CITY OF West Linn
22500 Salamo Road
West Linn, OR 97068

STAFF REPORT
FOR THE PLANNING COMMISSION
(LIMITED TO ITEMS IDENTIFIED FOR RECONSIDERATION)

FILE NUMBER:	AP-16-02
HEARING DATE:	March 22, 2017
REQUEST:	Reconsideration of the City Council affirmation of a Planning Commission decision to deny the Chene Blanc 34-lot subdivision and water resource area permit (AP-16-02) at 18000 Upper Midhill Drive. The City Council limited reconsideration to the issue of *"adequate public facilities including traffic impact and influences and pedestrian improvements and safety"* that are related to Community Development Code (CDC) 85.200(A)
APPLICABLE CRITERIA UNDER APPEAL:	Community Development Code (CDC) CDC 85.200 (A) Streets
STAFF REPORT PREPARED BY:	Peter Spir, Associate Planner

Planning Manager Review AB

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GENERAL INFORMATION

APPELLANT:	Upper Midhill LLC 931 SW King Street Portland, OR 97205 Attn: Ryan Zygar
PUBLIC NOTICE:	Public notice was mailed to all persons with standing from the original application, all property owners within 500 feet of the site, and all neighborhood associations on March 2, 2017. Notice was published in the Tidings newspaper on March 9, 2017. The site was posted with a sign on March 10, 2017. The notice requirements of CDC Chapter 99 have been met.
SITE LOCATION:	18000 Upper Midhill Drive
LEGAL DESCRIPTION:	Clackamas County Assessor's Map 2S-1E-14CA, Taxlot 200
SITE SIZE:	6.1 acres
ZONING:	R-4.5, Single-Family Residential Attached and Detached/Duplex, 4,500 square foot minimum lot size for single family detached homes)
COMP PLAN DESIGNATION:	Medium-Density Residential
OWNER/APPLICANT:	Upper Midhill LLC 931 SW King Street Portland, OR 97205 Attn: Ryan Zygar
120-DAY PERIOD:	The 120 day rule does not apply. However, the City filed an Amended Notice of Withdrawal of Decision on January 17, 2017. LUBA granted the request in an Order dated January 19, 2017 (Exhibit CC-3). LUBA's Order requires that the City file its decision on reconsideration on, or before, June 1, 2017.

BACKGROUND

Upper Midhill LLC submitted a land use application on October 21, 2015, to develop a 34-lot subdivision ("Chene Blanc") at 18000 Upper Midhill Drive. A Water Resource Area permit was also required. The 6.1 acre site is zoned R-4.5.

PROCEDURAL HISTORY

This application was deemed complete on February 11, 2016. The West Linn Planning Commission held a public hearing on April 20, 2016. A motion to approve the application failed due to a tie (3:3) vote. On May 4, 2016, the Planning Commission affirmed that the tied vote and failure of the motion constituted denial of the application and adopted findings to the effect (Exhibit PC-1).

On May 19, 2016, the applicant filed an appeal on the grounds that the Planning Commission misapplied the approval criteria including CDC 85.200(A) relating to adequate public facilities; specifically Arbor Drive, Hillside Drive, the intersection at Arbor Drive and Willamette Drive and a section of Upper Midhill Drive between Arbor Drive and Marylhurst Drive.

The City Council hearing on the appeal was held on July 25, 2016. The City Council reconvened the hearing on August 15, 2016, Councilor Perry made a motion to deny the appeal; seconded by Councilor Martin. The motion passed 4 to 1, and the appeal was denied (Exhibit PC-2).

On October 3, 2016, Michael Robinson Attorney for the Applicant Ryan Zygar Upper Midhill Estates filed a "Notice of Intent to Appeal" to the Land Use Board of Appeals. https://westlinnoregon.gov/sites/default/files/fileattachments/planning/project/10893/notice_of_intent_to_appeal.pdf

The City filed an Amended Notice of Withdrawal of Decision with LUBA on January 17, 2017. On January 19, 2017, LUBA issued its order granting the request (Exhibit PC-3) with a deadline of June 1, 2017 to complete the reconsideration process.

On February 6, 2017, the City Council returned the Chene Blanc application (AP-16-02) to the Planning Commission for reconsideration. The City Council's adopted the motion "*...to approve the reconsideration process set forth in the City Attorney's January 24, (2017) Memorandum and focus the scope of the reconsideration to adequate public facilities including traffic impact and influences and pedestrian improvements and safety*" . This motion relates to the approval criteria of Community Development Code (CDC) 85.200(A). No other approval criteria or issues are to be discussed or considered by the Planning Commission.

ANALYSIS

The applicable approval criteria of CDC 85.200(A) containing the text relating to *"adequate public facilities"* is shown below. Staff has provided findings addressing that approval criteria.

85.200 APPROVAL CRITERIA

No tentative subdivision or partition plan shall be approved unless adequate public facilities will be available to provide service to the partition or subdivision area prior to final plat approval and the Planning Commission or Planning Director, as applicable, finds that the following standards have been satisfied, or can be satisfied by condition of approval.

A. Streets.

1. General.

Staff Finding 1 (Relating to Adequate Public Facilities)

CDC 85.200(A) requires a determination of the adequacy of public facilities; specifically streets and their ability to accommodate traffic and other modes. "Adequate public facilities" are defined in CDC 2.030 SPECIFIC WORDS AND TERMS:

"Adequate public facilities. Public facilities that must be adequate for an application for new construction, remodeling, or replacement of an existing structure to be approved are transportation, water, sewer, and storm sewer facilities. To be adequate, on-site and adjacent facilities must meet City standards, and off-site facilities must have sufficient capacity to (1) meet all existing demands, (2) satisfy the projected demands from projects with existing land use approvals, plus the additional demand created by the application, and (3) remain compliant with all applicable standards.

To facilitate that determination of adequacy, CDC 85.170(B) (2) requires a Transportation Impact Analysis (TIA) prepared by a licensed traffic engineer. The applicant's Traffic Engineering firm of Kittelson and Associates provided a TIA, dated January 29, 2016 (Pages 1180-1273 of the LUBA record) plus an updated TIA (attached as Exhibit PC-5B), dated March 1, 2017, which specifically addresses CDC 85.200(A) and related safety concerns.

To support the findings of the TIA, plus the recommendations and conclusions of ODOT, DKS Engineering, Kittelson Engineering and City Engineering, staff recognizes the collective professional engineering licenses and experience of the traffic engineers, and finds the traffic engineers most qualified to review traffic studies and conditions as it specifically relates to the approval criteria. Their conclusion, including that of ODOT, was that the TIA's findings are correct and the applicant can meet the CDC approval criteria regarding adequate public facilities with condition of approval 3. Condition of approval 10 provides for off-site pedestrian facilities.

Staff Finding 2 (Relating to Adequate Public Facilities)

The TIA was reviewed by Oregon Department of Transportation (ODOT) traffic engineers. In an April 6, 2016, "ODOT Response" ODOT engineers supported the TIA findings and proposed mitigation: *"...ODOT has permitting authority for this facility and an interest in ensuring that this proposed land use is compatible with its safe and efficient operation...ODOT supports the proposed mitigation concept to address the ODOT mobility standard."* **(Pages 274-276 of the LUBA record.)**

In a February 3, 2017, "ODOT Response", ODOT engineers reaffirmed their support of the TIA with the following findings and recommendations:

> *ODOT reviewed the Traffic Impact Analysis (TIA) dated January 29, 2016 submitted by Kittelson & Associates, Inc. (KAI). As indicated in the TIA, all the study intersections operate acceptably during the weekday AM and PM peak hours with the exception of the Willamette Drive (OR-43) / Arbor Drive intersection. The same intersection has experienced a significant number of turning movement crashes during the past five years. To mitigate the impact of the development, the TIA findings propose the construction of a northbound left turn lane and a left turn refuge/storage area on the north leg of the OR-43 / Arbor Drive intersection. ODOT supports the proposed mitigation concept to improve mobility standards and address safety issues at this intersection. However, in order to construct this turn lane to ODOT standards, the developer would need to extend the three lane section from Arbor Drive to Shady Hollow Way, creating a continuous two-way left turn-lane that includes bike lanes along this section of the highway. Because the City is already pursuing funding for the Highway 43 Multimodal Transportation Project to widen this segment of the highway to three lanes, ODOT recommends that the City collect a proportionate share of funding from the applicant to apply to the future project. To mitigate the traffic impacts from the proposed subdivision until the Highway 43 Multimodal Transportation Project is constructed, ODOT recommends that the applicant be required to construct their proposed interim solution that includes restriping the highway with a northbound left turn pocket on the south leg of the intersection and a left turn refuge/storage area on the north leg of the intersection." (Exhibit PC-5C)*

Staff Finding 3 (Relating to Adequate Public Facilities)

The record contains substantial evidence that the Arbor Drive/Willamette Drive intersection has a Level of Service (LOS) F during specific peak periods and for specific turn movements. The "West Linn OR 43 2016 Conceptual Design Plan", adopted October 10, 2016, contains specific corrective improvements at the Arbor Drive/Willamette Drive intersection. These improvements are programmed to be undertaken in the City's adopted Transportation System Plan (TSP) (page 94 of the 2016 TSP) and are on the adopted Capital Improvements Plan list for action in 2020. Therefore, this intersection meets the public facility adequacy test as defined by the CDC 02.030: "Adequate Public Facilities".

The applicant's proposed interim mitigation improvements on Willamette Drive at the Arbor Drive intersection, (see Figure 9 of the Kittelson (KAI) letter dated March 1, 2017, (Exhibit PC-5B)) are supported by ODOT per the April 6, 2016, and February 3, 2017, "ODOT Response" documents. (See page 274-276 of the LUBA record and the Exhibit PC-5C.)

Staff Finding 4 (Relating to Adequate Public Facilities)

West Linn City Council's "Final Decision and Order" concluded that the mitigating improvements at the Arbor Drive/Willamette Drive intersection had to be installed concurrent with proposed occupancy (Page 8 and 9 of the LUBA record). A review of the criteria CDC 2.030 (excerpted below) does not require that action. Concurrency is only required when street improvement are not programmed in the TSP. (See underlined text below.) Improvements on Willamette Drive are programmed in the TSP and are in the adopted Capital Improvements Plan list for action in 2020; therefore, concurrency is not required.

> *For purposes of evaluating discretionary permits in situations where the level-of-service or volume-to-capacity performance standard for an affected City or State roadway is currently failing or projected to fail to meet the standard, and an improvement project is not programmed, the approval criteria shall be that the development avoids further degradation of the affected transportation facility. Mitigation must be provided to bring the facility performance standard to existing conditions at the time of occupancy. (City of West Linn CDC 2.030)*

The applicant has agreed to construct interim mitigation improvements at the Arbor Drive/Willamette Drive intersection concurrent with occupancy of the development. Please see page 5 of applicant's reconsideration submittal dated March 1, 2017, which volunteers to construct these improvements. The voluntary construction of the interim mitigation improvements, called out in Condition of Approval 3, is sufficient to meet the requirements.

Staff Finding 5 (Relating to Pedestrian Improvements and Safety).

Staff finds that the West Linn City Council's "Final Decision and Order" made findings (pages 7 and 12 of the LUBA record) that:

> *the infrastructure between the development and the arterial connections is substandard; therefore, the proposed mitigation efforts will not provide safe and adequate public facilities....the application does not meet CDC 85.200 because substantial evidence in the record that a reasonable person would rely upon indicates that the traffic generated by the proposed development would pose a safety hazard to pedestrians, bicyclists, and motorists using the local streets near the development, in particular, Upper Midhill Drive.*

The local streets, Upper Midhill Drive, Hillside Drive, Arbor Drive (excepting the intersection with Willamette Drive) and Marylhurst Drive, all have acceptable levels of service (LOS). None

of the streets was identified in the 2008 TSP as being deficient or in need of upgrades. Transportation Planner Matt Bell of Kittleson and Associates, in a letter dated August 12, 2016, (pages 84 and 85 of the LUBA record) made the following finding:

The segment of Upper Midhill Drive located between Arbor Drive and Marylhurst Drive has a paved width of approximately 16 to 20-feet with 1 to 4-foot gravel shoulders on both sides of the roadway. The segment adjacent to Midhill Park provides on-street parking in the northwest and southwest corners of the park and a pedestrian path that extends from the northwest to the southwest parking areas. The relatively narrow travel way requires vehicles to slow and in some cases stop along the shoulders to allow opposing vehicles to pass while the lack of sidewalks requires pedestrians and bicyclists to travel in the roadway (when there are no vehicles) or along the shoulders.

Despite the relatively narrow travel way and lack of sidewalks, the roadway has the physical and environmental capacity to accommodate existing and projected future travel demand with and without the proposed development. The physical capacity is evidenced by the fact that vehicles, pedestrians and bicyclists use the roadway today to travel between Arbor Drive and Marylhurst Drive as well to access Midhill Park with little to no incident.

A review of recent crash data provided by ODOT shows that no crashes have occurred along Upper Midhill Drive over the last five year period (January 1, 2011 through December 31, 2015). In addition, with the exception of the 16-foot wide segments primarily adjoining the park, the 20-foot segments provide two 10 foot travel lanes, which meets the minimum standard for local streets per the West Linn Transportation System Plan (TSP). The environmental capacity is evidenced by the fact that approximately 30 vehicles use Upper Midhill Drive today during the evening peak period.

With the proposed development, the total number of vehicles is expected to increase to less than 50. Local streets can typically accommodate up to 150 vehicles during peak time periods, or 1,500 Average Daily Traffic (ADT). With the proposed development, traffic along Upper Midhill Drive will be less than 1/3 of the threshold typically applied to local streets, and likely considerably less than hourly and daily volumes found to be acceptable on other local West Linn Street as well.

Finally, it should also be noted that the relatively narrow travel way and lack of sidewalks along Upper Midhill Drive results in low travel speeds and contributes to the rural character of the roadway that drew many of the adjacent residents to the neighborhood and that many of the adjacent residents would like to maintain. This may be evidenced by the fact that when Midhill Park was approved by the Planning Commission and City Council, the City was not required to improve their frontage along Upper Midhill Drive to City standards, nor were they required to improve the remainder of Upper Midhill Drive to provide "adequate public facilities". While the Applicant has proposed to improve public streets within the development and contribute to off-site improvements, improvements to Upper Midhill along the park's frontage, more than

1,300 feet south of the boundary of the proposed development should be undertaken when the properties adjacent to the park redevelop or when the park is next scheduled for upgrades.

Please see also the letter from Kittelson and Associates, dated August 12, 2016 (page 84-85 of the LUBA record) and page 4 of the March 1, 2017, Kittelson and Associates letter (Exhibit PC-5B).

Further relating to adequacy of local streets, according to the March 1, 2017 Kittelson and Associates TIA, traffic counts collected in November 2016 for PM peak hour (which is the busiest period in the day) showed that 59 vehicles currently use Arbor Drive between Highway 43 and Upper Midhill Drive. (Figure 4 of Exhibit PC-5B). That same study projected that 77 PM peak hour trips on Arbor Drive, between Highway 43 and Upper Midhill Drive, will be generated by local traffic and traffic from this subdivision at build out in 2018. (Figure 7 of Exhibit PC-5B). Per Transportation Planner Matt Bell of Kittleson and Associates, in a letter dated August 12, 2016, (pages 84 and 85 of the LUBA record) *"Local streets can typically accommodate up to 150 vehicles during peak time periods, or 1,500 Average Daily Traffic (ADT)."* Therefore, Arbor Drive (exclusive of the Willamette Drive intersection) is expected to function to local street classification standards with the additional 18 PM peak hour trips.

On street parking is allowed on Arbor Drive between Highway 43 and Upper Midhill Drive. Parking on both sides is already facilitated by Arbor Drive's 50 foot wide right of way. Most homeowners park their vehicles on the gravel shoulders and parking areas within the ROW and not on the paved street section. The 25 foot wide road provides sufficient width to meet the 2008 Transportation System Plan (TSP) cross section for a local residential street with two 12-foot wide travel lanes. (See Figure 8-5 of 2008 TSP.) If circumstances require it, the City Engineer has the authority to post "no parking" signs on one or both sides of the street. Typically, that is done after working with the Traffic Safety Committee and with the support of adjacent homeowners.

<u>Staff Finding 6 (Relating to Pedestrian Improvements and Safety).</u>

The approval criteria of 85.200(A) (22), for off-site sidewalk and bike lane facilities, limits off-site improvements as follows: *"....Off-site transportation improvements will include bicycle and pedestrian improvements as identified in the adopted City of West Linn TSP."* **The 2008 TSP Pedestrian and Bicycle Plan (Figures 5-1 and 6-2 of the 2008 TSP) does not require sidewalks or bike lanes on any nearby local streets including Arbor Drive or Upper Midhill Drive. Therefore, this criterion and associated off-site improvements do not apply.**

The applicant is proposing to construct Hillside Drive road widening and tapering plus approximately 90 feet of sidewalk on the north side of the street in front of 17849 Hillside Drive and 150 feet of sidewalk on the west side of the street commencing at the south edge of the proposed subdivision boundary to fill in gaps in the pedestrian facilities (as mapped

and illustrated as "Off-Site Improvements" in Exhibit PC-5, pages 5 and 6). (See proposed Condition of Approval 10).

(Please see also the letter from Kittelson and Associates, dated August 12, 2016 (page 84-85 of the LUBA record).)

Staff Finding 7 (Relating to Adequate Public Facilities, Pedestrian Improvements and Safety).

The proposed mitigation includes the construction of an interim left turn refuge at Arbor Drive and Willamette Drive, per Figure 9 of the Kittelson (KAI) letter dated March 1, 2017, concurrent with development of the subdivision, plus a fee in the amount of $11,600 as the Applicant's proportionate share contribution toward the long-term Highway 43 Multimodal Transportation Project. (See Condition of Approval 3.) The applicant also proposes providing off-site sidewalk improvements on both sides of Hillcrest Drive. (See Condition of Approval 10.)

Staff finds that there is substantial evidence in the record that the proposed mitigation and conditions will address level of service and safety concerns expressed at the Planning Commission and City Council hearings to the degree that the approval criteria of CDC 85.200(A) are met.

Recommendation

Staff recommends approval of file AP-16-02 with the original conditions of approval (pages 450 and 451 of the LUBA record) with revised condition of approval 3 and with the addition of condition of approval 10 (added text is bold and underlined) relating to improvements on Willamette Drive and Hillside Drive as follows:

1. Site Plan. With the exception of modifications required by these conditions, the project shall conform to all submitted Plan Sheets dated 1/11/2016 (C000, C100, C105, C110, C 111, C112, C113, Cl14, C130, C200 (Preliminary Plat), C201, C210, C220, C230, C280, C300) and sheet LI (landscaping) dated 10/14/15.

2. Engineering Standards. All public improvements and associated facilities including street improvements (per sheets C201, C210, C220), utilities (per sheet C300), grading (per sheet C230), onsite storm water design (per sheet C230 and C300), street lighting (per sheet C280), easements (per sheet C200), and easement locations are subject to the City Engineer's review, modification, and approval. These improvements must be designed, constructed, and completed prior to final plat approval or secured by instruments acceptable to the City Engineer.

3. Off-Site Traffic Mitigation. **To mitigate the traffic impacts from the proposed subdivision until the Highway 43 Multimodal Transportation Project is constructed, the applicant shall**

construct their proposed interim solution as depicted in Figure 9 of Kittelson Associates' March 1, 2017, memorandum ("KAI Memorandum") (Exhibit PC-5B) that includes restriping the highway with a northbound left turn pocket on the south leg of the intersection and a left turn refuge/storage area on the north leg of the intersection. The applicant shall also pay a proportionate fee in the amount of $11,600 as Applicant's proportionate share contribution toward the long-term Highway 43 Multimodal Transportation Project.

4. Storm water Tract C. Prior to approval of the final plat, the applicant shall dedicate Storm water Tract C to the City of West Linn.

5. Mutual Maintenance and Easements. Prior to approval of the final plat, the applicant shall provide the City of West Linn, along with the final plat, a Mutual Maintenance and Reciprocal Access and Public Utility Easement for platted Lots 13-15 to ensure continued access and necessary maintenance of the shared drive in perpetuity. Lot 12 shall be excluded from using this easement.

6. No Parking Signs. The applicant shall install signs reading "No Parking- Fire Lane" on one side of Hillside Drive. The signs shall be designed and installed in accordance with the latest Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD).

7. Fire Flow. Prior to approval of the final plat, the applicant shall perform a fire flow test and submit a letter from Tualatin Valley Fire and Rescue showing adequate fire flow is present.

8. Significant Tree Mitigation. Prior to approval of the final plat, the applicant will mitigate for the removal of 434 inches of DBH by planting street trees and landscape trees on the project site. The remaining trees which are not able to be planted on site will be mitigated for either in off-site plantings in a location chosen by the City's arborist or the applicant will pay a fee in lieu to the City for trees which cannot be planted on site.

9. Access during Construction. Approved fire apparatus access roadways shall be installed and operational prior to any combustible construction or storage of combustible materials on the site. Temporary address signage shall also be provided during construction.

10. Hillside Drive Off-Site Sidewalk Improvements. The applicant shall construct Hillside Drive road widening and tapering plus approximately 90 feet of sidewalk on the north side of the street in front of 17849 Hillside Drive and 150 feet of sidewalk on the west side of the street commencing at the south edge of the proposed subdivision boundary to fill in gaps in the pedestrian facilities (as shown in Exhibit PC-5, pages 5 and 6).

EXHIBIT PC-1 PLANNING COMMISSION FINAL DECISION AND ORDER

WEST LINN PLANNING COMMISSION

FINAL DECISION AND ORDER

SUB-15-03, WAP-16-03

IN THE MATTER OF A 34-LOT SUBDIVISION AND WATER RESOURCE AREA PERMIT AT 18000 UPPER MIDHILL DRIVE

I. Overview

Upper Midhill LLC (Applicant) filed its application on October 21, 2015, and it was deemed complete on February 23, 2016. The approval criteria for the application are found in Community Development Code (CDC) Chapters 85, 32, and 14. The hearing was conducted pursuant to the provisions of CDC Chapter 99.

The Planning Commission (Commission) held the public hearing on April 20, 2016. The hearing commenced with a staff report presented by Peter Spir, Associate Planner. Andrew Tull presented for the applicant. The Commission heard public testimony from 15 individuals and accepted letters and photographs as exhibits.

After deliberations, a motion was made by Commissioner Myers to approve the application with nine conditions of approval. In addition to the eight conditions of approval proposed in the April 20, 2016, staff report, Commissioner Myers added a condition to require the developer to "verify that tree #3439 is on the applicant's property prior to removal." Commissioner Knight seconded the motion. Then Commissioner Farrell made a motion to amend the initial motion to include an additional condition of approval requiring the applicant to make improvements on Midhill Drive and Arbor Drive to bring those streets up to City standards. This motion to amend was seconded by Commissioner Matthews. After discussion, the motion to amend failed and the initial motion by Commissioners Myers and Knight was put to a vote with Commissioners Matthew, Farrell and Walvatne opposed and Commissioners Myers, Babbitt and Knight voting in favor. The motion failed to pass with a tie vote and the application was denied.

Some of the community concerns raised at the public hearing include:

1. The projected 389 trips per day generated by this application will worsen the level of service on area streets including Upper Midhill Drive, Hillside Drive Arbor Drive and Willamette Drive.
2. Arbor Drive at Willamette Drive is already a dangerous intersection and will be made more dangerous by the additional trips.
3. There were concerns about the wetlands being filled.
4. The incompatibility of the site's R-4.5 zone with surrounding lower residential density was questioned.
5. Potential storm water and drainage problems were mentioned.

6. There was concern regarding the loss of trees (particularly tree #3439).
7. The creation of double frontage lots in Lake Oswego was stated to be problematic.
8. Neighborhood disruption caused by construction of the subdivision and subsequent home building (noise, vibration, glare, street damage, etc.) was a concern.
9. There is a potential for glare from the new street lights.
10. There were concerns about neighborhood safety associated with increased traffic generated by 34 homes and heavy truck traffic during the construction phase.

II. The Record

The record was finalized at the April 21, 2016, hearing. The record includes the entire file from SUB-15-03, WAP-16-03.

III. Findings of Fact

1) The Overview set forth above is true and correct.
2) The applicant is the Upper Midhill LLC.
3) The Commission finds that it has received all information necessary to make a decision based on the Staff Report; public comments; and the evidence in the whole record, including any exhibits received at the hearings.

IV. Findings

The Commission adopts the April 20, 2016, Staff Report for SUB 15-03, WAP 16-03, with attachments, including specifically the Addendum dated March 25, 2016, and the Applicant's Submittals, including without limitation the narratives, as its findings, which are incorporated by this reference, except for CDC 85.200 regarding adequate public facilities will be available to provide public service and 85.200(B)(5) regarding double frontage, which for the reasons stated below essentially results in a denial of this application.

DOUBLE FRONTAGE

"Double frontage lots and parcels. Double frontage lots and parcels have frontage on a street at the front and rear property lines. Double frontage lots and parcels shall be avoided except where they are essential to provide separation of residential development from arterial streets or adjacent non-residential activities, or to overcome specific disadvantages of topography and orientation. A planting screen or impact mitigation easement at least 10 feet wide, and across which there shall be no right of access, may be required along the line of building sites abutting such a traffic artery or other incompatible use."

Three members of the Commission found that the application and staff report demonstrated this criterion was met. The staff report concluded that there are no double frontage lots in West Linn. Staff and the applicant noted that the Hillside Drive right of way that is being improved as part of this development was dedicated with the original Robinwood Plat. Hillside Drive is on the West Linn side of the Lake Oswego-

West Linn border. After the Robinwood Plat, a development in Lake Oswego occurred with the back of the lots abutting Hillside Drive, but that development did not improve Hillside Drive. Instead the Lake Oswego development put Woodhurst Place in at the front of the lots for access.

Now the applicant is proposing to improve Hillside Drive and utilize it as the access for a number of lots. The applicant stated that its application does not create any double frontage lots because the right of way was previously dedicated. In addition, the applicant noted that the double frontage lots are not located in West Linn. The lots are located in Lake Oswego; therefore, the subdivision does not create double frontage lots in West Linn, and the criterion is met. Finally, it was noted that the applicant was required to use this right of way to construct the connection between Hillside Drive and Upper Midhill Drive.

The remaining three members of the Commission that participated disagreed, and determined that85.200 and 85.200(B)(5) were not met. First, Hillside Drive, although dedicated, has not been improved; therefore, it is the creation of this subdivision with the improvement of the street that is ultimately creating the double frontage lots in Lake Oswego with this application. Second, it was discussed that the City has to be aware of how its developments impact surrounding communities. In this instance, the improvement of the street will result in lots that have rights of way on two sides of the Lake Oswego properties that take access off of Woodhurst Place. West Linn's Code requirements do not only apply within the subdivision, within the City, but the Code should apply across the City's boundary to consider the impact on neighboring communities.

For reasons stated above, a majority of the Planning Commission was unable to find that this criterion is met. In land use matters, the applicant carries the burden to demonstrate that each criterion is met. Therefore, a split on the Commission shows that the applicant did not carry its burden, resulting in a defacto denial based on this criterion.

V. Order

The Commission concludes that the vote to approve the application for SUB-15-03, WAP-16-03 resulted in a three to three vote. The motion to approve did not pass; therefore, the tie vote is equivalent to a denial of the application. The denial of this application is based on the Record, Findings of Fact and Findings above.

MICHAEL BABBITT, CHAIR
WEST LINN PLANNING COMMISSION

5-5-16
DATE

This decision may be appealed to the City Council pursuant to the provisions of Chapter 99 of the Community Development Code and any other applicable rules and statutes. This decision will become effective 14 days from the date of mailing of this final decision as identified below. Those parties with standing (i.e., those individuals who submitted letters into the record, or provided oral or written testimony during the course of the hearing(s), or signed in on an attendance sheet or testimony form at a hearing(s), may appeal this decision to the West Linn City Council within 14 days of the mailing of this decision pursuant to the provisions of Chapter 99 of the Community Development Code. Such appeals would require a fee of $400 and a completed appeal application form together with the specific grounds for appeal to the Planning Director prior to the appeal-filing deadline.

Mailed this 5th day of May, 2016.

Therefore, this decision becomes effective at 5 p.m., May 19, 2016.

EXHIBIT PC-2 CITY COUNCIL FINAL DECISION AND ORDER

WEST LINN CITY COUNCIL

FINAL DECISION AND ORDER

AP-16-02

IN THE MATTER OF AN APPEAL OF THE PLANNING COMMISSION DENIAL OF A 34-LOT SUBDIVISION AND WATER RESOURCE AREA PERMIT AT 18000 UPPER MIDHILL DRIVE

I. Overview

Upper Midhill LLC (Applicant) filed its application on October 21, 2015, and it was deemed complete on February 23, 2016. The approval criteria for the application are found in Community Development Code (CDC) Chapters 85, 32, and 14. The Planning Commission hearing on April 20, 2016, was conducted pursuant to the provisions of CDC Chapter 99.

After deliberations, a motion to approve the application failed to pass with a tie vote and the application was denied. A Planning Commission meeting on May 4, 2016, affirmed the April 20, 2106, decision as a denial of the application. On May 19, 2016, the applicant filed an appeal of the Planning Commission decision.

The City Council hearing on July 25, 2016, was conducted pursuant to the provisions of CDC Chapter 99. Public testimony was heard. The applicant's attorney, David Noren, requested that the May 4, 2016, letter from Andrew Tull, consultant for the applicant, be admitted into the record. The City Council allowed this with the provision that it would accept responses to the letter from persons with standing, including attorney Peggy Hennessy representing the

Marylhurst Place Homeowner's Association, until August 10, 2016. The City Council also required that any written rebuttal by the applicant be submitted by August 12, 2016.

The City Council reconvened the hearing on August 15, 2016, with questions of staff and with full consideration of the July 25, 2016, to August 12, 2016, submittals in addition to the May 4, 2016, letter. City Council then closed the hearing and entered deliberations. Councilor Perry made a motion to deny the appeal; seconded by Councilor Martin. The motion passed 4 to 1, and the appeal was denied.

II. The Record

The record was finalized at the July 25, 2016, and August 15, 2016, hearings. The record includes the entire file from AP-16-02, SUB-15-03 and WAP-16-03.

Findings of Fact

1) The Overview set forth above is true and correct.
2) The appellant/applicant is Upper Midhill LLC.
3) The City Council finds that it has received all information necessary to make a decision based on the Staff Report; public comments; and the evidence in the whole record, including any exhibits received at the hearings.

III. Findings

Appeal Issues by Upper Midhill LLC

Petitioner, Upper Midhill Estates LLC, is the applicant and appeared in the proceeding before the City Council through its representative Ryan Zygar; its consultant, Andrew Tull; and attorney David Noren. The applicant identified four grounds in its appeal:

1. The planning commission improperly construed the law when it determined that the application had not complied with CDC 85.200.B.5, regarding double frontage lots;
2. The planning commission improperly construed the law and made a decision not supported by the evidence when it found without discussion or analysis that the

application had not complied with CDC 85.200 regarding the availability of adequate public facilities.

3. The planning commission committed procedural error when its decision failed to make adequate findings, as required by CDC 99.110.C, regarding whether or not the application meets the approval criterion of CDC 85.200.
4. The planning commission misconstrued the law, made a decision not supported by the evidence, and committed procedural error when its decision failed to address whether the standards of CDC 85.200 could be satisfied by conditions of approval.

These findings will address the issues on appeal as follows: A) compliance with CDC 85.200; and B) lack of compliance with CDC 85.200 and findings demonstrating there is sufficient evidence in the record to determine the criterion is not met and cannot be met by imposing conditions of approval.

A. DOUBLE FRONTAGE LOTS

The majority of the Council found that the application and staff report demonstrated that the application did not create double frontage lots; therefore, this criterion is met, and the appeal on this ground should be upheld.

CDC 85.200(B) (5) states:

> *Double frontage lots and parcels. Double frontage lots and parcels have frontage on a street at the front and rear property lines. Double frontage lots and parcels shall be avoided except where they are essential to provide separation of residential development from arterial streets or adjacent non-residential activities, or to overcome specific disadvantages of topography and orientation. A planting screen or impact mitigation easement at least 10 feet wide, and across which there shall be no right of access, may be required along the line of building sites abutting such a traffic artery or other incompatible use.*

The Council adopts the finding in the staff report, which concluded that there are no double frontage lots in West Linn. The Hillside Drive right of way that is being improved as part of this development was dedicated with the original Robinwood Plat. Hillside Drive is on the West Linn side of the Lake Oswego-West Linn border. After the Robinwood Plat, a development in Lake Oswego occurred towards the back of the lots abutting Hillside Drive, but that development did not improve Hillside Drive. Instead the Lake Oswego development constructed Woodhurst Place at the front of the lots for access, which created double frontage lots in Lake Oswego.

The applicant is proposing to improve Hillside Drive and utilize it as the access for a number of lots. The application does not create any double frontage lots because the right of way was previously dedicated. In addition, to the extent there are double frontage lots, those lots are not located in West Linn. The lots are located in Lake

Oswego; therefore, the subdivision does not create double frontage lots in West Linn, and the criterion is met. Finally, it was noted that the applicant was required to use this right of way to construct the connection between Hillside Drive and Upper Midhill Drive. Therefore, the Planning Commission erred when it found that the application must be denied because it failed to meet 85.200(B) (5) and the appeal on this ground should be upheld.

B. LACK OF ADEQUATE PUBLIC FACILITIES

The Council finds the application does not meet CDC 85.200 because substantial evidence in the record that a reasonable person would rely upon indicates that the traffic generated by the proposed development would pose a safety hazard to pedestrians, bicyclists, and motorists using the local streets near the development, in particular, Upper Midhill Drive. The applicable code provisions are CDC 85.200, Approval Criteria and CDC 2.030, Specific Words and Terms, specifically "adequate public facilities," which provide:

CDC 85.200 APPROVAL CRITERIA

No tentative subdivision or partition plan shall be approved unless adequate public facilities will be available to provide service to the partition or subdivision area prior to final plat approval and the Planning Commission or Planning Director, as applicable, finds that the following standards have been satisfied, or can be satisfied by condition of approval.

A. Streets.

1. General. The location, width and grade of streets shall be considered in their relation to existing and planned streets, to the generalized or reasonable layout of streets on adjacent undeveloped lots or parcels, to topographical conditions, to public convenience and safety, to accommodate various types of transportation (automobile, bus, pedestrian, bicycle), and to the proposed use of land to be served by the streets. The functional class of a street aids in defining the primary function and associated design standards for the facility. The hierarchy of the facilities within the network in regard to the type of traffic served (through or local trips), balance of function (providing access and/or capacity), and the level of use (generally measured in vehicles per day) are generally dictated by the functional class. The street system shall assure an adequate traffic or circulation system with intersection angles, grades, tangents, and curves appropriate for the traffic to be carried. Streets should provide for the continuation, or the appropriate projection, of existing principal streets in surrounding areas and should not impede or adversely affect development of adjoining lands or access thereto.

CDC 2.030 SPECIFIC WORDS AND TERMS

Adequate public facilities. Public facilities that must be adequate for an application for new construction, remodeling, or replacement of an existing structure to be approved are transportation, water, sewer, and storm sewer facilities. To be adequate, on-site and adjacent facilities must meet City standards, and off-site facilities must have sufficient capacity to (1) meet all existing demands, (2) satisfy the projected demands from projects with existing land use approvals, plus the additional demand created by the application, and (3) remain compliant with all applicable standards.

For purposes of evaluating discretionary permits in situations where the level-of-service or volume-to-capacity performance standard for an affected City or State roadway is currently failing or projected to fail to meet the standard, and an improvement project is not programmed, the approval criteria shall be that the development avoids further degradation of the affected transportation facility. Mitigation must be provided to bring the facility performance standard to existing conditions at the time of occupancy.

The Applicant contends that because certain improvements are "programmed" through the City's TSP, those improvements may be relied upon in determining if public facilities are adequate. We have considered this proposed interpretation and reject it. We interpret the standard to require concurrency at the time of occupancy of a proposed development project. While the definition at issue refers to improvements that are "not programmed", a separate sentence requires that any mitigation needed to provide adequate public facilities must be in place at the time of occupancy. In deciding this case we interpret the Code to require that we apply a standard of concurrency. Any necessary improvements to infrastructure must be assured to be in place at the time of occupancy.

The Council finds that there is substantial evidence in the record to find that the public facilities are inadequate because: 1) the assumptions in the applicant's traffic study are incorrect, resulting in a technical report that cannot be relied upon; 2) the evidence demonstrates that the Arbor Drive-Willamette Drive intersection is failing and unsafe; and 3) the evidence shows that Upper Midhill Drive cannot safely accommodate all modes of travel.

The Council recognizes that there is conflicting evidence on these points. We therefore explain the basis for our conclusion below. We have determined that we cannot rely on the report by the applicant's expert because of shortcomings in the report identified by other witnesses as described below. We found the testimony by non experts, which we have relied on, was credible and based on personal observation of the actual conditions in the area.

First, substantial evidence in the record indicates that the average daily trip calculation of 323 and estimates of the peak number of trips are grossly underestimated. PC-5 Public Comments Addendum – Part 2, 7 (Gregory Ball's April 18 email); Staff Report for the Planning Commission, 642 (April 20, 2016) (Friedrich Baumann's April 5 email). The CDC requires that the proposed development "satisfy the projected demands from projects with existing land use approvals, plus the additional demand created by the application." We find credible the testimony that the data was collected before completion of the new duplexes on Willamette Drive and the expansion of Mary's Woods, both of which will significantly impact traffic on Highway 43. PC-5 Public Comments Addendum – Part 2, 2 (Resolution of Robinwood Neighborhood Association); Staff Report for the Planning Commission, 626 (April 20, 2016) (David Goldenberg's April 6 email); Staff Report for the Planning Commission, 638 (April 20, 2016) (James and Patricia Crane's April 6 email).

In addition, the vehicle counts were collected during the summer when all the schools and Marylhurst University were on summer break, resulting in lower traffic counts overall, no school bus traffic, and no school drop-off traffic. PC-5 Public Comments Addendum – Part 2, 2 (Resolution of Robinwood Neighborhood Association). Even the applicant's attempt to seasonally adjust the counts cannot correct for the deficiency in the original data collection process.

The traffic calculations also fail to account for all of the heavy truck and construction traffic that will be impacting the safety of Upper Midhill Drive during the construction of the development. Staff Report for the Planning Commission, 627, 630 (April 20, 2016) (Scot and Lizelle Chandler's April 5 letter; Joanne Desky April 6 email). Therefore, the Council determines that the traffic study cannot be relied upon; the Council finds the numerous first-hand accounts of the citizens that live in the area and routinely experience the traffic during the peak hours to be substantial evidence that it can reasonably rely on to find that the traffic calculations are inaccurate and the proposed mitigation by the applicant is unlikely to result in adequate transportation facilities.

Second, the Council finds that there is substantial evidence in the record to find that the intersection at Arbor Drive and Willamette Drive ("Arbor Drive intersection") is currently unsafe and that the proposed mitigation measures will not adequately address this problem. The intersection is operating at a level of service of F, which constitutes a failed intersection under the existing conditions. Staff Report for the Planning Commission, 54 (April 20, 2016) (citing Kittelson and Associates, Figure 4). The Code requires that "[m]itigation must be provided to bring the facility performance standard to existing conditions at the time of occupancy;" however, the applicant only proposed a left turn lane addition, which will not adequately address the safety concerns at this failed intersection. Residents that utilize this intersection regularly expressed significant concerns about the amount of the traffic increase on Arbor Drive when the intersection is already unsafe. Chad Seber's Oral Testimony, approx. 1hr.21min.20sec. (July 25, 2016); PS Sundar's Oral Testimony, approx. 1hr.41min. (July 25, 2016).

The proposed mitigation fails to address the continued risk to travelers on Arbor Drive of joining traffic on Willamette Drive. Numerous citizens testified regarding the danger of the Arbor Drive intersection, and the Oregon Department of Transportation's "Crash Summaries by Year by Collision Type" demonstrates that there have been a number of traffic incidents at this intersection, which supports the testimony. Peter Spir Memorandum, 22 (August 12, 2016) (Dorianne Palmer's August 9 Email); Peter Spir Memorandum, 28 (Paul Halloran's August 2, 2016 Letter); Scarlett Harris' Oral Testimony, approx. 1hr.12min.40sec (July 25, 2016); Doug Palmer's Oral Testimony, approx. 1hr.36min.30sec (April 20, 2016); Roger Cherry's Oral Testimony, approx. 1hr.41min.25sec (April 20, 2016); Robert Stowell's Oral Testimony, approx. 1hr.55min.30sec (April 20, 2016); Staff Report for the Planning Commission, 626 (April 20, 2016) (David Goldenberg's April 6 email).

In addition, despite the fact that the intersection is identified in the adopted Transportation System Plan as a programmed project, the Council finds that the timing of that programmed project is problematic because there is no evidence that the programmed improvements and proposed mitigation will be constructed prior to occupancy to ensure that the Arbor Drive intersection is safe. In fact, there is much uncertainty regarding these improvements because that intersection is under the control of the Oregon Department of Transportation, and the City does not have control over the scope of the improvements or the timing of the work. The applicant argues that because the Arbor Drive intersection is a programmed intersection, it need not be improved for this development to be approved. The Council disagrees and finds that approving this application would increase the safety risks to an untenable degree for the citizens that already use these roads for an undetermined amount of time.

Further, the Council finds that there is not substantial evidence in the record to demonstrate that the left turn lane off of Willamette Falls will be sufficient to appropriately mitigate and prevent further degradation of the Arbor Drive intersection. The applicant has not shown that it is more likely than not that the proposed improvements at the Arbor Drive intersection will result in an adequate public facility that will be safe for West Linn citizens.

Third, the Council finds that the infrastructure between the development and the arterial connections is substandard; therefore, the proposed mitigation efforts will not provide safe and adequate public facilities. For example, Upper Midhill Drive is dangerous because it is very narrow, at some locations measuring only 16 feet wide, and it lacks pedestrian facilities. Staff Report for the Planning Commission, 633 (April 20, 2016) (James and Anne Moore's April 6 email); Staff Report for the Planning Commission, 634 (April 20, 2016) (Dorianne Palmer's April 6 email). Staff Report for the Planning Commission, 645 (April 20, 2016) (Michael and Veronica Finigan's April 5 email); Staff Report for the Planning Commission, 648 (April 20, 2016) (Stephen Morrison's April 5 email); Scarlett Harris' Oral Testimony, approx. 1hr.12min.40sec (July

25, 2016); PS Sundar's Oral Testimony, approx. 1hr.41min. (July 25, 2016); Chris Harris' Oral Testimony, approx. 1hr.54min. (July 25, 2016); Peter Lang's Oral Testimony, approx. 1hr.26min.45sec (April 20, 2016) (showing pictures of school bus on Upper Midhill road). The narrow roads and the visibility issues due to the vegetation, parked cars, and other obstacles make Upper Midhill Drive very dangerous for children and motorists. Lori Watts' Oral Testimony, approx. 1hr.36min.30sec (April 20, 2016); Peter Spir Memorandum, 14 (August 12, 2016) (Scarlett Harris' August 10 email). The applicant included sidewalks in some locations, and offered to provide sidewalks in other locations to provide more safe pedestrian paths; however, the applicant also acknowledged that some sidewalks it would be willing to construct may not be viable because right of way acquisition may be required. Widening of the Upper Midhill Drive and the installation of sidewalks would be necessary to make this area safe for pedestrians, bicyclists, and motorists alike. Steve McClellan's March 31 email.

In conclusion, for all of the reasons put forth above, and the substantial evidence in the entire record, the Council finds that this application must be denied because the applicant has not demonstrated that there are adequate transportation facilities.

IV. Order

The Council upholds the appeal on the double frontage issue, but otherwise denies the appeal (AP-16-02) and affirms the Planning Commission's decision to deny SUB-15-03 and WAP-16-03 based on the entire record, Findings of Fact, and Findings above. Therefore, the application is denied. In addition, the Council finds that the procedural errors alleged in the appeal were remedied by the appeal hearing and this Final Decision and Order.

EXHIBIT PC-3 LUBA ORDER ALLOWING RECONSIDERATION

BEFORE THE LAND USE BOARD OF APPEALS

OF THE STATE OF OREGON

UPPER MIDHILL ESTATES, LLC,
and RYAN ZYGAR,
Petitioners,

vs.

CITY OF WEST LINN,
Respondent,

and

SCOT CHANDLER, LIZELLE CHANDLER,
FRIEDRICH BAUMANN, CHAD SIEBER,
LACY SIEBER, JERRY MARLOW, DONNA MARLOW,
MICHAEL CHAN, LEI CUI, TING XU, LILY CROWDER
CHARLES RIM, SUSAN RIM, CHRIS HARRIS,
SCARLETT HARRIS, DORIANNE PALMER, DOUG PALMER,
JOANNE DESKY, PETER LANG, LORRIE WATTS,
JENNA MAHANAY, KEITH HAMILTON, JANET BRUMBAUGH
PAUL HALLORAN and ROBERT STOWELL.
Intervenors-Respondents.

LUBA No. 2016-100

ORDER

MOTION TO INTEREVE

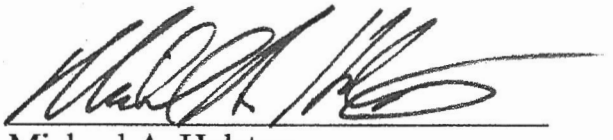
Scot Chandler, Lizelle Chandler, Friedrich Baumann, Chad Sieber, Lacy Sieber, Jerry Marlow, Donna Marlow, Michael Chan, Lei Cui, Ting Xu, Lily Crowder, Charles Rim, Susan Rim, Chris Harris, Scarlett Harris, Dorianne Palmer, Doug Palmer, Joanne Desky, Peter Lang, Lorrie Watts, Jenna Mahanay, Keith Hamilton, Janet Brumbaugh, Paul Halloran and Robert Stowell

move to intervene on the side of the respondent. There is no opposition to the motion and it is allowed.

WITHDRAWAL OF DECISION FOR RECONSIDERATOIN

Respondent filed an Amended Notice of Withdrawal of Decision on January 17, 2017. Respondents request that they be allowed until June 1, 2017 to file their decision on reconsideration. That request is granted. OAR 661-010-0021(1).

Dated this 19th day of January, 2017.



Michael A. Holstun
Board Chair

Certificate of Mailing

I hereby certify that I served the foregoing Order for LUBA No. 2016-100 on January 19, 2017, by mailing to said parties or their attorney a true copy thereof contained in a sealed envelope with postage prepaid addressed to said parties or their attorney as follows:

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18040 Upper Midhill Drive
West Linn, OR 97068

Michael C. Robinson
Perkins Coie LLP
1120 NW Couch Street 10th Floor
Portland, OR 97209-4128

Scot Chandler
17632 Woodhurst Place
Lake Oswego, OR 97034

Timothy V. Ramis
Jordan Ramis PC
Two Centerpoint Drive 6th Floor
Lake Oswego, OR 97035

Dated this 19th day of January, 2017.

Kelly Burgess
Paralegal

Kristi Seyfried
Executive Support Specialist

EXHIBIT PC-4 CITY ATTORNEY'S JANUARY 24, 2017, MEMORANDUM

JORDAN RAMIS PC
ATTORNEYS AT LAW

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LEGAL MEMORANDUM

TO: West Linn City Council

FROM: Tim Ramis, City Attorney

DATE: January 24, 2017

RE: **Upper Midhill Reconsideration Procedure**
File No. 50015-74984

The West Linn City Council has taken action to withdraw and reconsider the decision in the Upper Midhill subdivision case. The City filed an Amended Notice of Withdrawal of Decision on January 17, 2017. The City also requested that they be allowed until June 1, 2017 to file their decision on reconsideration. On January 19, 2017, LUBA issued its order granting the request and the case will now be within the jurisdiction of the City Council. It is subject to the deadline of June 1, 2017 to complete the reconsideration process.

It is the understanding of City staff that the applicant will amend its application to address pedestrian/auto safety concerns, principally at the project's access to Willamette Blvd. The City's code does not directly address this reconsideration situation; therefore, the City Attorney and staff have developed a proposed process which is consistent with City land use procedures.

The chief complication arises from the fact that any amendment proposed by the applicant is considered to be new evidence. Under the applicable City Council appeal procedures the Council may not consider new evidence unless it identifies a reason to reopen the record under CDC 99.280. The proposed procedure addresses this problem by employing the Planning Commission to conduct a hearing on the amended application. In the process proposed below, the Council would consider the case only if the Planning Commission decision is appealed. The reconsideration process must be conducted expeditiously because of LUBA's time limitation.

Key elements of the process are as follows:

- City Council conducts a hearing to determine the review process and scope of the reconsideration.
- Applicant submits additional information on aspects of the project identified by the Council for reconsideration, such as traffic and pedestrian improvements.
- City issues notice of a Planning Commission hearing.
- Planning Commission conducts a hearing limited to the issues identified by the Council, accepts new evidence, and issues a decision.
- Notice of the decision is issued notifying parties of the right to appeal, consistent with Type 3 procedures.

- If an appeal is filed, the City Council conducts an appeal hearing on the record and issues a final decision.

The applicant has also filed an application for an expedited review of an alternative design for subdivision of the property, but the applicant is willing to delay processing of that application while reconsideration of the 34 lot application is being completed. Staff will work directly with the applicant to accomplish this.

EXHIBIT PC-5 APPELLANT'S SUBMITTAL (MARCH 1, 2017)

Rec'd March 1

PERKINSCOIE

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March 1, 2017

Michael C. Robinson
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VIA EMAIL

Mr. John Boyd
West Linn Planning Department
22500 Salamo Road
West Linn, OR 97068

Re: City of West Linn File No. SUB-15-03/WAP-16-03; Findings and Evidence Supporting Approval of 34-Lot Land Division Application by Upper Midhill, LLC on Remand to the West Linn Planning Commission

Dear Mr. Boyd:

This office represents Upper Midhill, LLC, the Applicant. Please find enclosed with this letter the Applicant's findings and evidence supporting their approval by the Planning Commission of this 34-lot subdivision. The findings and evidence satisfactorily address West Linn Community Development Code ("CDC") 85.200.A, which was the sole basis for the City Council's denial of this Application.

Please place this letter and its enclosures in the official Planning Department file for this matter and before the Planning Commission at the initial evidentiary hearing on March 22, 2017.

Please contact me if you have any questions.

Very truly yours,

Michael C. Robinson

MCR:rsr
Enclosures

cc: Mr. Ryan Zygar (via email) (w/ encls.)
Mr. Andrew Tull (via email) (w/ encls.)
Mr. Matt Bell (via email) (w/ encls.)
Mr. Aaron Murphy (via email) (w/ encls.)
Ms. Megan Thornton (via email) (w/ encls.)
Mr. Seth King (via email) (w/ encls.)

BEFORE THE PLANNING COMMISSION
OF THE CITY OF WEST LINN, OREGON

SUPPLEMENTAL FINDINGS OF FACT AND CONCLUSIONS OF LAW APPROVING THE LAND USE APPLICATIONS FOR CHENE BLANC ESTATES, A 34-LOT RESIDENTIAL SUBDIVISION, ON RECONSIDERATION FROM THE OREGON LAND USE BOARD OF APPEALS

In the matter of Applications for: (1) a 34-lot Preliminary Subdivision Plat; and (2) a Water Resource Area Permit, on 6.1 Acres of Property Located at 18000 Upper Midhill Drive.	**CITY FILE NOS. AP-16-02/SUB-15-03/WAP-16-03**

I. Introduction.

Upper Midhill Estates, LLC ("Applicant") requests City of West Linn ("City") approval of a Preliminary Subdivision Plat and a Water Resource Area Permit to allow development of a 34-lot residential subdivision ("Development") on approximately 6.1 acres of property located at 18000 Upper Midhill Drive ("Property").[1] A copy of the proposed plan for the Development is set forth on page 2 of this narrative.

As explained below, the City is now reconsidering the Development. These findings address the single issue before the City on reconsideration and demonstrate that there is substantial evidence in the whole record to support the conclusion that the Development satisfies applicable approval criteria and should be approved.

---

[1] The Development proposes detached single-family dwellings, which are "needed housing" under both state and local law. *See* ORS 197.303(1)(a) and City Comprehensive Plan at H-1, H-2, and Figure 10-1. As a result, Applicant reserves the right to request that the City apply only "clear and objective standards, conditions, and procedures" to the Development. ORS 197.307(4).

II. Original Proceedings.

The City Council denied the Development on September 12, 2016. The sole basis for the City Council's denial was that Applicant failed to demonstrate that there were adequate public facilities to serve the Development pursuant to West Linn Community Development Code ("CDC") 85.200. *See* Final Decision and Order AP-16-02.

The applicant filed a timely Notice of Intent to Appeal the City's decision with the Land Use Board of Appeals ("LUBA") on October 3, 2016.

Subsequent to filing the appeal, Applicant filed a new application with the City requesting approval of an Expedited Land Division for 42 lots of needed housing on the Property. That application is still pending before the City.

III. Reconsideration.

The City filed an Amended Notice of Withdrawal of Decision on January 17, 2017. LUBA granted the request in an Order dated January 19, 2017. LUBA's Order requires that the City file its decision on reconsideration on or before June 1, 2017.

On reconsideration, the City Council voted on February 6, 2017 to remand the Development to the Planning Commission for reconsideration with the scope limited to determining adequacy of public transportation facilities, including traffic impact and influences and pedestrian improvements and safety. Consistent with its traditional procedures, the Planning Commission may accept new evidence and argument during its reconsideration of the Development.

IV. Applicable Approval Criteria.

As explained above, the reconsideration is limited to determining adequacy of public transportation facilities. In order to approve a Tentative Subdivision Plan, the City must find that adequate public facilities will be available:

> "No tentative subdivision or partition plan shall be approved unless adequate public facilities will be available to the partition or subdivision area prior to final plat approval and the Planning Commission or Planning Director, as applicable, finds that the following standards have been satisfied, or can be satisfied by condition of approval.
>
> "A. Streets
>
> "1. General. The location, width and grade of streets shall be considered in their relation to existing and planned streets, to the generalized or reasonable layout of streets on adjacent undeveloped lots or parcels, to topographical conditions, to public convenience and safety, to accommodate various types of transportation (automobile, bus, pedestrian, bicycle), and to the proposed use of land to be served by the streets. The functional class of a street aids in defining the primary function and associated design standards for the facility. The hierarchy of the facilities within the network in regard to the type of traffic served (through or local trips), balance of function (providing access and/or

capacity), and the level of use (generally measured in vehicles per day) are generally dictated by the functional class. The street system shall assure an adequate traffic or circulation system with intersection angles, grades, tangents, and curves appropriate for the traffic to be carried. Streets should provide for the continuation, or the appropriate projection, of existing principal streets in surrounding areas and should not impede or adversely affect development of adjoining lands or access thereto."

CDC 85.200. Further, the City has defined "adequate public facilities" as follows:

"Adequate public facilities. Public facilities that must be adequate for an application for new construction, remodeling, or replacement of an existing structure to be approved are transportation, water, sewer, and storm sewer facilities. To be adequate, on-site and adjacent facilities must meet City standards, and off-site facilities must have sufficient capacity to (1) meet all existing demands, (2) satisfy the projected demands from projects with existing land use approvals, plus the additional demand created by the application, and (3) remain compliant with all applicable standards.

"For purposes of evaluating discretionary permits in situations where the level-of-service or volume-to-capacity performance standard for an affected City or State roadway is currently failing or projected to fail to meet the standard, and an improvement project is not programmed, the approval criteria shall be that the development avoids further degradation of the affected transportation facility. Mitigation must be provided to bring the facility performance standard to existing conditions at the time of occupancy."

CDC 2.030.

V. Supplemental Findings on Reconsideration.

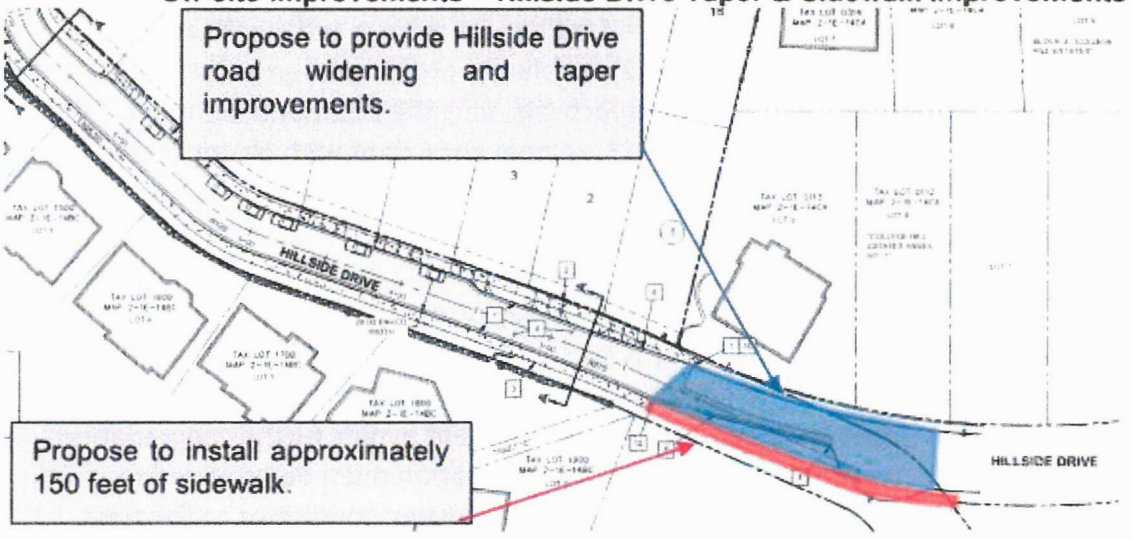
A. Subject to compliance with conditions, there will be adequate and safe public transportation facilities to serve the Development concurrent with its occupancy.

The City should find that the Development satisfies this standard. As support for this conclusion, the City should rely upon the testimony of Kittelson & Associates, Inc. ("KAI"), Applicant's transportation engineer and planner, who analyzed the safety and

performance of the area street system and concluded that, subject to Applicant's completion of the following mitigation measures, the Development will be served by adequate and safe transportation facilities:

- Restriping Willamette Drive with a northbound left turn pocket on the south leg of the Willamette Drive/Arbor Drive intersection and a left-turn refuge storage area on the north leg of the intersection, as depicted in Figure 9 of KAI's March 1, 2017 memorandum ("KAI Memorandum");
- Payment of a fee in the amount of $11,600 as Applicant's proportionate share contribution toward the long-term Highway 43 Multimodal Transportation Project; and
- Hillside Drive Street and Sidewalk Improvements illustrated below:

Off-site Improvements – Hillside Drive Taper & Sidewalk Improvements



Off-site Improvements – Hillside Drive Sidewalk (Source: Google Earth)

See KAI Memorandum. KAI reached its conclusions based upon an analysis of the background and projected traffic conditions (including trips generated by the Development) at affected intersections in the vicinity of the Development. *See* Appendices to KAI Memorandum. KAI concluded that, subject to implementation of these mitigation measures, all affected intersections would operate consistent with applicable performance standards (Level of Service or Volume-to-Capacity). KAI Memorandum at 1. In fact, Applicant's proposed interim improvements will actually improve performance during the PM peak hour at the Willamette Drive/Arbor Drive intersection. *Id.* Based upon its analysis, KAI concluded that "the proposed development plan can be constructed while maintaining safe and adequate public facilities for motorists, pedestrians, and cyclists." KAI Memorandum at 4.

Notably, on reconsideration, Applicant has committed to completing more transportation mitigation measures than Applicant proposed, or City staff recommended, in the original proceedings. *See* KAI's original Transportation Impact Analysis for the Development dated January 2016 ("TIA"), which had recommended only the payment of a fee in lieu toward completion of off-site traffic mitigation measures on Willamette Drive between Arbor Drive and Shady Hollow Way. The additional mitigation measures proposed by Applicant on reconsideration reflect Applicant's good faith commitment to addressing the transportation impacts of the Development.

However, the additional mitigation measures are not even necessary to ensure the adequacy of area facilities. The transportation engineers at both DKS Associates (the City's transportation engineer) and the Oregon Department of Transportation ("ODOT") reviewed KAI's original TIA and concurred with its recommendation that requiring payment of a fee in lieu was "appropriate." *See* Staff Report for April 20, 2016 Planning Commission meeting at 14. To the extent the fee in lieu alone ensured that there were adequate public transportation facilities to serve the Development—as these professional engineers found—Applicant's provision of the additional mitigation measures identified above concurrent with occupancy of the Development certainly ensures this standard is met.

Further, ODOT has reviewed KAI's separate Transportation Impact Analysis for a more intensive, 42-unit residential development proposal for the Property and has concluded that Applicant could mitigate the impacts of this more intensive development by completing the Arbor Drive/Willamette Drive interim improvements and paying a fee in lieu toward the long-term improvements at this intersection. *See* ODOT memorandum dated February 3, 2017. To the extent these measures were sufficient to mitigate the impacts of that more intensive development, Applicant's provision of the same mitigation measures (plus the Hillside Drive improvements) concurrent with occupancy certainly ensures this standard is met for the Development.

KAI's expert testimony that the Development can be occupied consistent with the "adequate public facilities" standard, together with the testimony from two other engineers (DKS and ODOT) that lesser mitigation measures would be adequate to mitigate the impacts of the Development, or an even more intensive development of the Property, support the conclusion that Applicant will ensure there are adequate public transportation facilities to serve the Development concurrent with its occupancy.

The City should find that the Development satisfies this standard.

B. Related Issues.

1. The City should find that Applicant may rely upon facilities that are programmed but not built to demonstrate that there are "adequate public facilities," provided Applicant pays a proportionate share fee in lieu for the programmed facility at or before occupancy of the Development.

In the original proceedings, the City interpreted the CDC to require that "adequate public facilities" be provided concurrent with occupancy of a proposed development.

The City's interpretation does not directly address whether the payment of a fee in lieu for an improvement that will be completed after occupancy meets this concurrency standard. On reconsideration, the City should find, for two reasons, that payment of a proportionate share fee in lieu for a transportation improvement prior to, or concurrent with, occupancy of a development may constitute provision of an "adequate public facility."

First, the CDC expressly permits a development applicant the option of paying a proportionate share fee in lieu of constructing necessary improvements as a means of mitigation:

> "Based upon the determination of the City Manager or the Manager's designee, the applicant shall construct or cause to be constructed, or contribute a proportionate share of the costs, for all necessary off-site improvements identified by the transportation analysis commissioned to address CDC 85.170(B)(2) that are required to mitigate impacts from the proposed subdivision. The proportionate share of the costs shall be determined by the City Manager or Manager's designee, who shall assume that the proposed subdivision provides improvements in rough proportion to identified impacts of the subdivision. Off-site transportation improvements will include bicycle and pedestrian improvements as identified in the adopted City of West Linn TSP."

CDC 85.200.A.22 (Emphasis added.). Thus, the express language of the CDC authorizes a fee in lieu as a permissible means of transportation mitigation.

Second, if the City does not allow a land use applicant the option of paying a fee in lieu as a means of providing adequate public facilities, it may cause the City to impose an unconstitutional exaction on a particular application. In order to impose a condition on a permit approval requiring dedication of real property or completion of offsite improvements, a local government must demonstrate that: (1) there is an essential nexus between the mitigation measures and the government's interest; and (2) the scope of the mitigation measures is roughly proportional to the projected impact of the development. *Nollan v. California Coastal Commission*, 483 US 825, 107 SCt 3141, 97 LEd2d 677 (1987); *Dolan v. City of Tigard*, 512 US 374, 114 SCt 2309, 129 LEd2d 304 (1994); *Koontz v. St. Johns River Water Management District*, __ US __, 133 SCt 2586, 186 LEd2d 697 (2013). The local government bears the burden of demonstrating rough proportionality. *Art Piculell Group v. Clackamas County*, 142 Or App 327, 922 P2d 1227 (1996). If a local government's proposed permit condition does not meet these

standards, it constitutes a taking of private property without just compensation in contravention of the Fifth Amendment of the U.S. Constitution. *Dolan*, 512 US at 374.

If the City determines that it cannot accept a proportionate share fee in lieu as a means of providing "adequate public facilities," it will force an applicant to choose between: (1) completing an entire transportation improvement project or facility in order to obtain occupancy of its development, even if the total cost of that project or facility greatly exceeds a level that is roughly proportional to the projected impacts of the development; or (2) receiving a denial of its project. This choice is the essence of an unconstitutional exaction. *Koontz*, __ US at __.

For these reasons, the City should find that an applicant may provide adequate public transportation facilities by payment of a fee in lieu, provided that the fee is roughly proportional to the projected impact of the development and will be paid at or before occupancy of the development.

As applied to the Development, the City's determination would allow Applicant to pay a proportionate share fee in lieu toward the Highway 43 Multimodal Transportation Project to demonstrate, in part, that Applicant is providing adequate public transportation facilities concurrent with occupancy of the Development. The City should impose a condition requiring same, as proposed in the Staff Report for the April 20, 2016 Planning Commission meeting.

2. The City should rely upon the KAI traffic analysis because the assumptions and methodology that underlie this analysis are credible.

The City should reach this conclusion for three reasons. First, KAI conducted its transportation analysis in accordance with industry and City standards and correctly identified the type of use and applied the correct trip rates for the Development. The City requires that an applicant utilize the latest edition of the Institute of Transportation Engineers' Trip Generation Manual to determine average daily vehicle trips. CDC 85.170.B.2.b. As explained in the KAI Memorandum, KAI utilized the 9th Edition of ITE's *Trip Generation*, which is the latest edition of this manual, to determine trip generation from the Development. KAI Memorandum at 2. Further, KAI utilized the correct use category (ITE Land Use Code 210 – Single-Family Detached Housing) in conducting its analysis. *Id.* Finally, KAI applied the trip rates for ITE Land Use Code 210 in its analysis. *Id.* By identifying the correct use and the correct trip rate for that use, KAI correctly projected the trip generation from the Development.

Second, KAI correctly accounted for trips from in-process developments and adjusted its counts to consider school year trips. To account for trips from in-process developments and additional growth in regional and local traffic in the study area, KAI assumed a two percent (one percent per year for each of two years) in its traffic counts. *See* KAI Memorandum at 2. KAI testified that this adjustment was sufficient to account for trips from in-process developments such as the new duplexes on Willamette Drive and the expansion of Mary's Woods. *Id.* Stated another way, if KAI had separately added in trips from in-process developments and assumed a two percent growth in area traffic, it would have resulted in double-counting of these background trips. Further, to account for school year trips, KAI conducted supplemental traffic counts at the affected intersections in October 2016 and seasonally adjusted these counts. *Id.* This type of seasonal adjustment is industry standard and consistent with the ODOT Analysis Procedures Manual. *Id.* KAI re-ran its analyses with the adjusted October 2016 counts and found that, subject to implementing the identified mitigation measures, all affected intersections would operate consistent with applicable performance standards. KAI Memorandum at 2-3. Therefore, the City should deny contentions that Applicant failed to adequately account for in-process development and school year traffic patterns in its modeling and mitigation for the Development.

Third, although KAI did not consider the impacts of construction traffic in its transportation analysis, neither City nor ODOT standards require consideration of such short-term traffic impacts that occur before the use is operational. *See, e.g.,* CDC 2.030 (defining adequacy of public facilities at "time of occupancy," not during construction). Therefore, the failure to consider construction traffic in the transportation analysis is not a basis to deny the Development. In any event, Applicant is willing to accept a condition of approval requiring Applicant to develop and implement a construction management plan to manage impacts on the surrounding neighborhood caused by construction of the Development. (Applicant's principal has prepared and complied with a similar construction management plan at another construction site in the City.)

Although opponents have expressed concerns about KAI's methodology, the above explanation responds to each concern. Opponents have not presented testimony that undermines KAI's testimony regarding the projected transportation impacts of the Development. *See Wal-Mart Stores, Inc. v. City of Bend*, 52 Or LUBA 261, 276 (2006) ("[t]he critical issue for the local decision maker will generally be whether any expert or lay testimony offered by * * * opponents raises questions or issues that undermine or call into question the conclusions and supporting documentation that are presented by the applicant's experts and, if so, whether any such questions or issues are adequately rebutted by the applicant's experts."). In fact, opponents have not presented an

EXHIBIT PC-5B APPELLANT'S SUBMITTAL: KITTELSON TRAFFIC REPORT (MARCH 1, 2017)

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING
610 SW Alder Street, Suite 700, Portland, OR 97205 P 503.228.5230 F 503.273.8169

March 1, 2017 Project #: 18758.0

Mayor Russ Axelrod & Council Members
West Linn City Council
22500 Salamo Road
West Linn, Oregon

RE: Chene Blanc Estates Development

Dear Mayor Axelrod and Members of the Council,

This letter responds to the transportation-related issues raised during the August 15, 2016 City Council hearing on the proposed Chene Blanc Estates Development. The following provides a summary of the Traffic Impact Analysis (TIA) prepared for the proposed development, followed by a summary of the issues raised at the hearing, and our response to the issues.

A Traffic Impact Analysis (TIA) was prepared for the proposed Chene Blanc Estates development in January, 2016. The TIA provides an evaluation of traffic operations at several study intersections under year 2016 existing traffic conditions, year 2018 background traffic conditions (without the proposed development), and year 2018 total traffic conditions (with full build-out and occupancy of the proposed development) during the weekday a.m. and p.m. peak hours. The results of the analysis indicate that all of the study intersections currently operate acceptably and are projected to continue to operate acceptably with traffic generated by the proposed development with the exception of the OR 43/Arbor Drive intersection. The OR 43/Arbor Drive intersection currently operates at level of service (LOS) F and above capacity during the weekday a.m. peak hour and at LOS F during the weekday p.m. peak hour, which exceeds the City's applicable mobility standards for the intersection. This is primarily due to the high delay associated with the left-turn movement from Arbor Drive onto OR 43. The intersection also has a history of turning movement crashes, a majority of which involve slowed or stopped motorists waiting to making a left turn from OR 43 onto Arbor Drive.

The TIA includes an evaluation of potential mitigation measures at the OR 43/Arbor Drive intersection to address the existing operational and safety issues. The potential mitigation measures were developed in coordination with the City of West Linn and the Oregon Department of Transportation (ODOT) and are consistent with the recently adopted OR 43 Conceptual Design Plan. The potential mitigation measures include a two-way left-turn lane (TWLTL) along OR 43 with appropriate storage, deceleration, and tapers. A TWLTL would allow motorists to complete two-stage left-turns from Arbor Drive onto OR 43, which would reduce the delay associated with the movement. A TWLTL would also provide separation between slowed or stopped vehicles waiting to make a left from OR 43 onto Arbor Drive, which would reduce the potential for future crashes along the corridor. With the potential mitigation measures in place the OR 43/Arbor Drive intersection is projected to operate at LOS D, which meets the City's applicable mobility standards for the intersection

Given that the operational and safety issues at the OR 43/Arbor Drive intersection are existing and that alternative access is provided via Upper Midhill Drive and Marylhurst Drive, the TIA recommends that the developer pay a proportionate share contribution to the improvements identified in the OR 43 Conceptual Design Plan for the OR 43/Arbor Drive intersection. Per discussions with City staff, the proportionate share contribution is estimated to be approximately two percent of the cost of the improvements, or approximately $11,600 (this contribution will be in addition to the System Development Charges (SDC) paid by the developer as part of the proposed development). However, given that the improvements may not be completed prior to completion of the proposed development, the developer is proposing to construct an interim improvement at the OR 43/Arbor Drive intersection that consists of a TWLTL at the intersection that is installed within the existing paved width of the roadway. The interim TWLTL will provide the same benefit as the final improvements for motorists. Pedestrians and bicyclists wanting to access OR 43 will be able to continue to use the College Hill Place-Marylcreek Drive connection to the OR 43/Marylbrook Drive intersection, which is served by local transit service and is the main entrance to Marylhurst University.

It should be noted that the proposed development will also include a new local street connection between Upper Midhill Drive and Hillside Drive consistent with city standards as well as sidewalk improvements along the segment of Hillside Drive located adjacent to the proposed development. These improvements will occur independent of the interim improvements at the OR 43/Arbor Drive intersection and will improve local street connectivity for local residents.

Issue 1: The average daily trip calculation and estimates of the peak number of trips are grossly underestimated.

Response: Per Section 85.170.B.2.b of the City's Community Development Code, "The latest edition of the Trip Generation manual, published by the Institute of Transportation Engineers (ITE) shall be used as the standard by which to gauge average daily vehicle trips." The trip generation estimate prepared for the January 2016 Traffic Impact Analysis (TIA) was based *Trip Generation, 9th Edition*, which is the latest version of the standard reference manual. ITE Land Use Code 210 (Single-Family Detached Housing) was used at a basis for the analysis. Per ITE Land Use Code 210, single family homes tend to generate approximately 0.75 trips per dwelling unit during the weekday morning peak hour and 1.0 trips per dwelling unit during the weekday evening peak hour. These trip rates are based on studies conducted in similar areas and are used as a basis for traffic studies throughout the Portland Metro area and beyond. *Attachment A contains the data provided in ITE for Land Use Code 210.*

Issue 2: The data was collected during the summer when all the schools in West Linn and Marylhurst University were on Summer Break. Also, the data was collected before the completion of the new duplexes on Willamette Drive and the expansion of Mary's Woods.

Response: Supplemental traffic counts were conducted at the study intersections in October 2016, while school was in session. The traffic counts were balanced and seasonally adjusted in accordance with the methodologies identified in the ODOT Analysis Procedures Manual (APM) to reflect peak traffic conditions within the study area. The traffic counts were then increased by two percent (one

percent per year) to reflect growth in regional and local traffic within the study area between 2016 and the year the proposed development is expected to be fully built, 2018. This increase represents 27 additional vehicles along OR 43 during the weekday a.m. peak hour and 31 additional vehicles during the weekday p.m. peak hour. This increase accounts for the new duplexes on Willamette Drive, which were under construction when the traffic counts were conducted, and the expansion of Mary's Woods, which is not expected to occur until after full build out of the proposed development.

The traffic counts were used to update the traffic analysis prepared for the proposed development. The results of the updated traffic analysis are consistent with the results presented in the January 2016 traffic study; all intersections operate acceptably, with the exception of the OR 43/Arbor Drive intersection. Also, implementation of the potential mitigation measures (a TWLTL along OR 43) results in acceptable traffic operations at the intersection. *Figures 1-8 in Attachment B illustrate the supplemental traffic counts and summarize the results of the updated traffic analysis. The updated traffic analysis worksheets are included in Attachment C.*

Issue 3: The traffic calculations fail to account for all of the heavy truck and construction traffic that will be impacting the safety of Upper Midhill Drive during the construction of the development.

Response: The traffic analysis was prepared in accordance with City and ODOT standards and focused on total build-out conditions (i.e. residential homes fully built and occupied). As such, the traffic analysis included typical weekday heavy vehicle traffic captured in the traffic counts. While temporary construction traffic should be considered in the overall development process, it is typically handled as part of a construction management plan that can involve stakeholders.

Issue 4s: The intersection at Arbor Drive and Willamette Drive is currently unsafe and the proposed mitigation measures will not adequately address this problem.

Response: The proposed mitigation measures include a TWLTL along OR 43 at the OR 43/Arbor Drive intersection. Minor widening along OR 43 may be needed to accommodate the TWLTL along with travel lanes and on-street bike lanes in both directions. *Figure 9 in Attachment B illustrates the proposed mitigation measures.* These mitigation measures were developed in coordination with City of West Linn and Oregon Department of Transportation (ODOT) staff and are consistent with the City's recently adopted OR 43 Conceptual Design Plan. The proposed mitigation measures will be an interim solution until completion of the OR 43 Conceptual Design Plan. Phase 1 of the OR 43 Conceptual Design Plan, which includes improvements between the north city limits and Hidden Springs Road, is currently funded and is expected to be complete in 2020.

The proposed mitigation measures will decrease the delay associated with the left-turn movement from Arbor Drive onto OR 43 by allowing for two-stage left turns. The proposed mitigation measures will also provide separation between slowed or stopped motorists on OR 43 waiting to make a left-turn onto Arbor Drive; the separate lane will reduce the potential for future rear-end crashes at the intersection.

Issue 5: The infrastructure between the development and the arterial connections is substandard, particularly along Upper Midhill Drive

Response: The streets that connect the proposed development to OR 43 are sufficient to accommodate existing vehicle traffic and traffic generated by the proposed development, particularly the segment of Upper Midhill Drive located north or Arbor Drive and the segment of Arbor Drive located east of Upper Midhill Drive. As local streets, these streets are designed to accommodate up to 1,500 vehicles per day. With the proposed development, these streets are projected to accommodate less than 900 vehicles per day. Therefore, there is sufficient capacity along the existing street network to accommodate a significant increase in traffic beyond the proposed development. The segment of Upper Midhill Drive located south of Arbor Drive is narrow; however, as described in a previous response letter, it is sufficient to accommodate existing vehicle traffic and traffic generated by the proposed development, which is expected to be less than 10 vehicles per day, including one vehicle during the morning and one vehicle during the evening peak hour. With the proposed development, this segment of Upper Midhill Drive is projected to accommodate less than 300 vehicles per day.

The existing sidewalk network is also sufficient to accommodate existing pedestrian traffic and pedestrian traffic generated by the proposed development. There is a continuous network of sidewalks and paths that connect the proposed development to OR 43 at the OR 43/Marylbrook Drive intersection, which is served by local transit service and is also the main entrance to Marylhurst University. While there are gaps in the sidewalk network that connect the proposed development to the OR 43/Arbor Drive intersection, as well as other destinations along OR 43 and Upper Midhill Drive, the existing network of sidewalks and shoulders is sufficient to accommodate pedestrians.

Summary

As indicated in this letter, the proposed development plan can be constructed while maintaining safe and adequate public facilities for motorists, pedestrians, and cyclists, assuming implementation of the proposed mitigation measures. In addition, while the mitigation measures will significantly improve traffic operations at the OR 43/Arbor Drive intersection in the interim, the developers proportionate share contribution to the overall improvements along OR 43, and system development charges in general, will contribute to improvements throughout the City's transportation system for all users.

Thank you for the opportunity to provide this additional information. I will be happy to answer any additional questions you might have.

Sincerely,
KITTELSON & ASSOCIATES, INC.

Matt Bell

Matthew Bell
Senior Planner

Attachment A ITE Land Use Code 210

Single-Family Detached Housing
(210)

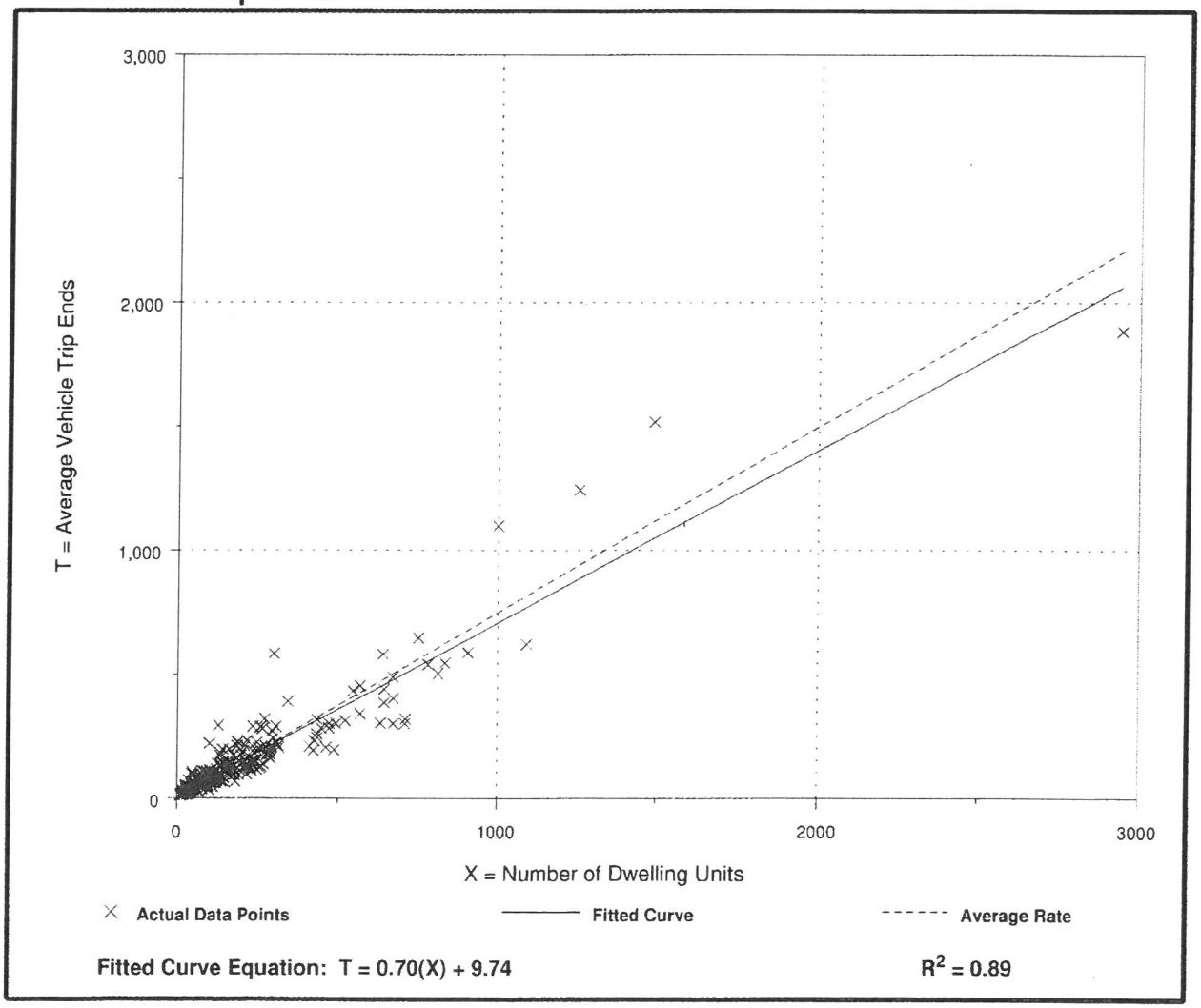
Average Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 292
Avg. Number of Dwelling Units: 194
Directional Distribution: 25% entering, 75% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.75	0.33 - 2.27	0.90

Data Plot and Equation



Fitted Curve Equation: T = 0.70(X) + 9.74

R^2 = 0.89

Single-Family Detached Housing
(210)

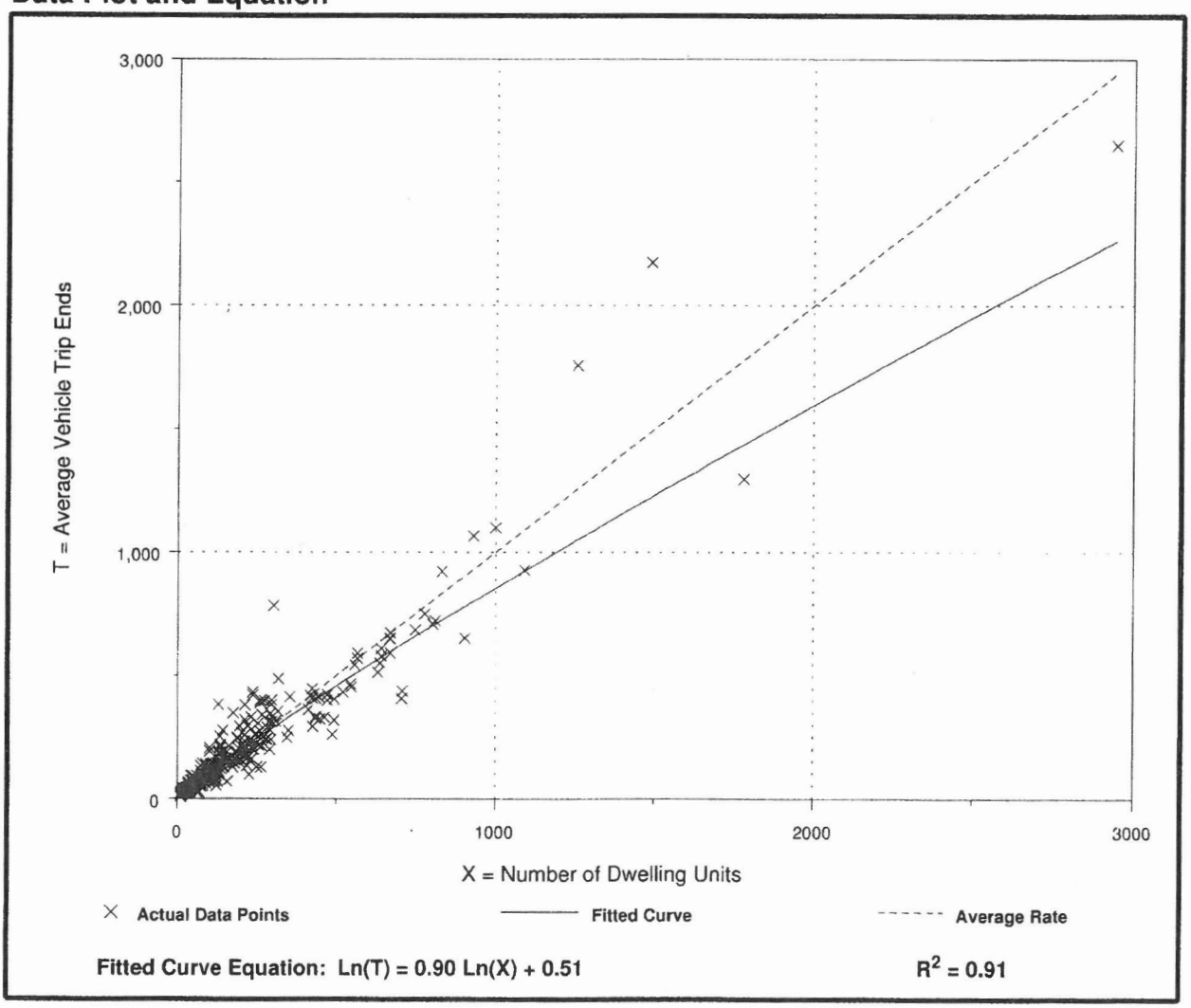
Average Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 321
Avg. Number of Dwelling Units: 207
Directional Distribution: 63% entering, 37% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
1.00	0.42 - 2.98	1.05

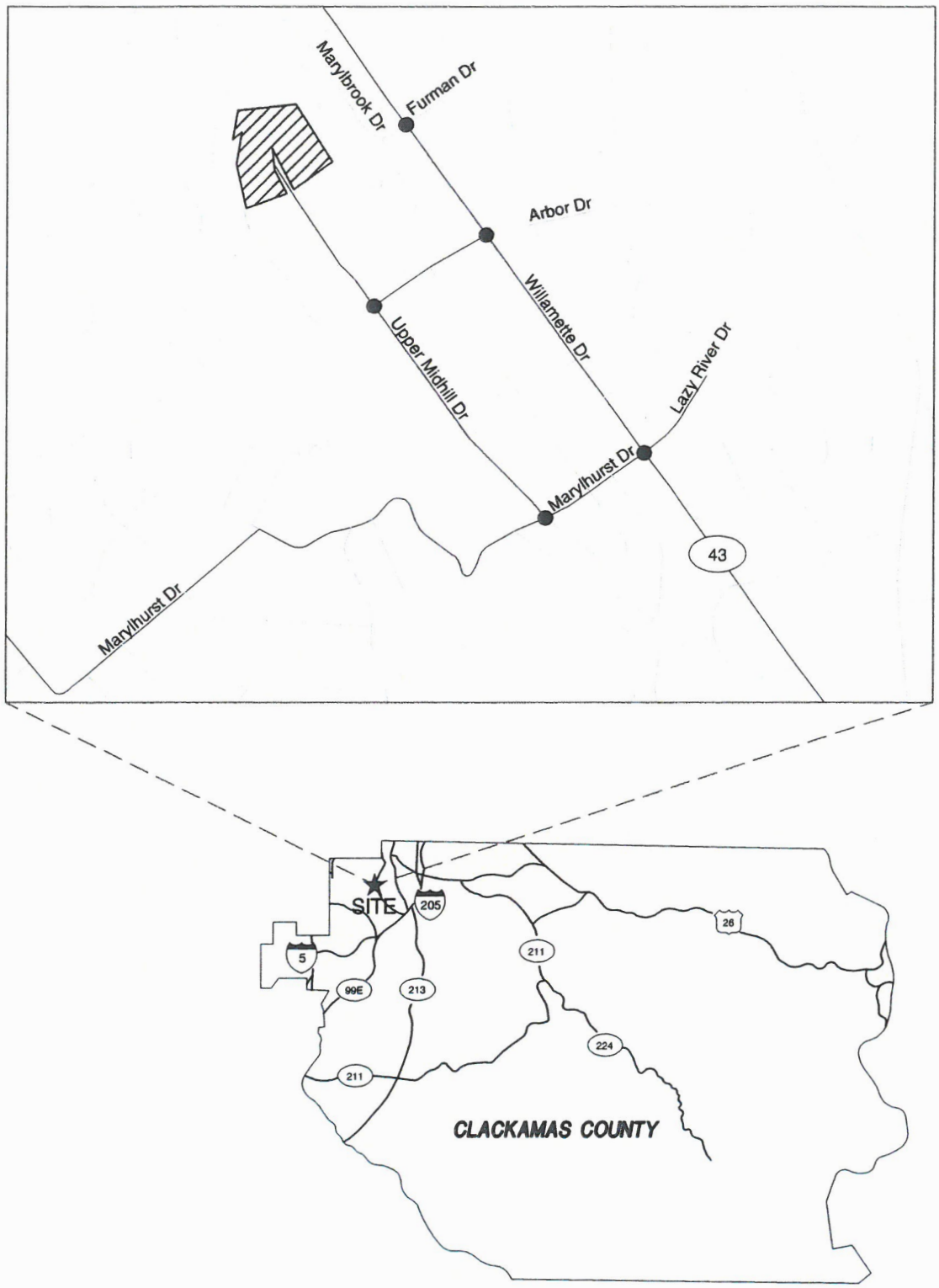
Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.90 Ln(X) + 0.51

R^2 = 0.91

Attachment B Analysis Figures



● - Study Intersections

Site Vicinity Map
West Linn, OR

Figure
1

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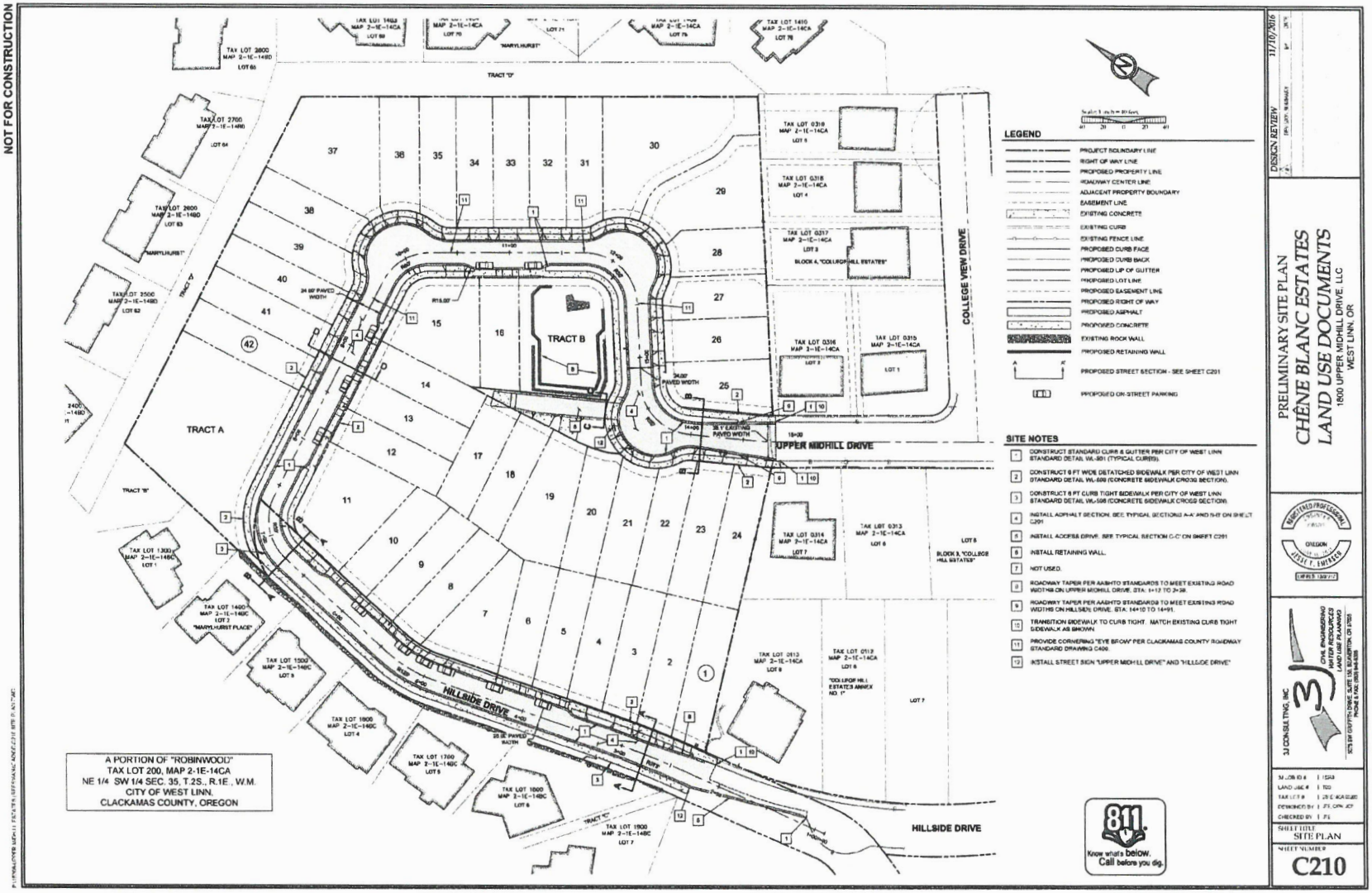

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Conceptual Site Plan
West Linn, OR

Figure
2

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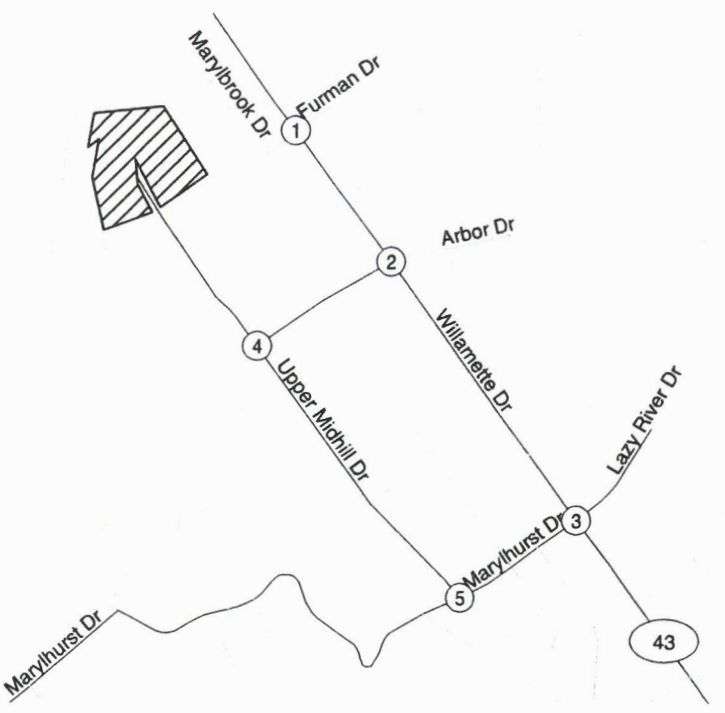

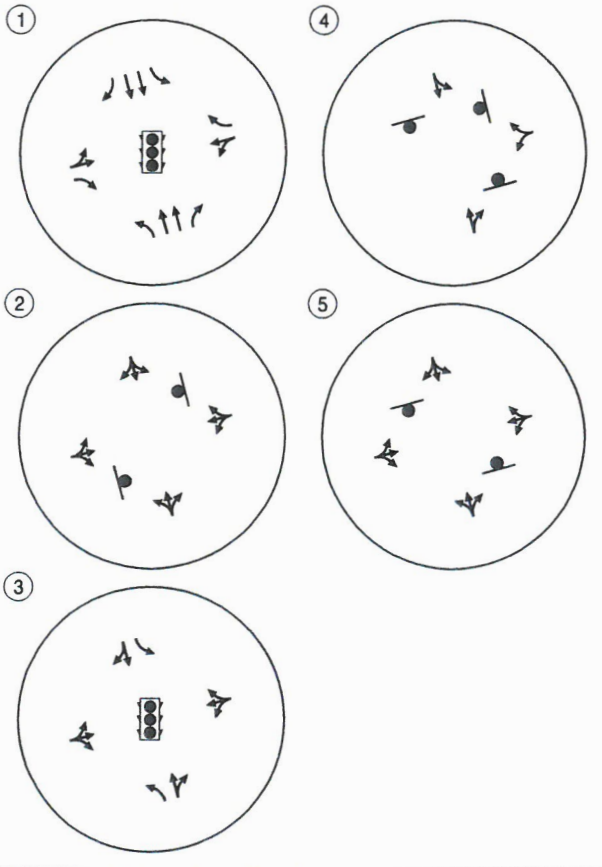

Existing Lane Configurations & Traffic Control Devices
West Linn, OR

Figure 3

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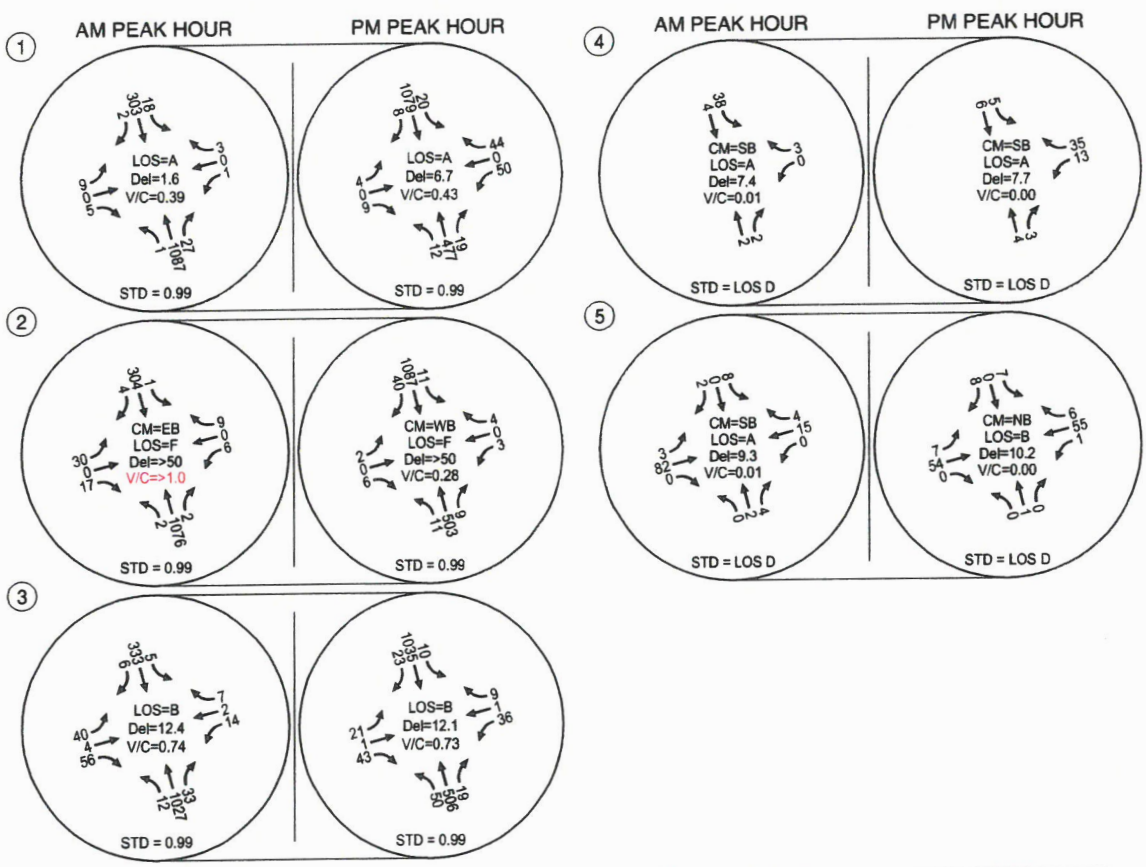

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Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED/AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
TWC = TWO-WAY STOP CONTROL
AWSC= ALL-WAY STOP CONTROL
STD = MOBILITY STANDARD

Existing Traffic Conditions
Weekday AM & PM Peak Hour
West Linn, OR

Figure 4

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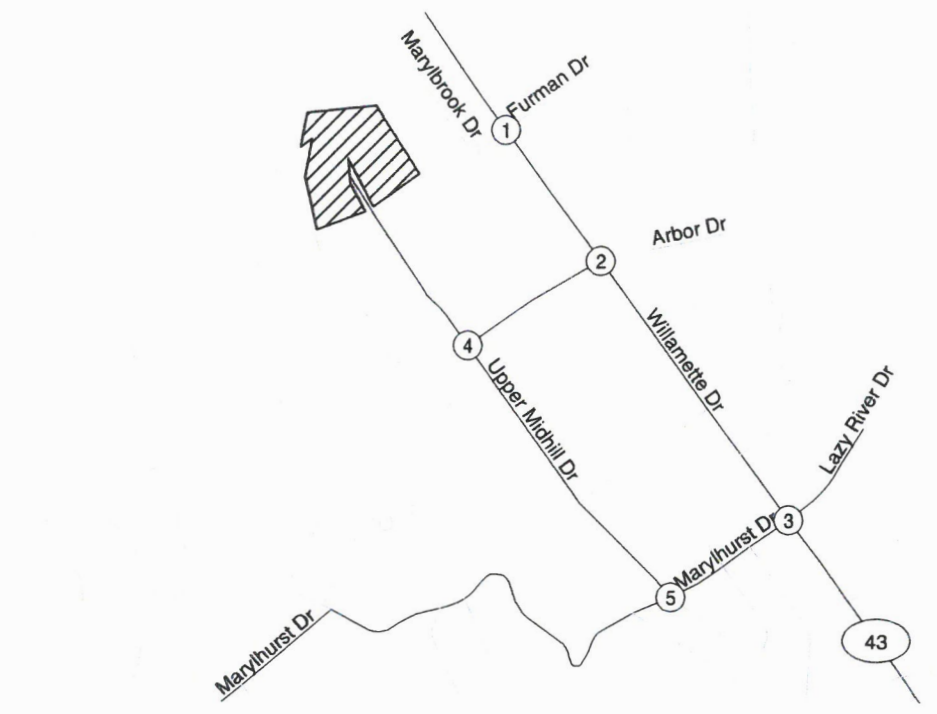

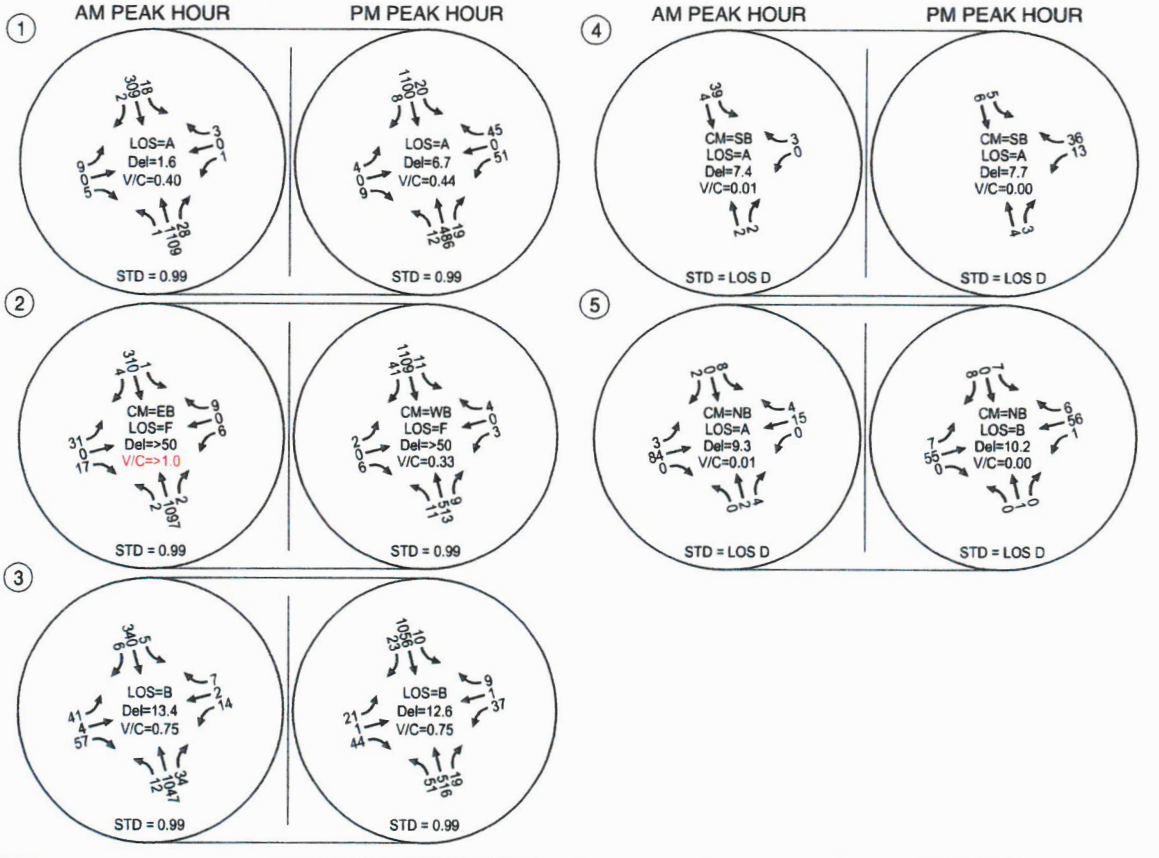

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Year 2018 Background Traffic Conditions
Weekday AM & PM Peak Hour
West Linn, OR

Figure 5

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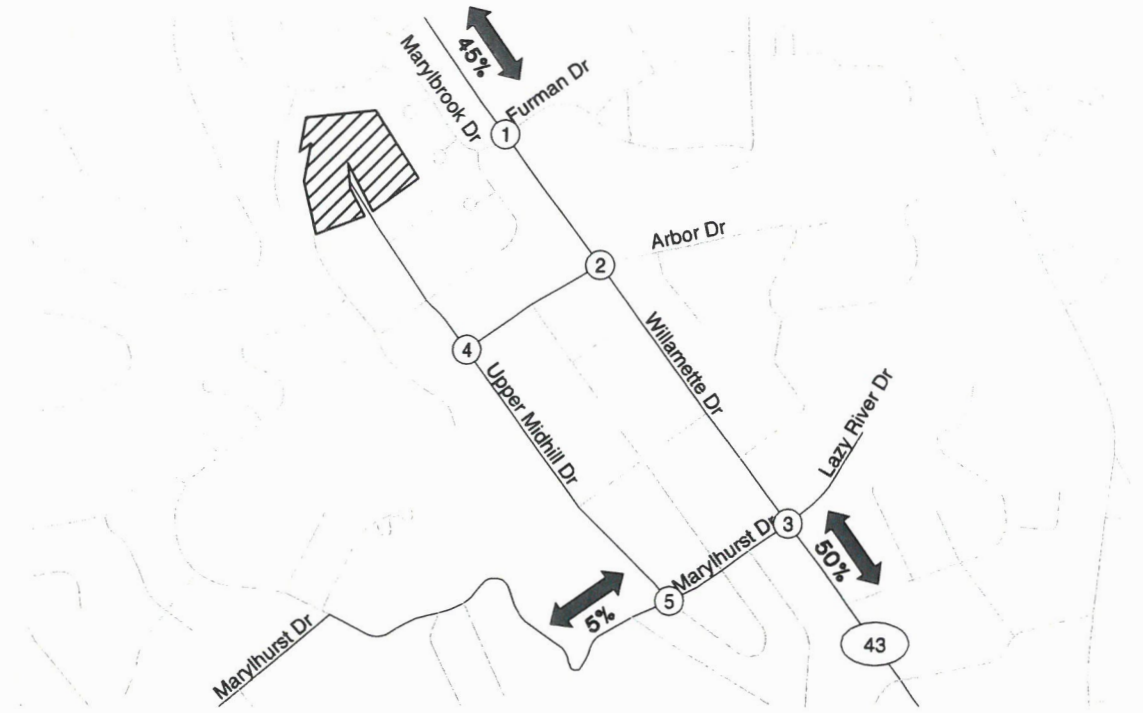

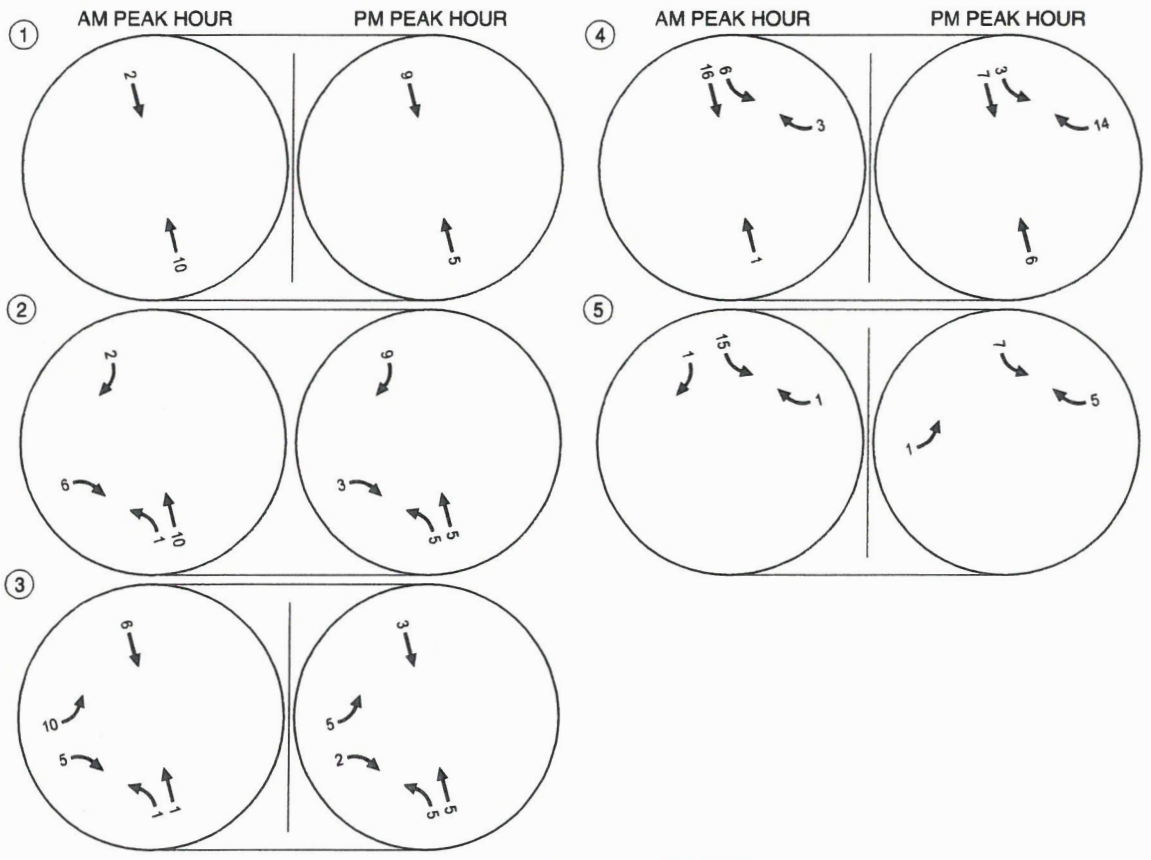

Estimated Trip Distribution Pattern & Site Generated Trips
Weekday AM & PM Peak Hour
West Linn, OR

Figure 6

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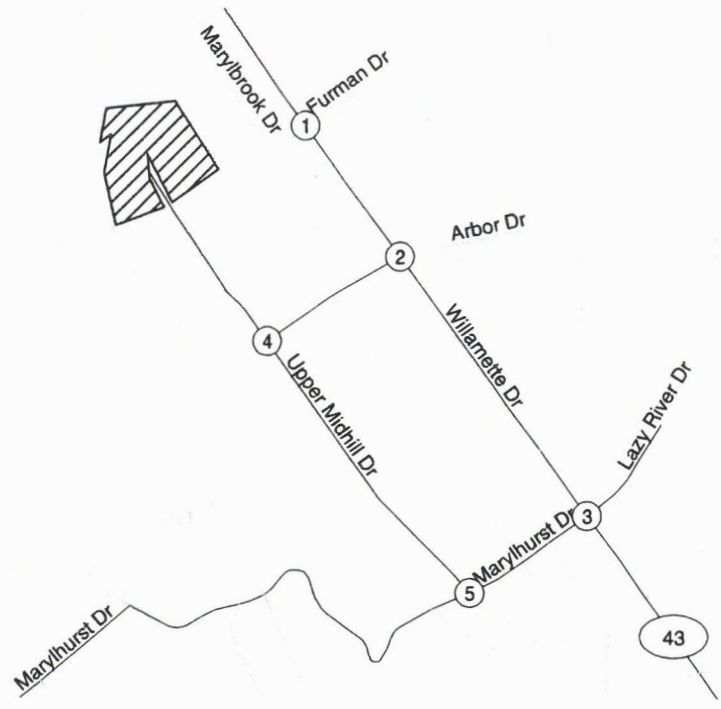

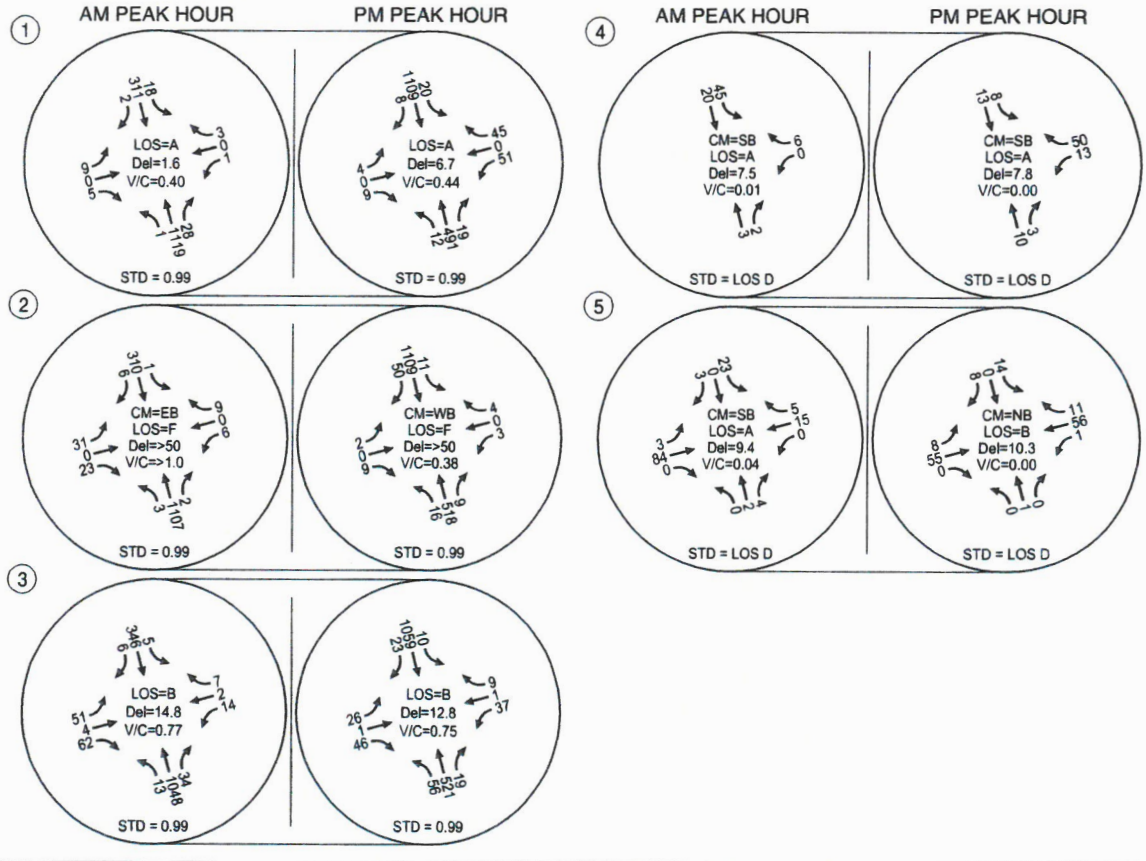

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Year 2018 Total Traffic Conditions
Weekday AM & PM Peak Hour
West Linn, OR

Figure 7

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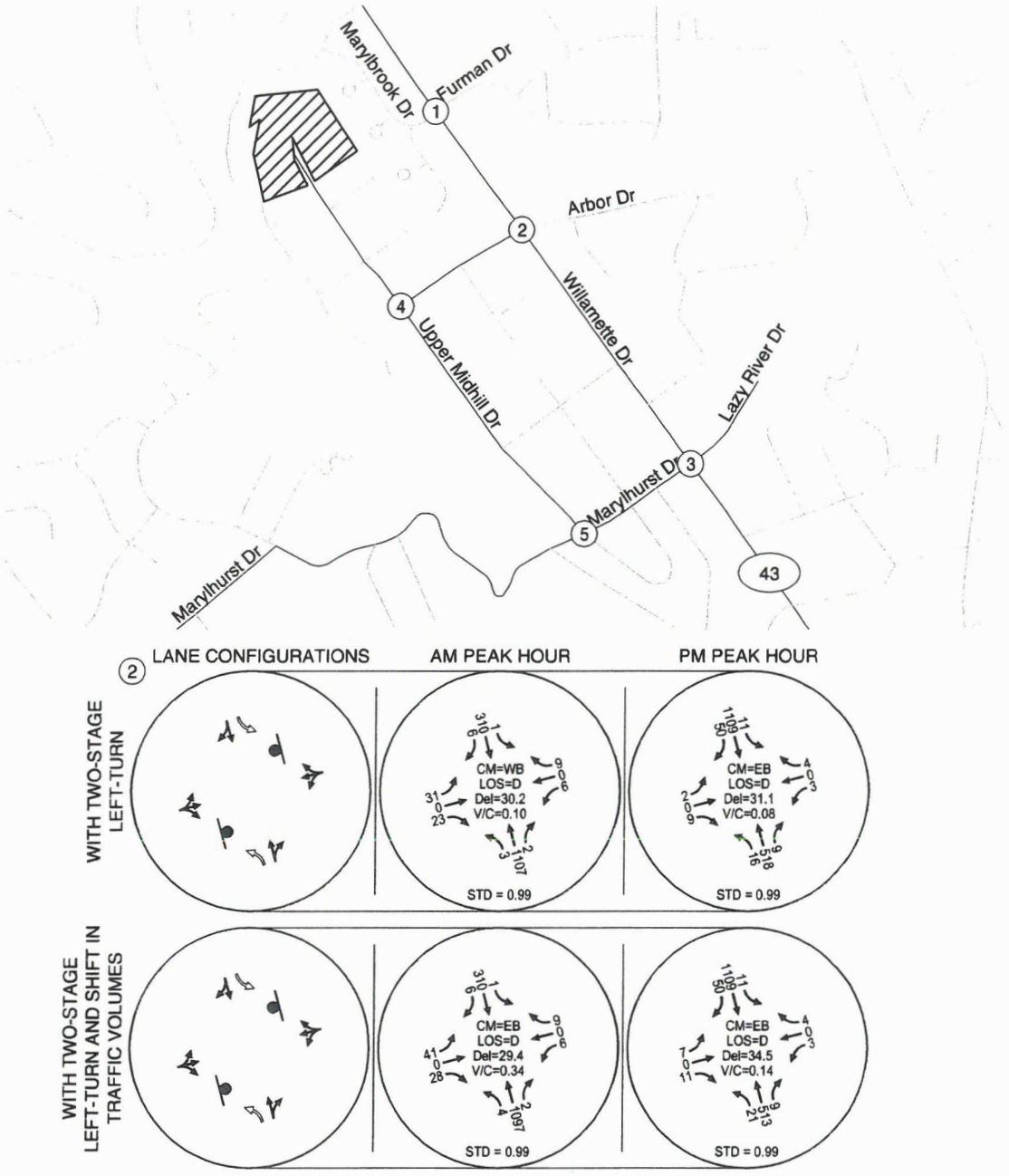

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AWSC= ALL-WAY STOP CONTROL
STD = MOBILITY STANDARD

Year 2018 Total Traffic Conditions - Mitigated Weekday AM & PM Peak Hour West Linn, OR

Figure 8

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING PLANNING

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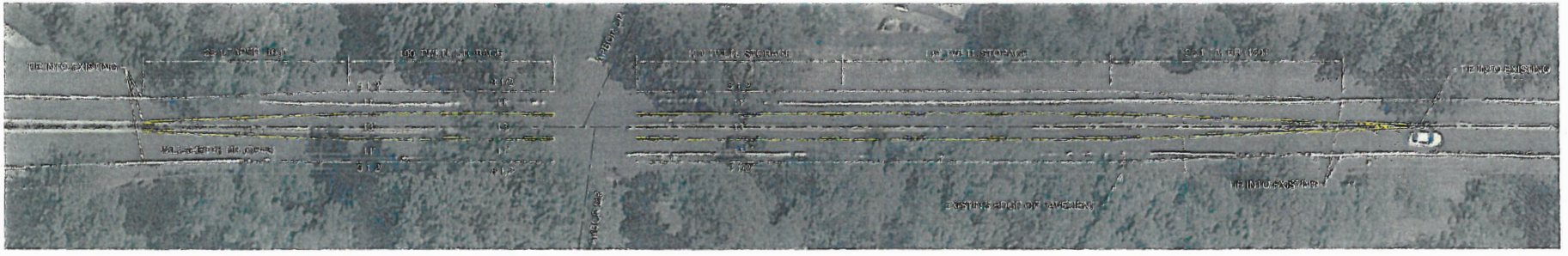

SCALE
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Willamette Drive (OR 43)/Arbor Drive Intersection Concept
West Linn, OR

Figure 9

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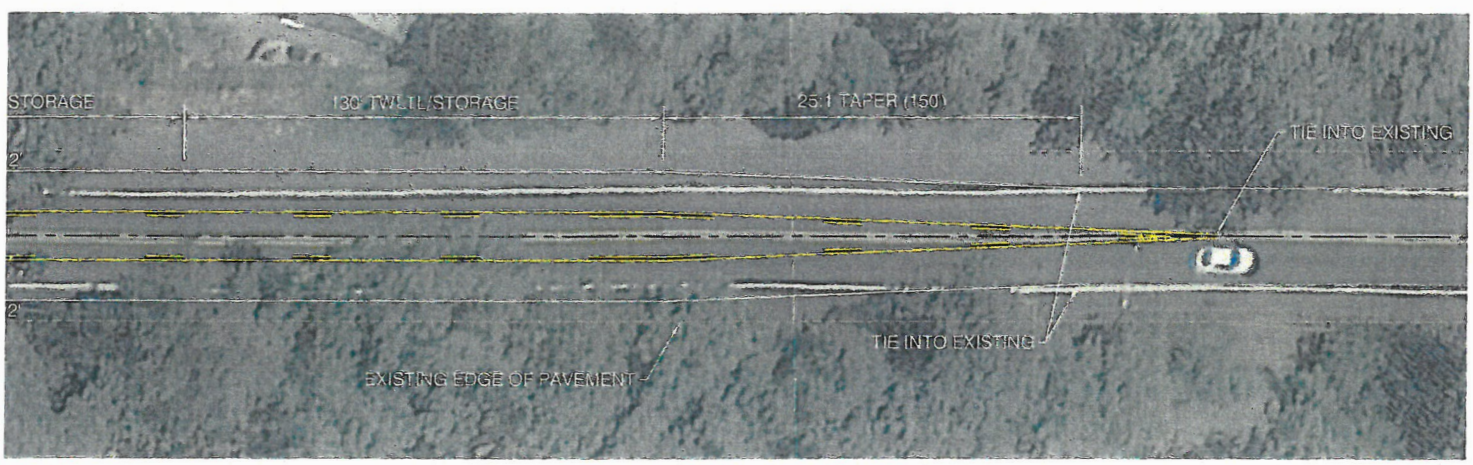
TRANSPORTATION ENGINEERING/PLANNING



SCALE
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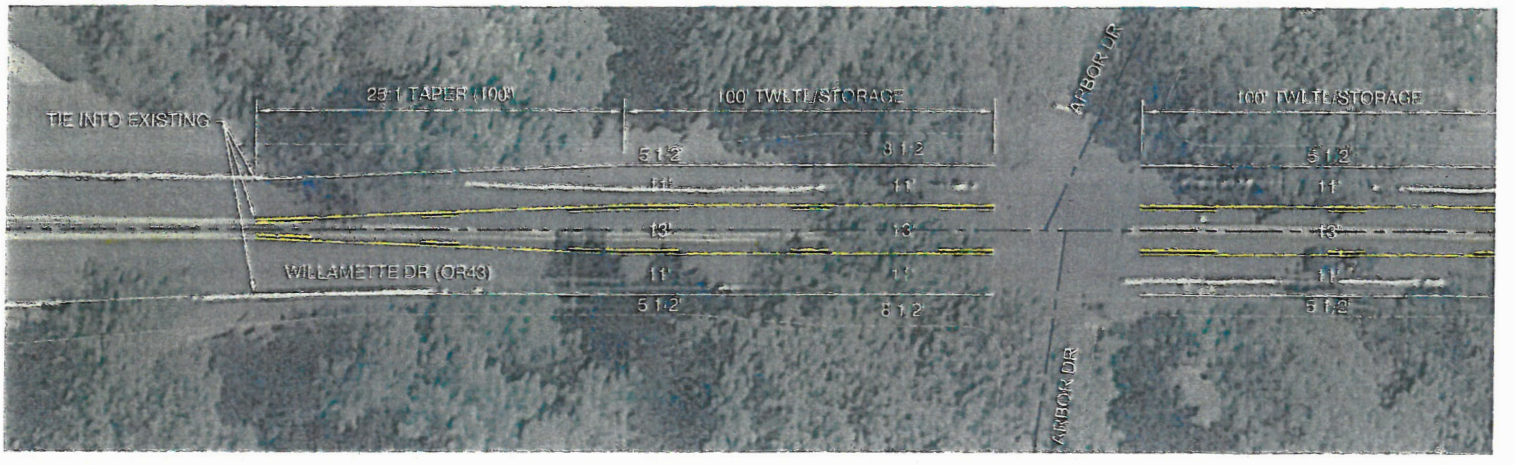
Willamette Drive (OR 43)/Arbor Drive Intersection Concept
West Linn, OR

Figure 9



Attachment C Analysis Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	0	5	1	0	3	1	1087	27	18	303	2
Future Volume (vph)	9	0	5	1	0	3	1	1087	27	18	303	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.97
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1795	1325		899	1587	1798	3471	1459	1702	3539	1565
Flt Permitted		1.00	1.00		1.00	1.00	0.56	1.00	1.00	0.23	1.00	1.00
Satd. Flow (perm)		1889	1325		947	1587	1057	3471	1459	414	3539	1565
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	9	0	5	1	0	3	1	1144	28	19	319	2
RTOR Reduction (vph)	0	0	5	0	0	3	0	0	5	0	0	0
Lane Group Flow (vph)	0	9	0	0	1	0	1	1144	23	19	319	2
Confl. Peds. (#/hr)	5		3	3		5	4		5	5		4
Heavy Vehicles (%)	0%	0%	20%	100%	0%	0%	0%	4%	7%	6%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4	4	4	2		2	6		6
Actuated Green, G (s)		2.7	2.7		2.7	2.7	82.7	81.7	81.7	84.9	82.8	82.8
Effective Green, g (s)		2.7	2.7		2.7	2.7	82.7	81.7	81.7	84.9	82.8	82.8
Actuated g/C Ratio		0.03	0.03		0.03	0.03	0.83	0.82	0.82	0.85	0.83	0.83
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.5	2.5		2.5	2.5	2.3	4.8	4.8	2.3	4.8	4.8
Lane Grp Cap (vph)		51	35		25	42	881	2835	1192	378	2930	1295
v/s Ratio Prot							0.00	c0.33		c0.00	0.09	
v/s Ratio Perm		c0.00	0.00		0.00	0.00	0.00		0.02	0.04		0.00
v/c Ratio		0.18	0.00		0.04	0.00	0.00	0.40	0.02	0.05	0.11	0.00
Uniform Delay, d1		47.6	47.3		47.4	47.3	1.5	2.5	1.7	1.3	1.6	1.5
Progression Factor		1.00	1.00		1.00	1.00	0.39	0.22	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.2	0.0		0.5	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Delay (s)		48.8	47.4		47.9	47.4	0.6	0.9	1.7	1.4	1.7	1.5
Level of Service		D	D		D	D	A	A	A	A	A	A
Approach Delay (s)		48.3			47.5			0.9			1.6	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	1.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	17	6	0	9	2	1076	2	1	304	4
Future Volume (Veh/h)	30	0	17	6	0	9	2	1076	2	1	304	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	32	0	18	6	0	10	2	1157	2	1	327	4
Pedestrians		3			1						1	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								992			884	
pX, platoon unblocked	0.27	0.27		0.27	0.27	0.27				0.27		
vC, conflicting volume	1507	1498	332	1512	1499	1160	334			1160		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1526	1493	332	1544	1496	245	334			245		
tC, single (s)	7.1	6.5	6.2	7.6	6.5	6.2	4.6			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	4.0	4.0	3.3	2.7			2.2		
p0 queue free %	0	100	97	68	100	95	100			100		
cM capacity (veh/h)	25	33	713	19	33	216	998			361		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	50	16	1161	332
Volume Left	32	6	2	1
Volume Right	18	10	2	4
cSH	38	44	998	361
Volume to Capacity	1.33	0.36	0.00	0.00
Queue Length 95th (ft)	129	31	0	0
Control Delay (s)	426.0	126.7	0.1	0.1
Lane LOS	F	F	A	A
Approach Delay (s)	426.0	126.7	0.1	0.1
Approach LOS	F	F		

Intersection Summary			
Average Delay	15.0		
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	4	56	14	2	7	12	1027	33	5	333	6
Future Volume (vph)	40	4	56	14	2	7	12	1027	33	5	333	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.98			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.92			0.96		1.00	1.00		1.00	1.00	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1695			1766		1805	1817		1805	1841	
Flt Permitted		0.86			0.68		0.55	1.00		0.17	1.00	
Satd. Flow (perm)		1486			1232		1043	1817		324	1841	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	41	4	58	14	2	7	12	1059	34	5	343	6
RTOR Reduction (vph)	0	54	0	0	6	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	49	0	0	17	0	12	1092	0	5	349	0
Confl. Peds. (#/hr)			1	1					3	3		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	3%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		7.4			7.4		78.6	77.6		78.6	77.6	
Effective Green, g (s)		7.4			7.4		78.6	77.6		78.6	77.6	
Actuated g/C Ratio		0.07			0.07		0.79	0.78		0.79	0.78	
Clearance Time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)		2.5			2.5		2.3	5.2		2.3	5.2	
Lane Grp Cap (vph)		109			91		827	1409		269	1428	
v/s Ratio Prot							0.00	c0.60		c0.00	0.19	
v/s Ratio Perm		c0.03			0.01		0.01			0.01		
v/c Ratio		0.45			0.18		0.01	0.78		0.02	0.24	
Uniform Delay, d1		44.4			43.5		2.3	6.3		6.7	3.1	
Progression Factor		1.00			1.00		1.00	1.00		2.31	1.88	
Incremental Delay, d2		2.2			0.7		0.0	4.2		0.0	0.4	
Delay (s)		46.5			44.2		2.3	10.5		15.5	6.2	
Level of Service		D			D		A	B		B	A	
Approach Delay (s)		46.5			44.2			10.4			6.3	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	0	3	2	2	38	4
Future Volume (vph)	0	3	2	2	38	4
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	0	4	3	3	49	5

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	4	6	54
Volume Left (vph)	0	0	49
Volume Right (vph)	4	3	0
Hadj (s)	-0.04	-0.30	0.18
Departure Headway (s)	4.0	3.7	4.1
Degree Utilization, x	0.00	0.01	0.06
Capacity (veh/h)	883	976	873
Control Delay (s)	7.0	6.7	7.4
Approach Delay (s)	7.0	6.7	7.4
Approach LOS	A	A	A

Intersection Summary			
Delay	7.3		
Level of Service	A		
Intersection Capacity Utilization	19.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	82	0	0	15	4	0	2	4	8	0	2
Future Volume (Veh/h)	3	82	0	0	15	4	0	2	4	8	0	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	4	101	0	0	19	5	0	2	5	10	0	2
Pedestrians					1						2	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					868							
pX, platoon unblocked												
vC, conflicting volume	26			101			132	135	102	140	132	24
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	26			101			132	135	102	140	132	24
tC, single (s)	4.1			4.1			7.1	7.0	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.5	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	99	100	100
cM capacity (veh/h)	1599			1504			840	673	958	824	759	1057

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	105	24	7	12
Volume Left	4	0	0	10
Volume Right	0	5	5	2
cSH	1599	1504	854	856
Volume to Capacity	0.00	0.00	0.01	0.01
Queue Length 95th (ft)	0	0	1	1
Control Delay (s)	0.3	0.0	9.2	9.3
Lane LOS	A		A	A
Approach Delay (s)	0.3	0.0	9.2	9.3
Approach LOS			A	A

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	20.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	9	50	0	44	12	477	19	20	1079	8
Future Volume (vph)	4	0	9	50	0	44	12	477	19	20	1079	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.99		1.00	0.99	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1442	1592		1765	1594	1671	3505	1568	1802	3539	1578
Flt Permitted		0.72	1.00		0.76	1.00	0.21	1.00	1.00	0.46	1.00	1.00
Satd. Flow (perm)		1094	1592		1403	1594	373	3505	1568	863	3539	1578
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	0	10	56	0	49	13	530	21	22	1199	9
RTOR Reduction (vph)	0	0	9	0	0	45	0	0	5	0	0	2
Lane Group Flow (vph)	0	4	1	0	56	4	13	530	16	22	1199	7
Confl. Peds. (#/hr)	1		2	2		1	1		3	3		1
Heavy Vehicles (%)	25%	0%	0%	2%	0%	0%	8%	3%	0%	0%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4	4	4	2		2	6		6
Actuated Green, G (s)		8.3	8.3		8.3	8.3	88.2	86.1	86.1	88.2	86.1	86.1
Effective Green, g (s)		8.3	8.3		8.3	8.3	88.2	86.1	86.1	88.2	86.1	86.1
Actuated g/C Ratio		0.08	0.08		0.08	0.08	0.80	0.78	0.78	0.80	0.78	0.78
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.5	2.5		2.5	2.5	2.3	4.8	4.8	2.3	4.8	4.8
Lane Grp Cap (vph)		82	120		105	120	323	2743	1227	709	2770	1235
v/s Ratio Prot							c0.00	0.15		0.00	c0.34	
v/s Ratio Perm		0.00	0.00		c0.04	0.00	0.03		0.01	0.02		0.00
v/c Ratio		0.05	0.01		0.53	0.03	0.04	0.19	0.01	0.03	0.43	0.01
Uniform Delay, d1		47.2	47.0		49.0	47.1	2.5	3.1	2.6	2.2	3.9	2.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.2	0.0		4.0	0.1	0.0	0.2	0.0	0.0	0.2	0.0
Delay (s)		47.4	47.1		53.0	47.2	2.5	3.2	2.6	2.2	4.1	2.6
Level of Service		D	D		D	D	A	A	A	A	A	A
Approach Delay (s)		47.1			50.3			3.2			4.1	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	6	3	0	4	11	503	9	11	1087	40
Future Volume (Veh/h)	2	0	6	3	0	4	11	503	9	11	1087	40
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	7	3	0	4	12	547	10	12	1182	43
Pedestrians					3			1				
Lane Width (ft)					12.0			12.0				
Walking Speed (ft/s)					4.0			4.0				
Percent Blockage					0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								992			884	
pX, platoon unblocked	0.27	0.27	0.23	0.27	0.27	0.92	0.23			0.92		
vC, conflicting volume	1808	1812	1204	1814	1828	555	1225			560		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1986	2001	198	2012	2063	474	288			479		
tC, single (s)	7.1	6.5	6.4	7.1	6.5	6.5	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.5	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	83	100	96	72	100	99	96			99		
cM capacity (veh/h)	12	15	183	11	14	502	292			1005		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	9	7	569	1237
Volume Left	2	3	12	12
Volume Right	7	4	10	43
cSH	43	25	292	1005
Volume to Capacity	0.21	0.28	0.04	0.01
Queue Length 95th (ft)	17	21	3	1
Control Delay (s)	109.5	201.8	1.4	0.4
Lane LOS	F	F	A	A
Approach Delay (s)	109.5	201.8	1.4	0.4
Approach LOS	F	F		

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	1	43	36	1	9	50	506	19	10	1035	23
Future Volume (vph)	21	1	43	36	1	9	50	506	19	10	1035	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.91			0.97		1.00	0.99		1.00	1.00	
Flt Protected		0.98			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1598			1740		1770	1848		1801	1857	
Flt Permitted		0.91			0.75		0.14	1.00		0.45	1.00	
Satd. Flow (perm)		1477			1356		259	1848		858	1857	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	22	1	45	38	1	9	52	527	20	10	1078	24
RTOR Reduction (vph)	0	42	0	0	8	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	26	0	0	40	0	52	546	0	10	1101	0
Confl. Peds. (#/hr)									4	4		
Heavy Vehicles (%)	10%	0%	5%	3%	0%	0%	2%	2%	5%	0%	2%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		6.9			6.9		82.5	78.1		75.7	74.7	
Effective Green, g (s)		6.9			6.9		82.5	78.1		75.7	74.7	
Actuated g/C Ratio		0.07			0.07		0.82	0.78		0.76	0.75	
Clearance Time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)		2.5			2.5		2.3	5.2		2.3	5.2	
Lane Grp Cap (vph)		101			93		280	1443		658	1387	
v/s Ratio Prot							c0.01	c0.30		0.00	c0.59	
v/s Ratio Perm		0.02			c0.03		0.14			0.01		
v/c Ratio		0.26			0.43		0.19	0.38		0.02	0.79	
Uniform Delay, d1		44.1			44.7		9.8	3.4		3.0	7.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.0			2.3		0.2	0.8		0.0	4.8	
Delay (s)		45.1			46.9		10.0	4.2		3.0	12.6	
Level of Service		D			D		A	A		A	B	
Approach Delay (s)		45.1			46.9			4.7			12.5	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	13	35	4	3	5	6
Future Volume (vph)	13	35	4	3	5	6
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	18	49	6	4	7	8

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	67	10	15
Volume Left (vph)	18	0	7
Volume Right (vph)	49	4	0
Hadj (s)	-0.35	0.27	0.55
Departure Headway (s)	3.6	4.3	4.6
Degree Utilization, x	0.07	0.01	0.02
Capacity (veh/h)	983	809	768
Control Delay (s)	6.9	7.4	7.7
Approach Delay (s)	6.9	7.4	7.7
Approach LOS	A	A	A

Intersection Summary			
Delay	7.1		
Level of Service	A		
Intersection Capacity Utilization	14.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	7	54	0	1	55	6	0	1	0	7	0	8
Future Volume (Veh/h)	7	54	0	1	55	6	0	1	0	7	0	8
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	11	82	0	2	83	9	0	2	0	11	0	12
Pedestrians								1			1	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					868							
pX, platoon unblocked												
vC, conflicting volume	93			83			208	202	83	198	198	88
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	93			83			208	202	83	198	198	88
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	99	100	99
cM capacity (veh/h)	1513			1526			738	691	981	757	695	974

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	93	94	2	23
Volume Left	11	2	0	11
Volume Right	0	9	0	12
cSH	1513	1526	691	857
Volume to Capacity	0.01	0.00	0.00	0.03
Queue Length 95th (ft)	1	0	0	2
Control Delay (s)	0.9	0.2	10.2	9.3
Lane LOS	A	A	B	A
Approach Delay (s)	0.9	0.2	10.2	9.3
Approach LOS			B	A

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	21.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	0	5	1	0	3	1	1109	28	18	309	2
Future Volume (vph)	9	0	5	1	0	3	1	1109	28	18	309	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.97
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1795	1325		899	1587	1798	3471	1459	1702	3539	1565
Flt Permitted		1.00	1.00		1.00	1.00	0.56	1.00	1.00	0.22	1.00	1.00
Satd. Flow (perm)		1889	1325		947	1587	1051	3471	1459	403	3539	1565
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	9	0	5	1	0	3	1	1167	29	19	325	2
RTOR Reduction (vph)	0	0	5	0	0	3	0	0	5	0	0	0
Lane Group Flow (vph)	0	9	0	0	1	0	1	1167	24	19	325	2
Confl. Peds. (#/hr)	5		3	3		5	4		5	5		4
Heavy Vehicles (%)	0%	0%	20%	100%	0%	0%	0%	4%	7%	6%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4	4	4	2		2	6		6
Actuated Green, G (s)		2.7	2.7		2.7	2.7	82.7	81.7	81.7	84.9	82.8	82.8
Effective Green, g (s)		2.7	2.7		2.7	2.7	82.7	81.7	81.7	84.9	82.8	82.8
Actuated g/C Ratio		0.03	0.03		0.03	0.03	0.83	0.82	0.82	0.85	0.83	0.83
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.5	2.5		2.5	2.5	2.3	4.8	4.8	2.3	4.8	4.8
Lane Grp Cap (vph)		51	35		25	42	876	2835	1192	369	2930	1295
v/s Ratio Prot							0.00	c0.34		c0.00	0.09	
v/s Ratio Perm		c0.00	0.00		0.00	0.00	0.00		0.02	0.04		0.00
v/c Ratio		0.18	0.00		0.04	0.00	0.00	0.41	0.02	0.05	0.11	0.00
Uniform Delay, d1		47.6	47.3		47.4	47.3	1.5	2.5	1.7	1.3	1.6	1.5
Progression Factor		1.00	1.00		1.00	1.00	0.32	0.21	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.2	0.0		0.5	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Delay (s)		48.8	47.4		47.9	47.4	0.5	0.9	1.7	1.4	1.7	1.5
Level of Service		D	D		D	D	A	A	A	A	A	A
Approach Delay (s)		48.3			47.5			0.9			1.6	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	1.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	0	17	6	0	9	2	1097	2	1	310	4
Future Volume (Veh/h)	31	0	17	6	0	9	2	1097	2	1	310	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	33	0	18	6	0	10	2	1180	2	1	333	4
Pedestrians		3			1						1	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								992			884	
pX, platoon unblocked	0.28	0.28		0.28	0.28	0.28				0.28		
vC, conflicting volume	1536	1527	338	1541	1528	1183	340			1183		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1628	1596	338	1646	1600	371	340			371		
tC, single (s)	7.1	6.5	6.2	7.6	6.5	6.2	4.6			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	4.0	4.0	3.3	2.7			2.2		
p0 queue free %	0	100	97	64	100	95	100			100		
cM capacity (veh/h)	21	30	707	17	30	190	992			336		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	51	16	1184	338
Volume Left	33	6	2	1
Volume Right	18	10	2	4
cSH	33	39	992	336
Volume to Capacity	1.57	0.41	0.00	0.00
Queue Length 95th (ft)	142	35	0	0
Control Delay (s)	550.5	153.0	0.1	0.1
Lane LOS	F	F	A	A
Approach Delay (s)	550.5	153.0	0.1	0.1
Approach LOS	F	F		

Intersection Summary			
Average Delay	19.3		
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	4	57	14	2	7	12	1047	34	5	340	6
Future Volume (vph)	41	4	57	14	2	7	12	1047	34	5	340	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.98			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.92			0.96		1.00	1.00		1.00	1.00	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1696			1766		1805	1817		1805	1841	
Flt Permitted		0.86			0.73		0.54	1.00		0.15	1.00	
Satd. Flow (perm)		1486			1333		1030	1817		291	1841	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	42	4	59	14	2	7	12	1079	35	5	351	6
RTOR Reduction (vph)	0	53	0	0	6	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	52	0	0	17	0	12	1113	0	5	357	0
Confl. Peds. (#/hr)			1	1					3	3		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	3%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		8.5			8.5		77.5	76.5		77.5	76.5	
Effective Green, g (s)		8.5			8.5		77.5	76.5		77.5	76.5	
Actuated g/C Ratio		0.08			0.08		0.78	0.76		0.78	0.76	
Clearance Time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)		2.5			2.5		2.3	5.2		2.3	5.2	
Lane Grp Cap (vph)		126			113		806	1390		240	1408	
v/s Ratio Prot							0.00	c0.61		c0.00	0.19	
v/s Ratio Perm		c0.03			0.01		0.01			0.02		
v/c Ratio		0.41			0.15		0.01	0.80		0.02	0.25	
Uniform Delay, d1		43.4			42.4		2.6	7.1		8.1	3.4	
Progression Factor		1.00			1.00		1.00	1.00		2.25	1.83	
Incremental Delay, d2		1.6			0.4		0.0	4.9		0.0	0.4	
Delay (s)		45.0			42.8		2.6	12.1		18.3	6.7	
Level of Service		D			D		A	B		B	A	
Approach Delay (s)		45.0			42.8			12.0			6.9	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	0	3	2	2	39	4
Future Volume (vph)	0	3	2	2	39	4
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	0	4	3	3	51	5

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	4	6	56
Volume Left (vph)	0	0	51
Volume Right (vph)	4	3	0
Hadj (s)	-0.04	-0.30	0.18
Departure Headway (s)	4.0	3.7	4.1
Degree Utilization, x	0.00	0.01	0.06
Capacity (veh/h)	881	976	873
Control Delay (s)	7.0	6.7	7.4
Approach Delay (s)	7.0	6.7	7.4
Approach LOS	A	A	A

Intersection Summary			
Delay	7.3		
Level of Service	A		
Intersection Capacity Utilization	19.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	84	0	0	15	4	0	2	4	8	0	2
Future Volume (Veh/h)	3	84	0	0	15	4	0	2	4	8	0	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	4	104	0	0	19	5	0	2	5	10	0	2
Pedestrians					1						2	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					868							
pX, platoon unblocked												
vC, conflicting volume	26			104			136	138	105	142	136	24
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	26			104			136	138	105	142	136	24
tC, single (s)	4.1			4.1			7.1	7.0	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.5	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	99	100	100
cM capacity (veh/h)	1599			1500			836	670	954	821	756	1057

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	108	24	7	12
Volume Left	4	0	0	10
Volume Right	0	5	5	2
cSH	1599	1500	851	852
Volume to Capacity	0.00	0.00	0.01	0.01
Queue Length 95th (ft)	0	0	1	1
Control Delay (s)	0.3	0.0	9.3	9.3
Lane LOS	A		A	A
Approach Delay (s)	0.3	0.0	9.3	9.3
Approach LOS			A	A

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	20.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	9	51	0	45	12	486	19	20	1100	8
Future Volume (vph)	4	0	9	51	0	45	12	486	19	20	1100	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.99		1.00	0.99	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1442	1592		1765	1594	1671	3505	1568	1802	3539	1578
Flt Permitted		0.72	1.00		0.76	1.00	0.21	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)		1093	1592		1403	1594	363	3505	1568	855	3539	1578
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	0	10	57	0	50	13	540	21	22	1222	9
RTOR Reduction (vph)	0	0	9	0	0	46	0	0	5	0	0	2
Lane Group Flow (vph)	0	4	1	0	57	4	13	540	16	22	1222	7
Confl. Peds. (#/hr)	1		2	2		1	1		3	3		1
Heavy Vehicles (%)	25%	0%	0%	2%	0%	0%	8%	3%	0%	0%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4	4	4	2		2	6		6
Actuated Green, G (s)		8.3	8.3		8.3	8.3	88.2	86.1	86.1	88.2	86.1	86.1
Effective Green, g (s)		8.3	8.3		8.3	8.3	88.2	86.1	86.1	88.2	86.1	86.1
Actuated g/C Ratio		0.08	0.08		0.08	0.08	0.80	0.78	0.78	0.80	0.78	0.78
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.5	2.5		2.5	2.5	2.3	4.8	4.8	2.3	4.8	4.8
Lane Grp Cap (vph)		82	120		105	120	316	2743	1227	703	2770	1235
v/s Ratio Prot							c0.00	0.15		0.00	c0.35	
v/s Ratio Perm		0.00	0.00		c0.04	0.00	0.03		0.01	0.02		0.00
v/c Ratio		0.05	0.01		0.54	0.03	0.04	0.20	0.01	0.03	0.44	0.01
Uniform Delay, d1		47.2	47.0		49.0	47.1	2.5	3.1	2.6	2.2	4.0	2.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.2	0.0		4.5	0.1	0.0	0.2	0.0	0.0	0.2	0.0
Delay (s)		47.4	47.1		53.5	47.2	2.6	3.2	2.6	2.2	4.2	2.6
Level of Service		D	D		D	D	A	A	A	A	A	A
Approach Delay (s)		47.1			50.5			3.2			4.1	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	6	3	0	4	11	513	9	11	1109	41
Future Volume (Veh/h)	2	0	6	3	0	4	11	513	9	11	1109	41
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	7	3	0	4	12	558	10	12	1205	45
Pedestrians					3			1				
Lane Width (ft)					12.0			12.0				
Walking Speed (ft/s)					4.0			4.0				
Percent Blockage					0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								992			884	
pX, platoon unblocked	0.27	0.27	0.23	0.27	0.27	0.92	0.23			0.92		
vC, conflicting volume	1842	1846	1228	1850	1864	566	1250			571		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2070	2085	298	2096	2150	480	393			485		
tC, single (s)	7.1	6.5	6.4	7.1	6.5	6.5	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.5	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	80	100	96	68	100	99	95			99		
cM capacity (veh/h)	10	14	160	9	12	495	266			994		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	9	7	580	1262
Volume Left	2	3	12	12
Volume Right	7	4	10	45
cSH	38	21	266	994
Volume to Capacity	0.24	0.33	0.05	0.01
Queue Length 95th (ft)	19	24	4	1
Control Delay (s)	128.7	239.9	1.7	0.5
Lane LOS	F	F	A	A
Approach Delay (s)	128.7	239.9	1.7	0.5
Approach LOS	F	F		

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	1	44	37	1	9	51	516	19	10	1056	23
Future Volume (vph)	21	1	44	37	1	9	51	516	19	10	1056	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.91			0.98		1.00	0.99		1.00	1.00	
Flt Protected		0.98			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1598			1740		1770	1849		1801	1858	
Flt Permitted		0.91			0.74		0.13	1.00		0.45	1.00	
Satd. Flow (perm)		1477			1344		239	1849		846	1858	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	22	1	46	39	1	9	53	538	20	10	1100	24
RTOR Reduction (vph)	0	43	0	0	8	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	26	0	0	41	0	53	557	0	10	1123	0
Confl. Peds. (#/hr)									4	4		
Heavy Vehicles (%)	10%	0%	5%	3%	0%	0%	2%	2%	5%	0%	2%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		7.0			7.0		82.4	78.0		75.6	74.6	
Effective Green, g (s)		7.0			7.0		82.4	78.0		75.6	74.6	
Actuated g/C Ratio		0.07			0.07		0.82	0.78		0.76	0.75	
Clearance Time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)		2.5			2.5		2.3	5.2		2.3	5.2	
Lane Grp Cap (vph)		103			94		264	1442		649	1386	
v/s Ratio Prot							c0.01	c0.30		0.00	c0.60	
v/s Ratio Perm		0.02			c0.03		0.16			0.01		
v/c Ratio		0.25			0.43		0.20	0.39		0.02	0.81	
Uniform Delay, d1		44.0			44.6		10.8	3.5		3.0	8.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.0			2.3		0.2	0.8		0.0	5.2	
Delay (s)		45.0			46.9		11.1	4.2		3.0	13.4	
Level of Service		D			D		B	A		A	B	
Approach Delay (s)		45.0			46.9			4.8			13.3	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	13	36	4	3	5	6
Future Volume (vph)	13	36	4	3	5	6
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	18	50	6	4	7	8

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	68	10	15
Volume Left (vph)	18	0	7
Volume Right (vph)	50	4	0
Hadj (s)	-0.35	0.27	0.55
Departure Headway (s)	3.6	4.3	4.6
Degree Utilization, x	0.07	0.01	0.02
Capacity (veh/h)	984	809	768
Control Delay (s)	6.9	7.4	7.7
Approach Delay (s)	6.9	7.4	7.7
Approach LOS	A	A	A

Intersection Summary			
Delay	7.1		
Level of Service	A		
Intersection Capacity Utilization	14.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	55	0	1	56	6	0	1	0	7	0	8
Future Volume (Veh/h)	7	55	0	1	56	6	0	1	0	7	0	8
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	11	83	0	2	85	9	0	2	0	11	0	12
Pedestrians								1			1	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					868							
pX, platoon unblocked												
vC, conflicting volume	95			84			212	205	84	200	200	90
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	95			84			212	205	84	200	200	90
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	99	100	99
cM capacity (veh/h)	1510			1524			734	688	980	754	692	972

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	94	96	2	23
Volume Left	11	2	0	11
Volume Right	0	9	0	12
cSH	1510	1524	688	854
Volume to Capacity	0.01	0.00	0.00	0.03
Queue Length 95th (ft)	1	0	0	2
Control Delay (s)	0.9	0.2	10.2	9.3
Lane LOS	A	A	B	A
Approach Delay (s)	0.9	0.2	10.2	9.3
Approach LOS			B	A

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	0	5	1	0	3	1	1119	28	18	311	2
Future Volume (vph)	9	0	5	1	0	3	1	1119	28	18	311	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.97
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1795	1325		899	1587	1798	3471	1459	1702	3539	1565
Flt Permitted		1.00	1.00		1.00	1.00	0.55	1.00	1.00	0.22	1.00	1.00
Satd. Flow (perm)		1889	1325		947	1587	1049	3471	1459	398	3539	1565
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	9	0	5	1	0	3	1	1178	29	19	327	2
RTOR Reduction (vph)	0	0	5	0	0	3	0	0	5	0	0	0
Lane Group Flow (vph)	0	9	0	0	1	0	1	1178	24	19	327	2
Confl. Peds. (#/hr)	5		3	3		5	4		5	5		4
Heavy Vehicles (%)	0%	0%	20%	100%	0%	0%	0%	4%	7%	6%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4	4	4	2		2	6		6
Actuated Green, G (s)		2.7	2.7		2.7	2.7	82.7	81.7	81.7	84.9	82.8	82.8
Effective Green, g (s)		2.7	2.7		2.7	2.7	82.7	81.7	81.7	84.9	82.8	82.8
Actuated g/C Ratio		0.03	0.03		0.03	0.03	0.83	0.82	0.82	0.85	0.83	0.83
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.5	2.5		2.5	2.5	2.3	4.8	4.8	2.3	4.8	4.8
Lane Grp Cap (vph)		51	35		25	42	875	2835	1192	365	2930	1295
v/s Ratio Prot							0.00	c0.34		c0.00	0.09	
v/s Ratio Perm		c0.00	0.00		0.00	0.00	0.00		0.02	0.04		0.00
v/c Ratio		0.18	0.00		0.04	0.00	0.00	0.42	0.02	0.05	0.11	0.00
Uniform Delay, d1		47.6	47.3		47.4	47.3	1.5	2.5	1.7	1.4	1.6	1.5
Progression Factor		1.00	1.00		1.00	1.00	0.32	0.22	1.00	1.00	1.00	1.00
Incremental Delay, d2		1.2	0.0		0.5	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Delay (s)		48.8	47.4		47.9	47.4	0.5	0.9	1.7	1.4	1.7	1.5
Level of Service		D	D		D	D	A	A	A	A	A	A
Approach Delay (s)		48.3			47.5			0.9			1.6	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	1.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	0	23	6	0	9	3	1107	2	1	310	6
Future Volume (Veh/h)	31	0	23	6	0	9	3	1107	2	1	310	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	33	0	25	6	0	10	3	1190	2	1	333	6
Pedestrians		3			1						1	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								992			884	
pX, platoon unblocked	0.29	0.29		0.29	0.29	0.29				0.29		
vC, conflicting volume	1549	1540	339	1561	1542	1193	342			1193		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1666	1636	339	1707	1643	458	342			458		
tC, single (s)	7.1	6.5	6.2	7.6	6.5	6.2	4.6			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	4.0	4.0	3.3	2.7			2.2		
p0 queue free %	0	100	96	61	100	94	100			100		
cM capacity (veh/h)	21	30	706	15	29	179	990			328		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	58	16	1195	340
Volume Left	33	6	3	1
Volume Right	25	10	2	6
cSH	36	36	990	328
Volume to Capacity	1.61	0.44	0.00	0.00
Queue Length 95th (ft)	156	37	0	0
Control Delay (s)	541.7	168.3	0.1	0.1
Lane LOS	F	F	A	A
Approach Delay (s)	541.7	168.3	0.1	0.1
Approach LOS	F	F		

Intersection Summary			
Average Delay	21.3		
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	4	62	14	2	7	13	1048	34	5	346	6
Future Volume (vph)	51	4	62	14	2	7	13	1048	34	5	346	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.93			0.96		1.00	1.00		1.00	1.00	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1703			1766		1805	1817		1805	1841	
Flt Permitted		0.85			0.76		0.53	1.00		0.14	1.00	
Satd. Flow (perm)		1475			1382		1015	1817		271	1841	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	53	4	64	14	2	7	13	1080	35	5	357	6
RTOR Reduction (vph)	0	46	0	0	6	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	75	0	0	17	0	13	1114	0	5	363	0
Confl. Peds. (#/hr)			1	1					3	3		
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	3%	0%	3%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		9.9			9.9		76.2	75.1		76.0	75.0	
Effective Green, g (s)		9.9			9.9		76.2	75.1		76.0	75.0	
Actuated g/C Ratio		0.10			0.10		0.76	0.75		0.76	0.75	
Clearance Time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)		2.5			2.5		2.3	5.2		2.3	5.2	
Lane Grp Cap (vph)		146			136		782	1364		221	1380	
v/s Ratio Prot							0.00	c0.61		c0.00	0.20	
v/s Ratio Perm		c0.05			0.01		0.01			0.02		
v/c Ratio		0.51			0.12		0.02	0.82		0.02	0.26	
Uniform Delay, d1		42.8			41.1		2.9	8.0		9.2	3.9	
Progression Factor		1.00			1.00		1.00	1.00		2.03	1.76	
Incremental Delay, d2		2.3			0.3		0.0	5.5		0.0	0.5	
Delay (s)		45.0			41.4		2.9	13.5		18.8	7.3	
Level of Service		D			D		A	B		B	A	
Approach Delay (s)		45.0			41.4			13.4			7.5	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	0	6	3	2	45	20
Future Volume (vph)	0	6	3	2	45	20
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	0	8	4	3	58	26

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	8	7	84
Volume Left (vph)	0	0	58
Volume Right (vph)	8	3	0
Hadj (s)	-0.04	-0.26	0.14
Departure Headway (s)	4.1	3.7	4.1
Degree Utilization, x	0.01	0.01	0.09
Capacity (veh/h)	863	953	880
Control Delay (s)	7.1	6.8	7.5
Approach Delay (s)	7.1	6.8	7.5
Approach LOS	A	A	A

Intersection Summary			
Delay	7.4		
Level of Service	A		
Intersection Capacity Utilization	20.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	84	0	0	15	5	0	2	4	23	0	3
Future Volume (Veh/h)	3	84	0	0	15	5	0	2	4	23	0	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	4	104	0	0	19	6	0	2	5	28	0	4
Pedestrians					1						2	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					868							
pX, platoon unblocked												
vC, conflicting volume	27			104			138	139	105	143	136	24
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	27			104			138	139	105	143	136	24
tC, single (s)	4.1			4.1			7.1	7.0	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.5	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	97	100	100
cM capacity (veh/h)	1597			1500			831	669	954	820	755	1057

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	108	25	7	32
Volume Left	4	0	0	28
Volume Right	0	6	5	4
cSH	1597	1500	851	844
Volume to Capacity	0.00	0.00	0.01	0.04
Queue Length 95th (ft)	0	0	1	3
Control Delay (s)	0.3	0.0	9.3	9.4
Lane LOS	A		A	A
Approach Delay (s)	0.3	0.0	9.3	9.4
Approach LOS			A	A

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	21.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	9	51	0	45	12	491	19	20	1109	8
Future Volume (vph)	4	0	9	51	0	45	12	491	19	20	1109	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.99		1.00	0.99	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1442	1592		1765	1594	1671	3505	1568	1802	3539	1578
Flt Permitted		0.72	1.00		0.76	1.00	0.20	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)		1093	1592		1403	1594	358	3505	1568	849	3539	1578
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	0	10	57	0	50	13	546	21	22	1232	9
RTOR Reduction (vph)	0	0	9	0	0	46	0	0	5	0	0	2
Lane Group Flow (vph)	0	4	1	0	57	4	13	546	16	22	1232	7
Confl. Peds. (#/hr)	1		2	2		1	1		3	3		1
Heavy Vehicles (%)	25%	0%	0%	2%	0%	0%	8%	3%	0%	0%	2%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8		8	4	4	4	2		2	6		6
Actuated Green, G (s)		8.3	8.3		8.3	8.3	88.2	86.1	86.1	88.2	86.1	86.1
Effective Green, g (s)		8.3	8.3		8.3	8.3	88.2	86.1	86.1	88.2	86.1	86.1
Actuated g/C Ratio		0.08	0.08		0.08	0.08	0.80	0.78	0.78	0.80	0.78	0.78
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.5	2.5		2.5	2.5	2.3	4.8	4.8	2.3	4.8	4.8
Lane Grp Cap (vph)		82	120		105	120	312	2743	1227	698	2770	1235
v/s Ratio Prot							c0.00	0.16		0.00	c0.35	
v/s Ratio Perm		0.00	0.00		c0.04	0.00	0.03		0.01	0.02		0.00
v/c Ratio		0.05	0.01		0.54	0.03	0.04	0.20	0.01	0.03	0.44	0.01
Uniform Delay, d1		47.2	47.0		49.0	47.1	2.6	3.1	2.6	2.2	4.0	2.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.2	0.0		4.5	0.1	0.0	0.2	0.0	0.0	0.2	0.0
Delay (s)		47.4	47.1		53.5	47.2	2.6	3.2	2.6	2.2	4.2	2.6
Level of Service		D	D		D	D	A	A	A	A	A	A
Approach Delay (s)		47.1			50.5			3.2			4.2	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	2	0	9	3	0	4	16	518	9	11	1109	50
Future Volume (Veh/h)	2	0	9	3	0	4	16	518	9	11	1109	50
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	10	3	0	4	17	563	10	12	1205	54
Pedestrians					3			1				
Lane Width (ft)					12.0			12.0				
Walking Speed (ft/s)					4.0			4.0				
Percent Blockage					0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								992			884	
pX, platoon unblocked	0.27	0.27	0.23	0.27	0.27	0.91	0.23			0.91		
vC, conflicting volume	1862	1866	1233	1872	1888	571	1259			576		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2124	2139	316	2161	2220	483	431			489		
tC, single (s)	7.1	6.5	6.4	7.1	6.5	6.5	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.5	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	78	100	94	63	100	99	93			99		
cM capacity (veh/h)	9	12	156	8	11	492	257			989		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	12	7	590	1271
Volume Left	2	3	17	12
Volume Right	10	4	10	54
cSH	43	19	257	989
Volume to Capacity	0.28	0.38	0.07	0.01
Queue Length 95th (ft)	24	26	5	1
Control Delay (s)	119.4	286.5	2.5	0.5
Lane LOS	F	F	A	A
Approach Delay (s)	119.4	286.5	2.5	0.5
Approach LOS	F	F		

Intersection Summary				
Average Delay	2.9			
Intersection Capacity Utilization	76.4%	ICU Level of Service	D	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	1	46	37	1	9	56	521	19	10	1059	23
Future Volume (vph)	26	1	46	37	1	9	56	521	19	10	1059	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.91			0.98		1.00	0.99		1.00	1.00	
Flt Protected		0.98			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1600			1740		1770	1849		1801	1858	
Flt Permitted		0.90			0.71		0.13	1.00		0.44	1.00	
Satd. Flow (perm)		1468			1285		236	1849		840	1858	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	27	1	48	39	1	9	58	543	20	10	1103	24
RTOR Reduction (vph)	0	45	0	0	8	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	31	0	0	41	0	58	562	0	10	1126	0
Confl. Peds. (#/hr)									4	4		
Heavy Vehicles (%)	10%	0%	5%	3%	0%	0%	2%	2%	5%	0%	2%	0%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)		7.0			7.0		82.4	78.0		75.6	74.6	
Effective Green, g (s)		7.0			7.0		82.4	78.0		75.6	74.6	
Actuated g/C Ratio		0.07			0.07		0.82	0.78		0.76	0.75	
Clearance Time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Vehicle Extension (s)		2.5			2.5		2.3	5.2		2.3	5.2	
Lane Grp Cap (vph)		102			89		261	1442		644	1386	
v/s Ratio Prot							c0.01	c0.30		0.00	c0.61	
v/s Ratio Perm		0.02			c0.03		0.17			0.01		
v/c Ratio		0.31			0.46		0.22	0.39		0.02	0.81	
Uniform Delay, d1		44.2			44.7		11.1	3.5		3.0	8.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.2			2.7		0.3	0.8		0.0	5.3	
Delay (s)		45.4			47.4		11.3	4.3		3.0	13.5	
Level of Service		D			D		B	A		A	B	
Approach Delay (s)		45.4			47.4			4.9			13.4	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	13	50	10	3	8	13
Future Volume (vph)	13	50	10	3	8	13
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	18	69	14	4	11	18

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	87	18	29
Volume Left (vph)	18	0	11
Volume Right (vph)	69	4	0
Hadj (s)	-0.39	0.53	0.55
Departure Headway (s)	3.6	4.6	4.6
Degree Utilization, x	0.09	0.02	0.04
Capacity (veh/h)	976	752	757
Control Delay (s)	7.0	7.7	7.8
Approach Delay (s)	7.0	7.7	7.8
Approach LOS	A	A	A

Intersection Summary			
Delay	7.3		
Level of Service	A		
Intersection Capacity Utilization	18.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	55	0	1	56	11	0	1	0	14	0	8
Future Volume (Veh/h)	8	55	0	1	56	11	0	1	0	14	0	8
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	12	83	0	2	85	17	0	2	0	21	0	12
Pedestrians								1			1	
Lane Width (ft)								12.0			12.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					868							
pX, platoon unblocked												
vC, conflicting volume	103			84			218	215	84	206	206	94
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	103			84			218	215	84	206	206	94
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			100	100	100	97	100	99
cM capacity (veh/h)	1500			1524			727	679	980	747	686	967

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	95	104	2	33
Volume Left	12	2	0	21
Volume Right	0	17	0	12
cSH	1500	1524	679	814
Volume to Capacity	0.01	0.00	0.00	0.04
Queue Length 95th (ft)	1	0	0	3
Control Delay (s)	1.0	0.2	10.3	9.6
Lane LOS	A	A	B	A
Approach Delay (s)	1.0	0.2	10.3	9.6
Approach LOS			B	A

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	0	23	6	0	9	3	1107	2	1	310	6
Future Volume (Veh/h)	31	0	23	6	0	9	3	1107	2	1	310	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	33	0	25	6	0	10	3	1190	2	1	333	6
Pedestrians		3			1						1	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								992			884	
pX, platoon unblocked	0.30	0.30		0.30	0.30	0.30				0.30		
vC, conflicting volume	1548	1540	339	1558	1542	1193	342			1193		
vC1, stage 1 conf vol	341	341		1198	1198							
vC2, stage 2 conf vol	1207	1199		360	344							
vCu, unblocked vol	1663	1636	339	1697	1642	459	342			459		
tC, single (s)	7.1	6.5	6.2	7.6	6.5	6.2	4.6			4.1		
tC, 2 stage (s)	6.1	5.5		6.6	5.5							
tF (s)	3.5	4.0	3.3	4.0	4.0	3.3	2.7			2.2		
p0 queue free %	77	100	96	96	100	94	100			100		
cM capacity (veh/h)	143	154	706	135	155	178	990			328		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	58	16	3	1192	1	339
Volume Left	33	6	3	0	1	0
Volume Right	25	10	0	2	0	6
cSH	218	159	990	1700	328	1700
Volume to Capacity	0.27	0.10	0.00	0.70	0.00	0.20
Queue Length 95th (ft)	26	8	0	0	0	0
Control Delay (s)	27.4	30.2	8.6	0.0	16.0	0.0
Lane LOS	D	D	A		C	
Approach Delay (s)	27.4	30.2	0.0		0.0	
Approach LOS	D	D				

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	69.8%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	9	3	0	4	16	518	9	11	1109	50
Future Volume (Veh/h)	2	0	9	3	0	4	16	518	9	11	1109	50
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	10	3	0	4	17	563	10	12	1205	54
Pedestrians					3			1				
Lane Width (ft)					12.0			12.0				
Walking Speed (ft/s)					4.0			4.0				
Percent Blockage					0			0				
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								992			884	
pX, platoon unblocked	0.27	0.27	0.23	0.27	0.27	0.92	0.23			0.92		
vC, conflicting volume	1857	1866	1233	1845	1888	571	1259			576		
vC1, stage 1 conf vol	1256	1256		605	605							
vC2, stage 2 conf vol	601	610		1240	1283							
vCu, unblocked vol	2162	2196	319	2117	2278	490	434			495		
tC, single (s)	7.1	6.5	6.4	7.1	6.5	6.5	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.5	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	98	100	94	97	100	99	93			99		
cM capacity (veh/h)	126	122	155	115	95	490	257			990		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	12	7	17	573	12	1259
Volume Left	2	3	17	0	12	0
Volume Right	10	4	0	10	0	54
cSH	150	204	257	1700	990	1700
Volume to Capacity	0.08	0.03	0.07	0.34	0.01	0.74
Queue Length 95th (ft)	6	3	5	0	1	0
Control Delay (s)	31.1	23.3	20.0	0.0	8.7	0.0
Lane LOS	D	C	C		A	
Approach Delay (s)	31.1	23.3	0.6		0.1	
Approach LOS	D	C				

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	71.7%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	0	28	6	0	9	4	1097	2	1	310	6
Future Volume (Veh/h)	41	0	28	6	0	9	4	1097	2	1	310	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	44	0	30	6	0	10	4	1180	2	1	333	6
Pedestrians		3			1						1	
Lane Width (ft)		12.0			12.0						12.0	
Walking Speed (ft/s)		4.0			4.0						4.0	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								992			884	
pX, platoon unblocked	0.28	0.28		0.28	0.28	0.28				0.28		
vC, conflicting volume	1540	1532	339	1555	1534	1183	342			1183		
vC1, stage 1 conf vol	341	341		1190	1190							
vC2, stage 2 conf vol	1199	1191		365	344							
vCu, unblocked vol	1642	1614	339	1696	1621	372	342			372		
tC, single (s)	7.1	6.5	6.2	7.6	6.5	6.2	4.6			4.1		
tC, 2 stage (s)	6.1	5.5		6.6	5.5							
tF (s)	3.5	4.0	3.3	4.0	4.0	3.3	2.7			2.2		
p0 queue free %	71	100	96	96	100	95	100			100		
cM capacity (veh/h)	150	159	706	141	160	190	990			336		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	74	16	4	1182	1	339
Volume Left	44	6	4	0	1	0
Volume Right	30	10	0	2	0	6
cSH	220	168	990	1700	336	1700
Volume to Capacity	0.34	0.10	0.00	0.70	0.00	0.20
Queue Length 95th (ft)	35	8	0	0	0	0
Control Delay (s)	29.4	28.6	8.7	0.0	15.7	0.0
Lane LOS	D	D	A		C	
Approach Delay (s)	29.4	28.6	0.0		0.0	
Approach LOS	D	D				

Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	70.7%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	0	11	3	0	4	21	513	9	11	1109	50
Future Volume (Veh/h)	7	0	11	3	0	4	21	513	9	11	1109	50
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	0	12	3	0	4	23	558	10	12	1205	54
Pedestrians					3			1				
Lane Width (ft)					12.0			12.0				
Walking Speed (ft/s)					4.0			4.0				
Percent Blockage					0			0				
Right turn flare (veh)												
Median type								TWLTL			TWLTL	
Median storage veh)								2			2	
Upstream signal (ft)								992			884	
pX, platoon unblocked	0.27	0.27	0.23	0.27	0.27	0.92	0.23			0.92		
vC, conflicting volume	1864	1873	1233	1854	1895	566	1259			571		
vC1, stage 1 conf vol	1256	1256		612	612							
vC2, stage 2 conf vol	608	617		1242	1283							
vCu, unblocked vol	2190	2224	319	2152	2306	485	434			490		
tC, single (s)	7.1	6.5	6.4	7.1	6.5	6.5	4.1			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.5	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	94	100	92	97	100	99	91			99		
cM capacity (veh/h)	126	122	155	106	89	494	257			994		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	20	7	23	568	12	1259
Volume Left	8	3	23	0	12	0
Volume Right	12	4	0	10	0	54
cSH	142	193	257	1700	994	1700
Volume to Capacity	0.14	0.04	0.09	0.33	0.01	0.74
Queue Length 95th (ft)	12	3	7	0	1	0
Control Delay (s)	34.5	24.4	20.4	0.0	8.7	0.0
Lane LOS	D	C	C		A	
Approach Delay (s)	34.5	24.4	0.8		0.1	
Approach LOS	D	C				

Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	71.7%	ICU Level of Service	C	
Analysis Period (min)	15			

EXHIBIT PC-5C APPELLANT'S SUBMITTAL "ODOT RESPONSE" (FEBRUARY 3, 2017)

Oregon
Kate Brown, Governor

Department of Transportation
Region 1 Headquarters
123 NW Flanders Street
Portland, Oregon 97209
(503) 731.8200
FAX (503) 731.8259

2/3/17 ODOT #7400

ODOT Response

Project Name: Upper Midhill Subdivision - Chene Blanc	**Applicant:** Upper Midhill Estates, LLC by Ryan Zygar
Jurisdiction: City of West Linn	**Jurisdiction Case #:** SUB-16-03/WRG-16-10
Site Address: 18000 Upper Midhill Drive, West Linn, OR	**Legal Description:** 02S 01E 13CA **Tax Lot(s):** 00200
State Highway: OR 43	**Mileposts:** 7.78 to 8.0

The site of this proposed land use action is in the vicinity of Willamette Drive (OR-43). ODOT has permitting authority for this facility and an interest in ensuring that this proposed land use is compatible with its safe and efficient operation. **Please direct the applicant to the District Contact indicated below to determine permit requirements and obtain application information.**

COMMENTS/FINDINGS

ODOT reviewed the Traffic Impact Analysis (TIA) dated January 29, 2016 submitted by Kittelson & Associates, Inc. (KAI). As indicated in the TIA, all the study intersections operate acceptably during the weekday AM and PM peak hours with the exception of the Willamette Drive (OR-43) / Arbor Drive intersection. The same intersection has experienced a significant number of turning movement crashes during the past five years. To mitigate the impact of the development, the TIA findings propose the construction of a northbound left turn lane and a left turn refuge/storage area on the north leg of the OR-43 / Arbor Drive intersection.

ODOT supports the proposed mitigation concept to improve mobility standards and address safety issues at this intersection. However, in order to construct this turn lane to ODOT standards, the developer would need to extend the three lane section from Arbor Drive to Shady Hollow Way, creating a continuous two-way left turn-lane that includes bike lanes along this section of the highway. Because the City is already pursuing funding for the Highway 43 Multimodal Transportation Project to widen this segment of the highway to three lanes, ODOT recommends that the City collect a proportionate share of funding from the applicant to apply to the future project.

To mitigate the traffic impacts from the proposed subdivision until the Highway 43 Multimodal Transportation Project is constructed, ODOT recommends that the applicant be required to construct their proposed interim solution that includes restriping the highway with a northbound left turn pocket on the south leg of the intersection and a left turn refuge/storage area on the north leg of the intersection. Before design plans are submitted for review, the applicant must provide pavement coring samples from the shoulder of the highway (within the future travel lanes) to demonstrate that there is sufficient pavement to accommodate vehicular travel. Please coordinate with the District Contact below regarding the coring process.

All improvements within the State highway right of way are subject to the ODOT Highway Design Manual (HDM) standards. If design deviates from these standards, then a Design Exception is required to be submitted by a licensed engineer for review, and approval must be obtained from the State Roadway and Traffic Engineer. The proposed turn lane will likely require Design Exceptions that appear to align with the conceptual design for Highway 43 Multimodal Transportation Project. ODOT has approved a Design Concurrence for this project and will take that into consideration when reviewing Design Exceptions for the proposed interim turn lane. (Please note that if a Design Exception is required, it may take up to 3 months to process).

Permits and Agreements to Work in State Right of Way

☒ An ODOT Miscellaneous Permit must be obtained for all work in the highway right of way. When the total value of improvements within the ODOT right of way is estimated to be $100,000 or more, an agreement with ODOT is required to address the transfer of ownership of the improvement to ODOT. An Intergovernmental Agreement (IGA) is required for agreements involving local governments and a Cooperative Improvement Agreement (CIA) is required for private sector agreements. The agreement shall address the work standards that must be followed, maintenance responsibilities, and compliance with ORS 276.071, which includes State of Oregon prevailing wage requirements.

Note: If a CIA is required, it may take up to **6 months** to process.

All ODOT permits and approvals must reach 100% plans before the District Contact will sign-off on a local jurisdiction building permit, or other necessary requirement prior to construction.

Please send a copy of the Notice of Decision including conditions of approval to:

ODOT Region 1 Planning
Development Review
123 NW Flanders St
Portland, OR 97209

Region1_DEVREV_Applications@odot.state.or.us

Development Review Planner: Seth Brumley	503.731.8234, Seth.A.Brumley@odot.state.or.us
Traffic Contact: Avi Tayar, P.E.	503.731.8221
District Contact: James Nelson	971.673.2942

EXHIBIT PC-6 PUBLIC COMMENTS

Peter D. Lang
2312 College View Dr.
West Linn, OR – 97068-1229

Eve: (503) 636-4006
Cel: (503) 780-9201
e-mail: langpe@comcast.net

Re: Chene Blanc Development Proposal

West Linn City Councilors and Mayor
22500 Salamo Road
West Linn, OR 97068

Councilor Brenda Perry

Dear Mr. Mayor and Councilors:

I am sure you understood when you chose to seek your positions that these are often thankless and frustrating jobs. Garth Brooks may have hit the nail on the head in the popular song, "Unanswered Prayers".

Over the past six weeks I have been thinking about the proposal by the Chene Blanc developer, put before the Robinwood Neighborhood Association (RNA) at its' November meeting. Near the end of that meeting I admonished those still in attendance to "be careful what you wish for." I did not take a position at that time because I could understand the difficult positions of the developer, the neighbors, and City officials were in. I guess I was hoping to avoid getting crosswise with some of my neighbors.

I have said, from the outset, that 34 parcels on that site were probably the "best deal" we, the neighbors, were going to get. That is still my position. I view the infrastructure complex consisting of the intersection of Hwy 43 and Arbor Drive/a portion of Arbor Dr./and a portion of Upper Midhill as serious impediment to approval of the project. It is a serious impediment for a number of reasons that have all been cited in previously submitted testimony.

With that said, if, in your collective judgement, it is in fact likely that the developer will move ahead with a new more ambitious 40+ townhouse development on that same parcel under recently approved State of Oregon rules that severely limit local citizen and City of West Linn approval processes it may be time to rethink the original project.

If, in your collective judgement, you believe the developer is likely to succeed in forcing this more ambitious development on us and the City through this newly minted Expedited Land Use process and if you publicly acknowledge your rationale for doing so, you might reconsider the original proposal.

I am urging you to give this some thought. There will most certainly be negative repercussions but in the end West Linn and our neighborhood might be better off.

Sincerely,

Peter D. Lang

Spir, Peter

From: Spir, Peter
Sent: Tuesday, January 03, 2017 12:16 PM
To: 'Robinson, Michael C. (Perkins Coie)'
Subject: FW: Reconsideration of Decision on Upper Midill Drive
Attachments: UpperMidPetitionPg1.jpeg; UpperMidPetitionPg2.jpeg

FYI
Not in response to your ELD
Peter

From: Christine Steel [mailto:steelc123@gmail.com]
Sent: Tuesday, January 03, 2017 12:14 PM
To: Axelrod, Russell <RAxelrod@westlinnoregon.gov>; Martin, Bob <BMartin@westlinnoregon.gov>; Perry, Brenda <BPerry@westlinnoregon.gov>; Cummings, Teri <TCummings@westlinnoregon.gov>; Sakelik, Richard <RSakelik@westlinnoregon.gov>; Stein, Eileen <estein@westlinnoregon.gov>; Boyd, John <jboyd@westlinnoregon.gov>; Thornton, Megan <mthornton@westlinnoregon.gov>; Spir, Peter <pspir@westlinnoregon.gov>; Andrew Tull <andrew.tull@3j-consulting.com>
Cc: Steel, Christine <steelc123@gmail.com>; langpe2312@gmail.com
Subject: Reconsideration of Decision on Upper Midill Drive

Dear Mayor and City Council,

On December 12, I sent a request for you to reconsider your decision on the Upper Midhill 34-lot subdivision appeal, AP-16-02. In that memo, I cited a number of reasons why I felt the decision should have been to approve the application (with conditions of approval) rather than to deny it. A strong alternative to this original proposal would be an even denser development (41 to 45 units), with the likelihood of an expedited land development process, which would give the citizens – and city council – less of a voice in the decision.

As further support to my request to reconsider your original decision, I have attached a copy of a petition containing signatures from some of my neighbors who would prefer to see 34 lots developed over 41 to 45 units.

Thank you for your consideration of this matter.

Christine Steel
18100 Upper Midhill Dr.

December 28, 2016

TO: City of West Linn Mayor and Council

RE: Chene Blanc Proposed Subdivision at 18000 Upper Midhill Drive

If this area is to be subdivided for residential purposes, I would prefer the 34-lot plan instead of a 41 to 45-lot plan.

Name: Christine Steel
Address: 18100 Upper Midhill Dr, West Linn
Name: Paula Duncan
Address: 18130 Upper Midhill
Name: Jamie Heed
Address: 18150 Upper Midhill Drive
Name: Heather Balducci
Address: 18220 Upper Midhill Dr.
Name: Patrick J Balducci
Address: 18220 Upper Midhill Drive

(1)

December 28, 2016

TO: City of West Linn Mayor and Council

RE: Chene Blanc Proposed Subdivision at 18000 Upper Midhill Drive

If this area is to be subdivided for residential purposes, I would prefer the 34-lot plan instead of a 41 to 45-lot plan.

Name: Helen Morgan
Address: 2390 College Hill Pl
Name: DAVID A. GOLDENBERG
Address: 18127 UPPER MIDHILL DR.
Name:
Address:
Name:
Address:
Name:
Address:

(2)

EXHIBIT PC-6B PUBLIC COMMENTS SPECIFIC TO CRITERIA

(As of March 9, 2017, no public comments, specific to the criteria and grounds for reconsideration, have been received.)

EXHIBIT PC-7 AFFIDAVIT AND NOTICE PACKET

AFFIDAVIT OF NOTICE

We, the undersigned do hereby certify that, in the interest of the party (parties) initiating a proposed land use, the following took place on the dates indicated below:

GENERAL
File No. AP-16-02 Applicant's Name Ryan Zygar
Development Name _____
Scheduled ~~Meeting~~/Decision Date 3-22-17

NOTICE: Notices were sent at least 20 days prior to the scheduled hearing, meeting, or decision date per Section 99.080 of the Community Development Code. **(check below)**

TYPE A ✓

A.	The applicant (date) 3-2-17	(signed)	S. Shroyer
B.	Affected property owners (date) 3-2-17	(signed)	S. Shroyer
C.	School District/Board (date) _____	(signed)	_____
D.	Other affected gov't. agencies (date) 3-2-17	(signed)	S. Shroyer
E.	Affected neighborhood assns. (date) 3-2-17 (ALL)	(signed)	S. Shroyer
F.	All parties to an appeal or review (date) 3-2-17	(signed)	S. Shroyer

At least 10 days prior to the scheduled hearing or meeting, notice was published/posted:

Tidings (published date) 3-9-17 (signed) S. Shroyer
City's website (posted date) 3-2-17 (signed) S. Shroyer

SIGN

At least 10 days prior to the scheduled hearing, meeting or decision date, a sign was posted on the property per Section 99.080 of the Community Development Code.

(date) March 10, 2017 (signed) _____

NOTICE: Notices were sent at least 14 days prior to the scheduled hearing, meeting, or decision date per Section 99.080 of the Community Development Code. **(check below)**

TYPE B _____

A.	The applicant (date) _____	(signed)	_____
B.	Affected property owners (date) _____	(signed)	_____
C.	School District/Board (date) _____	(signed)	_____
D.	Other affected gov't. agencies (date) _____	(signed)	_____
E.	Affected neighborhood assns. (date) _____	(signed)	_____

Notice was posted on the City's website at least 10 days prior to the scheduled hearing or meeting.
Date: _____ (signed) _____

STAFF REPORT mailed to applicant, City Council/Planning Commission and any other applicable parties 10 days prior to the scheduled hearing.

(date) 3-10-17 (signed) S. Shroyer

FINAL DECISION notice mailed to applicant, all other parties with standing, and, if zone change, the County surveyor's office.

(date) _____ (signed) _____

p:\devrvw\forms\affidvt of notice-land use (9/09)

CITY OF WEST LINN PLANNING COMMISSION
PUBLIC HEARING NOTICE
FILE NO. AP-16-02
RECONSIDERATION OF APPLICATION OF THE
UPPER MIDHILL ESTATES LLC

The West Linn Planning Commission is scheduled to hold a public hearing on **Wednesday, March 22, 2017, starting at 6:30 p.m.** in the Council Chambers of City Hall, 22500 Salamo Road, West Linn, to reconsider the 34-Lot Subdivision and Water Resource Area (WRA) permit at 18000 Upper Midhill Drive.

The criteria applicable to this application are the following criteria and these criteria only: Community Development Code (CDC) Chapters 14, 32, 48, 85, and 99. **However, the public hearing on this reconsideration is a limited hearing. The City is only accepting testimony, argument, and evidence at the public hearing that is related specifically to adequate public facilities including traffic impact and influences and pedestrian improvements and safety that are related to CDC 85.200(A)**. Other testimony will not be accepted.

The complete application for file number AP-16-02 is available for inspection at no cost at City Hall or via the web site http://westlinnoregon.gov/planning/18000-upper-midhill-drive-appeal-planning-commission-denial. Printed copies can be obtained at City Hall for a minimal charge per page.

As of March 10, 2017, a copy of the staff report is available for inspection at no cost or copies can be obtained for a minimal charge per page. For further information, please contact Peter Spir, Associate Planner, at City Hall, 22500 Salamo Road, West Linn, OR 97068, pspir@westlinnoregon.gov, or 503-723-2539.

The hearing will be conducted in accordance with state law. At the reconsideration hearing, the Planning Commission will receive a staff presentation, and invite both oral and written testimony limited to the grounds identified in this notice. Anyone wishing to present written testimony on this proposed action may do so in writing prior to, or at the public hearing. All written testimony or other documents presented to the Planning Commission for consideration must be submitted to the Planning Manager's office by 5:00 p.m. on March 15, 2017, or "in person at the hearing." Oral testimony may be presented at the public hearing. The Planning Commission may continue the public hearing to another meeting to obtain additional information or close the public hearing and take action on the application as provided by state law. Failure to raise an issue in person or by letter at some point prior to the close of the hearing, or failure to provide sufficient specificity to afford the decision maker an opportunity to respond to the issue, precludes an appeal to the City Council or Land Use Board of Appeals based on that issue.

Reconsideration NOTICE 500'+ standing

CITY OF West Linn

CITY OF WEST LINN PLANNING COMMISSION RECONSIDERATION NOTICE

PROJECT # AP-16-02
MAIL: 3/2/17 TIDINGS: 3/9/17

CITIZEN CONTACT INFORMATION

To lessen the bulk of agenda packets, land use application notice, and to address the worries of some City residents about testimony contact information and online application packets containing their names and addresses as a reflection of the mailing notice area, this sheet substitutes for the photocopy of the testimony forms and/or mailing labels. A copy is available upon request.

Citizen Contact Information Agenda Packets and Project Files

CITY OF WEST LINN PLANNING COMMISSION
PUBLIC HEARING NOTICE
FILE NO. AP-16-02
RECONSIDERATION OF APPLICATION OF THE
UPPER MIDHILL ESTATES LLC

The West Linn Planning Commission is scheduled to hold a public hearing on **Wednesday, March 22, 2017, starting at 6:30 p.m.** in the Council Chambers of City Hall, 22500 Salamo Road, West Linn, to reconsider the 34-Lot Subdivision and Water Resource Area (WRA) permit at 18000 Upper Midhill Drive.

The criteria applicable to this application are the following criteria and these criteria only: Community Development Code (CDC) Chapters 14, 32, 48, 85, and 99. **However, the public hearing on this reconsideration is a limited hearing. The City is only accepting testimony, argument, and evidence at the public hearing that is related specifically to adequate public facilities including traffic impact and influences and pedestrian improvements and safety that are related to CDC 85.200(A)**. Other testimony will not be accepted.

The complete application for file number AP-16-02 is available for inspection at no cost at City Hall or via the web site http://westlinnoregon.gov/planning/18000-upper-midhill-drive-appeal-planning-commission-denial. Printed copies can be obtained at City Hall for a minimal charge per page.

As of March 10, 2017, a copy of the staff report is available for inspection at no cost or copies can be obtained for a minimal charge per page. For further information, please contact Peter Spir, Associate Planner, at City Hall, 22500 Salamo Road, West Linn, OR 97068, pspir@westlinnoregon.gov, or 503-723-2539.

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RECONSIDERATION NOTICE: PLEASE PUBLISH MARCH 9, 2017