una calle o carretera principal con protección adicional pintada

Muy incómodo e inseguro : 0



Algo incómodo e inseguro : 0



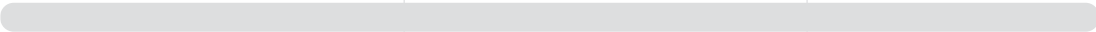
No estoy seguro : 0



Un poco cómodo y seguro : 2



Muy cómodo y seguro : 0



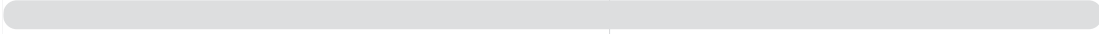
1

2

3

Vía para bicicletas a lo largo de una calle o carretera principal con separación física, como una franja ajardinada o un bordillo

Muy incómodo e inseguro : 0



Algo incómodo e inseguro : 0



No estoy seguro : 0



Un poco cómodo y seguro : 1



Muy cómodo y seguro : 1



1

2



Frog Pond's Next Great Neighborhoods Community Conversation

January 18, 2022

Welcome!

Our meeting will start soon

Please remain on mute – thank you



Welcome!



Tonight's Goals

- Introduce project to broader audience
- Get Planning Commissioners' perspective on the project
- Opportunity for you to ask questions and get answers



Tonight's Agenda

- Introductions
- Background and Setting the Stage
- Have a conversation
 - Question and answer format





Introductions

Who is joining us?

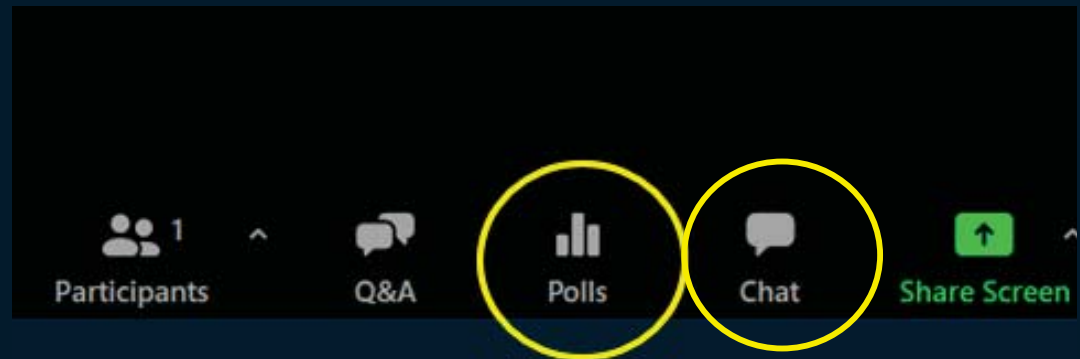
Use “Polls” function to respond or put in “chat”

1. Where you live?

- I live in or near Frog Pond
- I live elsewhere in Wilsonville
- I do not live in Wilsonville

2. Did you participate in or follow previous Frog Pond planning?

- Yes
- No




Questions for You



Use “Polls” feature to respond


 1 ^
Participants


Q&A


Polls


Chat

 ^
Share Screen


Raise Hand


Record


More

What/Where is Frog Pond?



Why this plan? Why now?

- A great neighborhood starts with a great plan.
- Housing opportunities, especially more equitable housing choices
- First step before annexation, development
- Planning is funded by Metro

Frog Pond Planning To Date



FROG POND AREA PLAN
Creating a great community



FROG POND WEST
Master Plan



Why this plan? Why now?

- A great neighborhood starts with a great plan.
- Housing opportunities, especially more equitable housing choices
- First step before annexation, development
- Planning is funded by Metro

What is the Frog Pond East and South Master Plan?

- A plan to guide:
 - Housing mix
 - Other land uses
 - Streets and trails
 - Parks and open space
 - Other infrastructure
 - How to fund infrastructure



Regulatory Environment



OREGON
Department of
Land Conservation
& Development

**House Bills 2001, 2003 &
Administrative Rules**



Metro

**2018 UGB Expansion
Conditions of Approval**



Housing Mix

- For sure part of mix:
 - Detached single-family
 - Middle housing
 - Accessory dwelling units (ADU's)
- Potentially part of mix
 - Apartments/condos and other multi-family (type, scale to be determined)



What is Middle Housing?

- Range of smaller attached or clustered housing types
- Typically built at a similar scale as single-family homes
- Often called “missing middle” – largely missing from most cities’ neighborhoods for the last 70 years (post WWII)



Middle Housing Types

Duplex



Multiple detached homes on a lot



Triplex



Quadplex

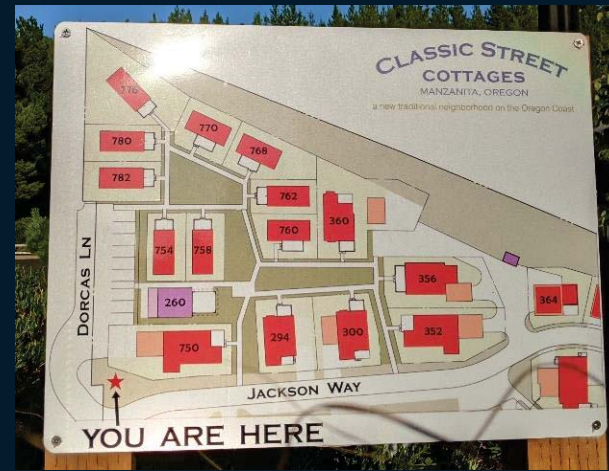


Middle Housing Types

Townhouse



Cottage Cluster



What is an ADU?

- A small home (800 sf or less) accessory to another home
- Can be attached or detached from primary home



© The Bungalow Company, Portland, Oregon

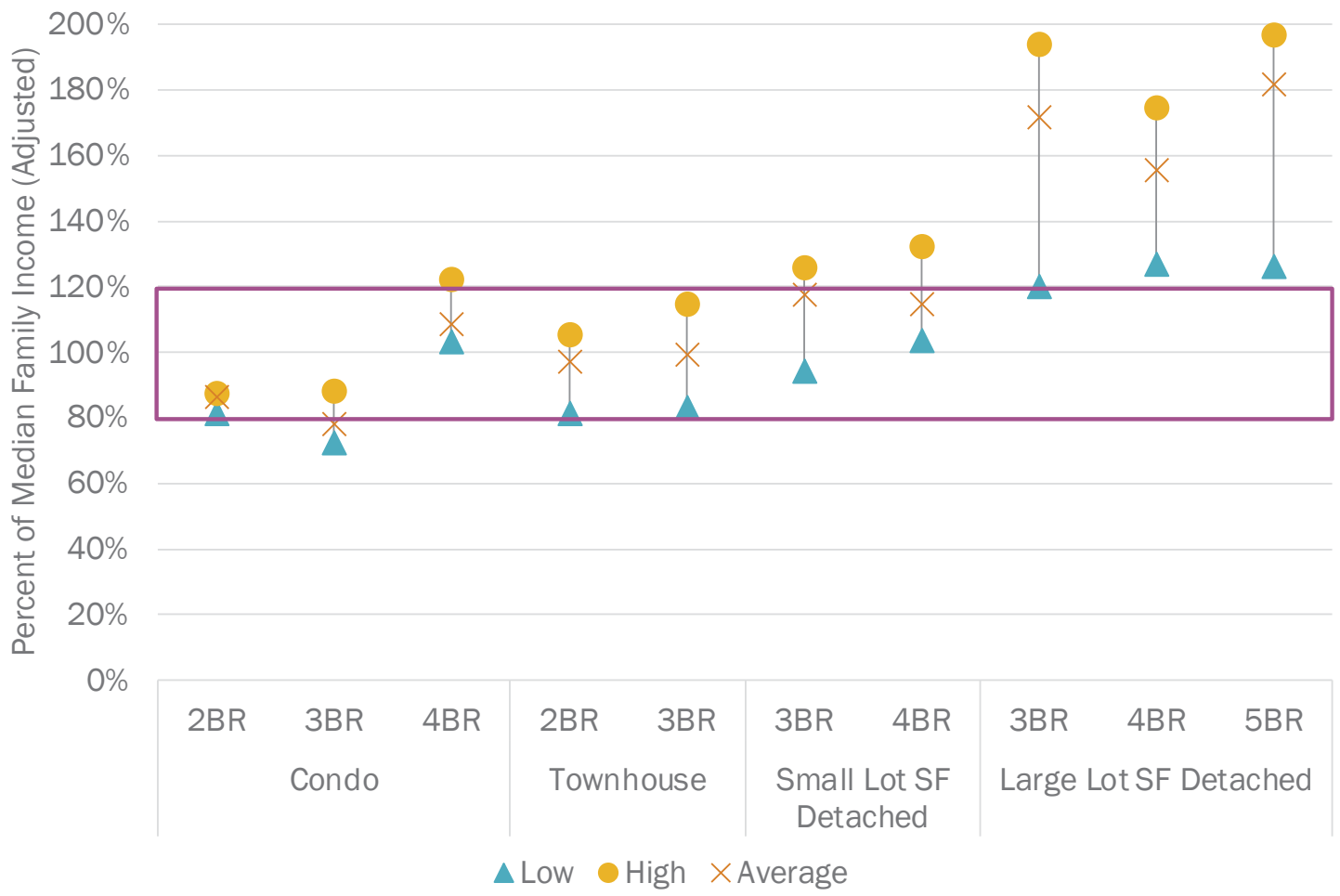


© Candace Kramer, Portland, Oregon

Type and Scale of Apartments/Condos



Market Rate Ownership Housing Affordability



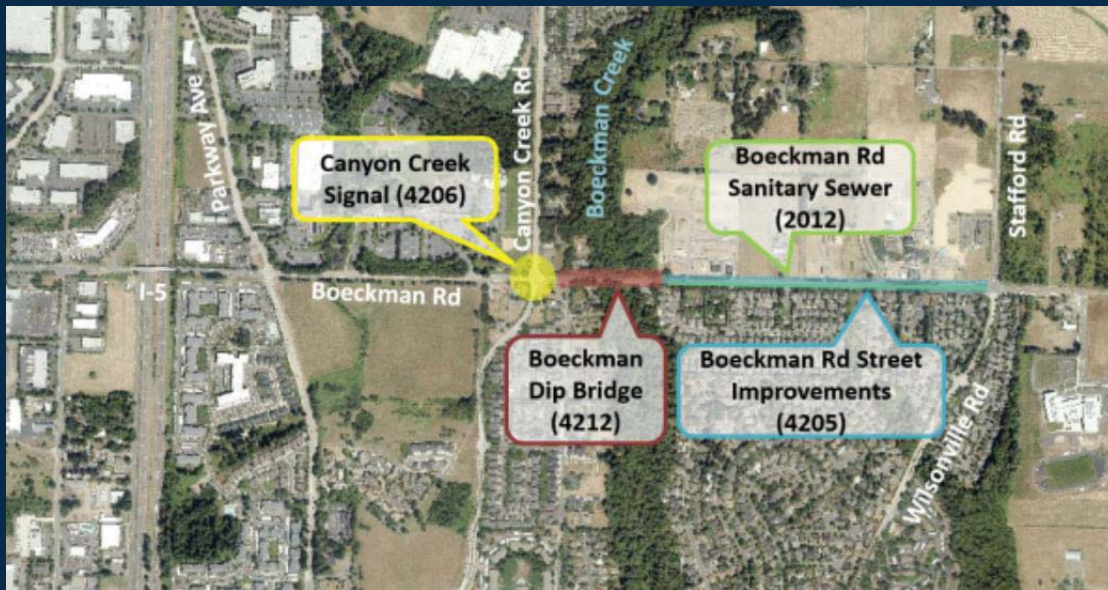
New large-lot detached housing affordable only to households earning >120% of the median family income*

Most attached for-sale housing & small lot detached is affordable to households earning 80-120% of the median family income*

* Median family income from HUD for Clackamas County, adjusted for household size given number of bedrooms

Road Improvements in The Works

Boeckman Road



- Feb-Apr 2022 Selection of Design/Build Team
- Late Spring 2022 Design/Build Work Begins
- Fall 2024 Work Complete

Road Improvements in The Works

Elligsen/65th/Stafford



- Traffic signal to be installed during temporary closure of Boeckman for bridge work
- Future intersection improvements high priority for Clackamas County

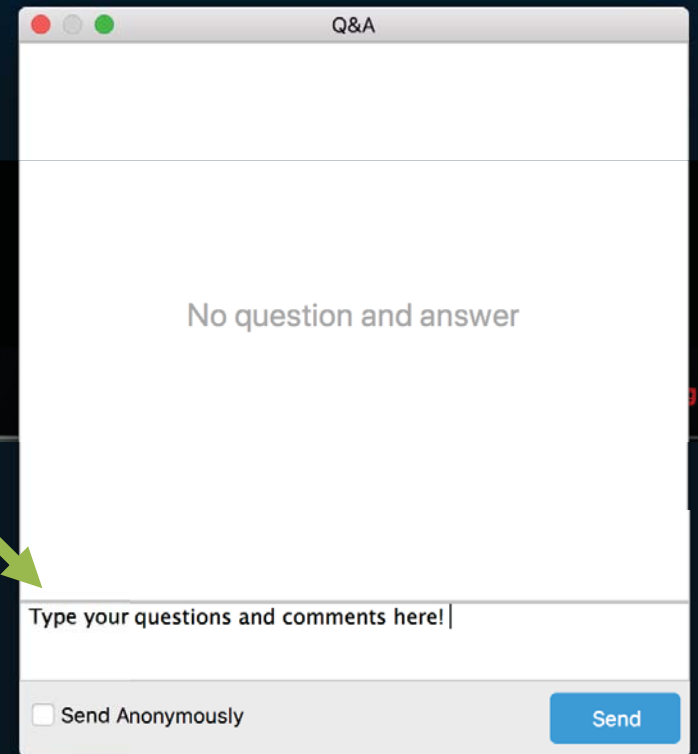
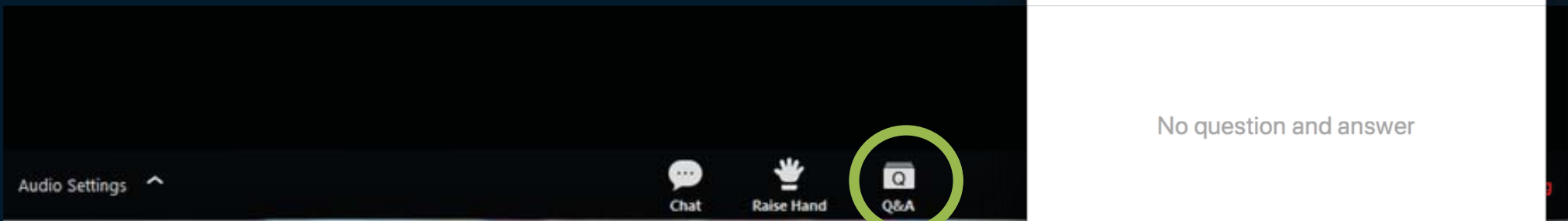
Let's Check In



- *Look at questions that have come in*
- *Send additional questions now using the Q&A feature*
- *Raise hand if you would like to say your question*
- *Email works too!*
 - *Email to gmcalister@ci.wilsonville.or.us*



Asking Questions



What is 1 key opportunity and 1 key challenge around housing for the Frog Pond East and South plan? Think both medium to short term and long term?



**What is 1 key opportunity and
1 key challenge for potential
neighborhood-scale
commercial center serving the
Frog Pond area?**





Frog Pond Lane
**WEST
NEIGHBORHOOD**

**EAST
NEIGHBORHOOD**
BPA Corridor

**Future Park
Site**



Meridian Creek MS

**SOUTH
NEIGHBORHOOD**

Boeckman Road

Wilsonville Rd

Stafford Road

60th Avenue

Advance Road



We are here to help!

- *Let's Talk Wilsonville*
- Georgia McAlister
gmcaster@ci.wilsonville.or.us
503.570.1573
- Dan Pauly
pauly@ci.Wilsonville.or.us
503.570.1536

Summary of Property Owner and Neighborhood Outreach Meetings

PREPARED FOR: APG and City of Wilsonville Planning Department

PREPARED BY: Georgia McAlister, Assistant Planner

DATE: October 20, 2021

Introduction

This memorandum summarizes the first three outreach meeting for Frog Pond East and Souths Master Plan including the Frog Pond East and South Property Owner Meeting, the Frog Pond West Property Owner Meeting, and the Neighborhood Homeowners Association Meeting. Variations of the same informational presentation were given at each of the three meetings. The purposes of the interviews were to: (1) familiarize property owner's and resident's with the project and project team, (2) learn about attendees issues, concerns and perspectives to help inform the beginning stages of Public Outreach and the Master Planning.

The three questions posed at each meeting were:

- What is your relationship/interest with this project?
- What are your greatest hopes for this plan?
- What are your concerns?

Additional ice breaker questions for property owners:

- What do you love about Frog Pond?
- What is special about your property that the team needs to know?

Themes

The following themes are the high level and priority issues that were mentioned most often during the interviews.

- **Population growth and the impact on traffic and roads**
 - At each meeting attendees expressed concern about anticipated increased traffic once the neighborhood is complete. Many wanted to know if potential congestion related to increased populations would be planned for and considered. Relating to traffic concerns many attendees were curious about planned road improvements including improving the intersection at 65th and Elligsen, widening Stafford, and pedestrian infrastructure.
- **Openness to Middle Housing**
 - Many participates voiced support for housing variety and equitable housing opportunities. A preference towards duplex and town homes opposed to apartments or condos and middle housing designed to be cohesive with already existing neighborhood's in Wilsonville was consistently voiced.
- **Concerns about density**

- There was concern that incorporating middle housing could result in a high density neighborhood that does not fit with the lower density Frog Pond West neighborhood. Additionally, concerns were voiced that high density could result in unsafe road conditions and high traffic.
- **Excitement and curiosity about the potential for the neighborhood**
 - While the vision differed between attendees there was a general excitement for the project. Attendees voiced hope for creative design and land use to create a complete community.

Responses to Questions

- **What is your relationship/interest with this project?**
 - Property owner
 - Developer
 - Trying to learn about timing – wondering if we should sell and improve (our home) or if it will be torn down
 - Families homestead is land included in the neighborhood
 - Live in adjacent neighborhood
- **What are your greatest hopes for this plan?**
 - Walkability and bike ability
 - It is at the core family friendly
 - it's a beautiful place for us all to live
 - planning to slow cars
 - ability to walk from the neighborhood to schools
 - Beautiful but not overbuilt
 - The land under the power lines is utilized
 - A functioning commercial center
 - Continued success of Frog Pond West to the East and South . Elements in the West Plan should be included in the new phases
 - The construction of the neighborhood is completed quickly
 - The plan should be flexible
- **What are your concerns?**
 - Being pushed out of homes and land
 - drainage issues
 - Being forced to annex land into the City
 - Current residents having to hook up to City water and sewer
 - Unsafe roads and pedestrian access
 - Increase in traffic without the needed improvements to accommodate traffic
 - Multifamily or condo development
 - High density
 - Construction will last for decades
 - The plan will be too rigid and not allow change
 - Infrastructure will not be sufficient for the population or be more costly than expected
- **What do you love about Frog Pond?**
 - the rural feel close to town

- the trees and historic natural features
- the location of Frog Pond in relation to other communities
- great place to raise kids
- **What is special about your property that the team needs to know?**
 - water (artisan) and springs
 - historic and special trees

Questions posed to the City

- Sometimes it is difficult for all neighbors to agree. How do you develop a community if not everyone wants to sell?
- Are there health concerns for the BPA lines?
- Why can't we use the power line area creatively? Can we use it for parking? Parks?
- Will Advance road be improved and fixed?
- What does affordable housing density mean?
- Most families own 2 to 3 SUVs what happens when even more families move in with more cars?
- How will you make affordable housing options in the current market?
- Once the plan is adopted when does the area get rezoned?
- Are both neighborhoods going to be developed at the same time?
- When will Stafford road be expanded to 3-4 lanes.?
- Will there be townhomes?
- What will Frog Pond do better or different from Villebois?
- What is the vision for the commercial center?
- When will the Elligsen intersection be improved?
- What will happen to the Grange?

Outdoor Open House on Aug. 9 to Inform Frog Pond East and South Master Plan

Master planning for the Frog Pond East and South neighborhoods continues with two public open house on Aug. 9 at the Murase Plaza Splash Shelter. The first is scheduled from noon to 2 pm; the second takes place from 4:30-6:30 pm.

Planners are currently focused on gathering community input to inform the design of the area's "public realm", which includes streets, sidewalks, trails, and parks.

**Frog Pond East & South
Master Plan Open House**
Sept. 17, 12-2 pm, 4:30-6:30 pm
Murase Plaza Splash Shelter
Memorial Park

Informed by previous public input from the community, City planners have identified a variety of housing styles that meet current and future demand,

and that also support the City Council's goal to establish housing affordable to first-time and/or lower-income buyers.

The Frog Pond East and South Master Plan establishes the framework of Wilsonville's next great neighborhoods. The project identifies the types and locations of the homes, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. The extensive process also identifies water, sewer, stormwater, and transportation infrastructure needs and funding sources.

Learn more about the project directly from planners at the City's Community Block Party on Aug. 25 or visit letstalkwilsonville.com.

For more information, contact Planning Manager Dan Pauly at 503-570-1536; pauly@ci.wilsonville.or.us



Wilsonville Civics Academy Graduates the Class of 2022; Enrollment Begins Sept. 1 for 2023

Participate in Planning Wilsonville's Next Great Neighborhoods at Frog Pond

The Frog Pond East and South Master Plan sets the stage for Wilsonville's next great neighborhoods.

The City's master planning process identifies the types and locations of the homes, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years. The extensive process also identifies water, sewer, stormwater, and transportation infrastructure needs and funding sources.

This long-term plan is informed by analysis of area housing trends and existing inventory in order to ensure the development of residences that meet the community's future needs and provide opportunities for a broad cross-section of people who wish to live in Wilsonville.

Planners are providing several opportunities for community stakeholders to give input on the project in the coming months before the Frog Pond East and South Master Plan is to be finalized for the City Council's consideration in December.

This month, the community can participate in one



or more of the following ways:

Community workshop: Join planners at a virtual community workshop on Thursday, May 12, at 6 pm. Visit [LetsTalkWilsonville.com](https://www.letstalkwilsonville.com) for a direct link and additional details.

Online survey: Visit [LetsTalkWilsonville.com](https://www.letstalkwilsonville.com) by May 15 to complete a brief survey that queries stakeholders about the preferred locations of several housing types.

Individual and small group meetings: Do you have a unique perspective about housing the City needs to hear? Planners are seeking individuals and small groups with diverse backgrounds to share their experience with Wilsonville housing and their hopes for future housing. The format is flexible, and could include one-on-one or small group sessions. Contact Daniel Pauly or Georgia McAlister (contact info below) to arrange a meeting.

Visit [LetsTalkWilsonville.com](https://www.letstalkwilsonville.com) to remain up to date on the Frog Pond East and South Master Plan or contact Daniel Pauly, 503-570-1536, pauly@ci.wilsonville.or.us; or Georgia McAlister, 503-570-1573, gmcaster@ci.wilsonville.or.us.

**Frog Pond Master Planning
Workshop (Virtual)**
Thu, May 12, 6 pm
[LetsTalkWilsonville.com](https://www.letstalkwilsonville.com)

Frog Pond East & South Master Plan Update: Planners Zero In on Area Land Use Plan

Frog Pond East and South Master Planning continues, defining the elements that will shape Wilsonville’s next great neighborhoods.

This master planning process identifies the types and locations of the homes, parks, open spaces, streets, trails and neighborhood amenities to be built over the next 10-20 years.

Developing this long-term plan is an extensive process that includes identifying water, sewer, stormwater, and transportation infrastructure needs and funding sources.

The Plan is informed by analysis of area housing trends and existing inventory to ensure the development of residences that meet the community’s future needs and provide home-buying opportunities for the broad cross-section of people who may wish to live in Wilsonville.

Draft Land Use Plan Now Complete

The diagram pictured at right is the draft land use plan. Each residential land use type (Type 1, Type 2, Type 3) on the map represents an area designed to have a cohesive look and feel.

Zones marked Type 1 include the tallest, most closely-spaced units. Buildings are less tall, and more widely-spaced in each successive zone, though each zone allows a variety of home types, including detached single-family homes, townhouses, and apartments/condos.

The map also shows additional information, including the site of Meridian Park Middle School, the location of future parks and a commercial center, and the orientation of the area’s residential streets.

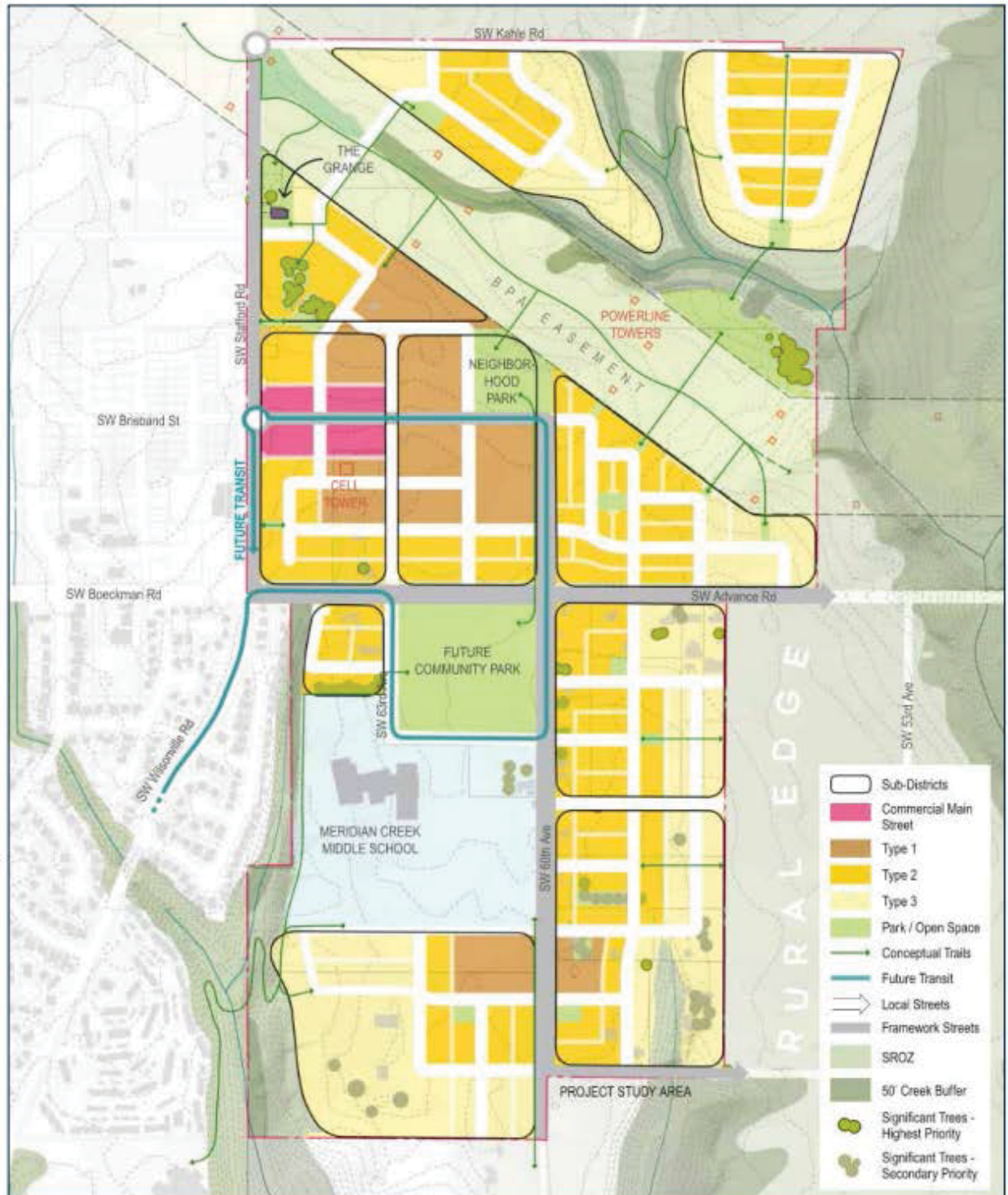
Development of this draft land use plan and other elements of the Master Plan are informed by public input, and by regular staff work sessions with the City Council and the Planning Commission.

Planners are inviting public comment on the draft land use plan, and has October work sessions scheduled with the City Council and the Planning Commission.

The Plan is on schedule to be adopted before the end of the calendar year.

Those interested can learn more about this project and provide comment at letstalkwilsonville.com/frogpond

For more information, contact Dan Pauly, Planning Manager, 503-570-1536 or pauly@ci.wilsonville.or.us.



Simmons, Mandi

From: Nancy Davis <nancyd.oregon@yahoo.com>
Sent: Friday, June 24, 2022 10:47 AM
To: Planning
Subject: Fw: Upcoming Missing Middle Housing Forum

[This email originated outside of the City of Wilsonville]

Hi, folks -

Wanted to thank you for your efforts to provide great housing in Wilsonville. Perhaps some builders could apply these concepts to the Frog Pond development. But please consider ownership (especially cottage clusters) and NOT all rentals, please!

Here's info about an upcoming housing forum sponsored by AARP -

The talk is on June 29th (next Wednesday) ... details here

<https://aarp.cventevents.com/event/2997b555-6c21-48b6-bd5d-2b2fe0a68cdf/summary>

He also gave a previous talk on YouTube (2016, specific to the Portland metro area) about the topic of missing middle housing.

[Missing Middle Housing Forum - Portland, Oregon](#)



Missing Middle Housing Forum - Portland, Oregon

From: [Doris Wehler](#)
To: [Mayor Julie Fitzgerald](#); [Councilor Kristin Akervall](#); [Councilor Charlotte Lehan](#); [Councilor Ben West](#); [Councilor Joann Linville](#)
Cc: [Pauly, Daniel](#); [Cosgrove, Bryan](#)
Subject: Alternative plan for East and South Frog Pond
Date: Monday, June 20, 2022 8:17:55 PM

[This email originated outside of the City of Wilsonville]

With a great deal of interest, I watched your work session of June 20, 2022 regarding East & South Frog Pond. Your concerns about home ownership vs. rentals owned by outsiders is very legitimate. When I originally studied the Alternative Subdistricts, I chose Alternative B. However, after listening to your discussion, I definitely favor a combo. Allow me to explain why you may like the idea.

Create a new Alternative (D) which is composed of Alternate C for East Frog Pond and Alternate B for South Frog Pond.

Using Alternate C for East Frog Pond would allow the greatest percentage (49%) to be Type 2 housing, and still help meet Metro's density standards. *"Type 2 housing is similar to areas of Villebois beyond the Village Center or small lot areas of Frog Pond West."* Type 2 offers a variety of housing types other than apartments. It has the advantage of being dense around the commercial, dense across from the school, and close to possible parking under the power lines.

Using Alternate B for South Frog Pond will give our residents the best chance of home ownership, while still providing some density and variety with Type 2 housing. The Type 2 housing would be next to the park and along 60th Avenue and adjacent to the school. The rest of East would be Type 3 which would *"include medium to large detached single family homes, along with duplexes, triplexes, quadplexes and 2-4 unit townhouse buildings, cluster housing and small (5-9) unit condo/apartment buildings on lots 6,000-10,000 sq. ft."* It seems logical this area offers the best chance of ADUs. This type of development would best match the homes that surround the area and should be acceptable to most people who live there now.

Thank you in advance for considering my balanced proposal.

Doris Wehler
6782 SW Wehler Way
Wilsonville, Or 97070
503-682-0426
daweher@gmail.com

From: [Doris Wehler](#)
To: [Mayor Julie Fitzgerald](#)
Cc: [Cosgrove, Bryan](#); [Pauly, Daniel](#)
Subject: Thank you
Date: Monday, March 7, 2022 7:53:24 PM

[This email originated outside of the City of Wilsonville]

Please be advised that I am very appreciative of the long hours and hard work each member of the Council gives to serve Wilsonville citizens. I know how much time it takes.

On March 7, 2022, I tuned in to the Council work session and was particularly struck by two statements. The first was Councilor Linville's concerns about single family housing vs. apartments and how home ownership is a city priority. The second was your statement, Mayor Fitzgerald, about the viability of using acreage for a commercial center vs. land for housing. It is certainly true shopping and commercial space needs have considerably changed. If the Council proceeds with commercial space, it's important to have businesses that will always be needed. Excellent candidates would be a daycare center and an urgent care (or other health facility). You might even get Legacy Meridian Park Hospital to participate in an urgent care facility, which would help to alleviate emergency care at the hospital. Additional floor(s) of housing or office space could be added..

Doris Wehler
6782 SW Wehler Way
Wilsonville
503-682-0426

From: Doris Wehler
To: Pauly, Daniel; McAllister, Georgia
Subject: Re: Frog Pond East and South Master Plan Work Session
Date: Wednesday, February 9, 2022 9:32:11 PM
Attachments: image001.png
Importance: High

[This email originated outside of the City of Wilsonville]

I listened to the Feb. 9, 2022 Planning Commission meeting on development of East and South Frog Pond. Here are my observations and suggestions:

A. Excellent job with recommending that equitable housing be "reasonably achievable." The 14% goal will be difficult to reach without the city purchasing land, which the Council may be reluctant to do since the land is horribly expensive. Obtaining a non-profit developer for some portion is a possibility. There are enough wealthy people in Wilsonville that would donate to have Habitat build a home for a disabled veteran.

B. In your planning and before building anything, please leave room for ultimate widening of both Stafford and Advance Roads.

C. Housing types. Could you incorporate two-generation owned duplexes where the lower floor was for elderly or handicapped and the upper floor for the younger family? This would be like an ADU. Both parties could pay the cost of purchase, and help each other with household chores/child care. This would work particularly well if the elders sold their existing home to make the down payment and the younger family paid all or the larger part of the monthly mortgage. I live in a two-generation home and can attest to its many benefits.

D. Commercial Center. Please allow enough parking for the businesses now and after the roads are widened. Although the prevailing idea is to put commercial on the corner, how does that work when traffic is heavy and the road is widened. Perhaps you should take a look at putting commercial by the Grange, as parking could be had under the power lines.

Thinking ahead, everyone will always need food, child care and health care. My recommendation is a child care center, a coffee/sandwich shop, a convenience grocery, and an urgent care (particularly good with schools nearby). You might even get Legacy Hospital to build it as a relief to their emergency room.

If you want multi-story, you could do small living units. Or, there has always been a demand in Wilsonville for small office space. So many people work from home now, but not everyone has the space to do it effectively.

You might consider a food bank/heart of the city for the east side of the freeway. Yearly corporate sponsorship could be sold to support this.

Doris Wehler
Frog Pond West
503-682-0426

On Wed, Feb 9, 2022 at 10:10 AM Pauly, Daniel <pauly@ci.wilsonville.or.us> wrote:

Dear Interested Parties

As a reminder, tonight, February 9, at 6 p.m. the Wilsonville Planning Commission is holding a work session to get updates from the project team and discuss components of the Frog Pond East and South Master Plan project as follows:

- Detailed feedback and review
 - Affordable Housing Analysis
 - Accessory Dwelling Unit Memo
- Initial feedback and review
 - Neighborhood Commercial Center Evaluation
- Other brief project updates

The packet for the work session is available at the following link:

https://www.ci.wilsonville.or.us/sites/default/files/fileattachments/planning_commission/meeting/packets/106001/ii.a._frog_pond_east_and_south_master_plan.pdf

No public comment/testimony is taken during the work session, but a citizen input period is on the agenda prior for anyone wishing to make oral comments. Please note this is a remote meeting via Zoom. The following are a few notes about participation. More information is available on the Planning Commission portion of the City's website

- Contact Miranda Bateschell at (503) 570-1581 or bateschell@ci.wilsonville.or.us if you wish to present any comments during citizens input
- You can click the following link to join the Zoom webinar: <https://us02web.zoom.us/j/87239032604>
- You can also watch the meeting online live or later on the City's YouTube channel. To watch the meeting online go to <https://www.youtube.com/user/CityofWilsonville/featured> and scroll to the Planning Commission Meetings section.

You can email written comments before or after the meeting for the Planning Commissions consideration. Comments can be emailed to pauly@ci.wilsonville.or.us

Thank you

Dan Pauly, AICP

Planning Manager

City of Wilsonville

503.570.1536

pauly@ci.wilsonville.or.us

www.ci.wilsonville.or.us

[Facebook.com/CityofWilsonville](https://www.facebook.com/CityofWilsonville)



29799 SW Town Center Loop East, Wilsonville, OR 97070

Disclosure Notice: Messages to and from this e-mail address may be subject to the Oregon Public Records Law.

October 14, 2022

Dan Pauly
City of Wilsonville Planning Division
29799 SW Town Center Loop E
Wilsonville, OR 97070

RE: Requested Change to draft Frog Pond East and South Master Plan

Dear Dan:

AKS is writing on behalf of West Hills Land Development (West Hills), who is under contract to purchase the Azar property (Tax Lot 1101 of Clackamas County Assessor's Map 31E07), future site of the Frog Pond East planned community. Our team has actively participated in the concept planning process for Frog Pond East and South. We request that the draft Frog Pond East and South Master Plan be modified as shown on the attached exhibit.

We would like to change the urban design designation along Stafford Road, north and south of the area designated Commercial Main Street, from Type 2 to Type 1. The Type 1 designation will allow for a step down in scale from the Commercial Main Street area of, which West Hills envisions four-story structures (three stories of residential over one story of commercial/mixed use), to three-story, garden-style walk-up apartment buildings.

South of the Commercial Main Street area along Stafford Road, a linear wetland extends south from just west of the cell tower to SW Advance Road, preventing the east-west neighborhood connectivity envisioned by the draft Master Plan. This wetland influenced West Hills' design for garden apartments fronting Stafford Road directly west of the wetland. The wetland data has been shared with Staff and the wetland should also be added to the draft Master Plan.

To help transition the intensity of urban form from west to east, we would also like to change the designation of two blocks south and southwest of the neighborhood park from Type 1 to Type 2. Again, this will help transition the intensity of the urban form as development moves from west to east.

We have discussed these changes in detail with City staff, but are now formally requesting that the draft Master Plan be modified prior to adoption. While all the implications of the draft Master Plan will only be understood when zoning standards are developed, we believe our proposed changes reflect both the urban form of the district and West Hills vision for this portion of Frog Pond East.

Thank you for the opportunity to participate in the planning process and for your consideration of our requested changes. Please let us know if you have any questions or wish to discuss this further.

Sincerely,

AKS ENGINEERING & FORESTRY, LLC

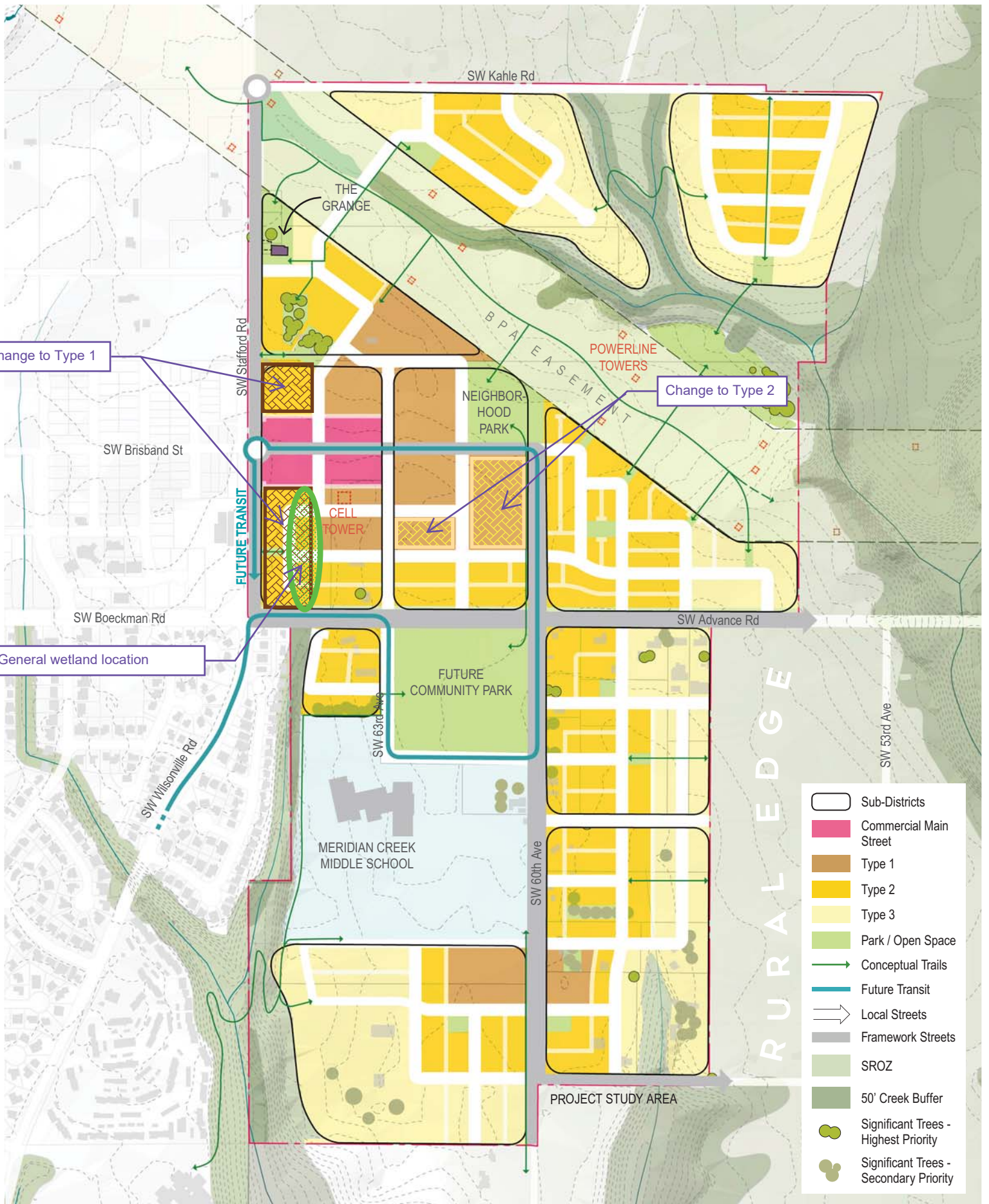


Mimi Doukas, AICP, RLA – Principal
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
503-563-6151 | MimiD@aks-eng.com

Attachment: Revised draft Frog Pond East and South Master Plan

- c Miranda Bateshell, City of Wilsonville
- Joe Dills, MIG|APG
- Dan Grimberg, West Hills Development





Change to Type 1

Change to Type 2

General wetland location

- Sub-Districts
- Commercial Main Street
- Type 1
- Type 2
- Type 3
- Park / Open Space
- Conceptual Trails
- Future Transit
- Local Streets
- Framework Streets
- SROZ
- 50' Creek Buffer
- Significant Trees - Highest Priority
- Significant Trees - Secondary Priority



October 19, 2022

Wilsonville Planning Commission, c/o Dan Pauly
City of Wilsonville Planning Division
29799 SW Town Center Loop E
Wilsonville, OR 97070

RE: Requested Change to draft Frog Pond East and South Master Plan

Dear Dan:

AKS is writing on behalf of West Hills Land Development (West Hills), who is under contract to purchase the Azar property (Tax Lot 1101 of Clackamas County Assessor's Map 31E07), future site of the Frog Pond East planned community. Our team has actively participated in the concept planning process for Frog Pond East and South. Last week we requested that the draft Frog Pond East and South Master Plan map be modified. After discussions with staff and quick review of the full Master Plan document, we would like to supplement and revise that request.

Urban Design designation along Stafford Road

As we requested last week, we would like to change the urban design designation along Stafford Road, north and south of the area designated Commercial Main Street, from Type 2 to Type 1. The Type 1 designation will allow for a step down in scale from the Commercial Main Street area of, which West Hills envisions four-story structures (three stories of residential over one story of commercial/mixed use), to three-story, garden-style walk-up apartment buildings.

For reference, we have included some example renderings of both Main Street mixed-use buildings that have ground floor retail with three stories of multi-family above, and three-story multi-family garden style apartments. This helps visualize the transition of scale that West Hills is proposing.

Other Urban Design designations

Last week we requested to change the designation of two blocks south and southwest of the neighborhood park from Type 1 to Type 2. Now that we see the description of Type 1 and Type 2, we believe that the current Type 1 designation will work best for both building separation standards and height standards. Housing types and/or densities are not listed in the draft Master Plan. We believe that Type 1 will allow for apartments, but not require them. If those are correct assumptions, then Type 1 is ok as mapped around the park.

To provide clarity for our desires, we have included a concept sketch of the West Hills proposal. The colors on our plan represent different housing types, not necessarily urban forms.

We requesting that these changes to draft Master Plan be made prior to adoption. While all the implications of the draft Master Plan will only be understood when zoning standards are developed, we believe our proposed changes reflect both the urban form of the district and West Hills vision for this portion of Frog Pond East.

Thank you for the opportunity to participate in the planning process and for your consideration of our requested changes. Please let us know if you have any questions or wish to discuss this further.

Sincerely,

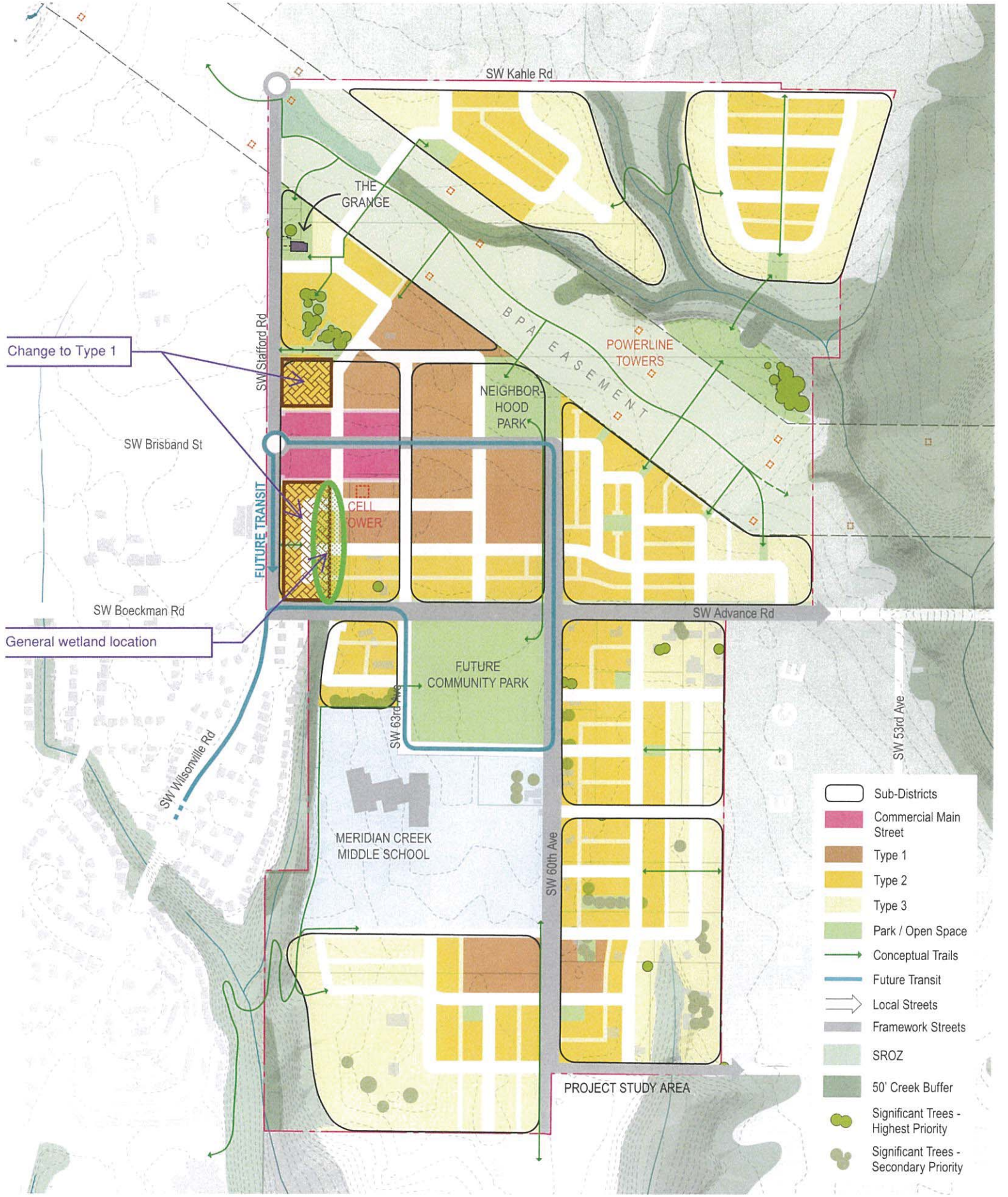
AKS ENGINEERING & FORESTRY, LLC



Mimi Doukas, AICP, RLA – Principal
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
503-563-6151 | MimiD@aks-eng.com

Attachment: Revised draft Frog Pond East and South Master Plan

c Miranda Bateshell, City of Wilsonville
Joe Dills, MIG|APG
Dan Grimberg, West Hills Development



Change to Type 1

SW Brisband St

General wetland location

SW Boeckman Rd

SW Wilsonville Rd

MERIDIAN CREEK MIDDLE SCHOOL

SW 63rd Ave

FUTURE COMMUNITY PARK

NEIGHBORHOOD PARK

THE GRANGE

CELL TOWER

POWERLINE TOWERS

BPA EASEMENT

SW Advance Rd

SW 60th Ave

SW 53rd Ave

PROJECT STUDY AREA

- Sub-Districts
- Commercial Main Street
- Type 1
- Type 2
- Type 3
- Park / Open Space
- Conceptual Trails
- Future Transit
- Local Streets
- Framework Streets
- SROZ
- 50' Creek Buffer
- Significant Trees - Highest Priority
- Significant Trees - Secondary Priority





HATCH LEGEND	
	GREEN SPACE
	STORM FACILITY
	WETLAND BOUNDARY
	MIXED USE BUILDING
	APARTMENT BUILDING
	TOWNHOUSE
	SINGLE FAMILY



FROG POND AZAR PROPERTY

WILSONVILLE, OREGON

Example of 3 story "Garden Style" walk up apartments proposed along Stafford Road



AMBERGLEN WEST - Looking North toward Building B2

Hillsboro, OR
May 25, 2014

130410

620 SW 5th Avenue, Suite 500
Portland, Oregon 97204
503.236.6000
www.mhregroup.com

Example of "Main Street" buildings with ground floor retail and 3 stories of residential above



Architectural Examples West Hills multi-family and mixed use buildings



AMBERGLEN - Precedent Imagery

Hillsboro, OR

21 March 2013

130410

808 SW 3rd Avenue, Suite 500
Portland, Oregon 97204
503.236.6000
www.mythgroup.com

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MGA P
Myth Group Architects, Inc.

From: [Let's Talk, Wilsonville!](#)
To: [Pauly, Daniel](#)
Subject: Brobert completed Input on Draft Plan
Date: Wednesday, October 5, 2022 8:24:52 PM

Brobert just submitted the survey Input on Draft Plan with the responses below.

Please provide your input on the draft plan or share any other thoughts you have.

There is far too much housing without enough space allotted for commercial and open space. The plan appears to be proposing two sides of one block for commercial space - doesn't seem to be nearly enough. Wilsonville is a dessert for tasty restaurants and diverse shopping and commerce. You propose a "Main Street" style addition but haven't given it space for much of anything. This looks like a proposal for Villabois 2.0 which is worst case scenario. We specifically moved away from that area due to the high concentration of populous and the isolated claustrophobic feel of that part of town. With this plan you'll bury this area in people and traffic but it will not solve the issue and fire need for community amenities. Cramming high-density housing into this area will only further to ruin the charm of this part of Wilsonville. Please reconsider your draft and think more about what the community needs to improve the living experience.

From: [Let's Talk, Wilsonville!](#)
To: [Pauly, Daniel](#)
Subject: MissyCC completed Input on Draft Plan
Date: Wednesday, October 5, 2022 11:38:24 AM

MissyCC just submitted the survey Input on Draft Plan with the responses below.

Please provide your input on the draft plan or share any other thoughts you have.

Glad to see the mix of housing. Hope there can be SMALL single-family residential for sale (not just rent). Many seniors have larger homes and want to downsize but can only find townhouses or condos ... want SINGLE-LEVEL homes, no stairs, no common walls, please. Smaller SF homes also work for younger people starting out.
