

THE URBAN RENEWAL AGENCY OF THE CITY OF WILSONVILLE

URA RESOLUTION NO. 135

A RESOLUTION OF THE URBAN RENEWAL AGENCY OF THE CITY OF WILSONVILLE APPROVING ADDENDUM #1 TO THE DEVELOPMENT AGREEMENT BETWEEN THE CITY OF WILSONVILLE AND THE URBAN RENEWAL AGENCY OF THE CITY OF WILSONVILLE AND MATRIX DEVELOPMENT AND PROPERTY OWNERS DONALD E. BISCHOFF/SHARON L. LUND, ARTHUR C. AND DEE W. PICULELL, THE DEARMOND FAMILY LLC AND LOUIS J. AND MARGARET P. FASANO, AND VALERIE AND MATTHEW KIRKENDALL AND AUTHORIZING THE CITY MANAGER TO EXECUTE THE AGREEMENT ON BEHALF OF THE CITY FOR THE DEVELOPMENT OF PROPERTY OWNED OR ACQUIRED BY MATRIX AND THE AFOREMENTIONED PROPERTY OWNERS WITHIN THE VILLEBOIS URBAN VILLAGE.

WHEREAS, on June 7, 2004, the Urban Renewal Agency of the City of Wilsonville adopted Resolution No. 114 approving a Development Agreement between the City, the Urban Renewal Agency of the City of Wilsonville, Matrix Development, and owners of property within Villebois Village that is east of 110th Avenue; and

WHEREAS, pursuant to the Development Agreement, (Section 6), the City was contemplating the formation of an LID that would access benefited properties including the developer's property for their proportionate share of the I5/Wilsonville Road Improvement cost; however, in lieu of the developer's property being included within the LID, the developer could elect to pay cash for its proportionate share of the I5/Wilsonville Road Improvements (Section 6.5); and developer has now elected to make such payments and has made such payment to the City the amount of \$474,000.00 in lieu of its property being included within the LID; and

WHEREAS, subsequent to entering in the Development Agreement there have been certain changes in the plans for the development of Villebois Village, including the relocation of the planned grade school from Villebois SAP East to SAP North resulting in changes in the prorate of sharing of the developer's property and other benefited properties contributing to the funding of the I5/Wilsvonille Road Improvements; and

WHEREAS, the developer and the City now desire to enter into the attached Addendum to the Development Agreement providing for the adjustment to the developers proportionate

share of contribution to the cost of the I5/Wilsoville Road Improvements investing in trips resulting from such change in developers contribution and providing for clarification of the parties respective rights and responsibilities arising from the developers contribution to the I5/Wislonville Road Improvements; and

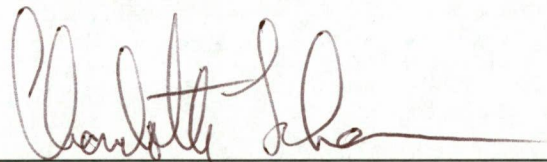
WHEREAS, this Addendum to the Agreement does not change the rights of the Urban Renewal Agency of the City of Wilsonville; and

WHEREAS, appearing to the Urban Renewal Agency Board that the terms of the proposed Addendum #1 to the Development Agreement are in the public interest.

NOW, THEREFORE THE URBAN RENEWAL AGENCY BOARD OF THE CITY OF WILSONVILLE RESOLVES AS FOLLOWS:

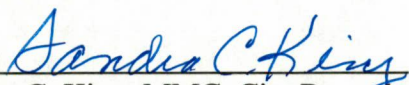
1. The Board of the Urban Renewal Agency hereby approves "Addendum No. 1 to the Development Agreement Between the City of Wilsonville, the Urban Renewal Agency of the City of Wilsonville, Matrix Development and Property Owners Donald E. Bischoff/Sharon L. Lund, Arthur C. and Dee W. Piculell, the Dearmond Family LLC and Louis J. and Margaret P. Fasano, and Valerie and Matthew Kirkendall," attached hereto as Exhibit "A" and incorporated herein as if fully set forth. Such agreement may undergo non-substantive reformatting, grammatical and other minor language modifications by the City Attorney.
2. The Board hereby authorizes the Executive Director to execute such Development Agreement on behalf of the Urban Renewal Agency of the City of Wilsonville.
3. This Resolution is effective upon adoption.

ADOPTED by the Board of the Urban Renewal Agency at a regular meeting thereof this 18th day of July, 2005, and filed with the Wilsonville City Recorder this date.



CHARLOTTE LEHAN, Chair

ATTEST:


Sandra C. King, MMC, City Recorder

SUMMARY of Votes:

Board Chair Lehan	Yes
Board Member Kirk	Yes
Board Member Holt	Yes
Board Member Scott-Tabb	Yes
Board Member Knapp	Yes

CONTRACT ADDENDUM NO. 1

PARTIES: Matrix Development Corporation, an Oregon corporation (Developer) and City of Wilsonville, Oregon, a municipal corporation in the State of Oregon (City)

RECITALS:

1. City and Developer entered into a Development Agreement on June 14, 2004 pertaining to the development of certain property within the City's Villebois Village Master Plan (Development Agreement); including, among other things, Developer's contribution to the costs for certain I-5 Interchange Improvements benefiting the Developer's and other's property (I-5/ Wilsonville Road Improvements).
2. Pursuant to the Development Agreement, Section 6, the City was contemplating the formation of a LID that would assess benefited properties, including the Developer's property, for their proportionate share of the I-5/Wilsonville Road Improvement costs; however, in lieu of the Developer's property being included within the LID, the Developer, could elect to pay cash for its proportionate share of the I-5/Wilsonville Road Improvements (Section 6.5); and Developer has now elected to make such payment in lieu of its property being included within the LID.
3. In consideration of the Developer paying its proportionate costs of the I-5/Wilsonville Road Improvements, the Developer's property, pursuant to the Development Agreement (Section 8) is to be allocated traffic capacity through the I-5/Wilsonville Road interchange through the vesting of trips assigned to the Developer's property.
4. Subsequent to entering into the Development Agreement there have been certain changes in the plans for the development of the Villebois Village, including the relocation of a planned grade school from Villebois SAP East to SAP North, resulting in changes in the pro rata sharing by Developer's property and other benefited properties contributing to the funding of the I-5/Wilsonville Road Improvements.
5. Developer and City now desire to enter into this Addendum to the Development Agreement, providing for the adjustments to the Developer's proportionate share of contribution to the cost of the I-5/Wilsonville Road Improvements and vesting of trips resulting from such change in Developer's contribution; and providing for a clarification of the parties respective rights and responsibilities arising from the Developer's contribution to the I-5/Wilsonville Road Improvements;

6. Developer and City acknowledge that the I-5/Wilsonville road Improvements will allow for an additional four hundred forty five (445) trips through the I-5/Wilsonville road Interchange, which are vested for the development at the Villebois Village. Thirty five (35) of Villebois Village vested trips are assigned to the Villebois SAP-South, (PDP-1). Of the remaining four hundred ten (410) Villebois Village vested trips, Developers proportionate share is calculated as 410 times 158/534 or 121 P.M. peak hour trips. Further, as additional trips beyond the 445 P.M. peak hour trips and up to 569 P.M. peak hour trips become available, the Developer shall be entitled to such trips in the same proportionate manner without any further payment;

NOW THEREFORE IN CONSIDERATION of the promises and covenants set forth herein it is agreed as follows:

1. Notwithstanding the Development Agreement, Section 8, due to changes in the plans for the development of the Villebois Village, the City and Developer agree that the I-5/Wilsonville Road Improvements will provide an additional 569 PM peak hour trip capacity through the I-5/Wilsonville Road Improvements and such trip capacity is allocated subject to vesting of PM trips when trips are available among the benefited properties as follows:

South PDP Phase 1 - 35 trips

Legend at Villebois LLC (Developer's property) - 158 trips

Villebois LLC - 348 trips

Arbor Villebois LLC - 28 trips

2. City and Developer agree that the changes in vesting of the PM peak hour trip capacity at the I-5/Wilsonville Road Improvements, as set forth above result in the proportionate costs to be paid by Developer to be \$474,000 (\$3,000/trip). Developer has elected to pay in cash its proportionate share of the I-5/Wilsonville Road Improvements, in lieu of being included in the LID, as provided in the Development Agreement, Section 6.5. This payment constitutes full and complete payment of any and all obligations attributable to the Developer's property for the I-5/Wilsonville Road Improvements.
3. City and Developer agree that the trips vested in the Developer's property, as provided in the Development Agreement and modified herein, are assigned to Villebois Village SAP – East, and that such vested trips shall be limited to housing units within Villebois Village SAP – East, developed by Developer or Developer's assignee.
4. City and Developer agree that Developer's contribution to the cost of the I-5/Wilsonville Road Improvements is premised upon the development of 655 housing units within the Villebois Village SAP – East with 23% of trips from such units traveling through the I-5/Wilsonville Road interchange. The calculation of trips is attached as Exhibit G. The number of trips traveling through the I-5/Wilsonville Road interchange area generated from the Villebois Village SAP – East shall not be changed or modified except upon future traffic analysis and mutual agreement between Developer and City. In the event less than 655 housing units are developed, by Developer or it's assignee within the

Villebois Village SAP – East or in the event extra trips purchased by Matrix are used in the remainder of Villebois, the Developer shall be entitled to a proportionate reimbursement of its contribution to the funding of the I-5/Wilsonville Road Improvements.

- 5. This Addendum is entered into pursuant to Section 24 of the Development Agreement and shall apply only to the respective rights and responsibilities of City and Developer, as described herein; and shall have no effect on the rights, interests or responsibilities of any other party to the Development Agreement.

* * * * *

MATRIX DEVELOPMENT CORPORATION

By _____

Name: _____

Its: _____

STATE OF OREGON)

)

County of _____)

This instrument was acknowledged before me on _____, 2005 by _____, as _____ of MATRIX DEVELOPMENT CORPORATION, an Oregon corporation.

Notary Public for Oregon
My commission expires: _____

* * * * *

CITY OF WILSONVILLE

By _____
Arlene Loble
Its City Manager

STATE OF OREGON)
)
County of _____)

This instrument was acknowledged before me on _____, 2005 by Arlene Loble, as City Manager of THE CITY OF WILSONVILLE, a municipal corporation in the state of Oregon.

Notary Public for Oregon
My commission expires: _____

MEMORANDUM



30000 SW Town Center Loop E
Wilsonville, Oregon 97070
(503) 682-1011
(503) 682-1015 Fax
(503) 682-0843 TDD

DATE: July 6, 2005

TO: Mike Kohlhoff, City Attorney

FROM: Eldon Johansen, City of Wilsonville

EXHIBIT G

SUBJECT: Villebois Development Agreement Addendum #1

In an email from Mr. John Junkin dated June 30, 2005, he asked for further information on how the trips were calculated so that he could include that information in the Addendum.

The information was previously included in Exhibit 6 to the Draft Engineers Report for Local Improvement District 13-05-ST. Attachment #1 is a copy of Exhibit #6 in which I have added some additional clarifying information that will hopefully make the calculation of the 158 trips or matrix clearer. In Attachment #1, for simplification I have printed it on three separate sheets, the first sheet lists the number of units for Villebois Village based on a draft master plan amendment dated February 23, 2005 and then it further breaks down the units by geographic area or phase. The units for SAP-East were from the draft submittal for specific area plan east. The units were broken down according to the submittals for SAP-East at the time this was prepared, added up to 655 units and the total for all of Villebois added up to 2473.

The next sheet on Exhibit #1 shows the trip generation for all of Villebois as well as the separate areas and PDPs; it also shows trip generation per each type of unit. This is total trip generation or what some people call 'driveway trips'. The trip generation per type of unit was developed by DKS Associates and provided in the attached Villebois Urban Village Trip Generation Memorandum dated November 15, 2002. We have continued to use that trip generation per unit in all subsequent modifications of the calculations to match the plan that was current at the time I did the calculations.

The trip generation figures for ITE in the November 15, 2002 memorandum was based on the Trip Generation Informational Report, 6th Edition, Institute of Transportation Engineers, 1997. There has been a subsequent 7th Edition published, however, we have continued to use the November 15, 2002 memorandum to maintain consistency.

The third sheet in Attachment #1 provides a calculation of the trips through the Wilsonville Road area. This information is from an email from DKS dated February 18, 2003. This email further indicates that 23% of the traffic from the Villebois area will go through the intersection of Boones Ferry Road and Wilsonville Road. We have used this figure to calculate the PM peak hour trips through the interchange area.

In reviewing sheet #3 of Attachment #1, there are several points that need to be clarified in explaining how we arrived at the 158 trips. The 152 trips included in the residential unit total are based on a straight calculation on the assumption that there would be 655 units of the type indicated on the SAP-East application. In addition, Matrix and Costa Pacific had agreed to share the cost on the reservation of capacity for the area that was in the Villebois Village but not included in the boundaries of the local improvement district. This would include the Rump area north of Dammasch and also the other area north of Dammasch. The other area primary includes the school and residential units. All of the Rump property was not included in the LID; the Costa Pacific Agreement indicates that they will be purchasing the Rump property so all of the capacity necessary to serve the Rump property was assessed against Costa Pacific. The other area north of Dammasch had a total of 17 PM peak hour trips and that was distributed on a pro rata basis with 5 trips to Matrix and 12 to Villebois.

In addition, we had initially included a 10% contingency to cover the unknown changes in plans. The subsequent changes had reduced this 10% to a total of 4 PM peak hour trips and this was allocated with one trip to Matrix and three to Villebois.

With Matrix indicating a desire to pay cash in lieu of participating in a Local Improvement District, we needed to have more than one LID participant. For this reason, PDP-2 and PDP-3 of SAP-South were included in the proposed assessments to Arbor Homes since they were in the process of purchasing the property and this would with their concurrence allow the Local Improvement District to go forward. The net result was that there would be 158 trips paid for by Matrix, 28 trips by Arbor Homes and 348 trips by Costa Pacific giving a total of 534 PM peak hour trips. The total requirement for Villebois Village is 569 trips of which 35 were separately approved in the Preliminary Development Plan for SAP-South PDP1.

There is one factor that has not been included in the calculation of trips through the intersection area and it is still premature to consider at that time. This is the internal trip reduction factor in which there is a potential that the folks that live in Villebois will also to some extent be able to work, shop and take their children to school in Villebois. This is a potential for reduction of trips of approximately 10%. Attachment #4 provides an earlier calculation of the potential for internal trip reduction.

I think that everything that has been covered in the preceding paragraphs is readily reproducible by any Engineer that is interested in going into the calculations and reviewing the documents that were listed as part of the submittals for Master Plan, Specific Area Plan and Preliminary Development Plan approvals. For this reason, I have no problem in sharing all of the information with Mr. Junkin and let him sort out how much he thinks is necessary to put into the addendum to the Development Agreement.

Exhibit 6
 Local Improvement District
 13-05-ST

Calculation of Impacts and
 Proposed assessments

5/23/2005

Engineering information

Housing Type	No. of Units	Units						Villebois LLC LID units
		Total requirements MP Amend 2/23/05	SAP-East Units SAP- East Plan Legends at VB LLC	Rumpf units N of Dammasch	Other units of Dammasch	N Arbor VB LLC PDP 2 Phase 2	Arbor VB LLC PDP 2 Phase 3	
Specialty condos	127	0					127	
Mixed use condos	104	0					104	
Urban apartments	90	0					90	
Condos	127	0					127	
Village apartments	411	0					411	
Neighborhood apartments	40	0					40	
Rowhouses	421	87				18	316	
Small lot attached	191	191					0	
Small lot single family	331	115	33	7	20	36	120	
Medium lot single family	308	159			17		132	
Standard lot single family	187	86	24	0			77	
Large lot single family	119	17	11	5	17	13	56	
Estate lot single family	17	0		10			7	
Residential units total	2473	655	68	22	72	49	1607	
School in KSF	47			47			47	
Commercial in KSF	35						35	
Subtotal								
Less SAP-South, PDP1								
Planning area total		655						
Share of other trips with Legends at VB at 31%								
Rumpf trips								
Reserve for contingency								
Include in LID								

Exhibit 6
 Local Improvement District
 13-05-ST

Calculation of Impacts and
 Proposed assessments

5/23/2005

Engineering information

Housing Type	Trips Per Unit	Total Trips							SAP-East Units SAP- Legends at VB LLC
		East Plan N of Dammasch	Rumpf trips N of Dammasch	Other trips N of Dammasch	Arbor VB LLC PDP 2 Phase 2	Arbor VB LLC PDP 2 Phase 3	Arbor VB LLC	Villebois LLC	
Specialty condos	0.54	0	0	0	0	0	0	69	
Mixed use condos	0.54	0	0	0	0	0	0	56	
Urban apartments	0.62	0	0	0	0	0	0	56	
Condos	0.54	0	0	0	0	0	0	69	
Village apartments	0.62	0	0	0	0	0	0	255	
Neighborhood apartments	0.62	0	0	0	0	0	0	25	
Rowhouses	1.01	88	0	0	18	0	18	319	
Small lot attached	1.01	193	0	0	0	0	0	0	
Small lot single family	1.01	116	33	7	20	36	56	121	
Medium lot single family	1.01	161	0	0	17	0	17	133	
Standard lot single family	1.01	87	24	0	0	0	0	78	
Large lot single family	1.01	17	11	5	17	13	30	57	
Estate lot single family	1.01	0	0	10	0	0	0	7	
Residential units total		662	68	22	72	49	121	1245	
School in KSF	1.06	0		50				50	
Commerical in KSF	7.81	0						273	
Subtotal		662	68	72	72	49	121	1568	
Less SAP-South, PDP1								49	
Planning area total		662	68	72	72	49	121	1519	
Share of other trips with Legends a									
Rumpf trips									
Reserve for contingency									
Include in LID									

Exhibit 6
Local Improvement District
13-05-ST

Calculation of Impacts and
Proposed assessments

5/23/2005

Engineering information

Housing Type

Trips thru IC

	SAP-East Units SAP- East Plan Legends at VB LLC	Trips thru IC				Villebois LLC	Total
		Rumpf trips of Dammasch	N Other trips of Dammasch	N Arbor VB LLC			
Specialty condos	0	0	0	0	16	16	
Mixed use condos	0	0	0	0	13	13	
Urban apartments	0	0	0	0	13	13	
Condos	0	0	0	0	16	16	
Village apartments	0	0	0	0	59	59	
Neighborhood apartments	0	0	0	0	6	6	
Rowhouses	20	0	0	4	73	97	
Small lot attached	44	0	0	0	0	44	
Small lot single family	27	8	2	13	28	78	
Medium lot single family	37	0	0	4	31	72	
Standard lot single family	20	6	0	0	18	44	
Large lot single family	4	3	1	7	13	28	
Estate lot single family	0	0	2	0	2	4	
Residential units total	152	17	5	28	288	490	
School in KSF	0	0	12			12	
Commerical in KSF	0	0	0		63	63	
Subtotal	152	17	17	28	351	565	
Less SAP-South, PDP1					35	35	
Planning area total	152	17	17	28	316	530	
Share of other trips with Legends a	5		-17		12	0	
Rumpf trips		-17			17		
Reserve for contingency	1				3	4	
Include in LID	158	0	0	28	348	534	

DKS Associates

1400 SW 5th Avenue, Suite 500
Portland, OR 97201
Phone: (503) 243-3500
Fax: (503) 243-1934

MEMORANDUM

TO: Eldon Johansen, City of Wilsonville

FROM: Ransford S. McCourt, P.E.
Colette Snuffin, P.E.

DATE: November 15, 2002

SUBJECT: Villebois Urban Village Trip Generation
DRAFT

P02246

The purpose of this memorandum is to establish trip generation rates for Villebois Urban Village. Trip generation rates for the proposed development are based on ITE Trip Generation¹ and trip surveys of similar uses in Wilsonville².

Proposed Land Uses

Although the design team has not settled on densities or exact quantities of each land use, the following list of uses will likely be included in the final design.

- Single-Family Detached Housing – ITE Land Use Code 210
- Apartments – ITE Land Use Code 220
- Residential Condominium/Townhouse – ITE Land Use Code 230
- Elementary School – ITE Land Use Code 520
- Shopping Center – ITE Land Use Code 820

Research was conducted to compare vehicle trip generation of comparable land use types in Wilsonville with standard data from the Institute of Transportation Engineers (ITE). Table 1 compares both Wilsonville surveys and ITE data. Because of the close correlation with local data, ITE Trip Generation data will be utilized for Villebois.

¹ *Trip Generation Informational Report*, 6th Edition, Institute of Transportation Engineers, 1997.

² Conducted by DKS Associates for several residential land uses, September 2002.

Table 1
Comparison of Wilsonville Trip Surveys and ITE Trip Generation Rates (Trips/Unit)

Land Use	ITE Code	Unit	Wilsonville Trip Survey PM Rate (In/Out)	ITE Trip Generation PM Rate (In/Out)
Single Family	210	DU	1.03 (65%/35%)	1.01 (64%/36%)
Apartment	220	DU	0.52 (61%/39%)	0.62 (67%/33%)
Retirement Community	250	DU	0.29 (64%/36%)	0.27 (56%/44%)
Elementary School	520	student	0.27 (57%/43%)	0.26 (46%/54%)

DU=Dwelling Unit

Table 2 contains trip generation rates as reported by ITE for the land uses specifically discussed by the Villebois design team.

Table 2
ITE Trip Generation Rates (Trips/Unit)

Land Use	ITE Code	Unit	Daily Rate	AM Rate (In/Out)	PM Rate (In/Out)
Single Family	210	DU	9.57	0.75 (25%/75%)	1.01 (64%/36%)
Apartment	220	DU	6.63	0.51 (16%/84%)	0.62 (67%/33%)
Condominium/Townhouse	230	DU	5.86	0.44 (17%/83%)	0.54 (67%/33%)
Elementary School	520	student	1.02	0.29 (59%/41%)	0.26 (46%/54%)
Single-Tenant Office Building	715	KSF	11.50	1.78 (89%/11%)	1.73 (16%/84%)
Shopping Center*	820	KSF	104.80	2.60 (61%/39%)	9.50 (48%/52%)

DU=Dwelling Unit

KSF=Thousand Square Feet

* Rates for shopping centers vary with size. Rates shown are based on 30 KSF shopping center.

Other Considerations

Additional land uses mentioned as possibilities by the Villebois design team included converting the existing Dammasch building to office space, adding carriage units or units on small lots similar to Orenco Station and maybe even including some type of senior housing.

Because the Villebois design team is considering the inclusion of office space, it is worthwhile to note general differences in trip generation by different land uses. A ten-acre site occupied by an elementary school with 400 students would generate about 10.4 PM peak vehicle trips per acre. Villebois is planned to have about 11 dwelling units per acre. At this density, a site developed with single-family housing would generate about 11.1 PM peak vehicle trips per acre. Table 5 summarizes the PM peak trip generation potential of these and two other development scenarios based on typical densities and ITE rates.

Table 5
Trip Generation Potential of Typical Development Options

Land Use	Trip Generation PM Rate (Trips/Acre)
Single Family Housing	11.1
Elementary School	10.4
General Office Building	16.2
Shopping Center	91.0

There are two specific survey sites that produce results that are of interest for planning Villebois. First, Charbonneau provides a residential mix of senior housing options that on the aggregate generates 0.29 vehicle trips per dwelling unit in the PM peak hour, substantially lower than would be the case with ITE trip data. This is likely due to the senior nature of the community and provides one example of how higher dwelling unit counts can be obtained with lower vehicle trip impacts. This is probably due in part to the fact that there are some restaurants and other facilities at the golf course, but more importantly, many residents of the area are retired and people returning from work generate many of the PM peak period trips. A second site, Canyon Creek Meadows, provides single-family homes on small lots averaging 4,150 square feet. These units appear to generate vehicle trips at lower levels than standard single family dwelling units (based on standard Wilsonville and ITE trip rates). While not as low as condominium or apartment vehicle trip rates, these units appear to generate about 20 percent fewer trips in the evening peak hour. This is likely due to the size of the units. Both of these examples provide samples of what could be done to reduce vehicle trip impacts of the proposed Villebois master plan. If the Villebois design team decides to pursue the option of small lots, additional trip surveys will be required in similar developments like Orenco Station or Sunnyside Village to validate reduced trip rates.

Johansen, Eldon

From: Colette Snuffin [cts@dkspdx.com]
 Sent: Tuesday, February 18, 2003 9:36 AM
 To: johansen@ci.wilsonville.or.us
 Cc: Randy McCourt
 Subject: RE: Interchange trips generated by Villebois

Eldon,

I should clarify that the trip percentages I sent to you on Friday are based on our 2020 Metro model for Wilsonville with disaggregated Villebois. If you need the percentages for 2000, that will require some additional work with the model. Also, I defined the interchanges to include both ramp intersections. (IE - I-5/Wilsonville interchange includes the intersections of I-5 SB ramps and NB ramps with Wilsonville Road.)

Here is the additional information you requested:

Percent of all Villebois trips passing through the intersection of 95th Avenue and Boones Ferry Road = 18% (Less than 1% of all Villebois trips that pass through this intersection will not pass through the interchange and nearly all of the 17% of Elligsen Road interchange trips would pass through the intersection at 95th Avenue for a net result of about 18%.)

Percent of all Villebois trips passing through the intersection of Boones Ferry Road and Wilsonville Road = 23% (4% of all Villebois trips will pass through this intersection turning on Boones Ferry Road. 19% of all Villebois trips that pass through the interchange at Wilsonville Road also pass through Boones Ferry Road/Wilsonville Road. The net result at this intersection is 23%. It should be noted that this assumes the Brown Road extension between Wilsonville Road and Boones Ferry Road is not in place. Most of the Villebois trips heading to Boones Ferry Road would take Brown Road if it was built.)

I hope this helps. Let me know if you have questions.

Colette

-----Original Message-----

From: johansen@ci.wilsonville.or.us
 [mailto:johansen@ci.wilsonville.or.us]
 Sent: Friday, February 14, 2003 2:59 PM
 To: Colette Snuffin; johansen@ci.wilsonville.or.us
 Cc: Randy McCourt
 Subject: RE: Interchange trips generated by Villebois

Colette, thank you. If your computer has it, what I need is the percent that go through the intersection of 95th Avenue and Boones Ferry Road and the percent that go through the intersection of WV Rd and Boones Ferry Road. This is needed to determine which way we go on evaluating LOS per the city requirements. I will have Ord 545 FAXed to you for info.

-----Original Message-----

From: Colette Snuffin [mailto:cts@dkspdx.com]
 Sent: Friday, February 14, 2003 2:34 PM
 To: Eldon Johansen (E-mail)
 Cc: Randy McCourt
 Subject: Interchange trips generated by Villebois

Eldon,

Here is the information Randy promised today regarding the interchange trips generated by Villebois.

I-5/Wilsonville Road Interchange

Percent of all Villebois trips using ramps = 9%

Percent of all Villebois trips passing through the interchange area = 10%

I-5/Elligsen Road Interchange

Percent of all Villebois trips using ramps = 16%

Percent of all Villebois trips passing through the interchange area = 1%

Let me know if you have questions.

Colette Snuffin

DKS Associates

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Portland, OR 97201

503.243.3500

503.243.1934 fax

DKS Associates

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Portland, OR 97201
Phone: (503) 243-3500
Fax: (503) 243-1934

MEMORANDUM

TO: Eldon Johansen, City of Wilsonville

FROM: Ransford S. McCourt, P.E.
Colette Snuffin, P.E.

DATE: February 28, 2003

SUBJECT: Villebois Urban Village Transportation Off-Site Mitigation Phasing Analysis P02246

This memorandum presents findings for the phasing analysis of future Villebois traffic based upon the site plan and phasing scheme of December 12, 2002 provided by the development sponsors. This memo focuses on the off-site transportation mitigation needs for the motor vehicle system. The on-site circulation and access needs have been evaluated as part of a separate memorandum dated January 13, 2003. Roadway network deficiencies and appropriate mitigations are identified as each phase of Villebois is added incrementally. A separate analysis of deficiencies and mitigations including Villebois with background growth is also covered.

There are a total of twenty-two study intersections considered for this analysis. Eleven off-site study intersections were selected for analysis in consultation with City of Wilsonville staff. Eight study intersections were included in the analysis of the internal circulation of Villebois dated January 13, 2003. Two intersections on Bell Road were added because of concerns about adding traffic to rural intersections, one of which has an approach at an severe angle. One additional intersection was included in this study as it became apparent that it could be adversely impacted by Villebois trips. The twenty-two study intersections fall under jurisdiction of at least one of several jurisdictions that include Oregon Department of Transportation (ODOT), City of Wilsonville, Clackamas County, and Washington County. The study intersections are shown in Figure 1.

Table 1: Study Intersections and Jurisdictions

Number	Intersection	ODOT	City	Clackamas County	Washington County
1	Brown Road/Wilsonville Road		✓		
2	Kinsman Road/Wilsonville Road		✓		
3	Boones Ferry Road/Wilsonville Road		✓		
4	I-5 SB Ramps/Wilsonville Road	✓	✓		
5	I-5 NB Ramps/Wilsonville Road	✓	✓		
6	Barber Street/Grahams Ferry Road			✓	
7	Barber Street/Villebois Drive		✓		
8	Barber Street/Loop Road East		✓		
9	Brown Road/Barber Street		✓		
10	Barber Street/Coffee Lake Drive		✓		
11	Loop Road North/Villebois Drive		✓		
12	Grahams Ferry Road/Tooze Road			✓	
13	Boeckman Road/Tooze Road/ Villebois Drive		✓		
14	95 th Avenue/Boeckman Road		✓		
15	Boberg Road/Boeckman Road		✓		
16	Boeckman Road/Parkway Avenue		✓		
17	Grahams Ferry Road/Clutter Road				✓
18	95 th Avenue/Ridder Road		✓		
19	Grahams Ferry Road/Day Road				✓
20	95 th Avenue/Elligsen Road		✓		
21	Bell Road/Grahams Ferry Road			✓	
22	Bell Road/Wilsonville Road			✓	

Methodology

The consideration of motor vehicle improvements with the proposed Villebois project was done two different ways. First a separate analysis of added Villebois traffic (by itself) was conducted adding the proposed development traffic by each phase incrementally on top of a base condition of existing traffic plus other Stage II approvals. Existing plus Project plus Stage II is the common scenario evaluated for traffic impact studies in the City of Wilsonville. This scenario indicates mitigations that are likely triggered by a particular development.

A second analysis was conducted that evaluated the phasing of the proposed Villebois traffic impacts with forecasted estimates of background traffic growth (beyond the existing plus approved Stage II scenario). Because this project spans several years, it is important to also evaluate deficiencies and mitigations when background growth is added to determine the timing of necessary mitigations as well as additional mitigations that will be triggered by other development.

To conduct the analysis of proposed Villebois phasing and background growth requires the use of the City of Wilsonville's travel demand forecast model. This travel model was cooperatively developed by the City of Wilsonville, Metro, and ODOT to be used for the City's Transportation System Plan and the I-5 Freeway Access Study. Background growth rates were determined by corridor and are consistent with overall growth by 2020 as forecasted by the Metro regional travel demand model. It should be noted that growth has been added incrementally which prorates the effects of the introduction of a large traffic generator such as Fred Meyer. Future

development of this size might generate 500 to 1,000 vehicles in the peak hour, but the analysis methodology has spread this growth over 20 years since the exact year of opening cannot be pinpointed. If the larger developments that are included in growth between 2000 and 2020 models happen earlier or later, some of the recommended mitigations may also need to happen earlier or later than predicted by this study.

Trip Generation

Trip generation based on the Villebois phasing and land use information provided on December 12, 2002, and ITE rates as documented in the memorandum dated November 15, 2002.

Table 2: PM Peak Vehicle Trips Generated by Phase

Phase (Proposed Year)	Single-Family			Condo/ Townhouse			Apartments			Commercial/School			All Trips
	DU	Rate	Trips	DU	Rate	Trips	DU	Rate	Trips	KSF	Rate	Trips	
1 (2004)	149	1.01	150	47	0.54	25	8	0.62	5	-	-	-	180
2 (2005)	173	1.01	175	-	-	-	-	-	-	-	-	-	175
3 (2006)	127	1.01	128	38	0.54	21	202	0.62	125	-	-	-	274
4 (2007)	156	1.01	158	111	0.54	60	154	0.62	95	5.0	8.98	45	358
5 (2008)	121	1.01	122	320	0.54	173	31	0.62	19	17.5	8.98	157	471
6 (2009)	107	1.01	108	130	0.54	70	30	0.62	19	10.0	8.98	90	287
7 (2010)	81	1.01	82	81	0.54	44	10	0.62	6	2.5	8.98	22	154
8 (2011)	115	1.01	116	112	0.54	60	80	0.62	50	-	-	-	226
*School	-	-	-	-	-	-	-	-	-	47.0	3.12	147	147
Total	1029	-	1039	839	-	453	515	-	319	35.0	-	461	2272

DU = Dwelling Unit

KSF = 1,000 Square Feet

* School is physically located in Phase 4 (2007) however it will not likely be built until Phase 8 (2011). According to Jerry Palmer at Alpha Engineering, the school district will not be interested in discussing the additional school until the area is developed and occupied.

A mixed-use development like Villebois provides opportunities for trip reductions due to internal trips. Some trips will impact only the internal roadways and not the surrounding roadway network. For example, a person may leave their home, pick up their children from school, and stop at the shopping center before returning home, all without leaving the development.

The ITE Trip Generation Handbook includes a method of calculating trip generation and internal capture rates for multi-use development.¹ Based on these calculations, internal trip reductions for residential, commercial, and school are 7, 13 and 66 percent, respectively. Table 3 includes these trip reductions and the resulting external trips.

¹ *Trip Generation Handbook*, Chapter 7, Institute of Transportation Engineers, October 1998.

Table 3: PM Peak Vehicle Trips Generated by Phase after Reductions for Internal Trips

Phase (Proposed Year)	Single-Family			Condo/ Townhouse			Apartments			Commercial/School			All Trips
	DU	Rate	Trips	DU	Rate	Trips	DU	Rate	Trips	KSF	Rate	Trips	
1 (2004)	149	0.94	140	47	0.50	24	8	0.58	5	-	-	-	169
2 (2005)	173	0.94	163	-	-	-	-	-	-	-	-	-	163
3 (2006)	127	0.94	119	38	0.50	19	202	0.58	117	-	-	-	255
4 (2007)	156	0.94	147	111	0.50	56	154	0.58	89	5.0	7.81	39	331
5 (2008)	121	0.94	114	320	0.50	160	31	0.58	18	17.5	7.81	137	429
6 (2009)	107	0.94	108	130	0.50	65	30	0.58	17	10.0	7.81	78	261
7 (2010)	81	0.94	76	81	0.50	41	10	0.58	6	2.5	7.81	20	143
8 (2011)	115	0.94	108	112	0.50	56	80	0.58	46	-	-	-	210
*School	-	-	-	-	-	-	-	-	-	47.0	1.06	50	50
Total	1029	-	968	839	-	421	515	-	298	35.0	-	324	2011

DU = Dwelling Unit

KSF = 1,000 Square Feet

* School is physically located in Phase 4 (2007) however it will not likely be built until Phase 8 (2011). According to Jerry Palmer at Alpha Engineering, the school district will not be interested in discussing the additional school until the area is developed and occupied.

Trip Distribution

Trip distribution was based on Wilsonville's regional travel demand model. Figure 2 shows the assumed distribution of external project trips on the existing street network.

Intersection Performance

While analysis of traffic flows is useful in attempting to reach an understanding of the general nature of traffic in an area, traffic volume alone indicates neither the ability of the street network to carry additional traffic nor the quality of service provided by the street facilities. For this reason, the concept of level of service (LOS) has been developed to correlate traffic volume data to subjective descriptions of traffic performance at intersections. Intersections 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.

An intersection's level of service (LOS) is similar to a "report card" rating, based on average vehicle delay. Level of service A, B and C indicate conditions where vehicles can move freely. Level of service D and E are progressively worse. For signalized intersections, level of service F represents conditions where the average delay for all vehicles through the intersection exceeds 80 seconds per vehicle, generally indicated by long queues and delays. Level of service D is the City's minimum acceptable service level during peak periods.² The ODOT performance standard is volume-to-capacity ratio of 0.99.

Forecasted PM peak hour operating conditions were determined based on the *2000 Highway Capacity Manual*³ methodology for signalized and unsignalized intersections.

² *City of Wilsonville Code*, Section 4.140, p. 167 as revised by Ordinance No. 538 Exhibit A.

³ Transportation Research Board, *Highway Capacity Manual* 2000, Chapters 16 and 17.

Results

The I-5 ramp intersections at Wilsonville Road exceed both ODOT and City of Wilsonville standards prior to adding additional proposed Villebois traffic to the Existing Conditions plus Stage II scenario. Because these intersections are already failing, specific improvements are needed at the outset of the phasing plan and were documented as being part of Phase 1 (2004).

Mitigations were chosen primarily from the list of roadway improvements that were recommended in the Transportation System Plan and the Freeway Access Study for the scenario that does not include the Boeckman Interchange. The analysis uses as a base the existing roadway network and local access streets as needed to build each phase. Roadway extensions were added to the network as needed to mitigate deficiencies for each phase. Numerous combinations of improvements were tested to determine the following phasing plan.

Existing Conditions plus Project plus Stage II

The resulting deficiencies and mitigations for this scenario are listed in Table 4. In Table 5 the performance of the mitigation measure in resolving the capacity deficiency is noted. Other measures were evaluated along off-site study area roadways such as turn lane warrants and traffic signal warrants.

Table 4: Deficiencies and Mitigations by Phase for Existing plus Project plus Stage II

Phase (Year)	Deficiencies (Code)	Mitigations
1 (2004)	I-5 SB Ramps/Wilsonville Road (A) I-5 NB Ramps/Wilsonville Road (B)	Boeckman Road extension: From 95 th Ave west to Tooze Road Kinsman Road extension: Barber Street to Boeckman Road Parkway Avenue/Boeckman Road: Add EB right turn lane
2 (2005)	I-5 SB Ramps/Wilsonville Road (C)	Add second WB left turn lane
3 (2006)	-	-
4 (2007)	-	-
5 (2008)	I-5 NB Ramps/Wilsonville Road (D) 95 th Avenue/Boeckman Road(E)	Add off-ramp lanes and lengthen ramps (NB and SB) Add WB right turn lane and traffic signal
6 (2009)	Brown Road/Wilsonville Road (F) Clutter Road/Grahams Ferry Road Boberg Road/Boeckman Road (G)	Barber Street extension: From Villebois east to Kinsman Road Add SB left turn lane (based on turn lane warrants) Restrict Boberg Road to right-in/right-out with a median on Boeckman Road (or alternative solutions) ⁴
7 (2010)	Parkway Avenue/Boeckman Road (H)	Add SB right turn lane
8 (2011)	Clutter Road/Grahams Ferry Road (I)	Add WB left turn lane

Table 5: Level of Service Before and After Mitigation by Phase for Existing plus Project plus Stage II

Phase (Year)	Deficiencies	Before Mitigation		Mitigation Code	After Mitigation	
		LOS	V/C		LOS	V/C
1 (2004)	I-5 SB Ramps/Wilsonville Road	F	1.13	A	E*	1.12*
	I-5 NB Ramps/Wilsonville Road	E	1.13	B	E*	1.10*
2 (2005)	I-5 SB Ramps/Wilsonville Road	F	1.13	C	D	0.94
3 (2006)	-	-	-	-	-	-
4 (2007)	-	-	-	-	-	-
5 (2008)	I-5 NB Ramps/Wilsonville Road	F	1.13	D	D	0.95
	95 th Avenue/Boeckman Road	F	-	E	B	0.44
6 (2009)	Brown Road/Wilsonville Road	E	1.05	F	D	0.95
	Boberg Road/Boeckman Road	E	-	G	B	-
7 (2010)	Parkway Avenue/Boeckman Road	E	0.96	H	D	0.82
8 (2011)	Clutter Road/Grahams Ferry Road	E	-	I	D	-

* Mitigations return intersections to pre-project level of service.

Existing Conditions plus Project plus Stage II plus Background Growth

⁴ Deficiencies at Boberg Road/Boeckman Road could be mitigated by eliminating the north leg of the intersection that is part of the Stage II approval for the Wilsonville Business Center. This intersection operates at an acceptable level of service through all phases of Villebois as a T-intersection. If the north leg is constructed, the level of service is deficient in Phase 5 (2008) and can be mitigated with the addition of a median on Boeckman Road that limits Boberg Road to right-in/right-out access. An other alternative solution would involve the design of the proposed Commuter Rail station and parking lot adjacent to Boberg Road. If a roadway from the south entrance of the Commuter Rail lot crossed the tracks and extended to Kinsman Road (utilizing the existing private crossing), circulation in the area would be improved and there would be less need for vehicles to utilize the intersection at Boberg Road/Boeckman Road reducing the negative impacts of future growth.

A separate analysis was conducted comparing motor vehicle performance with growth in background traffic beyond Villebois and Stage II approvals. The resulting deficiencies and mitigations for this scenario are listed in Table X.

Table 6: Deficiencies and Mitigations by Phase for Existing plus Project plus Stage II plus Background Growth

Phase (Year)	Deficiencies	Mitigations
1 (2004)	I-5 SB Ramps/Wilsonville Road (A) I-5 NB Ramps/Wilsonville Road (B)	Boeckman Road extension: From 95 th Ave west to Tooze Road Kinsman Road extension: Barber Street to Boeckman Road Parkway Avenue/Boeckman Road: Add EB right turn lane I-5 SB Ramps/Wilsonville Road: Add second WB left turn lane
2 (2005)	I-5 NB Ramps/Wilsonville Road (C)	Add off-ramp lanes and lengthen ramps (NB and SB)
3 (2006)	-	-
4 (2007)	95 th Avenue/Boeckman Road (D)	Add WB right turn lane
5 (2008)	Brown Road/Wilsonville Road (E)	Barber Street extension: From Villebois east to Kinsman Road
6 (2009)	95 th Avenue/Boeckman Road (F) Parkway Avenue/Boeckman Road (G) Clutter Road/Grahams Ferry Road Boberg Road/Boeckman Road (H)	Add traffic signal Add SB right turn lane Add SB left turn lane (based on turn lane warrants) Restrict Boberg Road to right-in/right-out with a median on Boeckman Road (or alternative solutions) ⁵
7 (2010)	Clutter Road/Grahams Ferry Road (I)	Add WB left turn lane
8 (2011)	-	-

⁵ Deficiencies at Boberg Road/Boeckman Road could be mitigated by eliminating the north leg of the intersection that is part of the Stage II approval for the Wilsonville Business Center. This intersection operates at an acceptable level of service through all phases of Villebois as a T-intersection. If the north leg is constructed, the level of service is deficient in Phase 5 (2008) and can be mitigated with the addition of a median on Boeckman Road that limits Boberg Road to right-in/right-out access. Another alternative solution would involve the design of the proposed Commuter Rail station and parking lot adjacent to Boberg Road. If a roadway from the south entrance of the Commuter Rail lot crossed the tracks and extended to Kinsman Road (utilizing the existing private crossing), circulation in the area would be improved and there would be less need for vehicles to utilize the intersection at Boberg Road/Boeckman Road reducing the negative impacts of future growth.

Table 7: Level of Service Before and After Mitigation by Phase for Existing plus Project plus Stage II plus Background Growth

Phase (Year)	Deficiencies	Before Mitigation		Mitigation Code	After Mitigation	
		LOS	V/C		LOS	V/C
1 (2004)	I-5 SB Ramps/Wilsonville Road	F	1.14	A	D	0.94
	I-5 NB Ramps/Wilsonville Road	F	1.14	B	E*	1.11*
2 (2005)	I-5 NB Ramps/Wilsonville Road	F	1.13	C	D	0.95
3 (2006)	-	-	-	-	-	-
4 (2007)	95 th Avenue/Boeckman Road	E	-	D	C	-
5 (2008)	Brown Road/Wilsonville Road	E	1.04	E	D	0.94
6 (2009)	95 th Avenue/Boeckman Road	F	-	F	B	0.49
	Parkway Avenue/Boeckman Road	E	0.98	G	D	0.83
	Boberg Road/Boeckman Road	E	-	-	B	-
7 (2010)	Clutter Road/Grahams Ferry Road	E	-	H	C	-
8 (2011)	-	-	-	-	-	-

* Mitigations return intersection to pre-project level of service.

Table 8: Summary of Mitigations Triggered during Villebois Development (2004 – 2011)

Mitigation	Phase (Year) Mitigation Required	
	Without Background Growth	With Background Growth
Boeckman Road extension: From 95 th Ave west to Tooze Road	1 (2004)	1 (2004)
Kinsman Road extension: Barber Street to Boeckman Road	1 (2004)	1 (2004)
Parkway Avenue/Boeckman Road: Add EB right turn lane	1 (2004)	1 (2004)
I-5 SB Ramps/Wilsonville Road: Add second WB left turn lane	2 (2005)	1 (2004)
I-5 NB and SB Ramps/Wilsonville Road: Add off-ramp lanes and lengthen ramps	5 (2005)	2 (2005)
95 th Avenue/Boeckman Road: Add WB right turn lane	5 (2008)	4 (2007)
95 th Avenue/Boeckman Road: Add traffic signal	5 (2008)	6 (2009)
Barber Street extension: From Villebois east to Kinsman Road	6 (2009)	5 (2008)
Restrict Boberg Road to right-in/right-out with a median on Boeckman Road	6 (2009)	6 (2009)
Clutter Road/Grahams Ferry Road: Add SB left turn lane	6 (2009)	6 (2009)
Parkway Avenue/Boeckman Road: Add SB right turn lane	7 (2010)	6 (2009)
Clutter Road/Grahams Ferry Road: Add WB left turn lane	8 (2011)	7 (2010)

Other Off-Site Issues

The timing of future improvements between 2011 and 2020 has also been evaluated within the study area. As with the previous recommendations for improvements, this evaluation is based on the assumption of linear growth. The addition of large traffic generators may cause shifting in the estimated timing of projects.

Major improvements for the Wilsonville Interchange were recommended in the I-5 Freeway Access Study, including side-by-side double left turn lanes, setback of the abutment walls, and upgrading the vertical geometry of Wilsonville Road. It is estimated that the final phase of recommended improvements at Wilsonville Interchange would be needed between 2012 and 2015.

As part of the improvements recommended by the I-5 Freeway Access Study, intersection turn lane additions were identified at Boones Ferry Road/Wilsonville Road. These improvements would likely be triggered the day of opening for a large new traffic generator in the Old Town area south of the intersection. It is difficult to determine timing without knowing when such a development might occur, but due to construction phasing needs it would be reasonable to time the improvement with the I-5 interchange work on Wilsonville Road (noted above).

Other improvements recommended by the I-5 Freeway Access Study include improvements to the intersections at Brown Road/Wilsonville Road (left turn lanes on all approaches) and 95th Avenue/Elligsen Road (second NB left turn lane). The estimated timing for Brown Road/Wilsonville Road improvements is between 2012 and 2015. Improvements for 95th Avenue/Elligsen Road are likely to be needed between 2014 and 2017.

The potential need for a center left turn lane on Grahams Ferry Road north of the Villebois site was evaluated. The need for the center turn lane could be created by increased advancing traffic generated by Villebois and background growth (noted in the PM peak hour). The reason for the lane is to avoid safety implications of obstructed traffic caused by stopped or slowing left-turning vehicles (potential rear end collisions and conflicts). At lower volumes of traffic on Grahams Ferry Road, the turn lane would not be warranted (future advancing volume of about 700 vehicles per hour and opposing volume of about 400 vehicles per hour). Most driveways on Grahams Ferry Road would generate less than five turns during the PM peak hour. At this level, a center left turn lane would not be warranted even in 2020. It would either take through volumes increased to 800 vehicles during the peak hour or left turn volumes increased to ten during the peak hour to warrant a left turn lane. Malloy Way and Wheatland Drive are two locations that may potentially generate ten left turns during the peak hour. Should volumes increase more than forecasted, this segment of Grahams Ferry Road should be evaluated for future needs. Alternatives to a three-lane Grahams Ferry Road improvement would involve substantial right-of-way impacts and capacity deficiencies along 95th Avenue, Kinsman Road extension north from Boeckman Road to Ridder Road or a new extension of 110th Avenue north to Grahams Ferry Road from Boeckman Road. Since the travel forecasts indicated the impact on Grahams Ferry Road, this analysis addressed the mitigation on Grahams Ferry Road.

The intersections of Bell Road/Grahams Ferry Road and Bell Road/Wilsonville Road were evaluated because of their rural character and concerns about adding traffic to these small intersections. Because the volumes are quite low and the additional traffic is in the range of 20 to 40 vehicles during the peak hour, these intersections will continue to operate at an acceptable level of service. The intersection of Bell Road/Grahams Ferry Road has one approach at a severe angle, but as long as the volumes remain low, there should not be significant impacts. Grade and alignment refinements may be necessary for background traffic.