City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Meeting Agenda

Planning Commission

Monday, February 12, 2018 | **7:00 PM** | **Commission Chambers**

1. Call to Order

2. Public Comments

3. Public Hearings

3a. PC 18-018 Review Staff Report and Request for Continuance to March 12, 2018: AN 17-0004 / ZC 17-0005: Park Place Annexation and Rezoning of 92 acres

Sponsors: Christina Robertson-Gardiner

Attachments: Commission Report

AN 17-04 / ZC 17-05 Staff Report

Exhibit 1: Vicinity Map

Exhibit 2: Applicant's Submittal

Exhibit 3a: March 13, 2017 letter from Oregon City Public Schools

Exhibit 3b: Comments from the Oregon City Police Department

Exhibit 3c: Comments from Christine Kosinski

Exhibit 4: Replinger and Associates Comments

Exhibit 5: Applicant's Infrastructure Estimates Worksheet

Exhibit 6: Tri-City Sewer District Landowner Annexation Packet

3b. PC 18-019 LE 17-02 Legislative Amendment to Adopt the McLoughlin-Canemah Trail Plan, Amending the Transportation System Plan, Trails Master Plan, and Parks Master Plan

Sponsors: Community Development Director Laura Terway

Attachments: Commission Report
L 17-02 Revised Staff Report
Exhibit 1. Planning Commission Issues Matrix
Exhibit 2: Revised Final Report: McLoughlin-Canemah Trail Plan
Exhibit 3: Land Use Application
Exhibit 3: Narrative and Code Responses
Exhibit 3: Neighborhood Meeting Documentation
Exhibit 3: Revised Project List Amendments - Trails Plan and TSP Lists and Exhibits
Exhibit 4: Combined Comments and Submitted Items from 11.13.17 PC Hearing
Exhibit 4: Public Comments Received (Excluding Testimony at the 11.13.17 Hearing)
Project Website with Trail Video

4. Work Session

4a. PC 18-020 Work Session for L 17-04: Proposed Amendments to the Development Sections of the Oregon City Municipal Code (Including Lot Averaging)

Sponsors: Community Development Director Laura Terway

Attachments: Commission Report
Draft Code Amendments

5. Communications

18-091

Attachments: 2017 Statistics for Community Development

6. Adjournment

Public Comments: The following guidelines are given for citizens presenting information or raising issues relevant to the City but not listed on the agenda.

- *Complete a Comment Card prior to the meeting and submit it to the staff member.*
- *When the Chair calls your name, proceed to the speaker table and state your name and city of residence into the microphone.*
- *Each speaker is given 3 minutes to speak. To assist in tracking your speaking time, refer to the timer at the dais.*
- *As a general practice, Oregon City Officers do not engage in discussion with those making comments.*

Agenda Posted at City Hall, Pioneer Community Center, Library, and City Web site(oregon-city.legistar.com).
Video Streaming & Broadcasts: The meeting is streamed live on Oregon City's Web site at www.orcity.org and is available on demand following the meeting.
ADA: City Hall is wheelchair accessible with entry ramps and handicapped parking located on the east side of the building. Hearing devices may be requested from the City staff member prior to the meeting. Disabled individuals requiring other assistance must make their request known 48 hours preceding the meeting by contacting the City Recorder's Office at 503-657-0891.

City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Staff Report

File Number: PC 18-018

Agenda Date: 2/12/2018

Status: Agenda Ready

To: Planning Commission

Agenda #: 3a.

From: Christina Robertson-Gardiner

File Type: Planning Item

SUBJECT:
Review Staff Report and Request for Continuance to March 12, 2018: AN 17-0004 / ZC 17-0005: Park Place Annexation and Rezoning of 92 acres

RECOMMENDED ACTION (Motion): Staff recommends the Planning Commission take testimony and continue Planning file AN 17-0004 and ZC 17 -0005 to March 12, 2018.

BACKGROUND:
An Annexation and Zone Change was submitted for 14 tax lots located on the south side of Holcomb Blvd and north of S. Livesay Rd and totaling approximately 92 acres into Oregon City. The subject territory is within the Oregon City Urban Growth Boundary, and has Comprehensive Plan designations of LR - Low-Density Residential, MR - Medium Density Residential and MUC -Mixed Use Corridor, as provided within the Park Place Concept Plan. The applicant requested a Zone Change from County FU-10 to City R-10 Single Family Dwelling District, R-5 Single Family Dwelling District, and NC Neighborhood Commercial District, though has not proposed the development of the property at this time.

A draft staff report is attached, however, in response to a recent concern, the staff has asked that the applicant consider revising the transportation impact study to nominally increase the potential worst-case scenario at buildout of the development. The transportation impact will be analyzed at multiple points throughout the development of this property. The current analysis associated with these applications reviews the transportation impact of a reasonable worst case scenario when the subject site is built out to determine compliance with the Annexation and Zone Change criteria in the Oregon City Municipal Code. The applicant has proposed to create a Master Plan in the future to identify the specific uses for construction and adequacy of the transportation (and other facilities such as utilities) prior to the development of the site. As the development is proposed onside the transportation impact will be analyzed again for compliance with the Oregon City Municipal Code. As the applicant will be providing an additional analysis, staff recommends the Planning Commission accept public testimony and continue the hearing until March 12, 2018

BUDGET IMPACT:
Amount:

FY(s):
Funding Source:

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

STAFF REPORT WITH FINDINGS AND RECOMMENDATION
February 5, 2018

FILE NOs.: AN-17-0004 / ZC-17-0005

APPLICATION TYPE: Type IV - Annexation with Zone Change

HEARING DATE: *Planning Commission*
Monday, February 12th, 2018 - 7:00 p.m., Oregon City City Hall
625 Center Street, Oregon City, OR 97045

APPLICANT: Mark Handris, Hidden Falls Development LLC
1980 Willamette Falls Dr., Ste. 200, West Linn, OR 97068

OWNER(s):

Address:	Tax Lot:	Acres	Owner
No Address	2-2E-27B -01000	9.69	Erickson
15110 S HOLCOMB BLVD	2-2E-27B -02000	1.45	Erickson
No Address	2-2E-28D -00100	14.11	Hidden Falls Development LLC
No Address	2-2E-28D -00190	10.75	Hidden Falls Development LLC
No Address	2-2E-28D -00302	0.16	Hidden Falls Development LLC
16582 S LIVESAY RD	2-2E-28D -00400	10.43	Hidden Falls Development LLC
14631 S LIVESAY RD	2-2E-28D -00500	10.73	Hidden Falls Development LLC
16472 S LIVESAY RD	2-2E-28D -03700	6.86	Hidden Falls Development LLC
16530 S LIVESAY RD	2-2E-28D -00200	5.17	Kirk and Michelle Tolstrup
16644 S LIVESAY RD	2-2E-28D -00300	3.1	George Thomas
No Address	2-2E-28D -00301	1.43	George Thomas
No Address	2-2E-28D -00303	1.77	George Thomas
14631 S LIVESAY RD	2-2E-28D -00502	9.42	Robert Tershel
No Address	2-2E-28D -03701	6.48	Redland Road LLC

REPRESENTATIVE: Rick Givens, 18680 Sunblaze Dr, Oregon City, OR 97045

REQUEST: Annexation and Zone Change of 14 tax lots located on the south side of Holcomb Blvd and north of S. Livesay Rd and totaling approximately 92 acres into Oregon City. (See attached map.) The subject territory is within the Oregon City Urban Growth Boundary, and has Comprehensive Plan designations of LR – Low Density Residential, MR – Medium Density Residential and MUC -Mixed Use Corridor. Applicant has requested a Zone Change from County FU-10 to City R-10 Single Family Dwelling District, R-5 Single Family Dwelling District, and NC Neighborhood Commercial District.

LOCATION:	See above under "Owners" and attached vicinity map. The annexation territory extends from the south side of Holcomb Blvd to S. Livesay Rd, abutting the UGB to the east.
STAFF REVIEWERS:	Pete Walter, AICP, Planner Christina Robertson-Gardiner, AICP, Senior Planner
COMP. PLAN DESIGNATIONS:	LR – Low Density Residential (~9.5 ac) MR – Medium Density Residential (~77.3 ac) MUC – Mixed Use Corridor (~4.5 ac)
PROPOSED ZONING:	R-10 – Single Family Residential R-5 - Dweling District NC – Neighborhood Commercial
CURRENT ZONING:	Clackamas County FU-10 (~57 ac) Clackamas County RRF-5 (~35 ac)
RECOMMENDATION:	Approval with conditions

PROCESS: The applicant and all documents submitted by or on behalf of the applicant are available for inspection at no cost at the Oregon City Planning Division, 221 Molalla Avenue, Oregon City, Oregon 97045, from 8:30am to 3:30pm Monday thru Friday. The staff report, with all the applicable approval criteria, will also be available for inspection 7 days prior to the hearings. Copies of these materials may be obtained for a reasonable cost in advance.

Please be advised that this is a Type IV proceeding. All new evidence must be submitted before the Planning Commission closes the public record. The City Commission's review will be on the record and limited to evidence that was submitted before the Planning Commission. Any issue that is intended to provide a basis for appeal must be raised before the close of the City Commission hearing, in person or by letter, with sufficient specificity to afford the City Commission and the parties an opportunity to respond to the issue. Failure to raise an issue with sufficient specificity will preclude any appeal on that issue. After considering the recommendation by the Planning Commission, the City Commission will make a determination as to whether the application has or has not complied with the factors set forth in section 14.04.060 of the Oregon City Municipal Code. Since the site has an acknowledged Comprehensive Plan map designation, upon annexation, the site shall be rezoned to implement the comprehensive plan.

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I. INTRODUCTION

GENERAL INFORMATION

This application requests approval to annex approximately 92 acres of land within the Urban Growth Boundary "UGB" to the City of Oregon City. This application also requests that City apply zoning to the annexed area in conformance with the land use designations in the adopted and acknowledged Oregon City Comprehensive Plan. The zoning would change from Clackamas County Future Urbanizable-10 (FU-10) and RRF5 (Rural Farm and Forest 5-Acre) to City of Oregon City R-10 Single-Family Dwelling District, R-5 Dwelling District, and NC – Neighborhood Commercial District pursuant to OCMC 17.68.025A.

The proposed zoning designations, if approved, represent an initial step in implementing the vision for the "North Village" of the adopted Park Place Concept Plan, adopted by the City in 2008. The concept plan is discussed in detail below.

EXISTING CONDITIONS

The annexation territory is located on the south side of Holcomb Blvd west of its intersection with Jada Way. South Livesay Road forms the southerly border of the annexation area. Journey Drive, Shartner Drive, and Cattle Drive are all stubbed into the subject area from existing residential neighborhoods to the north.

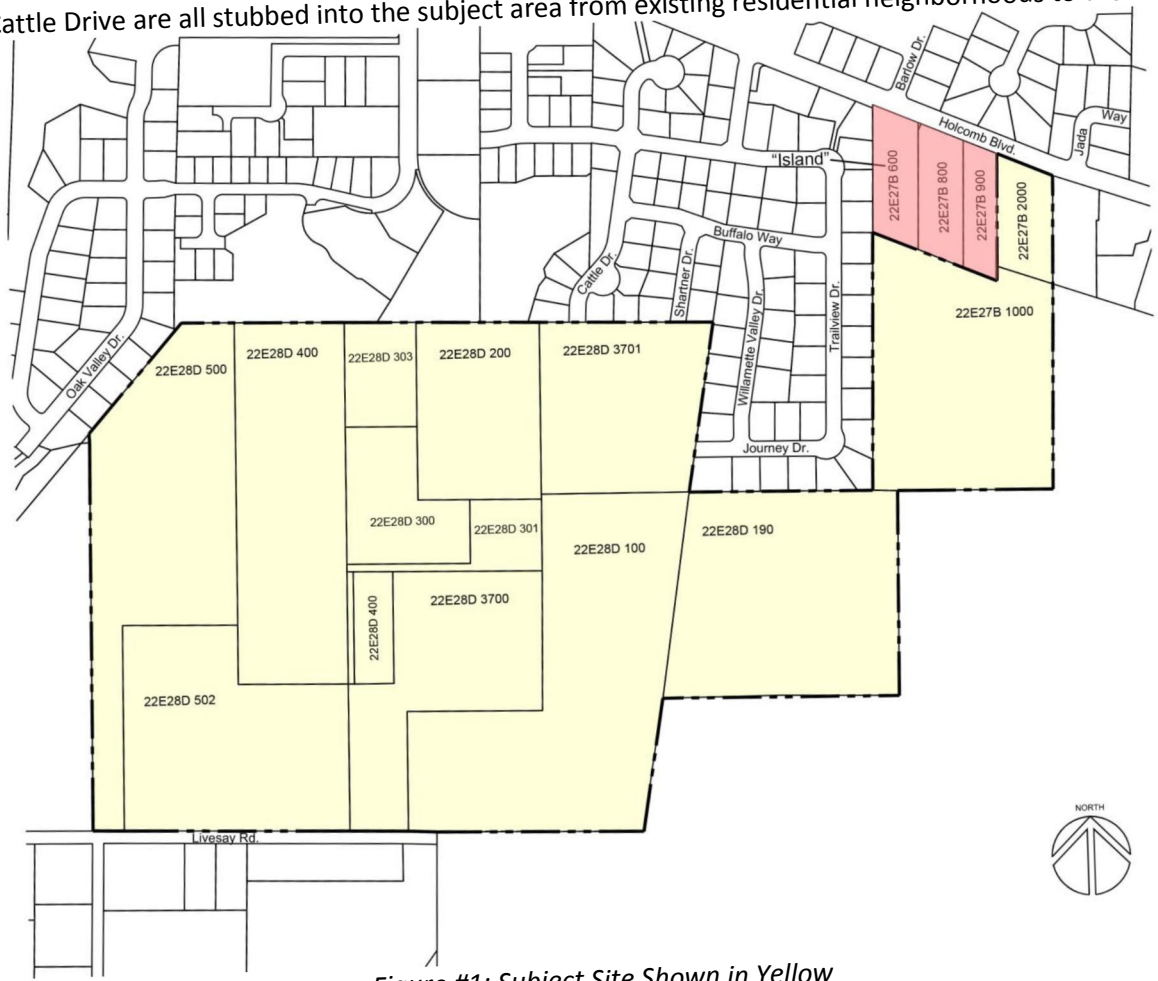


Figure #1: Subject Site Shown in Yellow

The properties included within this annexation proposal (highlighted in yellow above) contain a total of 7 single-family homes developed at rural densities on acreage tractswith various scattered outbuildings. The properties are located in the North Village Neighborhood area identified in the Park Place Concept Plan. As

discussed in the applicant's report, the future development of the subject property will provide for a mixture of residential, park, natural open space areas, and neighborhood commercial development consistent with the Park Place Concept Plan, provided the recommendations of this report are implemented.

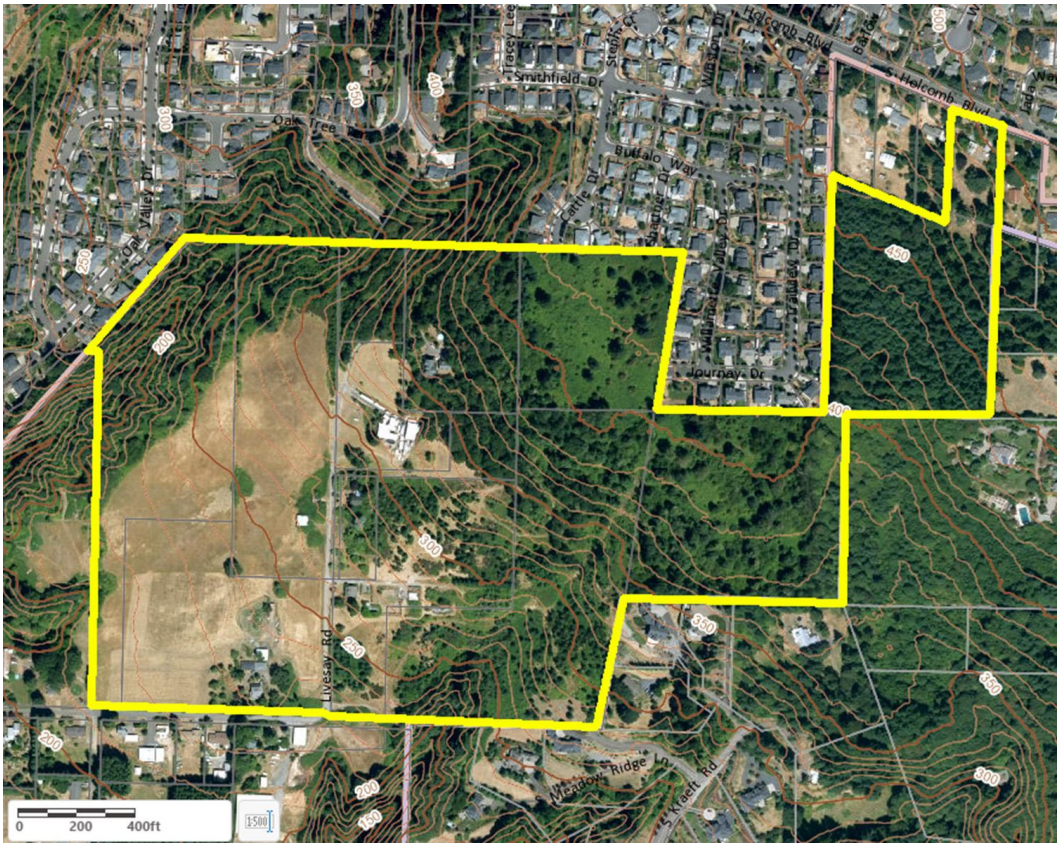


Figure 2: Aerial Photograph

The annexation will also provide a needed step in developing the northern segment of Holly Lane as a collector street extension that will eventually connect from S. Holcomb Blvd. to Redland Rd in accordance with the 2013 Oregon City Transportation System Plan (TSP).

Slopes are varied, with most areas having between zero and 25 percent grade. Slopes adjacent to the drainageway that forms the northwest border of the annexation area exceed 35% grade in certain areas. The property slopes generally to the southwest, downhill from Holcomb Blvd. The drainage of Livesay Creek runs along a northwestern portion of the annexation area for approximately 1000 feet.

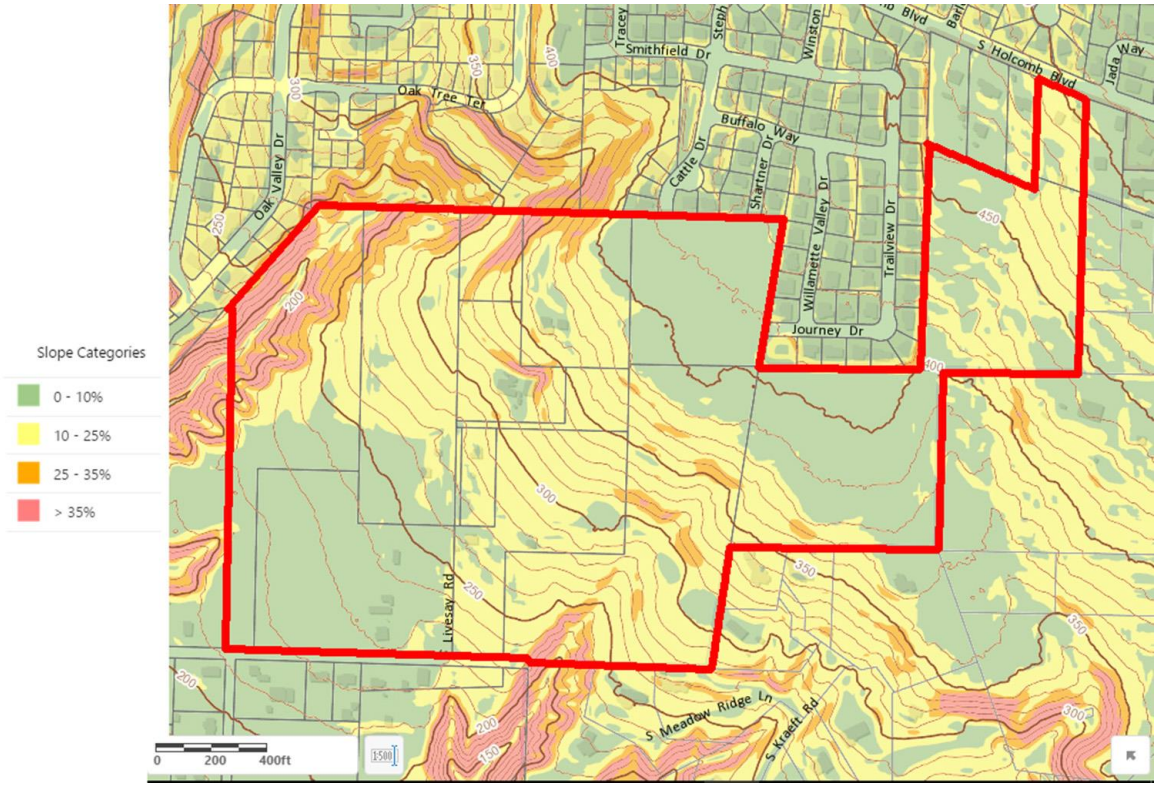


Figure 3: Site Topography

The majority of the property is otherwise undeveloped, but portions have been in use for pasture and hay fields. Tax Lot 2-2E-27B -01000 consists of 9.69 acres which is heavily forested.

The annexation petition is signed by all of the owners of all of the land in the territory. The petition thus meets the requirement for initiation set forth in ORS 222.125.

The following table provides current taxlot information for the properties.

APN	Address	Taxpayer	Acres	Assessed Value
2-2E-27B -01000		MICHAEL ERICKSON	9.69	$ 3,709.00
2-2E-27B -02000	15110 S HOLCOMB BLVD	ERICKSON MICHAEL K TRUSTEE	1.45	$ 176,352.00
2-2E-28D -00100		HIDDEN FALLS DEVELOPMENT LLC	14.11	$ 262,203.00
2-2E-28D -00190		HIDDEN FALLS DEVELOPMENT LLC	10.75	$ 106,951.00
2-2E-28D -00200	16530 S LIVESAY RD	KIRK D & MICHELLE D TOLSTRUP	5.17	$ 404,057.00
2-2E-28D -00300	16644 S LIVESAY RD	GEORGE E THOMAS	3.1	$ 292,428.00
2-2E-28D -00301		GEORGE E THOMAS	1.43	$ 24,447.00
2-2E-28D -00302		HIDDEN FALLS DEVELOPMENT LLC	0.16	$ 7,181.00
2-2E-28D -00303		GEORGE E THOMAS	1.77	$ 29,879.00
2-2E-28D -00400	16582 S LIVESAY RD	HIDDEN FALLS DEVELOPMENT LLC	10.43	$ 347,178.00
2-2E-28D -00500	14631 S LIVESAY RD	HIDDEN FALLS DEVELOPMENT LLC	10.73	$ 229,571.00
2-2E-28D -00502	14631 S LIVESAY RD	ROBERT TERSHEL	9.42	$ 374,667.00
2-2E-28D -03700	16472 S LIVESAY RD	HIDDEN FALLS DEVELOPMENT LLC	6.86	$ 268,674.00
2-2E-28D -03701		REDLAND ROAD LLC	6.48	$ 133,972.00
Totals			91.55	$ 2,661,269.00

**From Clackamas Co. Assessor's Office (2017)*

ISLANDS

As discussed in greater detail below, Oregon City Comprehensive Plan Policy 14.4.3 requires that the City "evaluate" and "avoid creating unincorpated islands within the City." There are three tax lots (3.7 acres), abutting Holcomb Road, at the northern edge of the proposed annexation area that are not included as part of this annexation proposal. See the pink properties in Figure 1. The applicant indicates that they tried unsuccessfully to include these properties in their annexation.

If approved, these three tax lots will be surrounded on all four sides by land included within the city creating an unincorporated island. Policy 14.4.3 provides that "in some instances", the City may "require that parcels adajacent to the proposed annexation" be included as part of the annexation request. Therefore, the Planning Commission, and ultimately the City Commission, must decide if the circumstances warrant forcing the three properties to become part of this annexation request. The city's options for finding compliance with Polity 14.4.3 are discussed in greater detail below.

However, should the city require annexation of these three lots, voter approval would be required, since there would no longer be 100% owner consent for the annexation.

PARK PLACE CONCEPT PLAN

The proposed annexation is within the Park Place Concept Plan area, adjacent to Oregon City's Park Place neighborhood on the northeastern edge of the City. The total land area within the Concept Plan is approximately 480 acres, of which 180 acres are located immediately adjacent to Oregon City limits in the vicinity of Livesay Road. These 180 acres were brought into the UGB in the 1980s, but were not annexed into the City of Oregon City. The remaining 300 acres were brought into the UGB in 2002.

The whole area within the UGB was comprised of 138 individual property owners as of 2008, consisting mainly of single-family homes on large parcels. To date, the largest amount of acreage in the concept plan area under single ownership is approximately 48 acres. Thirty-eight acres are in public ownership, the majority of which comprise Ogden Middle School (Oregon City School District). Nearly half of the parcels in the study area are one acre or less.

The Park Place Concept Plan "PPCP" (Adopted March 12, 2008) will integrate a multi-modal transportation system with a mixed-use development pattern to achieve a highly efficient and sustainable design. The PPCP identifies a network of internal and external pedestrian, bicycle, transit and street connections that serve the study area and connect it to the surrounding community and the broader region. The Concept Plan was developed through an extensive interactive public process, guided by a Project Advisory Committee comprised of neighbors, stakeholders, business owners and City residents. An extensive public hearing process before the Oregon City Planning Commission and City Commission occurred prior to final adoption of the Park Place Concept Plan.

DISCUSSION OF ZONE CHANGE CRITERIA

Concurrent Zoning Map Amendment from FU-10 to R-5, R-10 & NC.

The Site has acknowledged Oregon City Comprehensive Plan Map designations of Medium Density Residential (MR), Low Density Residential (LDR) and Mixed Use-Corridor (MUC). Oregon City Municipal Code ("OCMC") 17.68.025.A. provides that "notwithstanding any other section of this code", a concurrent zoning map application under OCMC Chapter 17.50 is required. Further, this section requires that the zoning map designation correlate to the corresponding Comprehensive Plan map designation for the site as shown in OCMC 17.68.025.A. The section is mandatory; it provides that "the property shall be rezoned upon annexation to the corresponding zoning designation as follows..."(emphasis added). In other words, there is no discretion to be applied to the zoning map amendment and not only is a concurrent zoning map amendment required, the outcome is automatic based on the acknowledged OCMC. Further, compliance

with OCMC Chapter 17.50 requires a zoning map amendment application but does not require compliance with the discretionary zoning map amendment application criteria in OCMC 17.68.020.

In this instance, the zoning districts to be applied per the table in OCMC 17.68.025.A are R-5 for the MR area, R-10 for the LDR area, and Neighborhood Commercial (NC) for the MUC area.

The Planning Commission must determine that the Application satisfies the approval criteria in OCMC 17.68.025.A. and B. in order for the zone change to be approved.

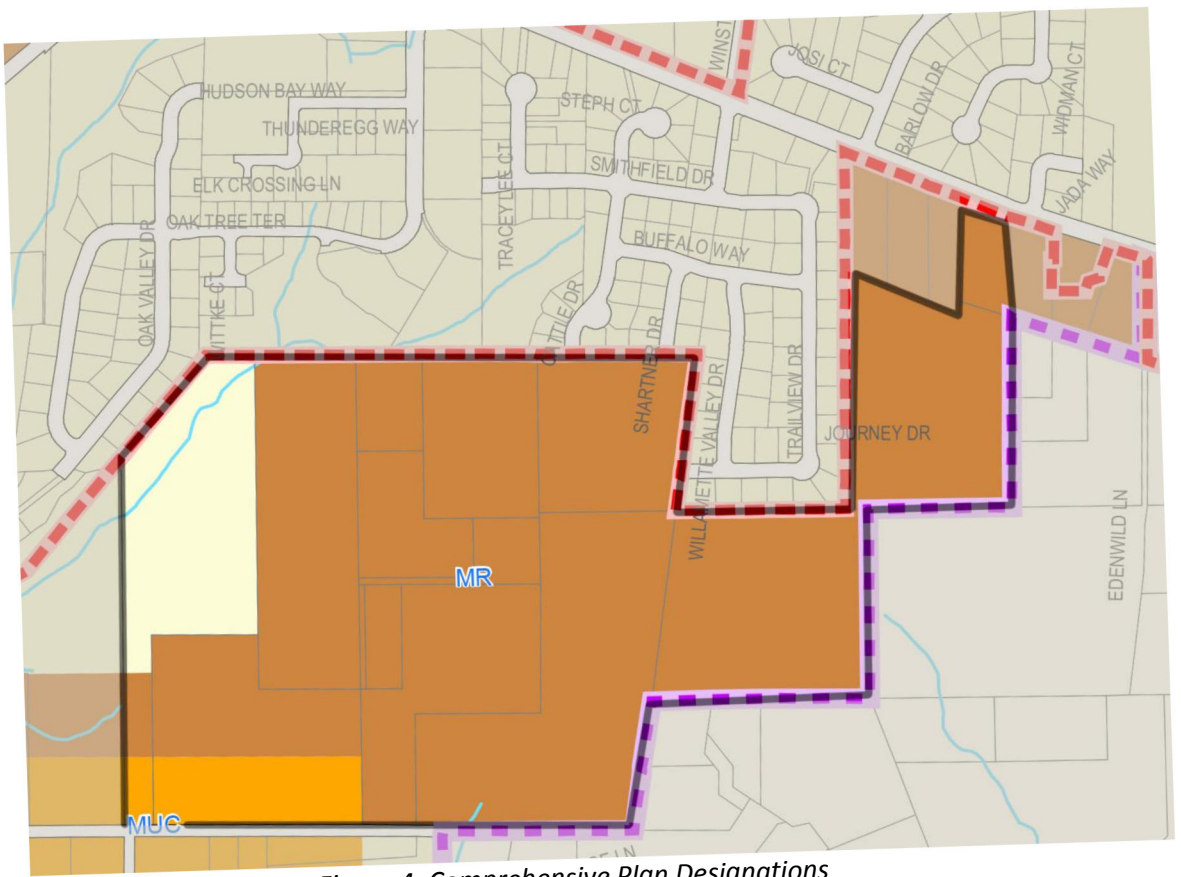


Figure 4: Comprehensive Plan Designations

Additional analysis is provided within this report.

II. APPLICABLE REGULATIONS AND APPROVAL CRITERIA

The remainder of this staff report provides findings to demonstrate that the proposed annexation and zone change is consistent with applicable approval criteria.

Annexations in Oregon City are governed at local (city), regional (Metro), and State levels. Locally, annexations are regulated by Title 14 of the Oregon City Municipal Code, and by goals and policies in the adopted Comprehensive Plan. Regionally, annexations are regulated by Metro's Code Section 3.09, which establishes requirements for local government boundary changes.

Annexations are required to demonstrate a "positive balance of factors" in order to comply with the approval criteria in Chapter 14.04.060. Findings for compliance with the Annexation criteria are provided in section II.A. below.

Zone Changes in Oregon City are governed by the criteria in *OCMC Chapter 17.68 – Zoning Changes and Amendments*, and *OCMC Chapter 17.06 – Zoning District Classifications.* Each of these two chapters includes a specific subsection related to zoning of annexed areas. Findings for compliance with the applicable zone change criteria are provided in section II.B. In the case of annexation areas, the Applicant's proposal is that staff apply the R-10, R-5 and NC zones to the applicable properties without discretion pursuant to the pursuant to OCMC 17.68.025.A.

Annexation and Zone Changes are both discretionary decisions requiring the Planning Commission make a recommendation to the City Commission regarding the approval or denial of the application and any conditions necessary to assure compliance with the applicable approval criteria.

II A. ANNEXATION CRITERIA
COMPLIANCE WITH METRO CODE 3.09 – LOCAL GOVERNMENT BOUNDARY CHANGES
Metro Code Section 3.09 establishes requirements for local government boundary changes. The criteria for a minor boundary change are found in Section 3.09.050.A-D and are applicable to this annexation request. This annexation is considered an expedited decision pursuant to Metro code. Additional petition and notice requirements are also noted below.

3.09.030 Notice Requirements
B. Within 45 days after a reviewing entity determines that a petition is complete, the entity shall set a time for deliberations on a boundary change. The reviewing entity shall give notice of its proposed deliberations by mailing notice to all necessary parties, by weatherproof posting of the notice in the general vicinity of the affected territory, and by publishing notice in a newspaper of general circulation in the affected territory. Notice shall be mailed and posted at least 20 days prior to the date of deliberations. Notice shall be published as required by state law.
Finding: The proposal is consistent with this requirement. The public notice requirements for the first evidentiary hearing on February 12th, 2018 are met pursuant to OCMC 17.50 and in accordance with Metro Code 3.09.030. The application was deemed complete on December 5th, 2017.

Legally Required
Newspaper: published on January 11, 2018, within 45 days of the public hearing.
300' mailed notice: January 5th, 2018, more than 20 days prior to the public hearing.
Property Posted with Signs: January 22nd, 2018, 21 days prior to the public hearing.
Affected Agencies (including Metro): Mailed Notice on January 5th, 2018 and Emailed on January 12th, 2018, more than 20 days prior to the public hearing.

Additional Courtesy Notices
Email Transmittal: to Neighborhood Association Chairs, three abutting County Planning Organizations, and affected departments and agencies, January 12th, 2018, more than 20 days prior to the public hearing.
Project Webpage https://www.orcity.org/planning/project/17-0004-zc-17-0005 created: January 12th, 2018.

Public Comments
The following written public comments were received 10 days prior to the public hearing pursuant to the public notice (by 5:00 pm, Friday, 2nd of February, 2018).

Christine Kosinski submitted comments (Exhibit 3) identifying concerns regarding development on unstable slopes, poor soil conditions, landslides, sinkholes, and difficulty in obtaining landslide insurance. The comments assert that Oregon City does not regulate slopes less than 25% and includes geologic hazards reports which discuss the slope of the site. A variety of exhibts are provided discussing examples of landslides. Other jurisdiction's regulations are discussed and the comments indicate that the proposal does not comply with Goal 7. In addition, concerns about the traffic impact of the annexation and identified a past project of the developer.

Oregon City Police Chief Jim Band submitted comments (Exhibit 3) indicating that they do not anticipate any problems being able to patrol and serve the annexation area and that response times will be witin industry standards.

The comments are incorporated into the analysis of this report. Comments received after this deadline will be forwarded to the Planning Commision at the next public hearing.

3.09.040 Requirements for Petitions

A. A petition for a boundary change must contain the following information:
1. The jurisdiction of the reviewing entity to act on the petition;
2. A map and a legal description of the affected territory in the form prescribed by the reviewing entity;
3. For minor boundary changes, the names and mailing addresses of all persons owning property and all electors within the affected territory as shown in the records of the tax assessor and county clerk; and
4. For boundary changes under ORS 198.855(3), 198.857, 222.125 or 222.170, statements of consent to the annexation signed by the requisite number of owners or electors.

Finding: The proposal is consistent with this requirement. Items 1-4 were submitted.

Consistency with Metro Code 3.09.045(D)(1) for Expedited Decisions

D. To approve a boundary change through an expedited process, the city shall:
1. Find that the change is consistent with expressly applicable provisions in
a. Any applicable urban service agreement adopted pursuant to ORS 195.065;

Finding: The proposal is consistent with this requirement. This criterion requires that annexations be consistent with applicable provision of annexation plans and/or agreements that have been adopted pursuant to ORS 195. Urban services are defined as: sanitary sewers, water, fire protection, parks, open space, recreation and streets, roads and mass transit, and have been addressed in the Statements of Availability of Facilities and Services findings of this report as required by under OCMC 14.04 .040 and Metro Code 3.09.

The City has an Intergovernmental cooperative agreement (IGA) with Clackamas River Water (CRW) known as the HOPP Area Water Service Plan (Holcomb-Outlook-Park Place) agreement adopted in 1998 to provide water service for urbanizing areas above the 450' pressure zone from the Barlow Crest Pump Station and the upstream Hunter's Heights Reservoir system. The HOPP agreement is provided as an exhibit. The HOPP agreement generally states that CRW will service homes above the 450 foot elevation within the specified HOPP boundary. Only the upper northeast corner of the annexation area, near Holcomb Boulevard would be within the area to be served by CRW, as shown on the map below and provided in the application.

The proposed boundary change does not conflict and is consistent with the HOPP Agreement.

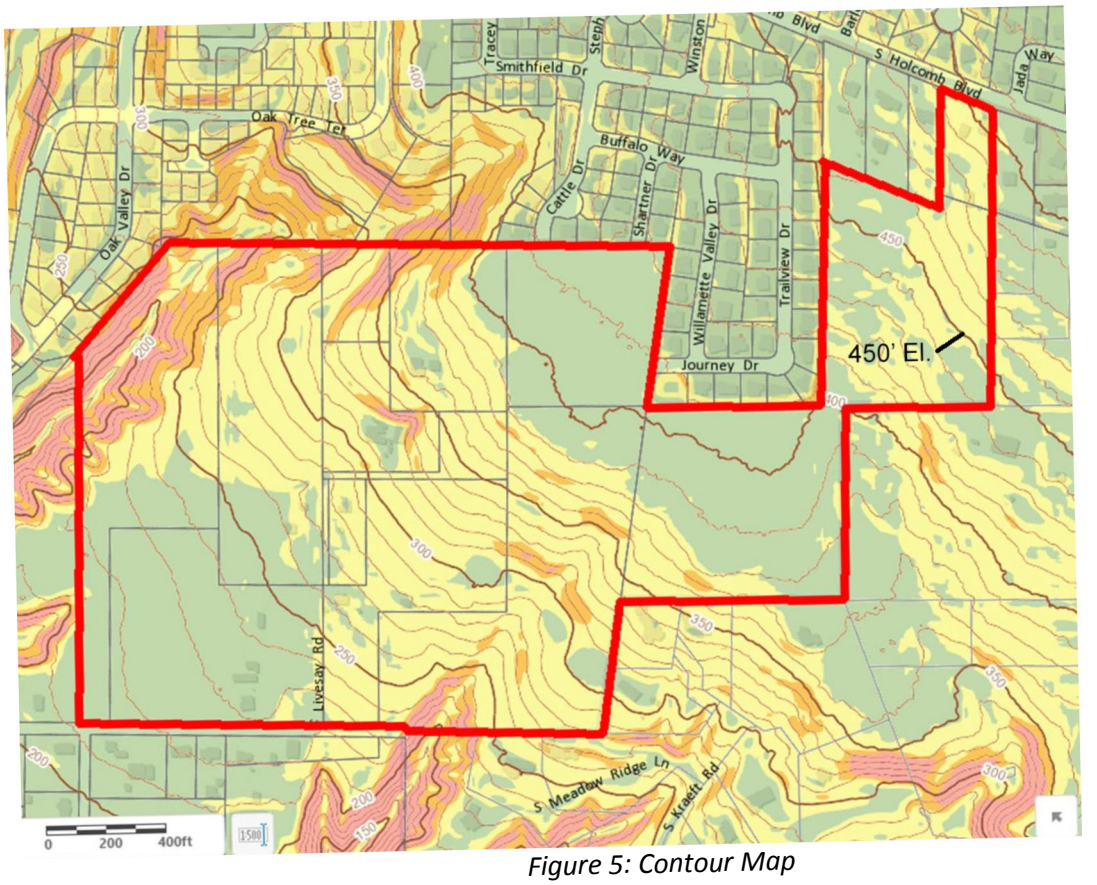


Figure 5: Contour Map

b. Any applicable annexation plan adopted pursuant to ORS 195.205;
Finding: This criteria is not applicable. There is no annexation plan applicable to the subject site. Therefore, this criterion does not apply.

c. Any applicable cooperative planning agreement adopted pursuant to ORS 195.020(2) between the affected entity and a necessary party;
Finding: The proposal is consistent with this requirement. The City and the County have an Urban Growth Management Agreement (UGMA) for the portions of the property, which is a part of their respective Comprehensive Plans.

Urban Growth Management Agreement (UGMA, 1990)
The City and the County have an Urban Growth Management Agreement (UGMA), which is a part of their respective Comprehensive Plans. The territory to be annexed falls within the Urban Growth Management Boundary (UGMB) identified for Oregon City and is subject to the agreement.

The Agreement presumes that all the urban lands within the UGMB will ultimately annex to the City. It specifies that the city is responsible for the public facilities plan required by Oregon Administrative Rule Chapter 660, division 11. The Agreement goes on to say:

- *City and County Notice and Coordination*

* * *

D. The CITY shall provide notification to the COUNTY, and an opportunity to participate, review and comment, at least 20 days prior to the first public hearing on all proposed annexations . . .

** * **

5. City Annexations

A. CITY may undertake annexations in the manner provided for by law within the UGMB. CITY annexation proposals shall include adjacent road right-of-way to properties proposed for annexation. COUNTY shall not oppose such annexations.

B. *Upon annexation, CITY shall assume jurisdiction of COUNTY roads and local access roads that are within the area annexed. As a condition of jurisdiction transfer for roads not built to CITY street standards on the date of the final decision on the annexation, COUNTY agrees to pay to CITY a sum of money equal to the cost of a two-inch asphaltic concrete overlay over the width of the then-existing pavement; however, if the width of pavement is less than 20 feet, the sum shall be calculated for an overlay 20 feet wide. The cost of asphaltic concrete overlay to be used in the calculation shall be the average of the most current asphaltic concrete overlay projects performed by each of CITY and COUNTY. Arterial roads will be considered for transfer on a case- by-case basis. Terms of transfer for arterial roads will be negotiated and agreed to by both jurisdictions.*

Finding: The proposal is consistent with this requirement. The required notice was provided to Clackamas County at least 20 days before the Planning Commission hearing. The UGMA requires that adjacent road rights-of-way be included within annexations. The right-of-way of Holcomb Boulevard adjacent to the subject site have been included in the annexation area legal description. Holcomb Boulevard is a Minor Arterial Road and will be subject to applicable street improvements for a minor arterial road when a development application is submitted to the city. These improvements will be subject to joint review by the City and County if complete jurisidictional transfer to the City of Oregon City has not occurred prior to a development application.

C. Public sewer and water shall be provided to lands within the UGMB in the manner provided in the public facility plan . . .

Finding: The proposed annexation site is inside the UGB, contiguous with the city limits, and directly adjacent to developed areas that currently receive public facilities and services. Public facilities (water, sewer and transportation) are available near the proposed annexation site and the city has adopted public facilities plans that provide for extension of those facilities to serve the site to accommodate future development. A future development application will need to be filed and approved by the City of Oregon City prior to any development occurring. Upon approval of a development plan, the developer will provide for the installation of needed public facilities and services.

d. Any applicable public facility plan adopted pursuant to a statewide planning goal on public facilities and services;

Finding: The proposal is consistent with this requirement. The proposed annexation is consistent with the applicable adopted public facility plans. Per statewide planning goal 11 the city's public facility plan describes the water, sewer and transportation facilities which are to support the land uses designated in the appropriate acknowledged comprehensive plan within the urban growth boundary. The public facilities listed below are described in the findings regarding the applicant's Statements of Availability of Public Services under OCMC 14.04.050(E)(7)(a) - (g) NARRATIVE STATEMENTS.

- Water Distribution System Master Plan (WMP (2012)
- Sanitary Sewer Master Plan (2014)
- Transportation System Plan (2013)

Additional applicable Public Facility Plans and service providers include the following:

Metro Regional Transportation Plan (RTP).

Finding: The proposal is consistent with this requirement. The City's Transportation System Plan complies with the Metro Regional Transportation Plan. The 2013 Oregon City Transportation System Plan (TSP) update and the adopted amendments to the Oregon City Municipal Code (OCMC or "code") that implemented the City's TSP complies with the requirements set out in the Metro Regional Transportation Functional Plan (RTFP). As established in the RTFP, demonstrating compliance with the RTFP constitutes compliance with the Regional Transportation Plan (RTP).

South Fork Water Board (SFWB) – Water Master Plan (2016)
Finding: The proposal is consistent with this requirement. SFWB is the water provider for the cities of Oregon City and West Linn and their intake plant is located in Oregon City. SFWB recently updated their master plan to include an updated Capital Improvement Plan updated System Development Charges (SDCs), which are passed through to developers within the city limit as part of the City's SDC schedule. The emphasis of the master plan update is on providing priority upgrades related to system capacity and seismic deficiencies. SFWB's master plan, SDCs analysis and associated capital improvement plan span a 20-year planning period starting in 2016 and ending in 2036.

e. Any applicable comprehensive plan;
Finding: The proposal is consistent with this requirement.

Oregon City Comprehensive Plan
The Oregon City Comprehensive Plan and zoning code will guide future development in the proposed annexation area. Oregon City's Comprehensive Plan Land Use Map within the acknowledged Oregon City Comprehensive Plan designates the subject property Low Density Residential, Medium Density Residential, and Mixed Use Commercial. These designations also implement the land uses envisioned in the Park Place Concept Plan for the annexation area. The proposed zoning amendment would not change the map designation and the R-10, R-5 and NC zoning are implementing zones for those designations.

Specific Findings for consistency with the Goals and Policies of the Oregon City Comprehensive Plan are provided in this report.

Clackamas County Comprehensive Plan
The Clackamas County Comprehensive Plan implements the Oregon City Comprehensive Plan for lands within the Urban Growth Boundary. The plan designation for the proposed annexation properties on the County's Urban Area Land Use Plan the properties as Urban. According to the County's Plan,

> *"Urban areas include all land inside urban growth boundaries. Urban areas are either developed or planned to be developed with adequate supportive public services provided by cities or by special districts. Urban areas have concentrations of people, jobs, housing, and commercial activity."*

The Land Use section of the Clackamas County Comprehensive Plan, Chapter 4, further distinguishes Urban Areas into Immediate Urban Areas and Future Urban Areas.

Immediate Urban Areas: Immediate urban areas are lands that are within urban growth boundaries, are planned and zoned for urban uses, and meet at least one of the following conditions:

1. Served by public facilities, including sanitary sewage treatment, water, storm drainage, and transportation facilities;
2. Included within boundaries of cities or within special districts capable of providing public facilities and planned to be served in the near future; or
3. Substantially developed or surrounded by development at urban densities.

The County's plan and map 4-1 identifies the territory proposed for annexation as a future urban area, which is defined as:

"Future urbanizable areas are lands within the Urban Growth Boundaries but outside Immediate Urban areas. Future Urbanizable areas are planned to be served with public sewer, but are currently lacking a provider of sewer service. Future Urbanizable areas are substantially underdeveloped and will be retained in their current use to insure future availability for urban needs.

Section 4.A of the County's Plan includes several policies that address the conversion of Future Urbanizable lands to Immediate Urban lands to "Provide for an orderly and efficient transition to urban land use." and "Encourage development in areas where adequate public services and facilities can be provided in an orderly and economic way."

Further, County Land Use Policy 4.A.1 requires that the County "Coordinate with Metro in designating urban areas within Metro's jurisdiction. Recognize the statutory role of Metro in maintenance of and amendments to the Portland Metropolitan Urban Growth Boundary."

Finally, 4.C. the County's Future Urban Policy 4.C.1. requires that the County control premature development (before services are available) by:

4.C.1.1. Applying a future urban zone with a 10-acre minimum lot size within the Portland Metropolitan UGB except those lands identified in Subsection 7.1.b.

The subject site is adjacent to the City limits of Oregon City. As demonstrated within this report, public facilities and urban services can be provided in an orderly economically efficient manner to the subject site. Nothing in the County Plan speaks directly to criteria for annexation of property from the County to the City, although the Urban Growth Management Agreement (UGMA) between the City and the County does address these requirements as discussed above.

f. Any applicable concept plan; and
Finding: The proposal is consistent with the Park Place Concept Plan.

With the exception of 1.45 acres that fronts on Holcomb Blvd. (Tax Lot 22E27B 02000), all of the subject property lies within the boundaries of the Park Place Concept Plan. The proposed annexation and concurrent zone change are a first step towards implementing this plan.

The total land area within the Concept Plan is approximately 480 acres, of which 180 acres are located immediately adjacent to Oregon City limits in the vicinity of Livesay Road. These 180 acres were brought into the UGB in the 1980s, but were not annexed into the City of Oregon City. The remaining 300 acres were brought into the UGB in 2002. The whole area within the UGB was comprised of 138 individual property owners as of 2008, consisting mainly of single-family homes on large parcels. To date, the largest amount of acreage in the concept plan area under single ownership is approximately 48 acres. Thirty-eight acres are in public ownership, the majority of which comprise Ogden Middle School (Oregon City School District). Nearly half of the parcels in the study area are one acre or less. The 6.5 acres proposed to be annexed into the city are located within the area included within the UGB in the 1980s. This annexation area includes land identified as the "north village" in the Park Place Concept Plan.

The Park Place Concept Plan "PPCP" (Adopted March 12, 2008) will integrate a multi-modal transportation system with a mixed-use development pattern to achieve a highly efficient and sustainable design. The

PPCP identifies a network of internal and external pedestrian, bicycle, transit and street connections that serve the study area and connect it to the surrounding community and the broader region. The Concept Plan was developed through an extensive interactive public process, guided by a Project Advisory Committee comprised of neighbors, stakeholders, business owners and City residents. An extensive public hearing process before the Oregon City Planning Commission and City Commission occurred prior to final adoption of the Park Place Concept Plan.

The Park Place Concept Plan's Figure 3-2 "North Village Neighborhood", bears a note stating, "This map is for concept planning purposes only. The specific locations of natural resource boundaries, open space, parks, land uses, roads, trail, infrastructure and related improvements may change and is subject to on-site verification and design at the time of development." The Park Place Concept Plan is an ancillary document to the City's Comprehensive Plan. However, designations depicted on the Oregon City Comprehensive Plan Map, as adopted by Ordinance No. 08-1014, are authoritative for purposes of the requested zone change in conjunction with annexation of this property. It is understood that a future zone change/comprehensive plan map amendment application will be necessary at the time of preparation of the future master plan in order to implement the general conceptual design called for by the North Village Plan.

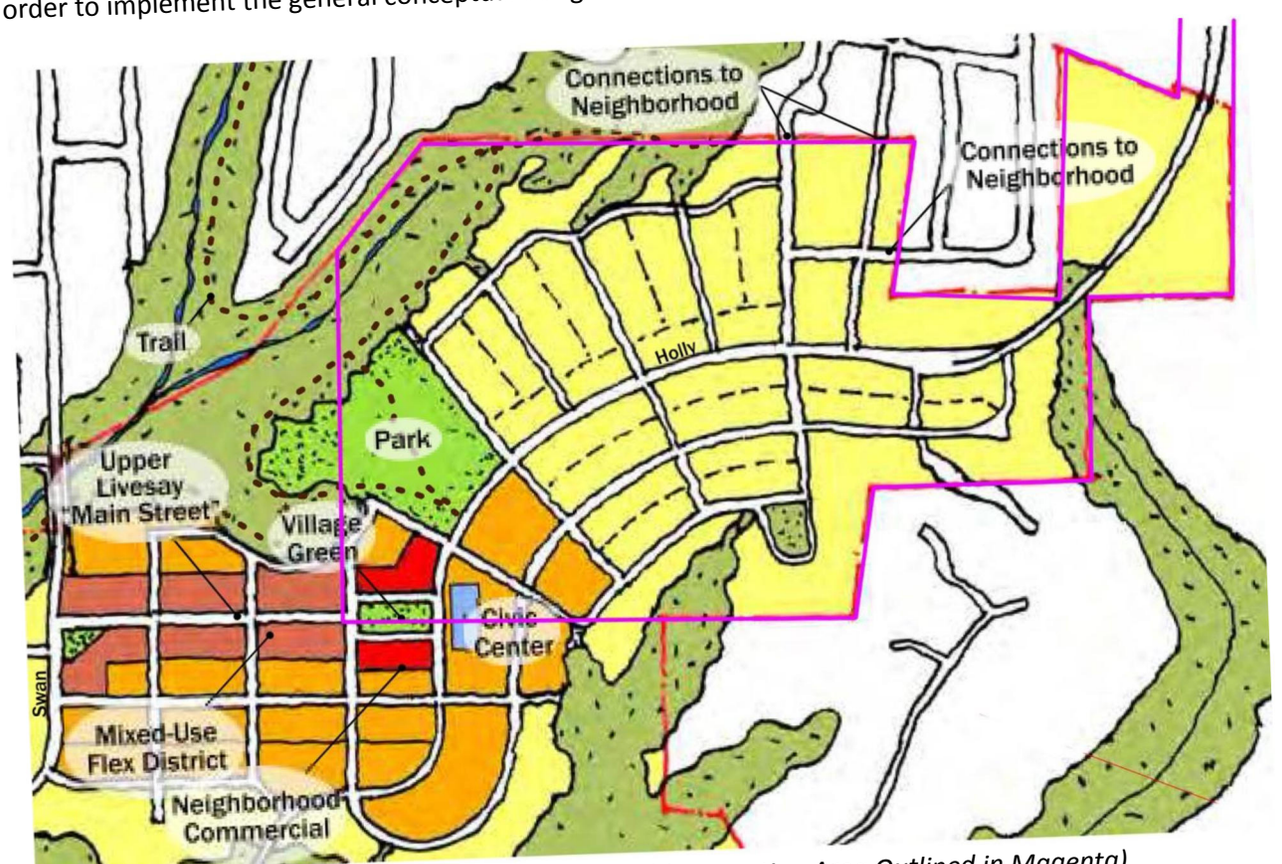


Figure 6: North Village Neighborhood (Annexation Area Outlined in Magenta)

The plan for the North Village area includes commercial development along a new main street along Upper Livesay Road. This area is shown in red on the map above and impacts a small area of the subject property. The orange color depicts Medium/High-Density Residential (R-3.5, minimum 9 units/acre) which would likely be developed with a mix of townhouse and duplex units. The yellow area is planned for Low/Medium-Density Residential (proposed R-5, minimum 6 units/acre) that would be a mix of single-family detached and single-family attached dwellings. A community park is also called for in the Plan. A collector road called the Holly Lane north extension would provide a roadway corridor tying Holcomb Blvd.

through to Redland Road, which would be a significant improvement for the Park Place neighborhood that presently is restricted to the Holcomb Blvd. corridor for access.

The key components of the Park Place Concept Plan are listed on page 1 of that document:

- Two primary north-south connections between Holcomb Boulevard and Redland Road (Swan Avenue and Holly Lane)
- Two distinct mixed-use neighborhoods (North Village and South Village) that accommodate 1,459 new dwelling units
- Neighborhood-oriented commercial nodes that integrate commercial land uses, residential land uses, and public open space
- An area for a new civic institution, like a library or community center
- An 8-10 acre community park and a 3-5 acre neighborhood park
- A mix of housing types and ranges of affordability
- An extensive system of off-street and on-street trails and pedestrian/bicycle connections
- Innovative, green on-site stormwater treatment methods
- Protected sensitive areas, including drainages and steep slopes
- Streets and buildings oriented for solar access
- The use of green edges to define neighborhoods and buffer developments
- Integration of parks and open spaces into existing and future neighborhoods

The subject property includes part of the Holly Lane north extension, but is not involved in the Swan Avenue connection. The area of the annexation site along Livesay Road includes neighborhood commercial development, some of the civic institution uses and a major portion of the planned community park. As shown on the North Village Neighborhood plan, there are areas of sensitive land associated with drainageways that will need to be protected as open space. The plan will also include trails that will tie open spaces to residential and commercial components.

The present application involves only the annexation and application of the zoning that is consistent with the adopted Comprehensive Plan Map. *It is not relevant to discuss the goals and policies of the Park Place Community Plan in detail at this early stage.* The future submittal of a phased Master Plan, further zone change and site specific development applications will be reviewed for compliance with all relevant goals and objectives of the Park Place Concept Plan at such time as those applications are submitted.

Consideration under Metro Code 3.09.045(D)(2) for Expedited Decisions
The applicable approval criteria under the Metro Code are:

A. Whether the proposed boundary change will promote the timely, orderly and economic provision of public facilities and services.

Comment: all required public facilities and services will be available at the time of development. No development will occur until such time as the Alternative Mobility standards are adopted and compliance with the Transportation Planning Rule OAR 12-660 can be met. Upon approval of a future development plan, the developer will provide for the installation of needed public facilities and services.
Finding: The proposal is consistent with this requirement. The proposed annexation site is inside the UGB, contiguous with the city limits, and directly adjacent to developed areas that currently receive public facilities and services. Public facilities (water, sewer and transportation) are available near the proposed annexation site and the city has adopted public facilities plans that provide for extension of those facilities to serve the site to accommodate future development. A future development application will need to be filed and approved by the City of Oregon City prior to any development occurring. Upon approval of a

development plan, the developer will provide for the installation of needed public facilities and services. The City has initiated an engineering study that will add more detailed analysis to the adopted Water Master Plan within the Park Place Concept Plan area. This study will guide preliminary design elements to serve the proposed annexation area and refine the CIP. The study is expected to be completed by Fall of 2018.

b. Whether the proposed boundary change will affect the quality and quantity of urban services
Finding: The proposal is consistent with this requirement, as conditioned. The city has updated its sewer, water and transportation facilities master plans to plan for future extension of those services into the proposed annexation area at the time of development. The City has initiated an engineering study that will add more detailed analysis to the adopted Water Master Plan within the Park Place Concept Plan area. This study will guide preliminary design elements to serve the proposed annexation area and refine the CIP. The study is expected to be completed by Fall of 2018.

The annexation of this property will have no immediate impact upon the quality or quantity of urban services since development of the property will be prohibited until such time as the Alternative Mobility standards are adopted and compliance with Article 12 can be met. At such time as the site is developed in the future, it will be in a manner consistent with the North Village Concept Plan and consistent with the Low Density Residential designation of the property. The City has planned for the provision of necessary public facilities and services in this area in its Public Facilities Plan and Transportation Systems Plan. Since the future development will conform to the anticipated level of development, it will not have a negative impact upon the quality or quantity of urban services.

The future development application will provide for a master plan consistent with the design concept of the North Village Plan. The applicant acknowledges that the future master plan for the annexation area will need to provide for the dedication of a community park and other public facilities consistent with the Park Place Concept Plan. Staff recommends that this annexation area be subject to a Master Plan pursuant to OCMC 17.65 prior to any development of the property at densities greater than that permitted under current County zoning. Master Planning of the annexation area pursuant to OCMC 17.65 would allow for the specific phasing of development over time as well as greater control and predictability regarding the timing of and cost of public imporvements, including water, stormwater, sewer, transportation, parks, trails and open space. A master plan also allows development more flexibility to vary from prescriptive standards if approved pursuant to OCMC 17.65. Any master plan, along with a future comprehensive plan amendment and zone change for the subject property cannot proceed until such time as the regional transportation issues are resolved.

In accordance with City, County and State transportation requirements, no development, except that permitted under the County's Future Urban FU-10 zoning designation, in effect as of the date of this application's submittal, shall be allowed until the following occurs, acknowledged and the Applicant demonstrates compliance with these requirements:

a. A refinement plan for Highway 213 at Beavercreek Road (Alternative Mobility Targets), including elements such as financially constrained projects and alternative mobility standards, and amendments to OCMC Chapter 12.04 implementing the new Refinement Plan, are be adopted and acknowledged.
b. Amendments to OCMC 12.04 which allow development affecting the intersection of Highway 213/Beavercreek are adopted.

I. Adopt amendments to the City's Transportation System Plan and OCMC Chapter 12.04 to include projects that satisfy the then-applicable performance standards and these standards must be acknowledged; or

II. Condition the approval of a land division application that satisfies then-applicable OCMC Chapter 12.04 by including proportional mitigation of the application's impacts on that intersection, or such other mitigation measure(s) as may be approved which assure(s) that the intersection will either meet, or perform no worse than, the then-applicable performance standards

c. Eliminate or avoid unnecessary duplication of facilities or services.

Finding: The proposal is consistent with this requirement. The city notified all applicable service providers of this annexation request for their review and comment. Annexation to, or withdrawal from, service provider districts has been addressed in this report as part of the final recommendations, and will be done concurrent or subsequent to this proposed annexation. All services in this area will be provided by the City of Oregon City with the exception of water service to areas served by Clackamas River Water under the existing HOPP Agreement, so there will be no unnecessary duplication of facilities and services.

The Metro Code also contains a second set of 10 factors that are to be considered where: 1) no ORS 195 agreements have been adopted, and 2) a necessary party is contesting the boundary change. Those 10 factors are not applicable at this time to this annexation because no necessary party has contested the proposed annexation.

COMPLIANCE WITH OREGON CITY MUNICIPAL CODE

OCMC Chapter 14.04

14.04.050 - Annexation Procedures

A. Application Filing Deadlines

Finding: The proposal is consistent with this requirement. Annexation of these properties may not be subject to vote provided that the application meets all of the requirements of SB 1573. Should an annexation approval require subsequent approval by the Voters of Oregon City, staff will prepare the necessary ballot title and resolution scheduling an election pursuant to this requirement and in sufficient time for the matter to be submitted to the voters as provided by the election laws of the State of Oregon.

B. Pre-Application Review

Finding: The proposal is consistent with this requirement. The applicant and applicant's representative attended a pre-application review meeting with city staff on November 29, 2016. Pre-application meeting notes are included with the application.

C. Neighborhood Contact

Finding: The proposal is consistent with this requirement. The subject property is within the Park Place Neighborhood Association boundaries. The applicant contacted the Park Place Neighborhood Association, as required by city standards, and a meeting was held on June 7, 2016 at Alliance Charter Academy. A second Neighborhood Meeting on December 6, 2016 was conducted in order to address the need to include a concurrent zone change application.

D. Signatures on Consent Form and Application.

Finding: The proposal is consistent with this requirement. The application submittal package includes the application form and consent form signed by the owners of the subject properties.

E. Contents of Application. An applicant seeking to annex land to the city shall file with the city the appropriate application form approved by the city manager. The application shall include the following:
1. Written consent form to the annexation signed by the requisite number of affected property owners, electors or both, provided by ORS 222, if applicable;
2. A legal description of the territory to be annexed, meeting the relevant requirements of the Metro Code and ORS Ch. 308. If such a description is not submitted, a boundary survey may be required. A lot and block description may be substituted for the metes and bounds description if the area is platted. If the legal description contains any deed or book and page references, legible copies of these shall be submitted with the legal description;
3. A list of property owners within three hundred feet of the subject property and, if applicable, those property owners that will be "islanded" by the annexation proposal, on mailing labels acceptable to the city manager;
4. Two full quarter-section county tax assessor's maps, with the subject property(ies) outlined;
5. A site plan, drawn to scale (not greater than one inch = fifty feet), indicating:
a. The location of existing structures (if any);
b. The location of streets, sewer, water, electric and other utilities, on or adjacent to the property to be annexed;
c. The location and direction of all water features on and abutting the subject property. Approximate location of areas subject to inundation, stormwater overflow or standing water. Base flood data showing elevations of all property subject to inundation in the event of one hundred year flood shall be shown;
d. Natural features, such as rock outcroppings, marshes or wetlands (as delineated by the Division of State Lands), wooded areas, identified habitat conservation areas, isolated preservable trees (trees with trunks over six inches in diameter—as measured four feet above ground), and significant areas of vegetation;
e. General land use plan indicating the types and intensities of the proposed, or potential development;
6. If applicable, a double-majority worksheet, certification of ownership and voters. Certification of legal description and map, and boundary change data sheet on forms provided by the city.
Finding: The proposal is consistent with this requirement. The materials required in items 1 through 6 are included in the application submittal.

AVAILABLE PUBLIC FACILITIES AND SERVICES
OCMC 14.04.050(E)(7)(a) - (g) NARRATIVE STATEMENTS
This code section requires a series of narrative statements explaining how and when public facilities and services will be provided to serve the annexation property when development occurs. These statements and the findings that follow provide additional factual basis for a determination of a "positive balance of factors" required for approval of an annexation petition, as required under OCMC 14.04.060, which section follows this one.

In addition to the narrative submitted at the time of application, the applicant's planner provided an additional narrative regarding the adequacy and availability of public water, sanitary sewer and storm drainage on February 13, 2017. These responses were reviewed by the Development Services Engineering Division, whose findings are incorporated into this report. As explained by the applicant's planner,

> *The property can presently be developed with three homes under County zoning. With the annexation and zone change to City R-10 zoning, the development potential would increase to approximately 124 units. This assumes a deduction of 20 percent of the 35.65 acre site for streets and infrastructure. The proposed re-zoning would, therefore, add potential future development of 121 lots over the existing condition. It should be noted that the actual development of the site cannot occur until some point in the future when the City adopts alternative mobility standards for the transportation system.*

The applicant's narrative statements required under this section are summarized below.

7. A narrative statement explaining the conditions surrounding the proposal and addressing the factors contained in the ordinance codified in this chapter, as relevant, including:
a. Statement of availability, capacity and status of existing water, sewer, drainage, transportation, park and school facilities;
b. Statement of increased demand for such facilities to be generated by the proposed development, if any, at this time;
c. Statement of additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand;
Finding: The proposal is consistent with these requirements as conditioned. There is no proposal to develop the subject property at the present time. Development cannot occur because it is not possible to meet the criteria of Chapter 12.04 of the OCMC until such time as Alternative Mobility Standards are adopted by the City of Oregon City. However, services are available to allow for the future development of this site at such time as the transportation issues are resolved. A condition of approval will be applied to the zone change to prohibit development beyond what is allowed under existing County zoning until such time as it is possible to meet the Alternative Mobility Standards.

Prior to annexation, the property owners or assigns will record a covenant, to be approved by the City Attorney, which limits development of the site until such time that a zone change to a City zoning designation has been approved. The covenant shall acknowledge that development is reviewed for compliance with the Oregon City Municipal Code and Clackamas County Zoning and Development Ordinance. Further, until a zone change is approved the site use shall not change or intensify, or receive approval of a land division or development of the site including, but not limited to: new structures or additions to existing structures or site grading that triggers erosion control permits or overlay district review. In addition the property shall be subject to the City's overlay districts, fence regulations in OCMC 17.54.100 as well as the City's nuisance, business licensing and animal regulations.

The following information describes the existing availability, estimate of increased demand, and notes improvements that may be required to provide these services:

<u>Water</u>
The applicant states that, *"The annexation area is currently partially served by the Clackamas River Water District (CRW). The City and CRW have an urban service agreement (Holcomb-Outlook-Park Place or HOPP agreement) for portions of the annexation area. The HOPP agreement generally states that CRW will service homes above the 450 foot elevation within the specified HOPP boundary. Only the upper northeast corner of the annexation area, near Holcomb Blvd. would be within the area to be served by CRW, as shown on the map below:*

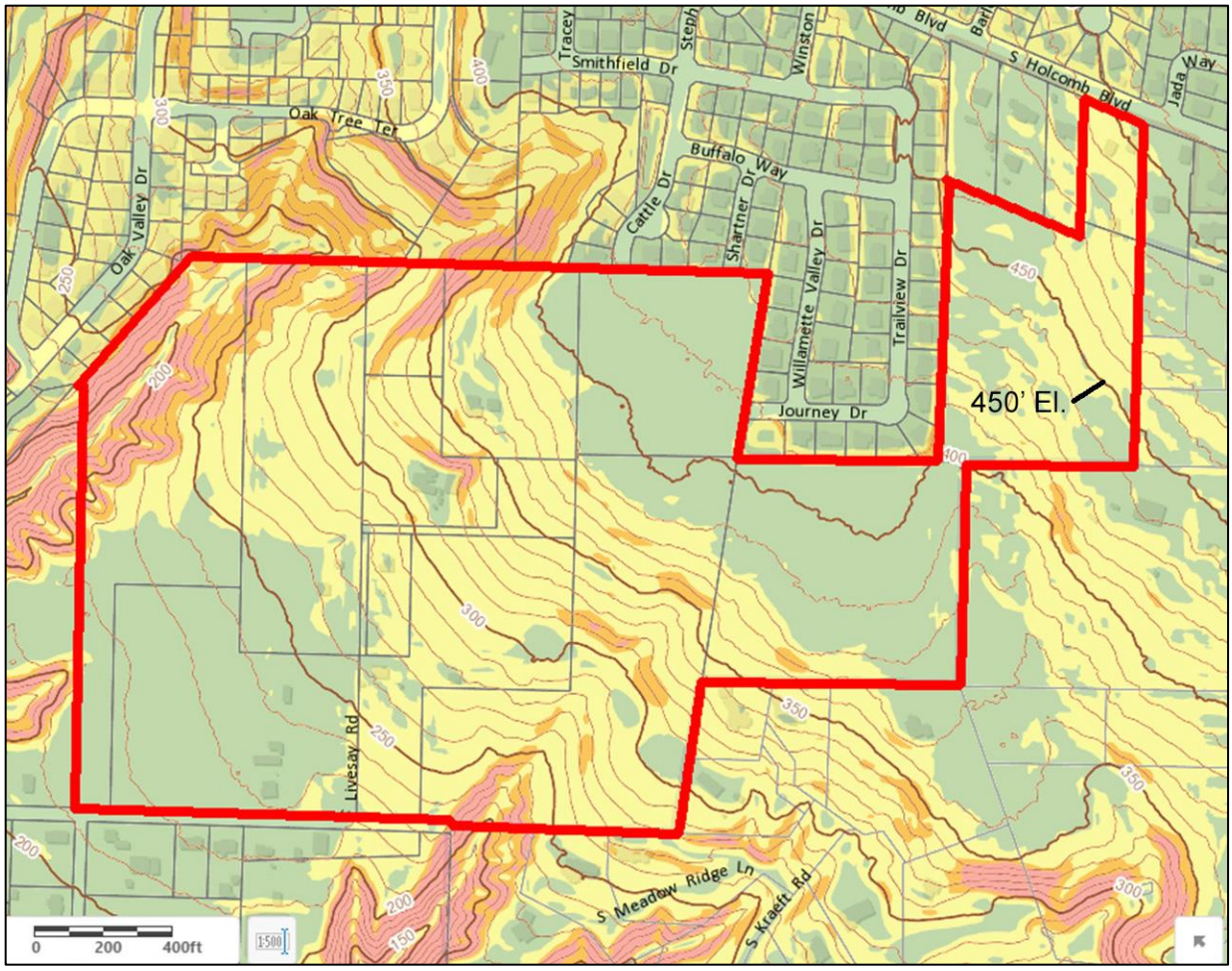


Figure 7: Contour Map

At the most recent pre-application conference (PA-16-40), information was presented by Clackamas River Water District indicating that they have an issue in meeting the required fire flow standard of 1,000 gallons per minute. That issue is expected to be resolved with system upgrades that include replacing approximately 4,000 lineal feet of substandard water main within S Bradley Road with a 12-inch pipe. This improvement would be provided in conjunction with the construction of the Abernethy Landing subdivision (TP 16-0001). Contact with Adam M. Bjornstedt, P.E., Principal Engineer for CRW, on November 6, 2017, indicate that the plans for that project are on schedule. CRW has an existing 12" water line in Holcomb Blvd. that is capable of providing for service to the portion of the subject property that is within the HOPP area. Mr. Bjornstedt indicated that CRW has adequate storage capacity.

The majority of the site will be served with by the City of Oregon City. There is an existing 16-inch City of Oregon City water main in Holcomb Blvd. along the subject property's frontage on that street. A 4-inch water line is located in Livesay Road at the lower end of the subject property. There will be a requirement to construct a 12 inch water main in the future collector street from Holcomb Blvd. to Livesay Road, together with a pressure reducing station and the cost of removing an existing water pump station on Livesay Road. At the present time the additional costs for these improvements are not included in the City's capital improvement program. The applicant will be seeking to have the CIP amended prior to development to include these regional costs.

We estimate that at full build-out the future development of the annexation properties will yield between 400 and 450 residential dwelling units. The City and Clackamas River Water District have adequate water storage capacity to service the proposed annexation area. The details of water service for the subject property will be worked out at the time of future development, but there is an adequate water supply available in the area to service this site.

For the immediate future, until future development occurs, the existing homes within the annexation area will continue to make use of private wells and Clackamas River Water service."

Pursuant to the City's request for additional analysis on public water infrastructure needed to serve the proposed annexation area, the applicant submitted an infrastructure analysis worksheet. In summary, the applicant anticipates water system infrastructure improvements to adequately serve the annexation area to include 4000 LF of 12-inch water main; 1 pressure-reducing valve (PRV), and decommissioning of 1 pump station.

Staff has reviewed the submittal and prepared a memorandum in response to the applicant's analysis worksheet. In summary, Staff anticipates water system infrastructure improvements to adequately serve the annexation area to include 10,700 LF of 8- to 12-inch water main; 1 pressure-reducing valve (PRV), decommissioning of 1 pump station, and replacement of 4 services to existing properties on Livesay Road. Extension of local waterlines within the future street system, typical to all developments, was not included in these figures. The applicant also anticipates the City amending our Capital Improvement Plan (CIP) to include the infrastructure required to serve this development and receive SDC credits. The City does not anticipate SDC credit being available as a funding source for the required water infrastructure. This needs to be considered when the developer evaluates the financial feasibility of future development within the annexation area.

Sanitary Sewer

The applicant states that:

> *"The existing homes within the annexation area are served with private septic systems and these facilities will remain in place until such time as the area is developed in the future. The Oregon City Sanitary Sewer Master Plan calls for service to this area to be provided in accordance with the figure below:*

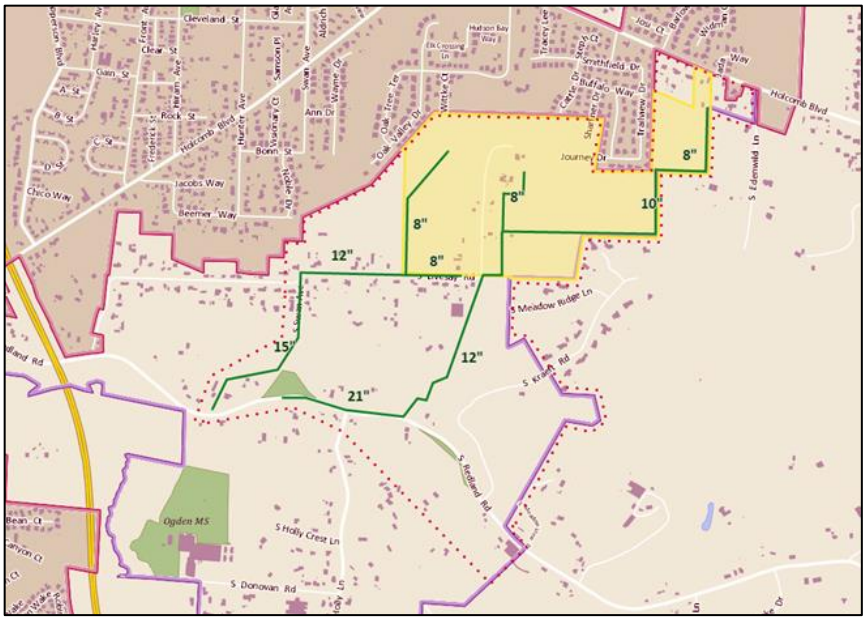


Figure 8: Sewer Master Plan

As a practical matter, the sewer master plan was prepared absent knowledge of the order in which the North Village area would be developed. It is practicable to service all of the proposed annexation area either from the Livesay Road sewer main or from the easterly sewer main. It would not be necessary to construct both of the off-site sewer lines in order to service the annexation area. Since the Livesay Road sewer is largely to be located within existing public road right-of-way, that would be the most likely route to be used in the future development of this area. The cost of this off-site sewer would be borne by the future developer, likely with a pay-back provision for a proportionate contribution for use by others as downhill properties are developed in the future.

The cost of the off-site sewer will be impacted significantly whether the project is done by the City or as a private construction project. We have completed City work sheets on estimated costs based upon information from the City's water and sewer master plans. We estimate that private construction would save at least 25 to 30 percent over public constructon costs."

Pursuant to the City's request for additional analysis on public sanitary sewer infrastructure needed to serve the proposed annexation area, the applicant submitted an infrastructure analysis worksheet. In summary, the applicant anticipates Sanitary Sewer system infrastructure improvements to adequately serve the annexation area to include 7000 LF of 8- to 21-inch sanitary main and 30,000 sf of offsite public easement.

Staff has reviewed the submittal and prepared a memorandum in response to the applicant's analysis worksheet. In summary, staff anticipates Sanitary Sewer system infrastructure improvements to adequately serve the annexation area to include 9300 LF of 8- to 21-inch sanitary main and 20,000 sf of offsite public easement. Extension of local sanitary sewer lines within the future street system, typical to all developments, was not included in these figures.

The City's Sanitary Sewer Master Plan of 2014 shows two sanitary trunklines flowing southwesterly to Redland Road to accommodate flows from the proposed annexation area. The applicant's preliminary analysis indicates the property can be served by eliminating the easterly system and utilizing only the

westerly system. The City Engineer has conceptually approved this modification to the Sanitary Sewer master plan. The applicant will be required to prepare a project master plan prior to commencement of any further development in the annexation area. With this master plan, the applicant will be required to provide a thorough engineering analysis of the proposed modifications. The analysis shall include upsizing of downstream pipe segments as needed to accommodate elimination of the easterly trunkline. The analysis will also need to demonstrate that all properties can be adequately served by the westerly trunkline as a result of elimination of the easterly trunkline.

The applicant has indicated a Reimbursement District may be established as a potential source of funding for the required sanitary sewer infrastructure. The City does not anticipate SDC credit being available as a funding source for the required sanitary sewer infrastructure.

Stormwater Drainage

The applicant states that

> *"An existing storm sewer system drains across a portion of the subject property serving the Trail Ridge subdivision to the north of this site. Based upon natural topography, storm water run-off generated from future development will generally flow in a southerly direction from Holcomb Blvd. and will need to be conveyed to natural drainage channels as shown on the map below.*

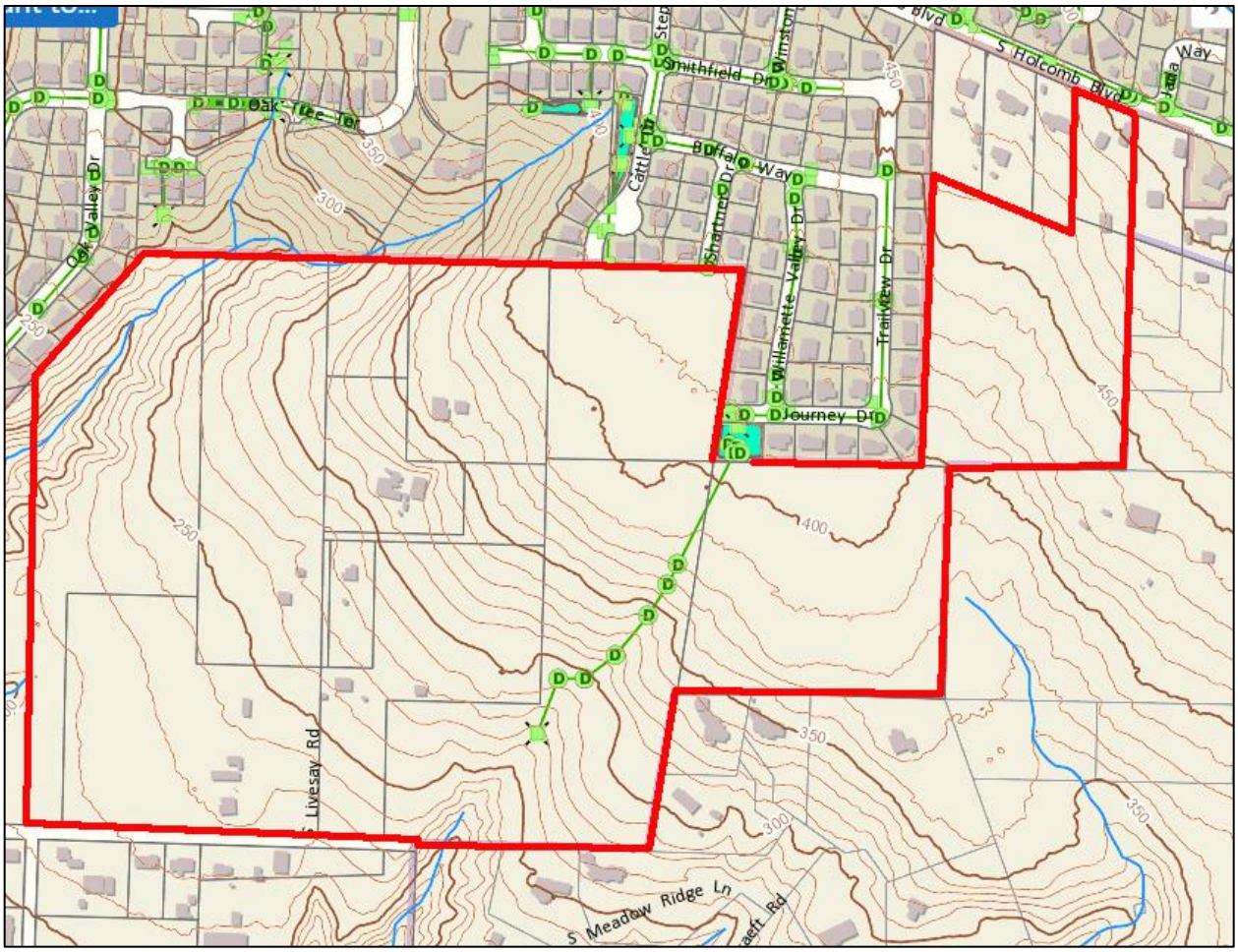


Figure 9: Storm Drainage

The future development of the site will require the construction of a storm sewer system that will collect runoff from the development. Storm water treatment and detention facilities will be required in accordance with City standards prior to release of storm water to the natural drainageways. The detention facilities will maintain the rate of runoff at predevelopment rates per City standards."

Staff concurs that provision of stormwater management facilities and conveyance systems will be contained within the annexation area. It is anticipate that the facilities can be provided in the manner typical of all land development, without unusual or additional requirements.

Transportation

The existing transportation network currently serving the proposed annexation area consists of Holcomb Boulevard and some county gravel roads that abut the site to the north and east.

For a discussion of the transportation impact analysis (TIA) of future development, please refer to the applicant's submitted TIA, and City Transportation Consultant's review of the TIA and the findings on pages 36.

The nearest available public transit (TriMet bus lines) are located along Holcomb Boulevard at the Clackamas Housing Authority View Manor site approximately ¼ mile to the west. Additioanl transportation findings are provided within this report.

Parks

The applicant provided the following narrative regarding parks and trails.

There is a need for additional parks in the Park Place neighborhood. The closest developed City park to the subject property is Park Place Park, a mile to a mile and half to the northwest of the site at the intersection of Hiram Avenue and Cleveland Street. The Park Place Concept Plan calls for a new community park to be developed between Redland Road and Holcomb Blvd., partially within the proposed annexation area. The map below shows the proposed annexation area overlaid on Figure 32 from the Park Place Concept Plan, which shows the North Village area of the plan. The proposed park site is situated on the western border of the annexation area and continues to the west.

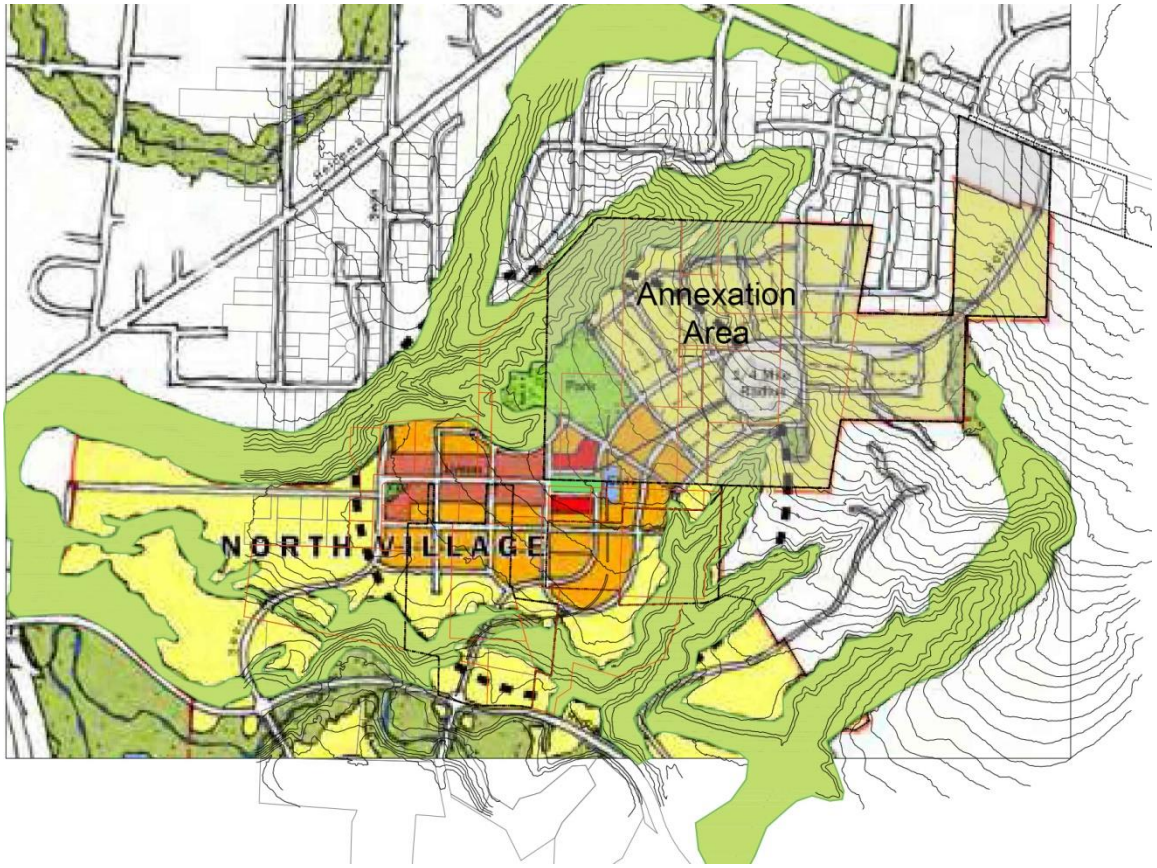


Figure 10: Park Place North Village Plan

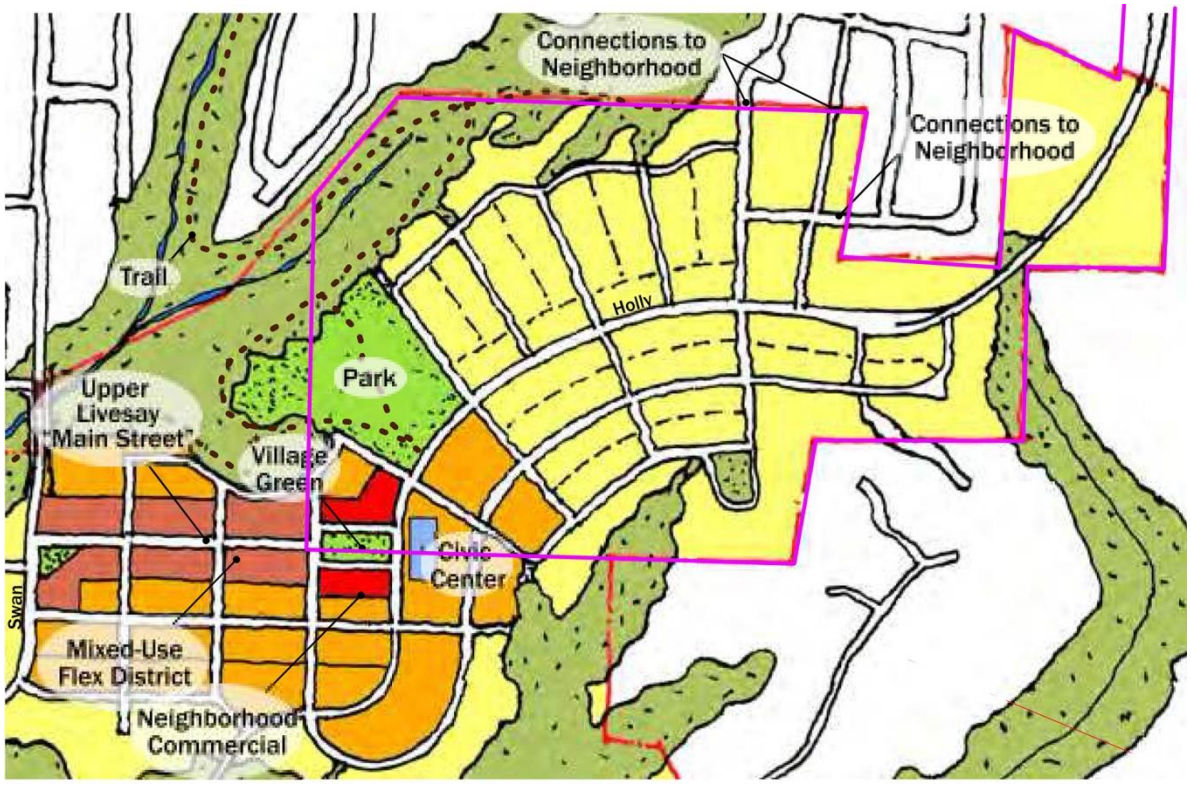


Figure 11: Park Place North Village Detail

The Park Place Concept Plan says the following about the community park in the North Village:
"The parks are intended to provide basic recreational opportunities for residents and may include amenities such as play equipment, athletic fields, picnic tables or shelters, walking trails, and other features. The neighborhood park in the North Village is approximately eight to ten acres and within walking distance of the Livesay Main Street."
(Final Concept Plan, Page 31)

Comments in the City's letter of May 12, 2017 from Community Services Director Phil Lewis state that "*we would ideally have a 12-15 acre community park in that location which would allow appropriate sizing for sports fields and parking."*

There is a need for a larger park in order to provide for soccer and other athletic fields. This comment, while indicative of the Director's assessment of City park needs, is not consistent with the park size called for by the adopted Park Place Community Plan. Further, topographic constraints associated with a drainageway to the northwest of the proposed park location, as well as the constraint of the proposed alignment of Holly Lane right-of-way, would limit the ability to provide a park of that size at this location with level enough areas for more athletic fields.

The applicant acknowledges that the future master plan for the annexation area will need to provide for the dedication of a community park consistent with the Park Place Concept Plan. The future comprehensive plan amendment and zone change will provide for the designation of the park site with the corresponding Park designation. It is the applicant's expectation that the City will make any necessary amendments to its Parks and Recreation Master Plan to make the dedication of the community park eligible for systems development charges credits. This will allow for lots in the master plan area to receive SDC credits in exchange for providing compensation to the owners of properties containing proposed park dedication areas.

The 2008 Parks Master Plan update states that focus groups who participated in the update identified the Park Place area as one of several areas of the city that are currently "underserved" by parks and recreation facilities (P. 51), and which also have challenging physical characteristics that serve as a barrier to pedestrian access to existing facilities due to major roads, railroads and natural features (P. 93). Based on the Level-of-Service (LOS) methodology used in the plan, Area 3 – Park Place has an LOS of 28.63 compared to the City's average LOS of 45, and the plan states that the "Quality and diversity of services in this area should be improved in the future, especially if the area continues to develop and expand to the west" (P. 94). The 2008 update mentions the following Goals, Objectives and Strategies that are pertinent to the area affected by the annexation:

(See P.12, Oregon City, Parks and Recreation Master Plan Update 2008)
Goal 3: Increase access to parks by implementing trails plan.
Objective: Continue to plan for parkland acquisition.
Future park acquisition should be considered on an individual basis for its current or potential recreational value.
Strategies:
• Work to fund Tier 1 local trails as identified in the 2004 Trails Master Plan. Place emphasis on constructing trails that connect parks to other parks, trails, or neighborhoods. For example: Park Place Development Trails (L4), Barclay Park Connection (L11), Parks Trail (L21), and Wesley Lynn – Chapin Trail (L23).
• Continue to fund planning and construction for Tier 1 Regional Trails as identified in the 2004 Trails Master Plan. Use the Trails Master Plan for priorities and specifics about implementation costs.

• As funding permits, determine the existing condition and location of the Oregon Trail-Barlow Road Historic Corridor and review the existing standards within the Oregon City Municipal Code to determine if modifications to the development standards and/or City master plans are necessary to protect the corridor. If modifications to the existing code language are proposed, they should include methods to encourage property owners to preserve the historic corridor in the original condition while allowing the property to be used in an economically viable manner. This strategy recommendation shall utilize/reference the Barlow Road Historic Corridor Westernmost Segment of the Oregon Trail Background Report & Management Plan (Clackamas County, 1993), or most current adopted report.

The Park Place Concept Plan identifies a large 8-10 acre park on the South side of Holcomb Boulevard, in additional to protected natural areas within stream buffers and areas which would remain undeveloped due to slopes and geologic hazards. This park would serve existing and future developed areas within a half mile both north and south of Holcomb Boulevard, provided adequate pedestrian and bicycle access via path, sidewalks and trails is provided.

Currently, there are no specific code requirements that require developers to dedicate land for trails and open space as exactions. Typically the process for obtaining park land requires several additional steps by the Community Services Department, which is responsible for City parks, involving identification of property, appraisal, negotiation and purchase. Due to extremely limited resources the Parks Department has been challenged with maintaining the current park system without further expansions. The most recent capital improvement master planning for parks was for the regional park west of Oregon City High School and south of Clackamas Community College off Glen Oak Road and long awaited improvements to the Filbert Run park site to serve the South End / Hazel Grove - Westling Farms neighborhoods.

In light of this uncertainty and lack of resources, in order to demonstrate adequacy of parks facilities, the City has relied on the long-standing policy that future development must pay Parks System Development Charges in accordance with OCMC 13.20 with building permits. The current 2017 Parks SDC for a Single Family Home is $4,881. It should be noted that the Parks SDC fee, as with other city SDCs, is increased annually based on the Engineering News Record Construction Cost Index and, in the case of the parks SDCs only, is also tied to the Average Market Value Growth Rate for Clackamas County. The typical SDC increase varies on average annually between 2-4%, while the Average Market Value Growth Rate for Clackamas County was 26% in 2017[1]. The actual Parks SDC increases for the last four years are as follows:

Effective Date	Fee
1/1/2017	$4,881
1/1/2016	$4,279
1/1/2015	$4,034
1/1/2014	$3,835

The Park's SDC methodology may need to be updated to include needed park facilities in the three concept plan areas (Park Place, South End and Beavercreek Road). Other sources of funding that the City has relied upon in the past to support park and trail improvements include grants from Metro and funding organizations and donations.

This approach is consistent with the City's policy of charging SDS's, along with development exactions and dedications permitted by code, for adequacy of public facilities when the exact location and impact of

[1] Communication with Oregon City Finance Department staff.

development is unknown at the time of annexation and zoning, and staff recommends that the City continue to find that this approach is suitable for the subject annexation proposal.
Based on the above facts, it is feasible and likely that adequate park facilities can be made available to serve the annexation area at the time of development.

Trails
The North Village Concept Plan also calls for a system of trails and paths to be included in the master plan for this area, as shown on the map below:

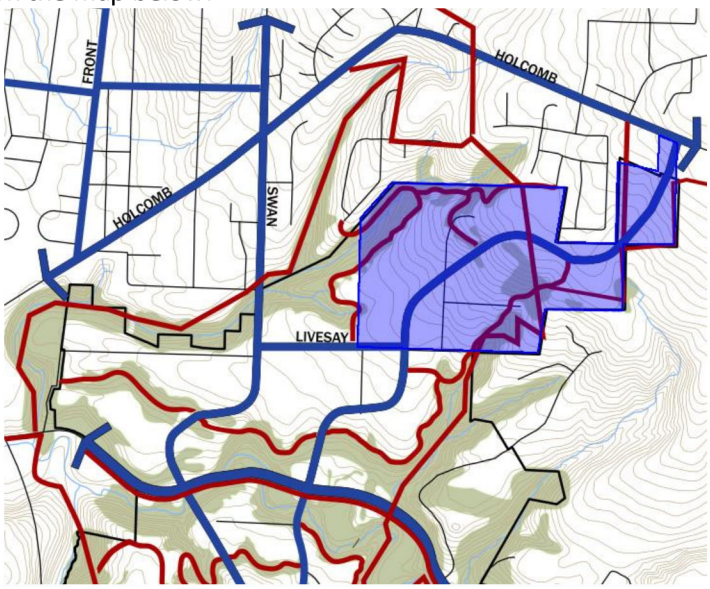


Figure 12: North Village Trails and Paths

It is understood by the applicants that the future master plan for the annexation area will need to incorporate park area and trails consistent with the Park Place Concept Plan. The most likely scenario for the funding of the dedications would be through Systems Development Credits (SDCs). The Plan states the following regarding funding mechanisms.

"Once the Park Place Concept Plan is adopted, Oregon City and the regional agencies that fund or own elements of the services will have to amend their master plans and systems development charges."
(Final Concept Plan, Page 6)

The two parks identified in the Concept Plan have to be integrated into Oregon City's parks master plan and at that time decide how to fund the proposed parks. It may be funded entirely from system development charges or as an integral part of the master plan's financing strategies.
(Final Concept Plan, Page 6)

The trails shown are largely conceptual. Most need to be further studied and designed. The location of the trails may change as a result.

With regard to implementation, the trails master plan clearly states in Chapter IV. Recommended Trail Network and Implementation Measures on Page 50:

> *"many of the trails shown on the Conceptual Trails Map, particularly local trails located along roadways or intended as accessways, will be developed over time by Oregon City property owners and new development, much like the sidewalk system and the current accessway system has been*

developed. In some cases, the City will be able to require the property owner to construct the trail as part of the development review process. In other cases, the City will work with the property owner to ensure the City can develop the trail itself in the future."

It is feasible that an appropriate mechanism for construction of the needed trail system can be determined at the time of development review, including, as the applicant notes, amending the Parks SDC to include the Park Place neighborhood so that future homes built on this property and other properties in this neighborhood contribute to the costs of park acquisitions. Based on the above facts, it is feasible and likely that adequate trail facilities can be made available to serve the annexation area at the time of development. It is understood by the applicants that the future master plan (General Development Plan pursuant to OCMC 17.65) for the annexation area will need to incorporate park area and trails consistent with the Park Place Concept Plan. The most likely scenario for the funding of the dedications would be through Systems Development Credits (SDCs). The Park Place Concept Plan states the following regarding funding mechanisms.

"Once the Park Place Concept Plan is adopted, Oregon City and the regional agencies that fund or own elements of the services will have to amend their master plans and systems development charges."

(Final Concept Plan, Page 6)

The two parks identified in the Concept Plan have to be integrated into Oregon City's parks master plan and at that time decide how to fund the proposed parks. It may be funded entirely from system development charges or as an integral part of the master plan's financing strategies.
(Final Concept Plan, Page 6)

Based on the above facts and recommended conditions, it is feasible and likely that adequate parks and trail facilities can be made available to serve the annexation area at the time of development.

Schools

Oregon City School District received notice of the application and did not comment as of the date of this Staff Report.

The subject property is served by Oregon City Public Schools. The schools serving this site are Redland Elementary School, Ogden Middle School, and Oregon City High School. Although there will be no immediate development of this site that would impact the school system, discussions with School District staff indicate that there are no immediate capacity problems with these schools.

A letter dated March 13, 2017 from Mr. Wes Rogers, Director of Operations for Oregon City Public Schools, regarding school capacity associated with the Serres property annexation (File AN-16-0004, ZC 16-0001) makes the following comments regarding the subject annexation of approximately 92 acres:

"As to the larger 92 acre Park Place/Holcomb annexation mentioned by Mr. Givens but is not a direct part of this file, the District has always known that as the Park Place Concept Plan was significantly developed, additional elementary and middle school capacity would have to be constructed. Currently the elementary school of attendance for this area would be Redland Elementary.

Forecasted enrollment growth is not new to the District and the Oregon City School Board and administration have been studying facility needs for the past several years. Although well maintained, District facilities do not support current educational practice and all District facilities

are in need of serious renovation or replacement and in some cases minor expansion. Preliminary plans to ask for a school construction bond have not been finalized but the current draft scenario shows that the District (with voter support) would have additional middle school capacity within 5 years and additional elementary school capacity within 5-10 years. In the meantime the District has several other tools to help with over capacities by installing semi-permanent buildings and/or redrawing attendance boundaries."

Staff coordinates with the Oregon City School District ways during the development review process in accordance with adopted Comprehensive Plan Goals and Policies. Standard procedures for the Planning Division includes notice of all land use actions, both long range and current proposals, to the School District, the School District actively participates at pre-application conferences in anticipation of development. The School District, not the City, is responsible for long range planning of needed school facilities.

The applicant states that the anticipated time frame to begin construction within the annexation area, dependent upon resolution of the alternative mobility standards issue, would be in approximately two to three years. Full build-out is expected to be in the range of five to ten years. This schedule is consistent with the School District's stated timeline to provide additional school capacity.

Police, Emergency and Fire Protection:

Finding: The proposal is consistent with this requirement. The area to be annexed lies within the Clackamas County Service District for Enhanced Law Enforcement, which provides additional police protection to the area. The combination of the county-wide service and the service provided through the Enhanced Law Enforcement CSD results in a total level of service of approximately 1 officer per 1000 population. According to ORS 222.120 (5) the City may provide in its approval ordinance for the automatic withdrawal of the territory from the District upon annexation to the City. If the territory were withdrawn from the District, the District's levy would no longer apply to the property.

Upon annexation, the Oregon City Police Department will serve the subject site. Oregon City currently fields approximately 1.25 officers per 1,000 people. The Oregon City Police Department has a goal of four-minute emergency response, 7 to 9 minute actual, and twenty-minute non-emergency response times. As no development is proposed as part of this annexation application, this annexation will have a minimal impact on police services.

The Oregon City Police Department has submitted a letter indicating that they have the resources to service this annexation area.

The proposed annexation area is currently, and will remain, within the Clackamas Fire District #1. The Clackamas Fire District provides all fire protection for Oregon City since the entire city was annexed into their district in 2007. The closest station is located at 300 Longview Way, within the Clackamas County View Manor housing development off of Holcomb Blvd. Clackamas Fire District #1 was provided notice of the proposed annexation and did not comment. Oregon Revised Statute 222.120 (5) allows the City to specify that the territory be automatically withdrawn from the District upon approval of the annexation; however, based on the November 2007 fire district annexation approval, staff recommends that the properties remain within the fire district.

Emergency Medical Services to the area are provided through American Medical Response (AMR) through a contract with Clackamas County. Oregon City and the unincorporated areas surrounding Oregon City are all part of the AMR contract service area. Clackamas Fire District#1 provides EMS service to all areas they serve include ALS (advanced life support) staffing. This means all fire apparatus are staffing with a minimum

of one firefighter/paramedic; usually there are more than one. Additionally, Clackamas Fire does provide ambulance transport when an AMR unit is not readily available. Therefore EMS services are provided from Clackamas Fire #1 with AMR being dispatched as well.

The above item applies to development being proposed at this time and anticipates that no development may be proposed as part of an annexation application. No development is being proposed as part of this annexation application.

As discussed elsewhere in this report, all applicable public facilities and services to serve future development of the site have been or will be made available pursuant to the adopted Public Facilities plans that the City has adopted, which take future development within the Urban Growth Boundary into account based on estimates of growth capacity for the area in question. Although not required for approval of the annexation, the City is required by law to assure that System Development Charges commensurate with the projected level of demand for public facilities are applicable and payable by new development.

There are four recent major public facilities master plan updates which are part of the City's Capital Improvement Program; the Water System Master Plan (2012), the Sanitary Sewer Master Plan (2014), the Transportation System Plan (2013), and the Stormwater and Grading Design Standards (2015). These facilities are mainly funded, part of the City's Capital Improvement Program, and the City is collecting System Development Charges to fund these improvements.

d. Statement outlining method and source of financing required to provide additional facilities, if any;

Finding: The proposal is consistent with this requirement. The applicant indicated that the required improvements will be made concurrently with the future development of this property. Each of the City's recently adopted public facilities for Transportation, Sewer, and Water include a discussion of methods and sources of financing required to provide such facilities to the proposed annexation area. Specific funding mechanisms are not required to be identified until the time a development is proposed. Although not required for approval of the annexation, the City is required by law to assure that System Development Charges commensurate with the projected level of demand for public facilities are applicable and payable by new development.

Typical development funded improvements to offset direct impacts of planned development include dedications of right-of-way and land for storm detention, easements, exactions, and construction of sewer, water, stormwater and transportation improvements.

Given the size of the annexation area it is anticipated that the developer will be wholly responsible for the cost of providing and constructing public improvements and that should other methods of financing capital improvements be required, then they will utilize full capital-cost and operating cost recovery methods to avoid unsustainable fiscal impacts to the City's general fund. Hence, existing funding sources, including System Development Charges (SDCs), utility fees, connection charges and rates, and capital improvement programs are in place prior to annexation and development.

Advance financing required for system upsizing and large sewer improvements would likely require some form of developer or city financing, which could include the use of a local improvement district, reimbursement district, grants, bonds and loan, though none of these has been determined to be necessary at this time.

The future development application will provide for a master plan consistent with the design concept of the North Village Plan pursuant to OCMC 17.65. The applicant acknowledges that the future master plan for the annexation area will need to provide for the dedication of a community park and other public facilities consistent with the Park Place Concept Plan. Staff recommends that this annexation area be subject to a Master Plan prior to any development of the property at densities greater than that permitted under current County zoning. Master Planning of the annexation area pursuant to OCMC 17.65 would allow for the specific phasing of development over time as well as greater control and predictability regarding the timing of and cost of public imporvements, including water, stormwater, sewer, transportation, parks, trails and open space. A master plan also allows development more flexibility to vary from prescriptive standards if approved pursuant to OCMC 17.65. Any master plan, along with a future comprehensive plan amendment and zone change for the subject property cannot proceed until such time as the regional transportation issues are resolved.

e. Statement of overall development concept and methods by which the physical and related social environment of the site, surrounding area and community will be enhanced;

Finding: The proposal is consistent with this requirement. The adopted City of Oregon City Comprehensive Plan designation is Low Density Residential. The implementing default zones for this plan designation are R-10, R-5 and NC. The applicant has requested the default zoning of R-10, R-5 and NC at this time. The development of this site in a manner consistent with the adopted Comprehensive Plan will serve to provide needed housing to accommodate the projected population growth of the City of Oregon City. The site is well suited from a physical standpoint to be developed in this manner as it is free of any significant development constraints, other than a very small area of moderately steep slopes. Providing for future development of needed housing within walking distance of Holcomb Elementary School for school and recreational services will assist in providing for a beneficial social environment in this neighborhood.

The applicant indicates that the majority of the subject property is within the boundaries of the Park Place Concept Plan, specifically, the North Village Plan, and the eventual development of this site will be subject to the land uses and densities set forth in that document. The future development application will provide for a master plan pursuant to OCMC 17.65 consistent with the design concept of the North Village Plan. The future development application will likely need to include proposals to rezone the property to resolve certain discrepancies between the land use areas in the North Village Plan and the existing designations Oregon City Comprehensive Plan Map. One property, Tax Lot 2000 on Map 22E27B and which fronts on Holcomb Blvd., is located outside of the North Village Plan, is designated MR by the Comprehensive Plan and will be zoned R-5. That property will be developed in conjunction with the rest of the properties included in this annexation and zone change. The future development of this property will provide a mixture of approximately 400 to 450 single-family detached and attached housing units, as well as neighborhood commercial, park and community uses as shown on the North Village Plan. It will also aid in providing a needed collector road connection from the Holcomb Blvd. area down to Redland Road. It is anticipated that the development will occur in several phases over an approximate 10 year development plan, which will be further defined through a General Development Plan pursuant to OCMC 17.65.

f. Statement of potential physical, aesthetic, and related social effects of the proposed, or potential development on the community as a whole and on the small subcommunity or neighborhood of which it will become a part; and proposed actions to mitigate such negative effects, if any;

Finding: The proposal is consistent with this requirement. There will be no immediate physical, aesthetic, or related social effects from the annexation and rezoning of this property because there will be no development until several additional steps are taken, which include the adoption of Alternative Mobility Standards in compliance with the Trnasportation Planning Rule, approval of a Master Plan, including a phased General Development Plan by the Planning Commission, and the submittal of development

applications through either the subdivion process or the detailed development plan process for the neighborhood commercial zoned areas. Future development of the property will result in typical impacts on traffic, schools, and public infrastructure, but these impacts have been anticipated by the City's Comprehensive Plan. Impacts to public facilities and services have been assessed in the existing public facilities plans adopted by the City for the Urban Growth Boundary, and mitigation measures will be further determined when development is proposed.

In terms of physical effects of potential development, the annexation area will eventually be developed with a mix of housing types and densities. A new street network will be developed. Public facilities will be extended to serve the site. The annexation site will be subject to existing city code requirements related to impacts of new development, including protection of natural resources, street design, and buffering and landscaping.

Socially, the proposed annexation site will ultimately be developed to be part of a complete community, one that integrates a diverse mix of uses, including housing, services, and public spaces. Eventually the North Village concept for the Park Place Concept Plan will develop and provide greater commercial amenities and housing choices. New streets and street improvements will be designed to maximize safety and convenience for all users, including pedestrians and cyclists. Natural resources will be protected and managed for optimum ecological health to help protect watersheds.

Overall, the annexation site will be developed in accordance with the vision identified in the Park Place Concept Plan and Oregon City Comprehensive Plan that was adopted by the city to guide future growth in a way that will contribute to Oregon City as a whole.

g. Statement indicating the type and nature of any comprehensive plan text or map amendments, or zoning text or map amendments that may be required to complete the proposed development;
Finding: The proposal is consistent with this requirement, subject to conditions. No change to the comprehensive plan text or map designations are proposed at this time. The applicant requests that the default zone change from Clackamas County zoning to Oregon City R-10, R-5 and NC per the provisions of OCMC 17.68.025.A. This zone change is in conformance with the acknowledged Low and Medium Density Residential and Mixed Use land use designations for the property pursuant to the adopted Park Place Concept Plan. Please refer to the discussion of the zone change proposal and conditions of approval in this report.

In accordance with City, County and State transportation requirements, no development, except that permitted under the County's Future Urban FU-10 zoning designation, in effect as of the date of this application's submittal, shall be allowed until the following occurs, acknowledged and the Applicant demonstrates compliance with these requirements:

a. A refinement plan for Highway 213 at Beavercreek Road (Alternative Mobility Targets), including elements such as financially constrained projects and alternative mobility standards, and amendments to OCMC Chapter 12.04 implementing the new Refinement Plan, are be adopted and acknowledged.
b. Amendments to OCMC 12.04 which allow development affecting the intersection of Highway 213/Beavercreek are adopted.
    I. Adopt amendments to the City's Transportation System Plan and OCMC Chapter 12.04 to include projects that satisfy the then-applicable performance standards and these standards must be acknowledged; or
    II. Condition the approval of a land division application that satisfies then-applicable OCMC Chapter 12.04 by including proportional mitigation of the application's impacts on that intersection, or such other mitigation measure(s) as may be approved which assure(s) that the intersection will either meet, or perform no worse than, the then-applicable performance standards

8. The application fee for annexations established by resolution of the city commission and any fees required by metro. In addition to the application fees, the city manager shall require a deposit, which is adequate to cover any and all costs related to the election;
Finding: The proposal is consistent with this requirement. The application fee was paid as part of this application submittal.

9. Paper and electronic copies of the complete application as required by the community development director.
Finding: The proposal is consistent with this requirement. Paper and electronic copies of this narrative and accompanying reports were submitted as part of the complete application.Compliance with OCMC 14.04.060 – Annexation Factors
A. When reviewing a proposed annexation, the commission shall consider the following factors, as relevant:
1. Adequacy of access to the site;
Finding: The proposal is consistent with this requirement. The site has direct access onto Holcomb Blvd., an arterial street. This street would serve as the primary access for the future development of the property. Additional accesses are available from the local streets stubbed to the property: Journey

Drive, Shartner Drive, and Cattle Drive as well as Livesay Road. Future development of the property will provide for the construction of a north extension of Holly Lane from Holcomb Blvd. to Livesay Road. Future development of properties to the south will eventually extend this street to Redland Road, pursuant to the adopted Transportation Sytem Plan.

The specific design of the local street system for the subject site has not been determined at this time, but is subject to additional review by the city at the time a development is proposed. It is expected that the overal design of the local street system will be further refined when a Master Plan, including phased General Development Plan for the subject site is proposed, with subsequent phases of subdivisions providing even greater refinement. These include, but are not limited to, addressing the timing of parkland acquisitions and development, proposed phasing of major roads to ensure a timely connection to Holly Lane and an analysis of utility phasing that can foster redevelopment of the entire concept plan area.

Therefore, prior to issuing any development approval other than as identified in condition of approval #2, the applicant shall obtain General and Detailed Development Plan approval, including the entire 91-acre property, pursuant to OCMC 17.65. The General Development Plan and all phases of development authorized by it, must implement the Park Place Concept Plan and Oregon City's adopted Public Facilities Plans with regard to the provision of open space, park and trails, sewer, water, stormwater and transportation improvements.

2. Conformity of the proposal with the city's comprehensive plan;
Finding: The proposal is consistent with this requirement. The proposed annexation is consistent with the comprehensive plan in that the property is within the UGB, is designated Low Density Residential, and is intended to be served by the City of Oregon City. Compliance with specific plan policies is discussed below in this report.

Goal 1: Citizen Involvement

Goal 1.1 – Citizen Involvement Program

Policy 1.1.1 *Utilize neighborhood associations as the vehicle for neighborhood-based input to meet the requirements of the Land Conservation and Development Commission (LCDC) Statewide Planning Goal 1, Citizen Involvement. The Citizen Involvement Committee (CIC) shall serve as the officially recognized citizen committee needed to meet LCDC Statewide Planning Goal 1.*
Fnding: The proposal is consistent with this Goal and Policy. The applicant attended neighborhood meetings with the Park Place Neighborhood Association to present the proposed annexation and zone change applications. The City's procedures for review of the application provided notice to Park Place Neighborhood Association and allow opportunity for public comment on the application.

Goal 1.4 – Community Involvement

Policy 1.4.1 *Notify citizens about community involvement opportunities when they occur.*
Fnding: The proposal is consistent with this Goal and Policy. The City's procedures for review of the proposed annexation and zone change provide for notice to owners of affected properties and will provide opportunities for citizen input regarding the applications.

Comprehensive Plan Section 2 Land Use

Goal 2.1 Efficient Use of Land
Ensure that property planned for residential, commercial, office, and industrial uses is used efficiently and that land is developed following principles of sustainable development.

Policy 2.1.3 *Encourage sub-area master planning for larger developments or parcels, including re-development, where it may be feasible to develop more mixed uses, or campus-style industrial parks, with shared parking and landscaping areas. Allow developments to vary from prescriptive standards if planned and approved under this provision.*
Finding: The proposal is consistent with this Goal and Policy. The proposed annexation property is part of the Urban Growth Boundary and is located within the Park Place Concept Plan, which provides sub-area master planning for this area. The future development of this property will provide mixed uses, including various types of residential development, parks, open spaces, commercial and institutional uses consistent with the North Village concept plan.

Goal 2.4 Neighborhood Livability
Provide a sense of place and identity for residents and visitors by protecting and maintaining neighborhoods as the basic unit of community life in Oregon City while implementing the goals and policies of the other sections of the Comprehensive Plan.

Policy 2.4.1 *Develop local neighborhood plans to strengthen and protect residential neighborhoods and historic areas from infill development; such as development along linear commercial corridors.*
Finding: The proposal is consistent with this Goal and Policy. The Park Place Concept Plan provides for a unified neighborhood plan that will serve as a guide to development of a desirable and diverse community in this area of the city.

Policy 2.4.2 *Strive to establish facilities and land uses in every neighborhood that help give vibrancy, a sense of place, and a feeling of uniqueness; such as activity centers and points of interest.*
Finding: The proposal is consistent with this policy. The Park Place Concept Plan includes parks, natural open space areas, trails, neighborhood commercial and institutional uses that will provide vibrancy and a sense of place in the future development of this property.

Policy 2.4.3 *Promote connectivity between neighborhoods and neighborhood commercial centers through a variety of transportation modes.*
Finding: The proposal is consistent with this policy. The Park Place Concept Plan encourages connectivity and diverse modes of transportation. The plan calls for the construction of Holly Lane to provide a much needed connection between Holcomb Blvd. and Redland Road. The plan also encourages an internal circulation system within the future neighborhood that will ensure connectivity and minimize out of direction travel. A trail system is planned that will provide greater opportunity for bicycle and pedestrian modes of transportation.

Policy 2.4.4 *Where environmental constraints reduce the amount of buildable land, and/or where adjacent land differs in uses or density, implement Comprehensive Plan and zoning designations that encourage compatible transitional uses.*

Finding: The proposal is consistent with this policy. The subject property includes environmentally sensitive areas associated with drainageways. The Park Place Concept Plan and City ordinances provide for these water resource areas to be preserved as natural open spaces.

Policy 2.4.5
Ensure a process is developed to prevent barriers in the development of neighborhood schools, senior and childcare facilities, parks, and other uses that serve the needs of the immediate area and the residents of Oregon City.
Finding: The proposal is consistent with this requirement. Development of the subject site will be subject to adopted public facilities plans. Development of this Low Density Residential property will require payment of construction excise taxes for school development. The eventual development of this area will not present a barrier to the development of any of the facilities identified in this policy.

The following excerpt is from the Oregon City Comprehensive Plan Section 11 - Public Facilities - Education, on Page. 83:

> *K-12. The public education system in Oregon City consists of elementary schools, middle schools, and one high school. The Oregon City School District projects enrollment based on demographic trends and a ratio of 0.94 school children per residential household. A rolling five-year projection is done every fall to ensure that the facilities will accommodate growth. The preferred number of students per classroom is 25, with the maximum considered to be 30.*
>
> *To the extent possible, future school facilities should be located in, or at least adjacent to, residential areas to reduce traffic impact, maintain convenience for students, provide a focus for the neighborhoods, and promote energy conservation. Neighborhood schools and their athletic facilities should also serve as community centers by being available for community meetings and events in the evenings and on weekends.*

Finding: The proposal is consistent with this requirement. No school sites have been identified within the subject property at this time. The site is closest to Holcomb Elementary School and Ogden Middle School and would eventually be connected to these schools through additional road, trail, and sidewalk improvements.

The City continues to coordinate with the school district to review new development and development of this Low Density Residential property will require payment of construction excise taxes for school development. The eventual development of this area close to an existing school could help to achieve many of the benefits discussed above.

As discussed on Page 118 of the Comprehensive Plan under *Partnerships with Other Governments.*

> *The City does not provide all of the urban services within the city limits. Clackamas County, the Oregon City School District, the Oregon Department of Transportation, the TriCities Sewer District, Clackamas Community College, and many other agencies also provide necessary services to residents and employees. In order to efficiently and effectively use the public dollars available to all of these different agencies, the City should be proactive in forming excellent working relationships with other agencies to address urban service issues.*

Goal 2.5 Retail and Neighborhood Commercial

Policy 2.5.1 *Encourage the redevelopment of linear commercial corridors in ways that encourage expansion of existing businesses and infill development, and at the same time reduces conflicting traffic movements, improves the aesthetic character of these commercial areas, and encourages trips by transit, bicycling and walking.*
Finding: Not applicable. The subject property does not contain any linear commercial corridors. The Park Place Concept Plan calls for limited neighborhood commercial development, but there is no existing commercial development within the area.

Policy 2.5.2 *Allow and encourage the development of small retail centers in residential neighborhoods that provide goods and services for local residents and workers. Generally, these centers should be located at the intersections of two or more streets that are classified as neighborhood collectors or higher.*
Finding: The proposal is consistent with this policy. The North Village Concept Plan calls for a small area of neighborhood commercial zoning in the southwest corner of the annexation area. This area is identified in the Park Place Concept Plan as a part of "Livesay Main Street". The Plan states the following regarding anticipated uses within this area of neighborhood commercial development:

Small-scale commercial businesses, like a coffee shop, bookstore, dry cleaners, or café, are proposed to anchor the intersection of Holly Lane Extension and Livesay Main Street and surround the Village Green.

Policy 2.5.3 *Review design standards and the sign code to ensure compatibility with existing neighborhoods.*
Finding: The proposal is consistent with this Policy. Design standards for single family development in the Park Place Concept Plan area are implemented by OCMC 17.21 and commercial/multi-family design standards are identified in OCMC 17.62 and 17.62. The future development of this area will be reviewed for compliance with these standards prior to construction.

Policy 2.5.4 *Encourage the development of successful commercial areas organized as centers surrounded by higher density housing and office uses, rather than as commercial strips adjacent to low-density housing.*
Finding: The proposal is consistent with this policy. The commercial development in this area is intended to be small in scale and service-oriented. It is seen by the Park Place Concept Plan as helping to provide a neighborhood identity rather than providing for the full range of commercial needs that are available elsewhere in Oregon City, as discussed in the following quote from page 18 of the Concept Plan:

> *"Commercial development in the planning area is not seen as necessary for the success of the area, which is expected to be developed largely as residential. The commercial needs of the planning area can be met outside of the concept planning area by existing and planned developments. However, commercial development can serve to organize the Park Place Concept Plan by providing a "center" to the community. In addition, commercial development can meet some of the needs of the community, providing a marketable amenity for residential development while reducing trips out of the neighborhood."*

Policy 2.5.5 *Encourage commercial and industrial development that enhances livability of neighborhoods through the design of attractive LEEDTM-certified buildings and environmentally responsible landscaping that uses native vegetation wherever possible, and by ensuring that development is screened and buffered from adjoining residential neighborhoods and access is provided by a variety of transportation modes.*

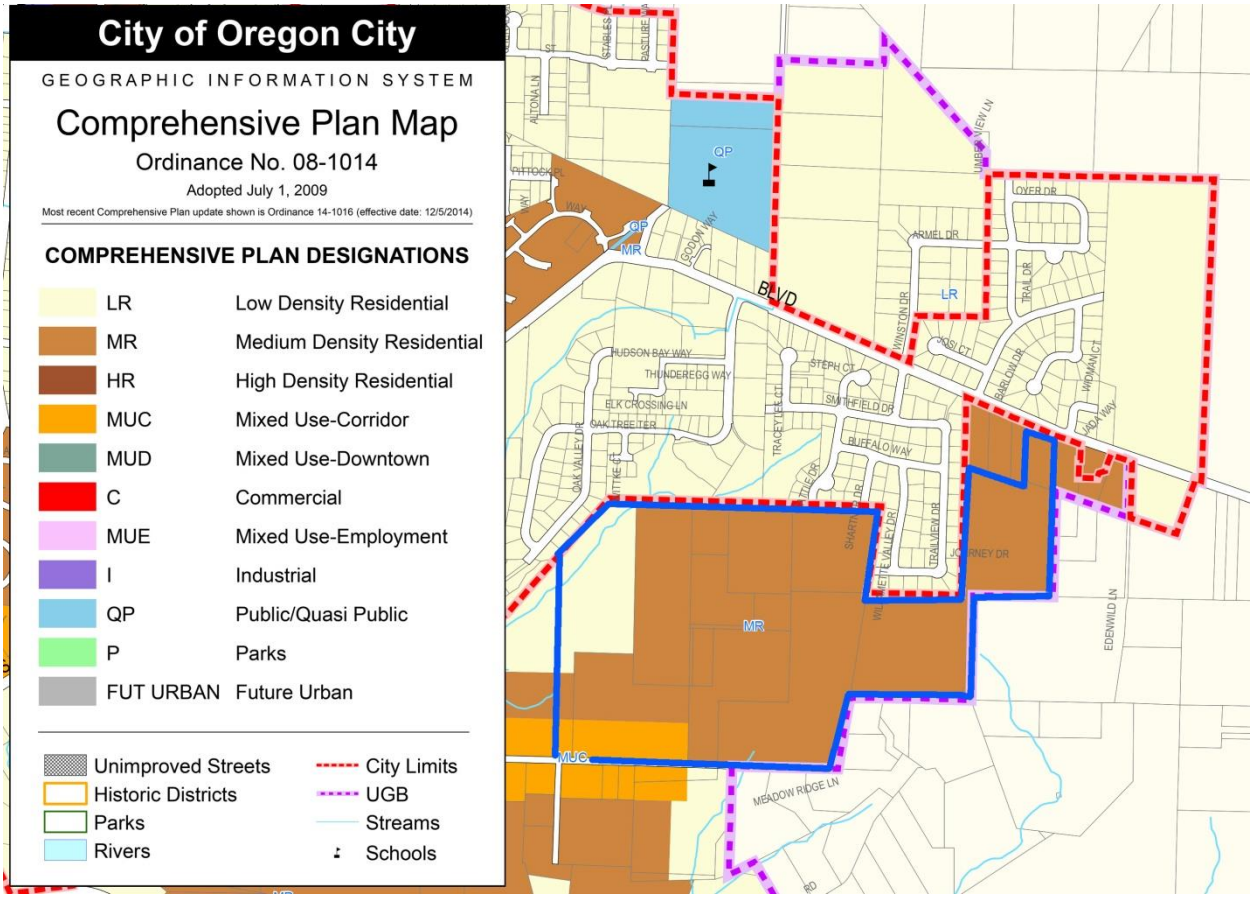
Finding: The proposal is consistent with this policy. These provisions are implemented by design standards within the OCMC that will be reviewed prior to site development.

Goal 2.7 Oregon City Comprehensive Plan Land-Use Map
Maintain the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for land-use development of the city by type, density and location.

Policy 2.7.2 *Use the following 11 land-use classifications on the Oregon City Comprehensive Plan Land-Use Map to determine the zoning classifications that may be applied to parcels:*

- *Low Density Residential (LR)*
- *Medium Density Residential (MR)*
- *High Density Residential (HR)*
- *Commercial (C)*
- *Mixed Use Corridor (MUC)*
- *Mixed Use Employment (MUE)*
- *Mixed Use Downtown (MUD)*
- *Industrial (I)*
- *Public and Quasi-Public (QP)*
- *Parks (P)*
- *Future Urban Holding (FUH)*

Finding: The proposal is consistent with this policy. The Oregon City Comprehensive Plan Land-Use Map remains the long-range planning guide for development in the city and applies to this area. Therefore, this annexation application has no impact on this policy. The cropped section from the Oregon City Comprehensive Plan Land Use Map below shows the designations applicable to the subject area (outlined in blue):



The majority of the area is designated Medium Density Residential, which is implemented by the R-5 zone. There is a small area of Low Density Residential designation in the northwest corner of the annexation area. The R-10 through R-6 zones implement this designation, but R-10 is proposed. There is also a portion of the site that is designated Mixed Use-Corridor. The proposed zoning is consistent with the adopted comprehensive land use plan.

Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources

Goal 5.1 – Open Space

Policy 5.1.1 *Conserve open space along creeks, urban drainage ways, steep hillsides, and throughout Newell Creek Canyon.*
Finding: the proposal is consistent with this policy. There is one major drainageway in the northwest corner of the proposed annexation area and the top of a drainageway in the southeast corner. Consistent with this policy, at the time of development these areas will be retained as open space in accordance with the stormwater master plan, OCMC Chapter 17.44 and OCMC Chapter 17.49 which require a restricve easement or separate tract of land limiting or prohibiting development for the protection of unstable slopes or natural resources.

Policy 5.1.2 *Manage open space areas for their value in linking citizens and visitors with the natural environment, providing solace, exercise, scenic views and outdoor education. Built features in open space sites should harmonize with natural surroundings.*
Finding: the proposal is consistent with this policy. Future open space areas will be provided at the time of development to assist in meeting this policy.

Goal 5.2 Scenic Views and Scenic Sites

Policy 5.2.1 *Identify and protect significant views of local and distant features such as Mt. Hood, the Cascade Mountains, the Clackamas River Valley, the Willamette River, Willamette Falls, the Tualatin Mountains, Newell Creek Canyon, and the skyline of the city of Portland, as viewed from within the city.*
Finding: the proposal is consistent with this policy. The site is located on a hillside with some nice vistas. These will be considered in the development of the future master plan for this area.

Policy 5.2.2 *Maximize the visual compatibility and minimize the visual distraction of new structures or development within important viewsheds by establishing standards for landscaping, placement, height, mass, color, and window reflectivity.*
Finding: the proposal is consistent with this policy. Not applicable to this annexation and zone change application and not directly applicable to the future development of this site. This policy is a guide to city action in developing standards to protect visual compatibility.

Goal 5.3 Historic Resources

Policy 5.3.3 Promote the designation of qualifying properties outside Historic and Conservation Districts as historic.
Finding: the proposal is consistent with this policy. The applicants are not aware of any historic resources within the annexation area and none are identified in the Park Place Concept Plan or Oregon City Comprehensive Plan. The Oregon State Historic Preservation Office and various tribes will be

contacted during the development of the future master plan in order to determine if there are any significant archeological sites within the annexation area.

Policy 5.3.8 Preserve and accentuate historic resources as part of an urban environment that is being reshaped by new development projects.
Finding: the proposal is consistent with this policy. The applicants are not aware of any historic resources within the annexation area.

Goal 5.4 Natural Resources

Policy 5.4.1 *Conserve and restore ecological structure, processes and functions within the city to closely approximate natural ecosystem structure, processes, and functions.*
Finding: the proposal is consistent with this policy. During the development of the future master plan for the annexation area, care will be taken to identify any sensitive ecological areas within the site boundaries.

Policy 5.4.5 *Ensure that riparian corridors along streams and rivers are conserved and restored to provide maximum ecological value to aquatic and terrestrial species. This could include an aggressive tree and vegetation planting program to stabilize slopes, reduce erosion, and mitigate against invasive species and stream impacts where appropriate.*
Finding: the proposal is consistent with this policy. The riparian corridors along the natural drainageways within the annexation boundary will be protected as open space. All development on property within the natural Resource Overlay District will be reviewed upon submittal of a development application for protection of the vegetated corridor/riparian areas through covenants or tracts which restrict or prohibit development and require associated mitigaiton.

Policy 5.4.9 *Protect and enhance riparian corridors along streams in Oregon City to increase shade, reduce streambank erosion and intrusion of sediments, and provide habitat for a variety of plants, animals, and fish.*
Finding: the proposal is consistent with this policy. All development on property within the natural Resource Overlay District will be reviewed upon submittal of a development application for protection of the vegetated corridor/riparian areas through covenants or tracts which restrict or prohibit development and require associated mitigaiton.

Policy 5.4.12 *Use a watershed-scale assessment when reviewing and planning for the potential effects from development, whether private or public, on water quality and quantity entering streams.*
Finding: the proposal is consistent with this policy. Consistent with this policy and City standards regarding storm water treatment and detention, during development of the future master plan the project engineer will look at the regional watershed in determining appropriate methods of handling storm drainage.

Policy 5.4.13 *Adopt and/or establish standards for all new development that promote the use of pervious surfaces and prevent negative ecological effects of urban stormwater runoff on streams, creeks and rivers.*
Finding: the proposal is consistent with this policy. This policy is fully implemented by the City's adopted storm water management standards. The project engineer will comply with these standards during preparation of the future master plan for this area.

Policy 5.4.16 *Protect surfacewater quality by:*

- *providing a vegetated corridor to separate protected water features from development*
- *maintaining or reducing stream temperatures with vegetative shading*
- *minimizing erosion and nutrient and pollutant loading into water*
- *providing infiltration and natural water purification by percolation through soil and vegetation*

Finding: the proposal is consistent with this policy. A vegetated corridor will be preserved in the future master plan along drainageways in the annexation area to accomplish the objectives of this policy. In addition, upon the submittal of a development application, the stormwater manual will analyze the impacts of development and specify standards for stormwater.

Policy 5.4.18 *Encourage use of native and hardy plants such as trees, shrubs and groundcovers to maintain ecological function and reduce maintenance costs and chemical use.*

Finding: the proposal is consistent with this policy. Not applicable to this application for annexation and zoning. Landscape plans for future commercial and/or multi-family development will be reviewed in accordance with adopted City standards that implement this policy.

Goal 6: Quality of Air, Water, and Land Resources

Goal 6.1 Air Quality

Policy 6.1.1 *Promote land-use patterns that reduce the need for distance travel by single occupancy vehicles and increase opportunities for walking, biking and/or transit to destinations such as places of employment, shopping and education.*

Finding: the proposal is consistent with this policy. The future master plan will be designed with a system of interconnected streets and pathways that will satisfy this policy.

Goal 6.2 Water Quality

Policy 6.2.1 *Prevent erosion and restrict the discharge of sediments into surface- and groundwater by requiring erosion prevention measures and sediment control practices.*
Finding: the proposal is consistent with this policy. Consistent with this policy and adopted City storm water standards, the future master plan for this project will include plans for erosion and sediment control to mitigate for site grading and other development activities.

Policy 6.2.2 *Where feasible, use open, naturally vegetated drainage ways to reduce stormwater and improve water quality.*
Finding: the proposal is consistent with this policy. The natural drainageways and a vegetated corridor abutting them will be protected as open space in the future master plan for this area.

Goal 6.3 Nightlighting

Policy 6.3.2 *Encourage new developments to provide even and energy-efficient lighting that ensures safety and discourages vandalism. Encourage existing developments to retrofit when feasible.*
Finding: the proposal is consistent with this policy. The future development of this site will employ street lighting consistent with City and PGE standards that satisfy this policy.

Goal 6.4 Noise

Policy 6.4.1 *Provide for noise abatement features such as sound-walls, soil berms, vegetation, and setbacks, to buffer neighborhoods from vehicular noise and industrial uses.*
Finding: the proposal is consistent with this policy. There are no significant noise sources that impact this annexation site.

Goal 7: Natural Hazards

Policy 7.1.1 *Limit loss of life and damage to property from natural hazards by regulating or prohibiting development in areas of known or potential hazards.*
Finding: the proposal is consistent with this policy. Chapter 17.44 of the Oregon City Municipal Code protects unstable slopes including areas of slope 25% or greater and all known landslide areas**.** City GIS mapping of natural hazards shows a couple of small areas of mapped landslide hazards and other areas with steep slopes. These areas are associated with the drainageways on portions of the property near Livesay Canyon. The majority of this area will be preserved as open spaces (in the form of restrictive easements or tracts) in the future master plan. Where development will occur on or in proximity to geologic hazard areas, appropriate geotechnical studies will be performed to determine site stability during the development review process. Geologic Hazards were reviewed during the Concept Plan process to identify the buildable lands availability onsite. This analysis will be further refined as development is proposed and conditions of approval will be placed upon development proposals to ensure compliance with OCMC 17.44 Geologic Hazards Overlay.

Policy 7.1.8 *Provide standards in City Codes for planning, reviewing, and approving development in areas of potential landslides that will prevent or minimize potential landslides while allowing appropriate development.*
Finding: the proposal is consistent with this policy. This policy is implemented in Chapter 17.44 – Geologic Hazards. Chapter 17.44 of the Oregon City Municipal Code protects unstable slopes including areas of slope 25% or greater and all known landslide areas**.** City GIS mapping of natural hazards shows a couple of small areas of mapped landslide hazards and other areas with steep slopes. At the time development is proposed, the applicant is generally required to conduct a geotechinical study which is reviewed by a City consultant for protection of lands through preservation and restrictions of development (in the form of restrictive easements or tracts).

Policy 7.1.9 *Locate, design, and construct structures in conformance with current building codes and standards for seismic-resistant design.*
Finding: the proposal is consistent with this policy. Not applicable to this application for annexation and zone change. All future structures to be built on this site will obtain required building permits that include provisions to address this policy.

Policy 7.1.11 *Prioritize roadways needed for public service, medical, and emergency vehicles during emergencies.*
Finding: the proposal is consistent with this policy. The future connection of Holly Lane through to Redland Road will be provide a much-needed route connecting the Holcomb Blvd. area to medical, emergency and public services. At the present time access is limited to Holcomb Blvd. and, to a lesser degree, Forsythe Road. The future development of this site will aid in meeting this policy.

Goal 8: Parks and Recreation

Policy 8.1.1 *Provide an active neighborhood park-type facility and community park-type facility within a reasonable distance from residences, as defined by the Oregon City Park and Recreation Master Plan, to residents of Oregon City*
Finding: the proposal is consistent with this policy. There are presently no parks within convenient walking distance of the annexation area. The future development of this site will provide for a community park, consistent with this policy and the Park Place Concept Plan.

Policy 8.1.5 *Identify and construct a network of off-street trails throughout the city for walking and jogging.*
Finding: the proposal is consistent with this policy. The Park Place Concept Plan calls for a system of off-street trails through the proposed annexation area. The future master plan for this site will address this requirement.

Policy 8.1.6 *Provide land for specialized facilities such as sports fields and indoor recreational facilities.*
Finding: the proposal is consistent with this policy. It is anticipated that the community park that will be developed on a portion of the annexation area will provide for sports fields.

Policy 8.1.9 *Emphasize retaining natural conditions and the natural environment in proposed passive recreation areas.*
Finding: the proposal is consistent with this policy. The future master plan will provide open spaces associated with the drainageway areas within the annexation area and these will be preserved in their natural condition.

Policy 8.1.12 *Identify and protect land for parks and recreation within the Urban Growth Boundary.*
Finding: the proposal is consistent with this policy. The Park Place Concept Plan calls for a community park that is mostly within the proposed annexation area. The future master plan for this site will address this requirement.

Prior to issuing any development approval other than as identified in condition of approval #2, the applicant shall obtain General and Detailed Development Plan approval, including the entire 91-acre property, pursuant to OCMC 17.65. The General Development Plan and all phases of development authorized by it, must implement the Park Place Concept Plan and Oregon City's adopted Public Facilities Plans with regard to the provision of open space, park and trails, sewer, water, stormwater and transportation improvements. These include, but are not limited to, addressing the timing of parkland acquisitions and development, proposed phasing of major roads to ensure a timely connection to Holly Lane and an analysis of utility phasing that can foster redevelopment of the entire concept plan area.

Policy 8.1.14 *Require or encourage developers to dedicate park sites as part of the subdivision review process. When possible, require or encourage developers to build parks to City standards and give them to the City to operate and maintain.*
Finding: the proposal is consistent with this policy. The future master plan will provide for the dedication of a community park consistent with this policy and other City standards.

Goal 10: Housing

Policy 10.1.1 *Maintain the existing residential housing stock in established older neighborhoods by maintaining existing Comprehensive Plan and zoning designations where appropriate.*

Finding: the proposal is consistent with this policy. Not applicable. The subject property is not located within an established older neighborhood. There are a few homes on large acreage tracts and most of these will be removed to allow for redevelopment. However the proposal would implement existing Comprehensive Plan designations.

Policy 10.1.3 *Designate residential land for a balanced variety of densities and types of housing, such as single-family attached and detached, and a range of multi-family densities and types, including mixed-use development.*
Finding: the proposal is consistent with this policy. The North Village Plan within the Park Place Concept Plan calls for a mixture of housing types and densities, as well as neighborhood commercial and institutional uses within the annexation area. The future master plan will implement these land uses.

Policy 10.1.4 *Aim to reduce the isolation of income groups within communities by encouraging diversity in housing types within neighborhoods consistent with the Clackamas County Consolidated Plan, while ensuring that needed affordable housing is provided.*
Finding: the proposal is consistent with this policy. The Park Place Concept Plan calls for a variety of types of housing that will help in addressing this policy. The Comprehensive Plan designation supports this diversity with a variety of zoning designations.

Policy 10.1.7 *Use a combination of incentives and development standards to promote and encourage well-designed single-family subdivisions and multi-family developments that result in neighborhood livability and stability.*
Finding: the proposal is consistent with this policy. The City has adopted design standards in Chapter 17.21 that implement this policy. The future development will conform to these standards.

Policy 10.2.2 *Allow increases in residential density (density bonuses) for housing development that would be affordable to Oregon City residents earning less than 50 percent of the median income for Oregon City.*
Finding: the proposal is consistent with this policy. The Comprehensive Plan designation supports this diversity with a variety of zoning designations.

Goal 11: Public Facilities

Policy 11.1.1 *Ensure adequate public funding for the following public facilities and services, if feasible: Transportation infrastructure • Wastewater collection • Stormwater management • Police protection • Fire protection • Parks and recreation • Water distribution • Planning, zoning and subdivision regulation • Library services • Aquatic Center • Carnegie Center • Pioneer Community Center • City Hall • Buena Vista House • Ermatinger House*
Finding: the proposal is consistent with this policy. Not applicable to this application for annexation and zone change. Future development will pay for system development charges and taxes.

Policy 11.1.2 *Provide public facilities and services consistent with the goals, policies and implementing measures of the Comprehensive Plan, if feasible.*
Finding: the proposal is consistent with this policy. As discussed above in this application, public facilities and services are available or will be provided concurrently with future development of this site to allow development consistent with this policy.

Policy 11.1.3 *Confine urban public facilities and services to the city limits except where allowed for safety and health reasons in accordance with state land-use planning goals and regulations. Facilities that serve the public will be centrally located and accessible, preferably by multiple modes of transportation.*
Finding: the proposal is consistent with this policy. The proposed future development of this site will occur only after annexation to the City of Oregon City. Although sanitary sewer from Redland Road will have to pass through unincorporated areas, no service connections will be provided to areas outside of the city limits in conjunction with the development of this site.

Policy 11.1.5 *Design the extension or improvement of any major public facility and service to an area to complement other public facilities and services at uniform levels.*
Finding: the proposal is consistent with this policy. Public services will be provided in accordance with adopted plans and standards that conform to this policy.

Policy 11.1.6 *Enhance efficient use of existing public facilities and services by encouraging development at maximum levels permitted in the Comprehensive Plan, implementing minimum residential densities, and adopting an Accessory Dwelling Unit Ordinance to infill vacant land.*
Finding: the proposal is consistent with this policy. The future development of this site will be at densities planned in the Park Place Concept Plan. This development will be dense enough to make efficient use of existing and planned public facilities and services.

Policy 11.2.4 *Seek economical means to reduce inflow and infiltration of surface- and groundwater into the wastewater collection system. As appropriate, plant riparian vegetation to slow stormwater, and to reduce erosion and stream sedimentation.*
Finding: the proposal is consistent with this policy. The sanitary sewer system that will serve the future development of this site will be installed in accordance with City standards and will be pressure tested to ensure that surface and ground waters do not enter the system. Storm water will be collected via a storm sewer system that will drain to storm water treatment and detention facilities that will be designed to City standards that include measures to slow stormwater to reduce erosion and stream sedimentation.

Policy 11.3.3 *Maintain adequate reservoir capacity to provide all equalization, operational, emergency, and fire flow storage required for the City's distribution system.*
Finding: the proposal is consistent with this policy. Information provided at the pre-application conference indicates that the City and Clackamas River Water District have adequate water storage capacity to service the proposed annexation area.

Policy 11.4.1 *Plan, operate, and maintain the stormwater management system for all current and anticipated city residents within Oregon City's existing Urban Growth Boundary and plan strategically for future expansion areas.*
Finding: the proposal is consistent with this policy. The future master plan will provide for a stormwater management system that conforms to City standards.

Policy 11.4.2 *Adopt "green streets" standards to reduce the amount of impervious surface and increase the use of bioswales for stormwater retention where practicable.*
Finding: the proposal is consistent with this policy. The City has adopted standards for Low Impact Development streets that implement this policy. Where appropriate grades exist, the future master plan can employ these standards to provide for stormwater management consistent with this policy.

Policy 11.4.4 *Maintain existing drainageways in a natural state for maximum water quality, water resource preservation, and aesthetic benefits.*
Finding: the proposal is consistent with this policy. The existing drainageway areas within the annexation area will be maintained as natural open spaces in the future master plan, in accordance with this policy.

Policy 11.4.5 *Design stormwater facilities to discharge surface water at pre-development rates and enhance stormwater quality in accordance with criteria in City of Oregon City Public Works Stormwater and Grading Design Standards.*
Finding: the proposal is consistent with this policy. This policy is implemented by the City's stormwater standards. The future master plan will be designed to conform to these standards.

Goal 12: Transportation

Policy 12.1.1 *Maintain and enhance citywide transportation functionality by emphasizing multi-modal travel options for all types of land uses.*
Finding: the proposal is consistent with this policy, as conditioned. The future development of this site will provide for a connected system of roadways and pathways that will provide for multi-modal forms of travel.

In accordance with City, County and State transportation requirements, no development, except that permitted under the County's Future Urban FU-10 zoning designation, in effect as of the date of this application's submittal, shall be allowed until the following occurs, acknowledged and the Applicant demonstrates compliance with these requirements:

a. A refinement plan for Highway 213 at Beavercreek Road (Alternative Mobility Targets), including elements such as financially constrained projects and alternative mobility standards, and amendments to OCMC Chapter 12.04 implementing the new Refinement Plan, are be adopted and acknowledged.
b. Amendments to OCMC 12.04 which allow development affecting the intersection of Highway 213/Beavercreek are adopted.
    I. Adopt amendments to the City's Transportation System Plan and OCMC Chapter 12.04 to include projects that satisfy the then-applicable performance standards and these standards must be acknowledged; or
    II. Condition the approval of a land division application that satisfies then-applicable OCMC Chapter 12.04 by including proportional mitigation of the application's impacts on that intersection, or such other mitigation measure(s) as may be approved which assure(s) that the intersection will either meet, or perform no worse than, the then-applicable performance standards

Policy 12.1.2 *Continue to develop corridor plans for the major arterials in Oregon City, and provide for appropriate land uses in and adjacent to those corridors to optimize the land use-transportation connection.*
Finding: the proposal is consistent with this policy. The future master plan will provide for the extension of Holly Lane, consistent with the Park Place Concept Plan and this policy.

Policy 12.1.3 *Support mixed uses with higher residential densities in transportation corridors and include a consideration of financial and regulatory incentives to upgrade existing buildings and transportation systems.*
Finding: the proposal is consistent with this policy. Not applicable. The subject property is not located in a transportation corridor.

Policy 12.1.4 *Provide walkable neighborhoods. They are desirable places to live, work, learn and play, and therefore a key component of smart growth.*
Finding: the proposal is consistent with this policy. The future master plan will include a network of sidewalks and pathways that will provide for a walkable neighborhood with access to residential, commercial, parks and natural open space areas.

Policy 12.3.1 *Provide an interconnected and accessible street system that minimizes vehicle-miles-traveled and inappropriate neighborhood cut-through traffic.*
Finding: the proposal is consistent with this policy. The future master plan will be designed with a network of interconnected streets. Primary access through the neighborhood will be via Holly Lane, which will discourage neighborhood cut-through traffic.

Policy 12.3.2 *Provide an interconnected and accessible pedestrian system that links residential areas with major pedestrian generators such as employment centers, public facilities, and recreational areas.*
Finding: the proposal is consistent with this policy. There are no employment centers in the vicinity of the subject property, but the future master plan will provide for pedestrian connectivity to both parks and open space recreational areas.

Policy 12.3.3 *Provide a well-defined and accessible bicycle network that links residential areas, major bicycle generators, employment centers, recreational areas, and the arterial and collector roadway network.*
Finding: the proposal is consistent with this policy. The future master plan will include a bicycle lane on Holly Lane, bicycle/pedestrian trails, as well as a network of bicycle-friendly local streets.

Policy 12.3.4 *Ensure the adequacy of pedestrian and bicycle connections to local, county, and regional trails.*
Finding: the proposal is consistent with this policy. The future master plan will provide for connections to planned trails depicted in the Park Place Concept Plan.

Policy 12.3.5 *Promote and encourage a public transit system that ensures efficient accessibility, mobility, and interconnectivity between travel modes for all residents of Oregon City.*
Finding: the proposal is consistent with this policy. There is presently no bus service in the vicinity of the subject property. The completion of the Holly Lane north extension may provide for a logical bus route in this area in the future.

Policy 12.3.6 *Establish a truck route network that ensures efficient access and mobility to commercial and industrial areas while minimizing adverse residential impacts.*
Finding: Not applicable. There are no commercial or industrial areas in the vicinity of the subject property.

Policy 12.6.1 *Provide a transportation system that serves existing and projected travel demand.*

Finding: the proposal is consistent with this policy. Please refer to the Lancaster Engineering traffic study included with this application.

Policy 12.6.2 *Identify transportation system improvements that mitigate existing and projected areas of congestion.*
Finding: the proposal is consistent with this policy, as conditioned . The future completion of the Holly Lane north extension will provide for another access route from the Holcomb area that will be consistent with this policy.
In accordance with City, County and State transportation requirements, no development, except that permitted under the County's Future Urban FU-10 zoning designation, in effect as of the date of this application's submittal, shall be allowed until the following occurs, acknowledged and the Applicant demonstrates compliance with these requirements:

a. A refinement plan for Highway 213 at Beavercreek Road (Alternative Mobility Targets), including elements such as financially constrained projects and alternative mobility standards, and amendments to OCMC Chapter 12.04 implementing the new Refinement Plan, are be adopted and acknowledged.
b. Amendments to OCMC 12.04 which allow development affecting the intersection of Highway 213/Beavercreek are adopted.
    I. Adopt amendments to the City's Transportation System Plan and OCMC Chapter 12.04 to include projects that satisfy the then-applicable performance standards and these standards must be acknowledged; or
    II. Condition the approval of a land division application that satisfies then-applicable OCMC Chapter 12.04 by including proportional mitigation of the application's impacts on that intersection, or such other mitigation measure(s) as may be approved which assure(s) that the intersection will either meet, or perform no worse than, the then-applicable performance standards

Policy 12.6.3 *Ensure the adequacy of travel mode options and travel routes (parallel systems) in areas of congestion.*
Finding: the proposal is consistent with this policy. The future completion of the Holly Lane north extension will provide for another access route from the Holcomb area that will be consistent with this policy.

Policy 12.6.4 *Identify and prioritize improved connectivity throughout the city street system.*
Finding: the proposal is consistent with this policy. The future master plan will be designed to provide connectivity consistent with this policy.

Goal 13 – Energy

Policy 13.1.2 *Encourage siting and construction of new development to take advantage of solar energy, minimize energy usage, and maximize opportunities for public transit.*
Finding: the proposal is consistent with this policy. The subject property is located on a south-facing hill that will afford opportunities in the design of the future master plan for taking advantage of solar energy. A network of connected neighborhood streets will also be consistent with this policy.

Policy 13.2.1 *Promote mixed-use development, increased densities near activity centers, and home-based occupations (where appropriate).*
Finding: the proposal is consistent with this policy. The Park Place Concept Plan proposes a mixed-use development pattern for the north village area that will include commercial, recreational and institutional uses, as well as a variety of residential types. The densities proposed in the Park Place Concept Plan are higher than other areas of the City, which is consistent with this policy.

Policy 13.2.2 *Create commercial nodes in neighborhoods that are underserved to reduce vehicle miles traveled.*
Finding: the proposal is consistent with this policy. The Park Place Concept Plan includes the provision of a small amount of neighborhood commercial development near Livesay Road, which is consistent with this policy.

Policy 13.2.3 *Plan for complementary mixed uses when considering annexation of new, under- or undeveloped areas so that new urban residential areas have closer access to jobs and services.*
Finding: the proposal is consistent with this policy. The Park Place Concept Plan includes some neighborhood commercial development that will provide for some commercial services in the neighborhood, consistent with this policy.

Section 14 Urbanization

Goal 14.3 Orderly Provision of Services to Growth Areas
Plan for public services to lands within the Urban Growth Boundary through adoption of a concept plan and related Capital Improvement Program, as amendments to the Comprehensive Plan.
Finding: The proposal is consistent with this requirement. Details regarding planned capital improvements to provide public services to the annexation site were provided earlier in this report.

Policy 14.3.1
Maximize new public facilities and services by encouraging new development within the Urban Growth Boundary at maximum densities allowed by the Comprehensive Plan.
Finding: The proposal is consistent with this requirement. The proposed zoning is consistent with the adopted and acknowledged Oregon City Comprehensive Plan Map. A condition of approval will temporarily prohibit urban-density development due to on-going traffic policy considerations. At such time as the Alternative Mobility standards are adopted and the requirements of Article 12 can be met, development will take place at densities consistent with the Park Place Concept Plan and the City's Comprehensive Plan. The proposed development will be reviewed for compliance with maximum and minimum density standards at the time of application for subdivision approval.

The subject property is designated Low Density Residential, Medium Density Residential and Mixed Use Corridor by the Oregon City Comprehensive Plan. The proposed default zoning districts R-10, R-5 and NC implements the designations applicable to this property. A zone change to a higher density may be included in a future application for development of the property. Any future development of the property will be reviewed for compliance with maximum and minimum density standards at the time of application for subdivision approval.

Policy 14.3.2
Ensure that the extension of new services does not diminish the delivery of those same services to existing areas and residents in the city.

Finding: The proposal is consistent with this requirement. As noted previously, the city has updated its water, sewer and transportation master plans to plan for extension of services to the annexation area. The updated public facility master plans take into account the demand for services from both existing and planned development in the city. Public facility plans identify future capital improvement projects intended to ensure that public services can be maintained and extended as needed to meet demand. The proposed annexation does not affect the ability of the city to deliver services to existing areas, at existing densities, and residents in the city.

Further analysis of the adequacy of the public facilities to serve the site without diminishing service to existing customers is required prior to any subsequent development proposal of the annexed property, including any zone changes, land divisions, or other development approvals required. Future development of the annexed properties will be required to construct or pay fee-in-lieu of construction of all necessary city public facilities to serve the subject site, as well as paying applicable System Development Charges.

Prior to issuing any development approval other than as identified in condition of approval #2, the applicant shall obtain General and Detailed Development Plan approval, including the entire 91-acre property, pursuant to OCMC 17.65. The General Development Plan and all phases of development authorized by it, must implement the Park Place Concept Plan and Oregon City's adopted Public Facilities Plans with regard to the provision of open space, park and trails, sewer, water, stormwater and transportation improvements. These include, but are not limited to, addressing the timing of parkland acquisitions and development, proposed phasing of major roads to ensure a timely connection to Holly Lane and an analysis of utility phasing that can foster redevelopment of the entire concept plan area.

Policy 14.3.3
Oppose the formation of new urban services districts and oppose the formation of new utility districts that may conflict with efficient delivery of city utilities within the Urban Growth Boundary.
Finding: Not applicable. The proposed annexation does not involve formation of any new urban service or utility districts.

Policy 14.3.4
Ensure the cost of providing new public services and improvements to existing public services resulting from new development are borne by the entity responsible for the new development to the maximum extent allowed under state law for Systems Development Charges.
Finding: The proposal is consistent with this requirement. All utilities that will be provided to serve the future development of this site will be the responsibility of the developer. The future homes to be built on this property will pay required Systems Development Charges at the time of application for building permits. As noted previously, the city's water, sewer and transportation master plans have been updated to plan for extension of those services to the proposed annexation area. Capital improvement projects needed to provide those services are identified in the master plans and the city's system development charges (SDCs) have been updated accordingly. The updated SDCs will ensure that new development in the annexation area will fund those public improvements to the maximum extent allowed under state law.

Goal 14.4 Annexation of Lands to the City

Annex lands to the city through a process that considers the effects on public services and the benefits to the city as a whole and ensures that development within the annexed area is consistent with the Oregon City Comprehensive Plan, City ordinances, and the City Charter.
Finding: The proposal is consistent with this requirement. This annexation application will be reviewed through a process that considers the effects on public services and benefits to the city. Consistency with the Comprehensive Plan and applicable city ordinances is required for annexation approval and has been demonstrated in this narrative and in the supporting materials provided with the application package.

The annexation includes a zone change, and the applicant has provided additional narrative to adequately demonstrate that the impacts due to the development that would be authorized by approval of the zone change can be mitigated in accordance with the City's comprehensive plan.

Further, as no additional development is proposed as part of this annexation and rezoning application, the proposal annexation will have no greater effect on public services that it currently does with the lands located outside city boundaries but within the UGB.

By approving this annexation and zoning, the city takes the next step in urbanizing this area, realizing the objectives identified in the Comprehensive Plan. Several significant reviews steps remain to be taken by both the City and the applicant in order to authorize development of the property, further ensuring consistency with this Goal.

Policy 14.4.1 *Promote compact urban form and support efficient delivery of public services by ensuring that lands to be annexed are within the City's Urban Growth Boundary, and contiguous with the city limits. Do not consider long linear extensions, such as cherry stems and flag lots, to be contiguous with the city limits.*
Finding: The proposal is consistent with this requirement. This application supports this policy by proposing annexation of property that is within the city's urban growth boundary and is contiguous with the existing city limits. The subject property is entirely within the City's Urban Growth Boundary and is contiguous with the existing city limits along its entire western border and its frontage on Holcomb Blvd. This application does not propose long linear extensions such as cherry stems or flag lots.

Policy 14.4.2 *Include an assessment of the fiscal impacts of providing public services to unincorporated areas upon annexation, including the costs and benefits to the city as a whole as a requirement for concept plans.*
Finding: The proposal is consistent with this requirement, as conditioned. This policy contains a requirement that the city include a fiscal impact assessment as part of the preparation of concept plans. This annexation area is part of a concept plan which included a fiscal assessment of the cost of public facilities to serve this area, and subsequent public facilities plans and System Development Charge updates have been implemented based on those assessments. The proposed annexation will have no immediate fiscal impacts upon the cost of providing public services because no development will be allowed until such time as transportation planning issues are resolved. The City's Public Facilities Plan and Transportation System Plan anticipate the future development of the subject property at densities consistent with the Comprehensive Plan and provide an analysis of the costs of providing adequate levels of services in this area of the city. The future development of this property will contribute to these costs by providing on-site infrastructure, as well as potential off-site sanitary sewer improvements, at the cost of the developer. Each home will be assessed appropriate System Development Charges to cover the proportionate impact of the future development of this site.

Furthermore, the future development application will provide for a master plan consistent with the design concept of the North Village Plan. The applicant acknowledges that the future master plan for the annexation area will need to provide for the dedication of a community park and other public facilities consistent with the Park Place Concept Plan. Staff recommends that this annexation area be subject to a Master Plan pursuant to OCMC 17.65 prior to any development of the property at densities greater than that permitted under current County zoning. Master Planning of the annexation area pursuant to OCMC 17.65 would allow for the specific phasing of development over time as well as greater control and predictability regarding the timing of and cost of public imporvements, including water, stormwater, sewer, transportation, parks, trails and open space. A master plan also allows development more flexibility to vary from prescriptive standards if approved pursuant to OCMC 17.65. Any master plan, along with a future comprehensive plan amendment and zone change for the subject property cannot proceed until such time as the regional transportation issues are resolved.

Prior to issuing any development approval other than as identified in condition of approval #2, the applicant shall obtain General and Detailed Development Plan approval, including the entire 91-acre property, pursuant to OCMC 17.65. The General Development Plan and all phases of development authorized by it, must implement the Park Place Concept Plan and Oregon City's adopted Public Facilities Plans with regard to the provision of open space, park and trails, sewer, water, stormwater and transportation improvements. These include, but are not limited to, addressing the timing of parkland acquisitions and development, proposed phasing of major roads to ensure a timely connection to Holly Lane and an analysis of utility phasing that can foster redevelopment of the entire concept plan area.

Policy 14.4.3 *Evaluate and in some instances require that parcels adjacent to proposed annexations be included to:*

- *avoid creating unincorporated islands within the city;*
- *enable public services to be efficiently and cost-effectively extended to the entire area; or*
- *implement a concept plan or sub-area master plan that has been approved by the Planning and City Commissions.*

Finding: The proposal is consistent with this requirement. As pointed out above, this proposal would create an "unincorpoated island" within the City. Therefore, it is up to the Planning Commission, and ultimately the City Commission to interpret this requirement. Staff has identified three options:

1) Find that this policy discourages rather than prohibits the creation of islands as a result of annexation. Use of the term "some instances" in this plan policy gives the city some discretion indicating that the policy is cautionary rather than mandatory, and implies that there are cases in which the evaluation of a potential island may result in a decision to create an island. Staff has analyzed the utility and transportation demands needed to realize the Park Place Concept Plan objectives and concludes that allowing this island to remain in the County will not compromise urbanization of the concept plan areas. Therefore, allowing this island to remain will not compromise any identified planning objective.
2) Find that this policy prohibits the creation of an island and amend the application, forcing the three adjacent properties to annex as part of this request. This approach would require a forced annexation and trigger voter approval of the annexation. The city does not have an established precedent for forcing non-consenting property owners to annex.
3) Find that forcing annexation from non-consenting property owners should not be initiated by the city and therefore, conclude that this plan policy is not met and deny the application.

This is a question of interpretation for the Planning Commission and ultimately the City Commission to determine. Staff recommends an interpretation that prohibits islands where it can be found that they compromise the efficiency and cost-effectiveness of extending public improvements.

The annexation of these three tax lots at this time is not needed in order to implement the Park Place Concept Plan. In fact, the Park Place Concept Plan boundary does not encompass the three properties that would be "islanded", although they share the same Comprehensive Plan Designation of MR Medium Density Residential consistent with the properties adjacent and within the Park Place Concept Plan.

The annexation area is contiguous to the existing city limits along its northern boundary. The proposed annexation will create a small unincorporated island within the city. The island area is shown in pink on the map below. The owners of three parcels along Holcomb Blvd., Tax Lots 22E27B 600, 800 & 900, were contacted, but preferred not to join the annexation proposal at this time.

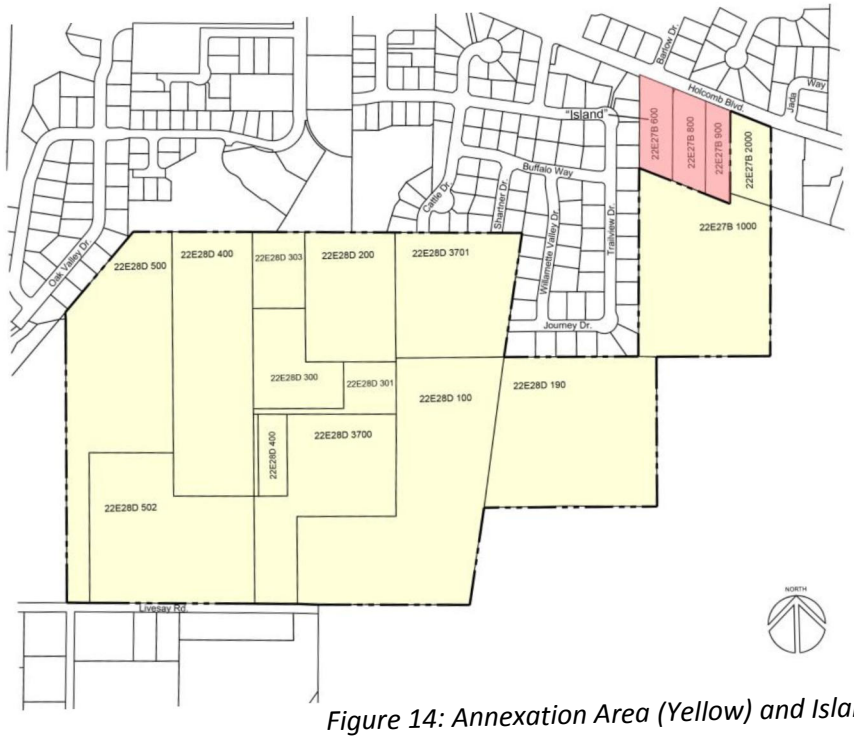


Figure 14: Annexation Area (Yellow) and Island (Pink)

The language of this policy calls for an evaluation of whether the creation of an island, by itself or in conjunction with the other listed factors, would be sufficiently problematic that the annexation proposal must be altered to include the area of the potential island. The island itself is not problematic for the City in any significant way. It is small in size at 3.7 acres, and involves only three properties. All of these properties are developed with single-family homes. The island would only be separated from other unincorporated land by approximately 180 feet along Holcomb Blvd. No further development of these properties, pursuant to city zoning, would be allowed until such time as they are annexed to the City in the future. Rising land values and the provision of urban services available to these properties sometime in the future are likely to bring an incentive for future development that will result in the voluntary annexation of these properties.

The creation of this island will have no impact upon the efficient provision of public services. Storm sewer and sanitary sewer drain to the south, away from the island area, and will be provided with the development of the annexation area. Holcomb Blvd. along the frontage of these properties is entirely within the city limits and access to water service is available in that right-of-way. While there will be a need for additional right-of-way to be dedicated from the islanded properties in order for Holcomb Blvd. to be developed to full City arterial standards. Such dedication and improvement of the road will likely not occur until such time as the owners of these properties choose to annex and develop their land. On the other hand, should the City desire to make these improvements on its own, the creation of an island at this time would have no impact on the City's ability to do so. It has the ability to annex islanded properties on its own motion and to acquire needed right-of-way either by purchase or by condemnation.

The inclusion of the island area in the annexation proposal is not needed to implement a concept plan or sub-area master plan that has been approved by the Planning and City Commissions. The three properties that would be islanded in this proposal are not a part of the Park Place Concept Plan or any other sub-area master plan. In the future, at such time as the island neighbors wish to annex to the City, the future developer of the subject properties will be provide to pay applicable System Development Charges, City taxes, and any additional facility connections.

Policy 14.4.4
Expedite the annexation of property as provided by state law in order to provide sewer service to adjacent unincorporated properties when a public health hazard is created by a failing septic tank sewage system.
Finding: Not applicable. The subject property is not subject to a public health hazard associated with a failing septic system.

Urbanization
Policy 14.5.2
Coordinate public facilities, services and land-use planning through intergovernmental agreements with the school district, Clackamas Community College, Clackamas County Fire District #1, Tri-Cities Services District and other public entities as appropriate.
Finding: The proposal is consistent with this requirement. The City continues to coordinate with the school district to conduct long range planning within the UGB through the adoption of concept plans and other planning efforts, and to review current development proposals. Development of this Low Density Residential property will require payment of construction excise taxes for school development. At this time, the school district has not indicated that an intergovernmental agreement is necessary to assure adequacy of school facilities to serve the proposed annexation property, which is already within the school district.

Compliance with OCMC 14.04.060 – Annexation Factors – Continued

3. Adequacy and availability of public facilities and services to service potential development;
Finding: The proposal is consistent with this requirement. The adequacy and availability of public facilities and services to service the potential development of the property was discussed earlier under the applicant's statements section.

4. Compliance with applicable sections of ORS Ch. 222, and Metro Code Section 3.09;

Finding: The proposal is consistent with this requirement. See findings earlier in this report for Metro 3.09. ORS 222 requires the proposed annexation property be contiguous with the city and provides several options for annexing land into a city. As noted in 14.04.050(E)(1), this annexation relies on ORS 222.125, annexation by consent of all land owners and a majority of electors. ORS Ch. 222 was amended in 2016 with the adoption of Senate Bill 1573 with respect to voter approval. Those requirements are addressed later in this report. The requirements of ORS 222, then, are met.

Metro Section 3.09 is addressed separately in earlier in this report.

Compliance with OCMC 14.04.060 – Annexation Factors – Continued

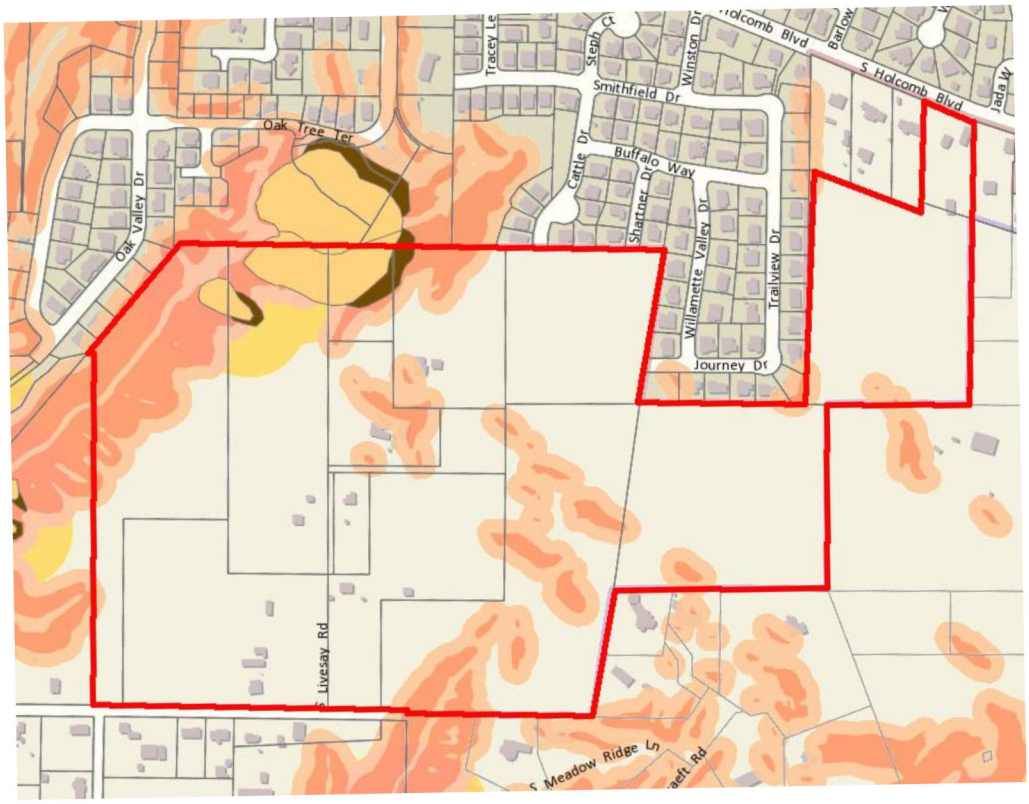
5. Natural hazards identified by the city, such as wetlands, floodplains and steep slopes;

Finding: The proposal is consistent with this requirement. The City Comprehensive Plan identifies water resource and steep slope areas that will require further investigation at time of development to demonstrate compliance with Oregon City's overlay district zoning; OCMC Chapter 17.49 regulating water resource and habitat protection and OCMC Chapter 17.44 regulating development in and near geologic hazards and steep slopes. Future development of the site will be required to meet all applicable city, state and federal requirements, which will be addressed through the land development processes (site plan and design review, land divisions, etc.). As no development is proposed as part of this annexation and rezoning application, this annexation will have no impact on identified natural hazards to any greater degree than development that is currently permitted.

Oregon City's NROD standards are in substantial compliance with Metro Title 3 and Title 13 and Statewide Goal 5. Oregon City's adopted Geologic Hazard Overlay District OCMC 17.44 complies with Statewide Goal 7 – Natural Hazards. The Geologic Hazard Overlay District code requirements were significantly amended during and following the adoption process for the Park Place Concept Plan and several changes were made to the previous code to include, among other pertinent requirements:

- Peer third-party review of an applicant's geotechnical and geologic reports, and construction plans by an expert geologic engineer working for the City;
- Requirements that the geologic engineer of record for the applicant review and sign-off on final construction plans to ensure that initial recommendations are following during construction;
- Addition of a 200' foot review buffer from known landslide areas;
- Requirement for literature review of current scholarly reports and DOGAMI mapping information related to slide prone areas within the City limits relevant to the subject area.

The subject property does have areas of potential natural hazards associated with steep slopes, primarily along ravines associated with drainageways and areas of steeper hillside grades. The map below from the City's GIS system shows these areas.



When the property is developed in the future, the natural drainageways will remain undeveloped as open space. A geotechnical report will be prepared at the time of future development application to assess the safety of other potential hazard areas and the recommendations of that report will be followed in designing the future development plan.

6. Any significant adverse effects on specially designated open space, scenic, historic or natural resource areas by urbanization of the subject property at time of annexation;

Finding: The proposal is consistent with this requirement. The above mentioned resources are Goal 5 resources that were are addressed in detail in the Natural Resource and cultural and historic inventories as part of the existing conditions analysis required during the last Comprehensive Plan update. OCMC 17.44 and 17.49 code require that further on-site analysis be conducted to determine the current extent of any protected resources or hazards which initially was done with the comprehensive plan. More detailed, site specific delineations of the resources and the required associated vegetated corridors next to any wetlands or streams is required prior to development, along with impact analysis and mitigation for impacts. These existing restrictions will adequately protect natural resource areas and to the extent necessary serve as a natural resource protection plan.

No additional historic or cultural resources have been identified at this that are not regulated under existing city codes or state law.

7. Lack of any significant adverse effects on the economic, social and physical environment of the community by the overall impact of the annexation.

Finding: The proposal is consistent with this requirement. The adopted City of Oregon City Comprehensive Plan designation is Low Density Residential. The implementing default zones for this plan designation are R-10, R-5 and NC. The applicant has requested the default zoning of R-10, R-5 and

NC at this time. The development of this site in a manner consistent with the adopted Comprehensive Plan will serve to provide needed housing to accommodate the projected population growth of the City of Oregon City. The site is well suited from a physical standpoint to be developed in this manner as it is free of any significant development constraints, other than a very small area of moderately steep slopes. Providing for future development of needed housing within walking distance of Holcomb Elementary School for school and recreational services will assist in providing for a beneficial social environment in this neighborhood.

The applicant indicates that the majority of the subject property is within the boundaries of the Park Place Concept Plan, specifically, the North Village Plan, and the eventual development of this site will be subject to the land uses and densities set forth in that document. The future development application will provide for a master plan pursuant to OCMC 17.65 consistent with the design concept of the North Village Plan. The future development application will likely need to include proposals to rezone the property to resolve certain discrepancies between the land use areas in the North Village Plan and the existing designations Oregon City Comprehensive Plan Map. One property, Tax Lot 2000 on Map 22E27B and which fronts on Holcomb Blvd., is located outside of the North Village Plan, is designated MR by the Comprehensive Plan and will be zoned R-5. That property will be developed in conjunction with the rest of the properties included in this annexation and zone change. The future development of this property will provide a mixture of approximately 400 to 450 single-family detached and attached housing units, as well as neighborhood commercial, park and community uses as shown on the North Village Plan. It will also aid in providing a needed collector road connection from the Holcomb Blvd. area down to Redland Road. It is anticipated that the development will occur in several phases over an approximate 10 year development plan, which will be further defined through a General Development Plan pursuant to OCMC 17.65. As such, the future development of the property will not have any significant impact upon the economic, social and physical environment of the community.

COMPLIANCE WITH APPLICABLE PROVISIONS OF ORS 222

Finding: The proposal is consistent with this requirement. ORS 222 requires the proposed annexation property be contiguous with the city and provides several options for annexing land into a city. As noted in 14.04.050(E)(1), this annexation relies on ORS 222.125, annexation by consent of all land owners and a majority of electors.

SB 1573

If the City Commission determines that the proposed annexation should be approved, the City Commission is required by the Charter to submit the annexation to the electors of the City. However, the passage of SB 1573 has modified ORS 222 and noe requires that the City annex the territory without submitting the proposal to the electors pursuant to the following provisions.

SECTION 1. Section 2 of this 2016 Act is added to and made a part of ORS 222.111 to 222.180.
SECTION 2. (1) This section applies to a city whose laws require a petition proposing annexation of territory to be submitted to the electors of the city.
(2) Notwithstanding a contrary provision of the city charter or a city ordinance, upon receipt of a petition proposing annexation of territory submitted by all owners of land in the territory, the legislative body of the city shall annex the territory without submitting the proposal to the electors of the city if:
(a) The territory is included within an urban growth boundary adopted by the city or Metro, as defined in ORS 197.015;
(b) The territory is, or upon annexation of the territory into the city will be, subject to the acknowledged comprehensive plan of the city;

(c) At least one lot or parcel within the territory is contiguous to the city limits or is separated from the city limits only by a public right of way or a body of water; and
(d) The proposal conforms to all other requirements of the city's ordinances.
Finding: The Oregon City Municipal Code and City Charter requires annexations to be referred to the voters for final approval through an election. However, in this instance, the proposed annexation meets the requirements of the new State law in that it includes a petition that is signed by all owners of land in the territory, the area is within the adopted urban growth boundary, is within an area subject to the adopted and acknowledged Oregon City Comprehensive Plan, and the property is contiguous to the existing city limits. As demonstrated in this narrative, this proposal conforms to all other requirements of the city's ordinances, so long as the city does not decide to force the island properties to be included with this request. Thus, the proposal meets items (a) through (d).

(3) The territory to be annexed under this section includes any additional territory described in ORS 222.111 (1) that must be annexed in order to locate infrastructure and right of way access for services necessary for development of the territory described in subsection (2) of this section at a density equal to the average residential density within the annexing city.
Finding: No such additional territory is required in order to locate infrastructure and right-of-way access for services necessary for development of the annexing territory.

(4) When the legislative body of the city determines that the criteria described in subsection (2) of this section apply to territory proposed for annexation, the legislative body may declare that the territory described in subsections (2) and (3) of this section is annexed to the city by an ordinance that contains a description of the territory annexed.
Finding: The required ordinance will be adopted by the City Commission upon approval of this annexation proposal.

II B. ZONE CHANGE CRITERIA

CONCURRENT ZONING MAP AMENDMENT FROM FU-10 TO R-5, R-10 & NC.
Finding: The Site has acknowledged Oregon City Comprehensive Plan Map designations of Medium Density Residential (MR), Low Density Residential (LDR) and Mixed Use-Corridor (MUC). Oregon City Municipal Code ("OCMC") 17.68.025.A. provides that "notwithstanding any other section of this code", a concurrent zoning map application under OCMC Chapter 17.50 is required. Further, this section requires that the zoning map designation correlate to the corresponding Comprehensive Plan map designation for the site as shown in OCMC 17.68.025.A. The section is mandatory; it provides that "the property shall be rezoned upon annexation to the corresponding zoning designation as follows..."(emphasis added). In other words, there is no discretion to be applied to the zoning map amendment and not only is a concurrent zoning map amendment required, the outcome is automatic based on the acknowledged OCMC. Further, compliance with OCMC Chapter 17.50 requires a zoning map amendment application but does not require compliance with the discretionary zoning map amendment application criteria in OCMC 17.68.020.

In this instance, the zoning districts to be applied per the table in OCMC 17.68.025.A are R-5 for the MR area, R-10 for the LDR area, and Neighborhood Commercial (NC) for the MUC area.

The Planning Commission can find that the Application satisfies the approval criteria in OCMC 17.68.025.A. and B. and the zoning map amendment shall be approved.

Please note that neither the process of annexation or zoning is not considered "Development" under the City's zoning code definition.[2]

In accordance with City, County and State transportation requirements, no development, except that permitted under the County's Future Urban FU-10 zoning designation, in effect as of the date of this application's submittal, shall be allowed until the following occurs, acknowledged and the Applicant demonstrates compliance with these requirements:

a. A refinement plan for Highway 213 at Beavercreek Road (Alternative Mobility Targets), including elements such as financially constrained projects and alternative mobility standards, and amendments to OCMC Chapter 12.04 implementing the new Refinement Plan, are be adopted and acknowledged.
b. Amendments to OCMC 12.04 which allow development affecting the intersection of Highway 213/Beavercreek are adopted.
    I. Adopt amendments to the City's Transportation System Plan and OCMC Chapter 12.04 to include projects that satisfy the then-applicable performance standards and these standards must be acknowledged; or
    II. Condition the approval of a land division application that satisfies then-applicable OCMC Chapter 12.04 by including proportional mitigation of the application's impacts on that intersection, or such other mitigation measure(s) as may be approved which assure(s) that the intersection will either meet, or perform no worse than, the then-applicable performance standards

The applicant further asserts that compliance with OCMC Chapter 17.50 requires a zoning map amendment application but does not require compliance with the discretionary zoning map amendment application in OCMC 17.68.020. See also 17.68.025B.

For this reason, the applicant did not respond to the criteria for a zone change which are typically applied when a development seeks a discretionary zone change decision, which are provided below:

17.68.020 - Criteria.
The criteria for a zone change are set forth as follows:
A. The proposal shall be consistent with the goals and policies of the comprehensive plan.
B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed by the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.
C. The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.
D. Statewide planning goals shall be addressed if the comprehensive plan does not contain specific policies or provisions which control the amendment.

[2] OCMC 17.04.300 - *Development.* "Development" means a building or grading operation, making a material change in the use or appearance of a structure or land, dividing land into two or more parcels, partitioning or subdividing of land as provided in ORS 92.010 to 92.285 or the creation or termination of an access right.

The applicant requests that the Planning Commission find that the application satisfies the approval criteria in OCMC 17.68.025.A. and B. and the zoning map amendment be approved.
Finding: The criteria are addressed within this report. Staff agrees that OCMC 17.68.025.A requires a concurrent zone change when the lands subject to annexation are designated by an acknowledged City Comprehensive Plan. Use of the term "shall" suggests that re-zoning is mandatory and cannot be subject to the highly discretionary criteria contained within OCMC 17.68.020. Such an approach makes sense because R-10 development was fully contemplated and planned for in the City's Comprehensive Plan and utility master plans. This makes the act of re-zoning largely ministerial. Although staff believes that these criteria are not applicable, as a practical matter, staff notes that they mirror the annexation factors and as a result, would be satisfied, with the exception of the transportation impacts which are dealt with through a condition of approval.

In accordance with City, County and State transportation requirements, no development, except that permitted under the County's Future Urban FU-10 zoning designation, in effect as of the date of this application's submittal, shall be allowed until the following occurs, acknowledged and the Applicant demonstrates compliance with these requirements:

a. A refinement plan for Highway 213 at Beavercreek Road (Alternative Mobility Targets), including elements such as financially constrained projects and alternative mobility standards, and amendments to OCMC Chapter 12.04 implementing the new Refinement Plan, are be adopted and acknowledged.
b. Amendments to OCMC 12.04 which allow development affecting the intersection of Highway 213/Beavercreek are adopted.
    I. Adopt amendments to the City's Transportation System Plan and OCMC Chapter 12.04 to include projects that satisfy the then-applicable performance standards and these standards must be acknowledged; or
    II. Condition the approval of a land division application that satisfies then-applicable OCMC Chapter 12.04 by including proportional mitigation of the application's impacts on that intersection, or such other mitigation measure(s) as may be approved which assure(s) that the intersection will either meet, or perform no worse than, the then-applicable performance standards

17.06.030 - Zoning of annexed areas.
All lands within the urban growth boundary of Oregon City have been classified according to the appropriate city land use designation as noted on the comprehensive plan map (per the city/county urban growth management area agreement). The planning department shall complete a review of the final zoning classification within sixty days after annexation. The zoning classification shall reflect the city land use classification as illustrated in Table 17.06.

Table 17.06.030

CITY LAND USE CLASSIFICATIONS	
Residential Plan Classification	*City Zone*
Low-Density Residential	*R-10, R-8, R-6*
Medium-Density Residential	*R-3.5, R-5*
High-Density Residential	*R-2*

CITY LAND USE CLASSIFICATIONS	
Commercial Plan Classification	*City Zone*
General Commercial	*C*
Mixed-Use Downtown	*MUD, WFDD*
Mixed-Use Corridor	*MUC I, MUC 2, NC, HC*
Mixed-Use Employment	*MUE*
Industrial Plan Classification	*City Zone*
Industrial	*CI, GI*

In those cases where only a single city zoning designation corresponds to the comprehensive plan designation and thus the rezoning decision does not require the exercise of legal or policy judgment on the part of the community development director, Chapter 17.68 shall control. The decision in these cases shall be a ministerial decision of the community development director made without notice or any opportunity for a hearing.
A. A public hearing shall be held by both the planning commission and city commission in accordance with the procedures outlined in Chapter 17.68 (except for the provisions of Section 17.68.025) for those instances in which more than one zoning designation carries out a city plan classification.
Finding: The proposal is consistent with this requirement, as conditioned.
The applicant states that compliance with OCMC Chapter 17.50 requires a zoning map amendment application but does not require compliance with the discretionary zoning map amendment application in OCMC 17.68.020. Since the applicant has requested the lowest density zone applicable to the LR – Low Density Residential land use category, R-10, the rezoning decision does not require the exercise of legal or policy judgment on the part of the community development director, and Chapter 17.68 controls.

Plan Designation	***Zone***
Low-Density Residential	*R-10 - Single Family Dwelling*
Medium-Density Residential	*R-5 - Single Family Dwelling*
Mixed-Use Commercial	*NC - Neighborhood Commercial*

Based on the additional analysis provided by the applicant as documented in this report regarding impacts to the public transportation system, sewer, water and stormwater, and police and emergency services, staff supports the default zone change to R-10 with the findings and conditions attached to the staff report. Note that with the condition of approval proposed by the applicant, no development beyond that permitted under the County's FU-10 zoning may occur until compliance with specific transportation system requirements met, as discussed below.

No change to the comprehensive plan text or map designation is proposed for this site. The zone change application that has been filed with the annexation proposal is a mandatory and non-discretionary re-zoning required pursuant to OCMC 17.68.025.A. This zone change is required concurrently with the annexation in order to replace Clackamas County RRFF-5 zoning and apply the appropriate City zones that implement the City's Comprehensive Plan Map designations for the site. In this instance, Neighborhood Commercial is proposed for the MUC area and R-10 would be applied to the LDR

designation. It is understood that a future application will be required at the time that a master plan for the development of the property is proposed in order to amend the Comprehensive Plan and zoning for the site comply with the Park Place Concept Plan's conceptual plan for the North Village area. The master plan and the future comprehensive plan amendment and zone change for the subject property cannot proceed until such time as the regional transportation issues are resolved.

In accordance with City, County and State transportation requirements, no development, except that permitted under the County's Future Urban FU-10 zoning designation, in effect as of the date of this application's submittal, shall be allowed until the following occurs, acknowledged and the Applicant demonstrates compliance with these requirements:

a. A refinement plan for Highway 213 at Beavercreek Road (Alternative Mobility Targets), including elements such as financially constrained projects and alternative mobility standards, and amendments to OCMC Chapter 12.04 implementing the new Refinement Plan, are be adopted and acknowledged.
b. Amendments to OCMC 12.04 which allow development affecting the intersection of Highway 213/Beavercreek are adopted.
    I. Adopt amendments to the City's Transportation System Plan and OCMC Chapter 12.04 to include projects that satisfy the then-applicable performance standards and these standards must be acknowledged; or
    II. Condition the approval of a land division application that satisfies then-applicable OCMC Chapter 12.04 by including proportional mitigation of the application's impacts on that intersection, or such other mitigation measure(s) as may be approved which assure(s) that the intersection will either meet, or perform no worse than, the then-applicable performance standards

2. TRANSPORTATION PLANNING RULE ("TPR") COMPLIANCE (OAR 660-012-0060)

OAR 660-012-0060(1) and (2) require land use regulation amendments, including amendments to zoning maps, to determine if the amendment will have a "significant affect" on transportation facilities and, if so, can it be mitigated. However, OAR 660-012-0060(9) provides that a zoning map amendment does not need to include this analysis, and the City can make a finding of no "significant affect", if:

a. A zoning map amendment is consistent with the existing comprehensive plan designation and does not change the map designation;

b. The City has an acknowledged Transportation System Plan ("TSP"); and

c. The area of the zoning map amendment was not exempted from the TPR at the time of the UGB amendment. OAR 660-012-0060(9)(a)-(c).

Finding: The proposal is consistent with the Transportation Planning Rule.

The subject property complies with these criteria as follows:

a. Oregon City's Comprehensive Plan Land Use Map within the acknowledged Oregon City Comprehensive Plan designates the subject property Low Density Residential, Medium

Density Residential, and Mixed Use Commercial. The proposed zoning amendment would not change the map designation and the R-10, R-5 and NC zoning are implementing zones for those designations.

b. An updated Transportation System Plan (TSP) and associated amendments to the Oregon City Municipal Code (OCMC) was approved by the City Commission and became effective August 16, 2013. The TSP was acknowledged by DLCD on August 9, 2013 (DLCD File Number 001-13).

c. The subject property has been in the City's UGB since the time of the adoption of the Comprehensive Plan and was not exempted from the Transportation Planning Rule.

The City can find that all three (3) of these requirements are met. Therefore, the City can find that the zoning map amendment does not "significantly affect" a transportation facility.

Finally, OCMC Title 12 does not apply to the concurrent annexation and zoning map amendments as they do not constitute "development" as that term is defined in the OCMC and ORS 227.160(2). The City will apply OCMC Title 12 when "development" is proposed for this site. A condition of approval will be applied to the zone change application to ensure that development does not occur until such time as the requirements of Title 12 can be met.

Alternatively, the applicant would expect to propose that the City adopt a condition of approval based on OAR 660-012-0060(2)(e).

Prior to annexation, the property owners or assigns will record a covenant, to be approved by the City Attorney, which limits development of the site until such time that a zone change to a City zoning designation has been approved. The covenant shall acknowledge that development is reviewed for compliance with the Oregon City Municipal Code and Clackamas County Zoning and Development Ordinance. Further, until a zone change is approved the site use shall not change or intensify, or receive approval of a land division or development of the site including, but not limited to: no new structures or additions to existing structures or site grading that triggers erosion control permits or overlay district review. In addition the property shall be subject to the City's overlay districts, fence regulations in OCMC 17.54.100 as well as the City's nuisance, business licensing and animal regulations.

The applicant submitted a Transportation Impact Analysis (TIA), prepared by Lancaster Engineering, which includes an analysis of future trip generation and distribution, safety analysis, operational analysis and a discussion of compliance with the State Transportation Planning Rule OAR in support of the requested rezoning to R-10.

The TIA was prepared in consultation with City and Oregon Department of Transportation (ODOT) staff and analyses the performance of three off-site intersections that would be impacted by future development of the annexation area.

The City's transportation consultant, Replinger and Associates, reviewed the applicant's TIA and TPR analysis and provided findings with recommended conditions of approval for the annexation and rezoning.

OAR 660-012-0060(1) and (2) requires land use regulation amendments, including amendments to zoning maps, to determine if the amendment will have a "significant affect" on transportation facilities and, if so, mitigation is required.

In this instance, the proposed zone change would be expected to degrade the performance of several study area intersections that are otherwise not projected to meet the relevant performance standards of Oregon City and ODOT.

Having determined that the proposed annexation and zone change may result in a significant effect on operation of several study area intersections, the TPR also includes the following language:

(9) Notwithstanding section (1) of this rule, a local government may find that an amendment to a zoning map does not
significantly affect an existing or planned transportation facility if all of the following requirements are met.

- *(a) The proposed zoning is consistent with the existing comprehensive plan map designation and the amendment does not change the comprehensive plan map;*
- *(b) The local government has an acknowledged TSP and the proposed zoning is consistent with the TSP; and*
- *(c) The area subject to the zoning map amendment was not exempted from this rule at the time of an urban growth boundary amendment as permitted in OAR 660-024-0020(1)(d), or the area was exempted from this rule but the local government has a subsequently acknowledged TSP amendment that accounted for urbanization of the area.*

In this instance, the proposed zoning is consistent with the Comprehensive Plan map designation, Oregon City has an acknowledged TSP that accounted for future development under the proposed zoning, and the area was not exempted from the rule at the time of the urban growth boundary amendment. Accordingly, the city may find that the proposed annexation and zone change is consistent with the city's adopted plans and does not significantly effect an existing or planned transportation facility.

Alternatively, if it is determined that mitigation may be required for the proposed annexation and zone change, the requirements of the TPR are as follows:

> *(2) If a local government determines that there would be a significant effect, then the local government must ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility measured at the end of the planning period identified in the adopted TSP through one or a combination of the remedies listed in (a) through (e) below, unless the amendment meets the balancing test in subsection (2)(e) of this section or qualifies for partial mitigation in section (11) of this rule. A local government using subsection (2)(e), section (3), section (10) or section (11) to approve an amendment recognizes that additional motor vehicle traffic congestion may result and that other facility providers would not be expected to provide additional capacity for motor vehicles in response to this congestion.*
>
> > *(a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.*
> > *(b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation*

finance plan so that the facility, improvement, or service will be provided by the end of the planning period.
(c) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.
(d) Providing other measures as a condition of development or through a development agreement or similar funding method, including, but not limited to, transportation system management measures or minor transportation improvements. Local governments shall, as part of the amendment, specify when measures or improvements provided pursuant to this subsection will be provided.
(e) Providing improvements that would benefit modes other than the significantly affected mode, improvements to facilities other than the significantly affected facility, or improvements at other locations, if:

(A) The provider of the significantly affected facility provides a written statement that the system-wide benefits are sufficient to balance the significant effect, even though the improvements would not result in consistency for all performance standards;
(B) The providers of facilities being improved at other locations provide written statements of approval; and
(C) The local jurisdictions where facilities are being improved provide written statements of approval.

The required transportation improvements identified by the City's 2013 Transportation System Plan to serve the area were discussed earlier in this report. Additionally the applicant submitted a Transportation Impact Analysis (TIA) to support the requested Zone Change to R-10, R-5 and NC. The TIA was prepared by Daniel Stumpf, EI and Mike Ard, P.E. of Lancaster Engineering, and reviewed by the City's Transportation Consultant, John Replinger, P.E. The TIA was prepared in consultation with the City and ODOT engineering staff and analyzed various intersections that would be impacted by the eventual development of the annexation property.
Because the proposed annexation also involves rezoning of the property, a TPR analysis is also included. The analysis is predicated on the development of the land at a density that would allow 522 additional dwellings and up to 49,000 square feet of commercial retail land use.

The applicant's engineer states that the proposed zone change will not necessitate changes to the functional classification of existing or planned transportation facilities.

Mr. Replinger's conclusion regarding the TIA and TPR analysis follows:

Because the proposed annexation also involves rezoning of the property to R-10, a TPR analysis is also included. The analysis is predicated on the development of the land at a density that would allow 533 single-family dwellings and 4.5 acres of neighborhood commercial establishments. The engineer states that the proposal does not change the functional classification of any existing or planned transportation facility and does not alter the standards for implementing the functional classification system.

….the annexation and development of the subject property is predicted to degrade the performance at key intersections such that these intersections would not meet applicable

performance standards. The applicant's participation in the funding of projects identified in the TSP or from other analyses area proposed to mitigate for these impacts.

The Oregon Department of Transportation has raised concerns that the amount and type of development analyzed for the neighborhood commercial area does not represent the reasonable worst case development scenario. Further analysis of a more intense development scenario for the 4.5 acres of neighborhood commercial land will be necessary to fully assess compliance with the Transportation Planning Rule.

A new analysis of a more intense development scenario will be needed to adjust the applicant's share for funding of projects. A more intense development scenario can be expected to slightly increase the applicant's share of projects needed to serve the development.

I find that the TIS provides an adequate basis upon which to assess the impacts of the proposed annexation and rezoning. I agree that the proposal does not cause the need for change in the functional classification of any existing or planned facility. I concur with the engineer's analysis concluding that key intersections will fail to meet adopted performance standards at the following intersections:

- *I-205/99E Northbound Ramp Terminal*
- *I-205/99E Southbound Ramp Terminal*
- *Highway 213/Redland Road*
- *Highway 99E/14th Street*
- *14th Street/Washington Street*
- *Beavercreek/Highway 213*

Two intersections critical to the development of the subject property will need to be created or significantly modified to serve their role in the city's transportation network: Holcomb Boulevard/Holly Lane and Redland Road/Holly Lane.

In addition, poor operating performance is predicted at the intersection of Redland Road/Holcomb Boulevard/Abernethy Road. The engineer's analysis indicates that the addition of an eastbound right-turn lane would significantly improve the performance of the intersection.

Planning staff concurs with Mr. Replinger and recommends that the annexation and zoning decision, if approved, include the conditions included with the findings attached to this report.

II. STAFF RECOMMENDATION

Based on the study and the Proposed Findings and Reasons for Decision for this annexation, the staff recommends that the Planning Commission:

Make a recommendation on Proposal No. AN-16-0007 / ZC-16-0005 to the City Commission regarding how the proposal has or has not complied with the factors set forth in Section 14.04.060. Staff has prepared draft Findings and stands ready to adjust them as needed.

If the Planning Commission sends forward a positive recommendation, then the staff further recommends that the Planning Commission forward the following proposed findings and reasons for decision for adoption by the City Commission.

IV. PROPOSED FINDINGS AND REASONS FOR DECISION

Based on the Findings provided above, the Commission determines:

1. The Metro Code calls for consistency of the annexation with the Regional Framework Plan or any functional plan. The Commission concludes the annexation is not inconsistent with this criterion because there were no directly applicable criteria for boundary changes found in the Regional Framework Plan, the Urban Growth Management Function Plan, or the Regional Transportation Plan.

2. Metro Code 3.09.050(d)(1) requires the Commission's findings to address consistency with applicable provisions of urban service agreements or annexation plans adopted pursuant to ORS 195. As noted in the Findings, there are no such plans or agreements in place. Therefore the Commission finds that there are no inconsistencies between these plans/agreements and this annexation.

3. The Metro Code, at 3.09.050(d)(3), requires the City's decision to be consistent with any "directly applicable standards or criteria for boundary changes contained in comprehensive land use plans and public facilities plans." The County Plan also states that conversion of future urban lands to immediate urban lands "Provide for an orderly and efficient transition to urban land use" and "encourage development in areas where adequate public services and facilities can be provided in an orderly and economic way." The applicant has demonstrated that the City can provide all necessary urban services. Nothing in the County Plan speaks directly to criteria for annexation. Therefore the Commission finds this proposal is consistent with the applicable plan as required Metro Code 3.09.050 (d)(3).

4. The Commission concludes that the annexation is consistent with the City Comprehensive Plan that calls for a full range of urban services to be available to accommodate new development as noted in the Findings above. The City operates and provides a full range of urban services. Specifically with regard to water and sewer service, the City has both of these services available to serve some of the area from existing improvements in Holcomb Boulevard.

5. Water service is available in large water mains in Holcomb Boulevard; the existing homes will continue to be serviced by Clackamas River Water (CRW) pursuant to the existing HOPP Intergovernmental Agreement.

6. With regard to storm drainage, the City has the service available in the form of regulations to protect and control stormwater management. The specifics of applying these will be a part of the development review process.

7. The Commission notes that the Metro Code also calls for consistency of the annexation with urban planning area agreements. As stated in the Findings, the Oregon City-Clackamas County Urban Growth Management Agreement specifically provides for annexations by the City.

8. Metro Code 3.09.050(d)(5) states that another criterion to be addressed is "Whether the proposed change will promote or not interfere with the timely, orderly, and economic provision

of public facilities and services." Based on the evidence in the Findings, the Commission concludes that the annexation will not interfere with the timely, orderly, and economic provision of services.

9. The Oregon City Code Chapters 14 and 17 contains provisions on annexation processing. Section 6 of the ordinance requires that the City Commission consider seven factors if they are relevant. These factors are covered in the Findings and on balance the Commission believes they are adequately addressed to justify approval of this annexation.

10. The City Commission concurs with Tri-City Service District's annexation of the subject property in the enacting City ordinance.

11. The Commission determines that the property should be withdrawn from the Clackamas County Service District for Enhanced Law Enforcement as allowed by statute since the City will provide police services upon annexation.

12. The Commission determines that the property should not be withdrawn from the Clackamas Fire District #1 as allowed by statute.

13. The Commission determines that the property should be not be withdrawn from the Clackamas River Water District at this time and remain in the District pursuant to the existing HOPP IGA with CRW.

14. In accordance with City, County and State transportation requirements, no development, except that permitted under the County's Future Urban FU-10 zoning designation, in effect as of the date of this application's submittal, shall be allowed until the following occurs and the Applicant demonstrates compliance with these requirements:

    a. Highway 213 at Redland Road intersection (an Oregon Highway intersection) is forecasted to fall below adopted performance standards prior to year 2035. As a result, a new Refinement Plan, including elements such as financially constrained projects and alternative mobility standards, and amendments to OCMC Chapter 12.04 implementing the new Refinement Plan, shall be adopted and acknowledged.
    b. Redland Road at Holcomb Boulevard/Abernethy Road (a non-Oregon Highway intersection) is forecasted to fall below adopted performance standards prior to year 2035. As a result, the City must do one of the following:
        i. Adopt amendments to the City's Transportation System Plan and OCMC Chapter 12.04 to include projects that satisfy the then-applicable performance standards and these standards must be acknowledged; or
        ii. Condition the approval of a land division application that satisfies then-applicable OCMC Chapter 12.04 by including proportional mitigation of the application's impacts on that intersection, or such other mitigation measure(s) as may be approved which assure(s) that the intersection will either meet, or perform no worse than, the then-applicable performance standards.

15. The City Commission concur with the applicant's proposal that a future master plan (General Development Plan pursuant to OCMC 17.65) for the annexation area shall be submitted and that the General Development Plan and all subsequent phases will need to incorporate open space,

park areas, trails, sewer, water, stormwater and transportation improvements consistent with the Park Place Concept Plan and Oregon City's adopted Public Facilities Plans. Prior to any development of the subject site above and beyond that permitted under the exsiting Clackamas County zoning designations for subject properties, the applicant shall apply for a General Development Plan pursuant to OCMC 17.65. All subsequent subdivision of land or site plan and design review applications shall be in conformance with the submitted Master Plan, although the normal provisions for Amendments to Master Plans apply.

16. The Commission agrees with the applicant's proposal that a future master plan approval, General and Detailed Development Plan pursuant to OCMC 17.65, including the entire 91-acre annexation area shall be obtained submitted prior to any development approval authorized by this zone change. The General Development Plan and all phases of development authorized by it, must implement the Park Place Concept Plan and Oregon City's adopted Public Facilities Plans with regard to the provision of open space, park and trails, sewer, water, stormwater and transportation improvements.

17. The City Commission acknowledges that further refinement and studies of the annexation area are needed prior to development and that a Master Plan application will provide further refinements regarding the costs of public facilities to serve the development of the site.

18. Prior to issuing any development approval authorized by this zone change, the applicant shall obtain General and Detailed Development Plan approval, including the entire 91-acre property, pursuant to OCMC 17.65. All land division and site plan and design review applications shall be in conformance with the approved Master Plan, although the normal provisions for Amendments to Master Plans apply.

19. At such time as a detailed development plan is prepared or in connection with development of a master plan, the applicant will need to submit additional materials to address specific requirements outlined in the city's *Guidelines for Transportation Impact Analyses*. These include, but are not limited to requirements associated with intersection spacing and sight distance. The applicant will also need to address trip generation associated with the specific uses proposed in such developments, especially as it relates to the 4.5-acre community commercial property, which for this TIS was evaluated using the generic "shopping center" category.

20. At the time that a General Development Plan or Detailed Development Plan for the subject property is approved the following conditions shall appl: Note that the applicant's final share may be modified as necessary when a Master Plan is approved to reflect any modifications of the development's trip generation based on a refined proposal or when there is a change in project costs resulting from revisions to project costs associated with an update to the City's Transportation System Plan or Capital Improvement program:

    a. The developer shall participate in the funding of improvements for the I-205/OR-99E ramp terminal projects (TSP Projects D75 and D76) in proportion to the development's traffic volumes as a percentage of total year 2035 intersection volumes from the TSP. The project cost for D75 is $3,000,000. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 0.76 percent of the 2035 volume and the development's share of the project is

$22,800. The project cost of D76 is $3,000,000. The development accounts for 0.70 percent of the 2035 volume and the development's share is $21,000.

b. The developer shall participate in the funding of improvements for the Main Street/14th Street improvements (TSP Projects D7 and D8) in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume at the intersection calculated in the TSP. The higher cost option in the TSP is listed at $670,000. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 2.98 percent of the 2035 volume and the development's share of the project is $19,966.

c. The developer shall participate in the funding of improvements for the Abernethy/Holcomb/Redland intersection in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume. No project is currently identified in the TSP. The project concept is to provide an additional lane on the eastbound approach; it may involve restriping or widening and signal modifications. No project cost is available at this time. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 13.34 percent of the 2035 volume.

d. The developer shall participate in the funding of improvements for the intersection of OR213/Redland Road (TSP Project D79) in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume at the intersection calculated in the TSP. The TSP project cost is listed at $10,060,000. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 3.58 percent of the 2035 volume and the development's share of the project is $360,148.

e. The developer shall participate in the funding of improvements for the Holly Lane/Holcomb Boulevard intersection (TSP Project D43) in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume. Project D43 is a roundabout with an estimated project cost in the TSP of $505,000. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 22.67 percent of the 2035 volume and the development's share of the project is $114,484.

f. The developer shall participate in the funding of improvements for the Holly Lane/Redland Road intersection (TSP Project D36) in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume. Project D36 is a roundabout with an estimated project cost in the TSP of $515,000. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 21.33 percent of the 2035 volume and the development's share of the project is $109,850.

g. The developer shall participate in the funding of improvements for the Highway 213/Beavercreek Road intersection in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume. A project to add a right-turn lane on westbound Beavercreek Road and a merge lane on northbound Highway 213 was

identified in the July 2017 Highway 213 Corridor Alternative Mobility Study. The project's cost was estimated at $1.5 million. Inclusion of this project in the TSP is anticipated by an amendment planned during 2018. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 0.30 percent of the 2035 volume and the development's share of the project is $4,500.

The applicant's preliminary proportionate share for project listed above as conditions of approval are based on the assumption that the 4.5 acre commercial development is developed as a shopping center. A more intense development is likely to increase the applicant's share of projects as calculated above.

V. RECOMMENDED CONDITIONS OF APPROVAL

1. The application of the proposing Oregon City zoning designation shall not occur until the following are effective and acknowledged:

    a. A refinement plan for Highway 213 at Beavercreek Road (Alternative Mobility Targets), including elements such as financially constrained projects and alternative mobility standards, and amendments to OCMC Chapter 12.04 implementing the new Refinement Plan, are be adopted and acknowledged.
    b. Amendments to OCMC 12.04 which allow development affecting the intersection of Highway 213/Beavercreek are adopted.
        I. Adopt amendments to the City's Transportation System Plan and OCMC Chapter 12.04 to include projects that satisfy the then-applicable performance standards and these standards must be acknowledged; or
        II. Condition the approval of a land division application that satisfies then-applicable OCMC Chapter 12.04 by including proportional mitigation of the application's impacts on that intersection, or such other mitigation measure(s) as may be approved which assure(s) that the intersection will either meet, or perform no worse than, the then-applicable performance standards

2. Prior to annexation, the property owners or assigns will record a covenant, to be approved by the City Attorney, which limits development of the site until such time that a zone change to a City zoning designation has been approved. The covenant shall acknowledge that development is reviewed for compliance with the Oregon City Municipal Code and Clackamas County Zoning and Development Ordinance. Further, until a zone change is approved the site use shall not change or intensify, or receive approval of a land division or development of the site including, but not limited to: no new structures or additions to existing structures or site grading that triggers erosion control permits or overlay district review. . In addition the property shall be subject to the City's overlay districts, fence regulations in OCMC 17.54.100 as well as the City's nuisance, business licensing and animal regulations.

3. Prior to issuing any development approval other than as identified in condition of approval #2, the applicant shall obtain General and Detailed Development Plan approval, including the entire 91-acre property, pursuant to OCMC 17.65. The General Development Plan and all phases of development authorized by it, must implement the Park Place Concept Plan and Oregon City's adopted Public Facilities Plans with regard to the provision of open space, park and trails, sewer, water, stormwater and transportation improvements. These include, but are not limited to, addressing the timing of parkland acquisitions and development, proposed phasing of major roads to ensure a timely connection to Holly Lane and an analysis of utility phasing that can foster redevelopment of the entire concept plan area.

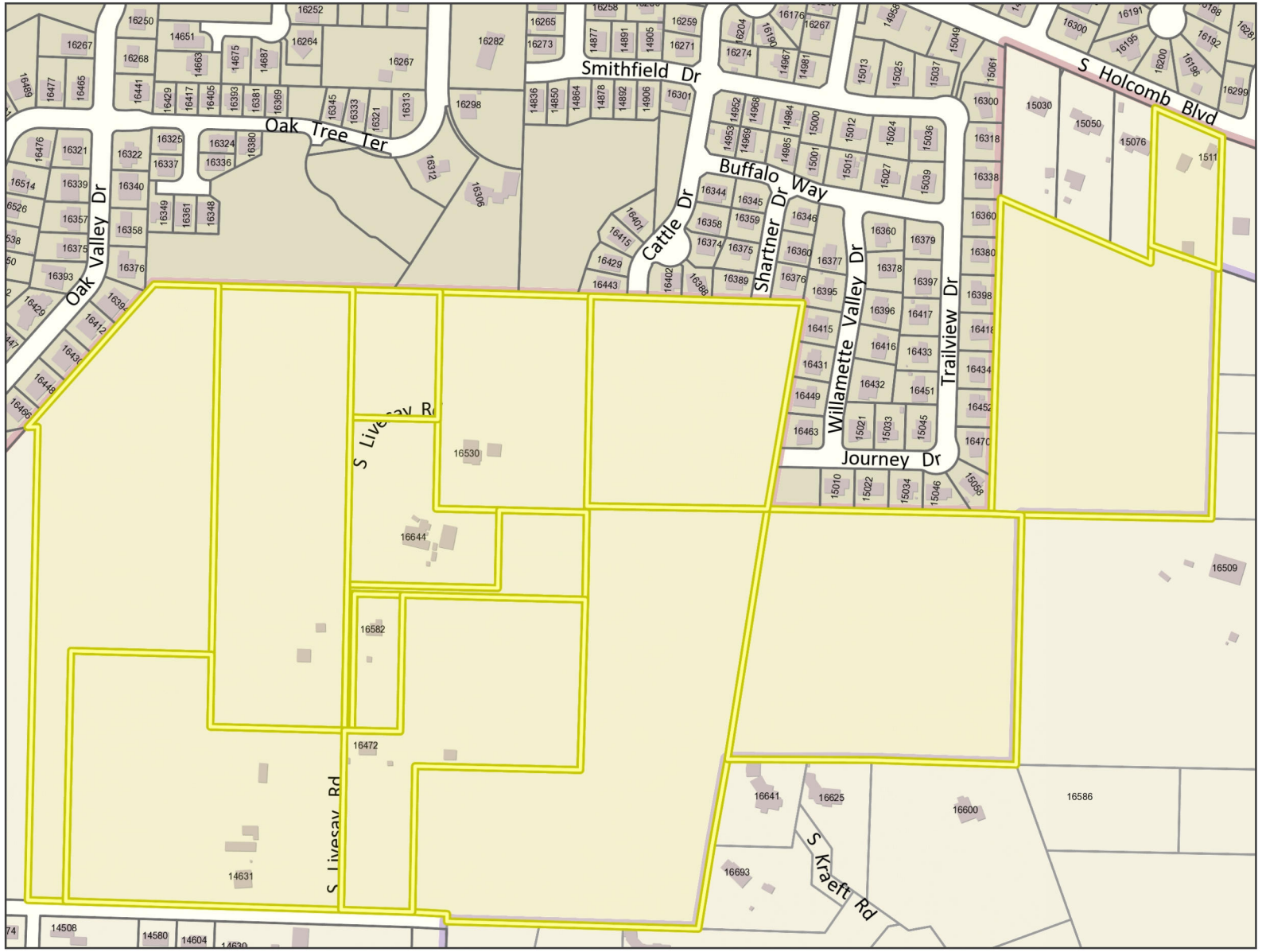
4. At such time as a Master Plan is reviewed, the applicant shall submit additional materials to address specific requirements outlined in the city's Guidelines for Transportation Impact Analyses and calculate the proportionate share of transportation impacts of the proposed development including proportional mitigation of the application's impacts on that intersection, or such other mitigation measure(s) as may be approved which assure(s) that the intersection will either meet, or perform no worse than, the then-applicable performance standards. More intense development than identified in this report is likely to increase the applicant's share of projects as calculated above. The applicant's final share may be modified as necessary when a Master Plan is approved to reflect any a modification of the development's trip generation or a change in project costs resulting from revisions to project costs associated with an updates to the City's Transportation System Plan or Capital Improvement program.

5. The subject property is within the Park Place Neighborhood Association boundaries. The applicant contacted the Park Place Neighborhood Association, as required by city standards, and a meeting was held on June 7, 2016 at Alliance Charter Academy. A second Neighborhood Meeting on December 6, 2016 was conducted in order to address the need to include a concurrent zone change application. Prior to approval of this application, the applicant shall provide staff with meeting agends or sign-in sheets for these to meetings.

EXHIBITS

1. Vicinity Map
2. Applicant's Submittal
3. Comments Received
    a. March 13, 2017 letter from Mr. Wes Rogers, Director of Operations for Oregon City Public Schools
    b. Oregon City Police Department comments
    c. Christine Kosinski
4. Replinger and Associates Comments
5. Staff Memorandum in response to the applicant's analysis worksheet
6. Tri City Service District (TCSD) Annexation Packet

Oregon City GIS Map

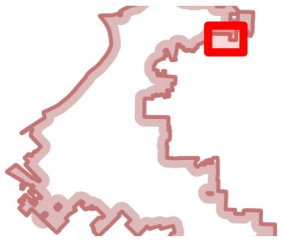


Legend

- Taxlots
- Taxlots (Outside UGB)
- Unimproved ROW
- City Limits
- UGB
- Basemap

Notes

Overview Map



0 400 800 Feet

1: 4,800

The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.

Map created 12/19/2017

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OREGON CITY

Community Development – Planning

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LAND USE APPLICATION FORM

Type I (OCMC 17.50.030.A)	Type II (OCMC 17.50.030.B)	Type III / IV (OCMC 17.50.030.C)
❑ Compatibility Review	❑ Extension	❑ Annexation
❑ Lot Line Adjustment	❑ Detailed Development Review	❑ Code Interpretation / Similar Use
❑ Non-Conforming Use Review	❑ Geotechnical Hazards	❑ Concept Development Plan
❑ Natural Resource (NROD) Verification	❑ Minor Partition (<4 lots)	❑ Conditional Use
❑ Site Plan and Design Review	❑ Minor Site Plan & Design Review	❑ Comprehensive Plan Amendment (Text/Map)
	❑ Non-Conforming Use Review	❑ Detailed Development Plan
	❑ Site Plan and Design Review	❑ Historic Review
	❑ Subdivision (4+ lots)	❑ Municipal Code Amendment
	❑ Minor Variance	❑ Variance
	❑ Natural Resource (NROD) Review	☒ Zone Change

File Number(s): ZC 17-05 AN 17-04

Proposed Land Use or Activity: Zone Change in conjunction with annexation of property to Oregon City, from County FU-10 to Oregon City R-5 and Neighborhood Commercial.

Project Name: N/A Number of Lots Proposed (If Applicable): N/A

Physical Address of Site: Multiple properties. See attached list.

Clackamas County Map and Tax Lot Number(s): 100, 190, 200, 300, 301, 302, 303, 400, 500, 502, 3700, and 3701 (Map # 2-2E-28D)
1000 and 2000 (Map # 2-2E-27B)

Applicant(s):

Applicant(s) Signature: [signature]

Applicant(s) Name Printed: Mark Handris, Hidden Falls Development LLC Date: 11/28/17

Mailing Address: 1980 Willamette Falls Drive, Suite 200, West Linn, OR 97068

Phone: (503) 657-0406 Fax: (503) 655-5991 Email: handris@aol.com

Property Owner(s):

Property Owner(s) Signature: Please see attached list. & signatures

Property Owner(s) Name Printed: _____ Date: _____

Mailing Address: _____

Phone: _____ Fax: _____ Email: _____

Representative(s):

Representative(s) Signature: _____

Representative (s) Name Printed: Rick Givens, Planning Consultant Date: _____

Mailing Address: 18680 Sunblaze Drive, Oregon City, OR 97045

Phone: (503) 479-0097 Fax: _____ Email: rickgivens@gmail.com

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.

Annexation and Zone Change Authorization

Redland Road, LLC is the owner of the property described below and hereby authorizes that it be included in the zone change and annexation application indicated on the attached Oregon City land use application form.

Property Address	Legal Description
No Situs Address	2-2E-28D -03701

Owner	Redland Road, LLC
Mailing Address	1980 Willamette Falls Drive, Suite 200
	West Linn, OR 97068



Redland Road, LLC, By: Mark Handris

1/8/18

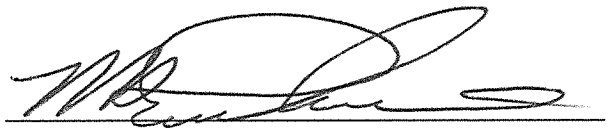
Date

Annexation and Zone Change Authorization

I, Michael Erickson, am the owner of the properties described below and I hereby authorize that they be included in the zone change and annexation application indicated on the attached Oregon City land use application form.

Property Address	Legal Description
NO SITUS ADDRESS	2-2E-27B -01000
15110 S HOLCOMB BLVD	2-2E-27B -02000

Owner	Michael Erickson
Mailing Address	10260 SW Greenburg Rd. #1020
	Tigard, OR 97223



Michael Erickson

12-6-17

Date

Annexation and Zone Change Authorization

I, Robert Tershel, am the owner of the property described below and I hereby authorize that it be included in the zone change and annexation application indicated on the attached Oregon City land use application form.

Property Address	Legal Description
14631 S Livesay Rd	2-2E-28D -00502

Owner	Robert Tershel
Mailing Address	5933 SW Ralston Dr.
	Portland, OR 97239

Robert Tershel

Date 1/7/2018

Annexation and Zone Change Authorization

I, George Thomas, am the owner of the properties described below and I hereby authorize that they be included in the zone change and annexation application indicated on the attached Oregon City land use application form.

Property Address	Legal Description
16644 S Livesay Rd	2-2E-28D -00300
No Situs Address	2-2E-28D -00301
No Situs Address	2-2E-28D -00303

Owner	George Thomas
Mailing Address	16644 S Livesay Rd
	Oregon City, OR 97045

George Thomas

11-28-2017
Date

Annexation and Zone Change Authorization

We, Kirk and Michelle Tolstrup, are the owners of the property described below. We hereby authorize that it be included in the zone change and annexation application indicated on the attached Oregon City land use application form.

Property Address	Legal Description
16530 S LIVESAY RD	2-2E-28D -00200

Owners	Kirk and Michelle Tolstrup
Mailing Address	16530 S Livesay Rd
	Oregon City, OR 97045

Kirk Tolstrup — Date: 11/30/2017

Michelle Tolstrup — Date: 11-30-17

Annexation and Zone Change Authorization

I, Michael Erickson, am the owner of the properties described below and I hereby authorize that they be included in the zone change and annexation application indicated on the attached Oregon City land use application form.

Property Address	Legal Description
NO SITUS ADDRESS	2-2E-27B -01000
15110 S HOLCOMB BLVD	2-2E-27B -02000

Owner	Michael Erickson
Mailing Address	10260 SW Greenburg Rd. #1020
	Tigard, OR 97223



Michael Erickson

12-6-17

Date

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

LAND USE APPLICATION FORM

Type I (OCMC 17.50.030.A)	Type II (OCMC 17.50.030.B)	Type III / IV (OCMC 17.50.030.C)
☐ Compatibility Review	☐ Extension	☐ Annexation
☐ Lot Line Adjustment	☐ Detailed Development Review	☐ Code Interpretation / Similar Use
☐ Non-Conforming Use Review	☐ Geotechnical Hazards	☐ Concept Development Plan
☐ Natural Resource (NROD) Verification	☐ Minor Partition (<4 lots)	☐ Conditional Use
☐ Site Plan and Design Review	☐ Minor Site Plan & Design Review	☐ Comprehensive Plan Amendment (Text/Map)
	☐ Non-Conforming Use Review	☐ Detailed Development Plan
	☐ Site Plan and Design Review	☐ Historic Review
	☐ Subdivision (4+ lots)	☐ Municipal Code Amendment
	☐ Minor Variance	☐ Variance
	☐ Natural Resource (NROD) Review	☒ Zone Change

File Number(s): _____

Proposed Land Use or Activity: Zone Change in conjunction with annexation of property to Oregon City, from County FU-10 to Oregon City R-5 and Neighborhood Commercial.

Project Name: N/A Number of Lots Proposed (If Applicable): N/A

Physical Address of Site: Multiple properties. See attached list.

Clackamas County Map and Tax Lot Number(s): 100, 190, 200, 300, 301, 302, 303, 400, 500, 502, 3700, and 3701 (Map # 2-2E-28D)
1000 and 2000 (Map # 2-2E-27B)

Applicant(s):

Applicant(s) Signature: _____

Applicant(s) Name Printed: Mark Handris, Hidden Falls Development LLC Date: _____

Mailing Address: 1980 Willamette Falls Drive, Suite 200, West Linn, OR 97068

Phone: (503) 657-0406 Fax: (503) 655-5991 Email: handris@aol.com

Property Owner(s):

Property Owner(s) Signature: Please see attached list. & signatures

Property Owner(s) Name Printed: _____ Date: _____

Mailing Address: _____

Phone: _____ Fax: _____ Email: _____

Representative(s):

Representative(s) Signature: _____

Representative (s) Name Printed: Rick Givens, Planning Consultant Date: _____

Mailing Address: 18680 Sunblaze Drive, Oregon City, OR 97045

Phone: (503) 479-0097 Fax: _____ Email: rickgivens@gmail.com

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.

Annexation and Zone Change Authorization

I, George Thomas, am the owner of the properties described below and I hereby authorize that they be included in the zone change and annexation application indicated on the attached Oregon City land use application form.

Property Address	Legal Description
16644 S Livesay Rd	2-2E-28D -00300
No Situs Address	2-2E-28D -00301
No Situs Address	2-2E-28D -00303

Owner	George Thomas
Mailing Address	16644 S Livesay Rd
	Oregon City, OR 97045

George Thomas

11-28-2017
Date

List of Properties Included in Annexation/Zone Change

Address	Legal Description	Acreage
NO SITUS ADDRESS	2-2E-27B -01000	9.69
15110 S Holcomb Blvd	2-2E-27B -02000	1.45
No Situs Address	2-2E-28D -00100	14.11
No Situs Address	2-2E-28D -00190	10.75
16530 S Livesay Rd	2-2E-28D -00200	5.17
16644 S Livesay Rd	2-2E-28D -00300	3.1
No Situs Address	2-2E-28D -00301	1.43
No Situs Address	2-2E-28D -00302	0.16
No Situs Address	2-2E-28D -00303	1.77
16582 S Livesay Rd	2-2E-28D -00400	10.43
14631 S Livesay Rd	2-2E-28D -00500	10.73
14631 S Livesay Rd	2-2E-28D -00502	9.42
16472 S Livesay Rd	2-2E-28D -03700	6.86
No Situs Address	2-2E-28D -03701	6.48

Annexation and Zone Change Authorization

I, George Thomas, am the owner of the properties described below and I hereby authorize that they be included in the zone change and annexation application indicated on the attached Oregon City land use application form.

Property Address	Legal Description
16644 S Livesay Rd	2-2E-28D -00300
No Situs Address	2-2E-28D -00301
No Situs Address	2-2E-28D -00303

Owner	George Thomas
Mailing Address	16644 S Livesay Rd
	Oregon City, OR 97045

George Thomas

11-28-2017

Date

Annexation and Zone Change Authorization

We, Kirk and Michelle Tolstrup, are the owners of the property described below. We hereby authorize that it be included in the zone change and annexation application indicated on the attached Oregon City land use application form.

Property Address	Legal Description
16530 S LIVESAY RD	2-2E-28D -00200

Owners	Kirk and Michelle Tolstrup
Mailing Address	16530 S Livesay Rd
	Oregon City, OR 97045

Kirk Tolstrup — Date: 11/30/2017

Michelle Tolstrup — Date: 11-30-17

Annexation & Zone Change Narrative

91 Acres, Holcomb Blvd./Livesay Rd.

Introduction:

This application requests approval of the annexation of approximately 91 acres of land within the Portland Metropolitan Urban Growth Boundary ("UGB") to the City of Oregon City. This application also requests that City apply zoning to the annexed area in conformance with the land use designations in the adopted and acknowledged Oregon City Comprehensive Plan. The subject property is located on the south side of Holcomb Blvd. west of its intersection with Jada Way. Livesay Road forms the southerly border of the annexation area. Journey Drive, Shartner Drive, and Cattle Drive are all stubbed into the subject area from existing residential neighborhoods to the north.

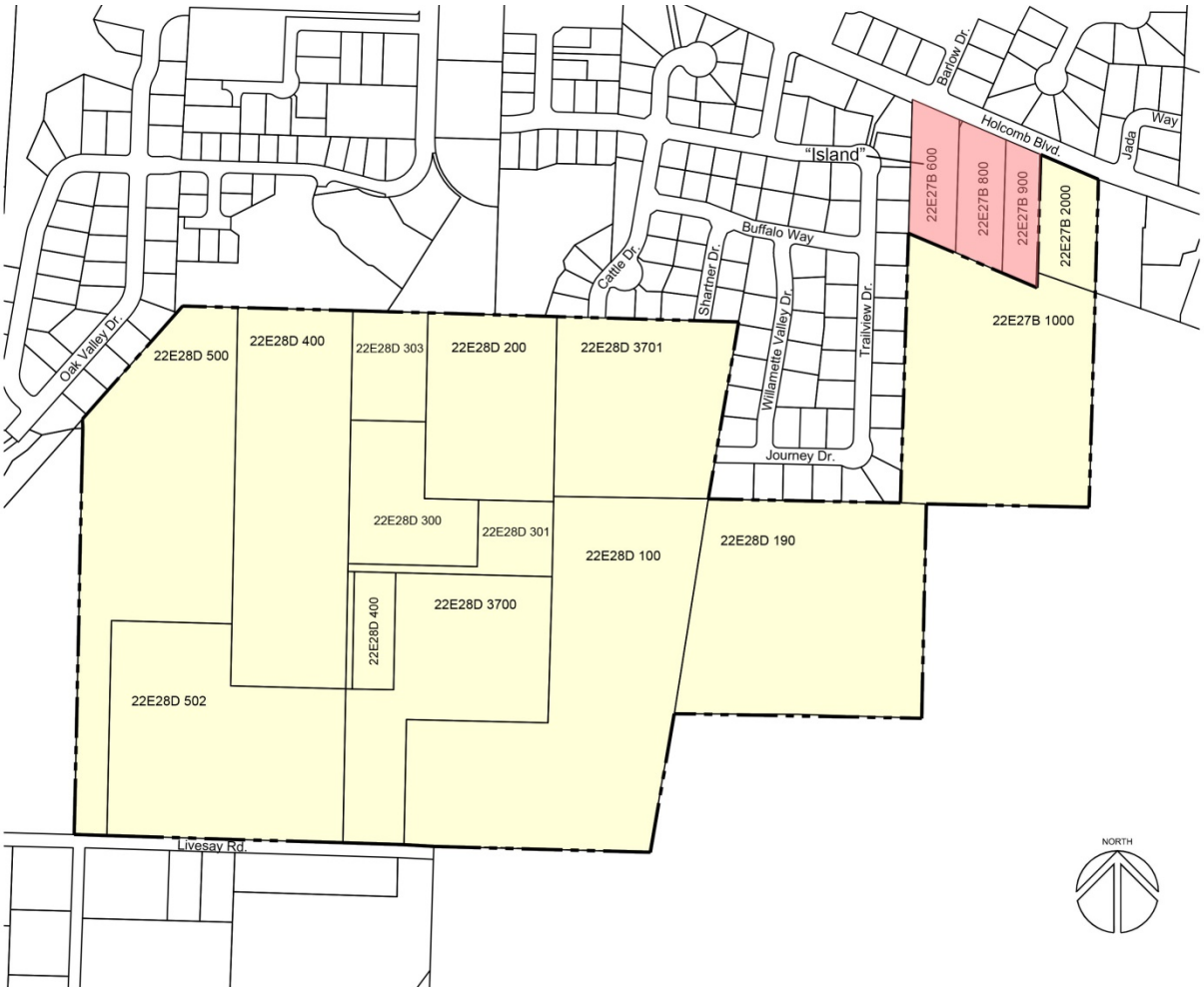


Figure 1: Vicinity Map

The subject property is comprised of the following parcels: Tax Lots 1000 and 2000 of Clackamas County Assessor's Map 22E27B, and Tax Lots 100, 190, 300, 301, 302, 303, 400, 500, 502, 3700 & 3701 of Assessor's Map 22E 28D.

There is no proposal to develop this site at the present time. Rather, the property is proposed to be annexed and re-zoned in accordance with the land use designations shown on the adopted Oregon City Comprehensive Plan Map.

The annexation area is located in a portion of the Oregon City planning area that relies upon streets that intersect with the Highway 213 corridor. In 2012, during the Transportation System Plan (TSP) update, it was determined that the intersection of Hwy 213 & Beavercreek Road would not meet Oregon Highway Plan mobility standards through the TSP planning horizon year of 2035. The TSP recommended that the City move forward with a project to address the need for a refinement plan at this intersection. The City is presently working with citizen groups and ODOT to consider options to improve traffic function at this intersection, as well as the Hwy. 213, Redland Rd. intersection. Ultimately, this process will lead to a refinement plan and the adoption of alternative mobility targets. Until issues regarding transportation planning impacting the Hwy. 213 corridor are resolved, it would not be possible for any development in this area to conform to the standards of Chapter 12 of the Oregon City Municipal Code. Therefore, the City is unable to approve any development that would allow for increased traffic in this area. As a result, a condition of approval will be applied to the zone change that would preclude further development until such time as the refinement plan and alternative mobility targets are adopted. At such time as the traffic issues are resolved, a separate application for land use approvals needed to adopt a master plan consistent with the Park Place Concept Plan will be filed.

Site Characteristics:

The properties included within this annexation proposal contain a total of 7 single-family homes developed at rural densities on acreage tracts. The properties are located in the North Village Neighborhood area identified in the Park Place Concept Plan. As discussed later in this report, the future development of the subject property will provide for a mixture of residential, park, natural open space areas, and neighborhood commercial development consistent with the Park Place Concept Plan. It will also provide a needed step in developing Holly Lane as a collector street extension that will eventually connect from S. Holcomb Blvd. to Redland Rd.

Slopes are varied, with most areas having between zero and 25 percent grade. Slopes adjacent to the drainageway that forms the northwest border of the annexation area exceed 35% grade in certain areas. The property slopes generally to the southwest, downhill from Holcomb Blvd.

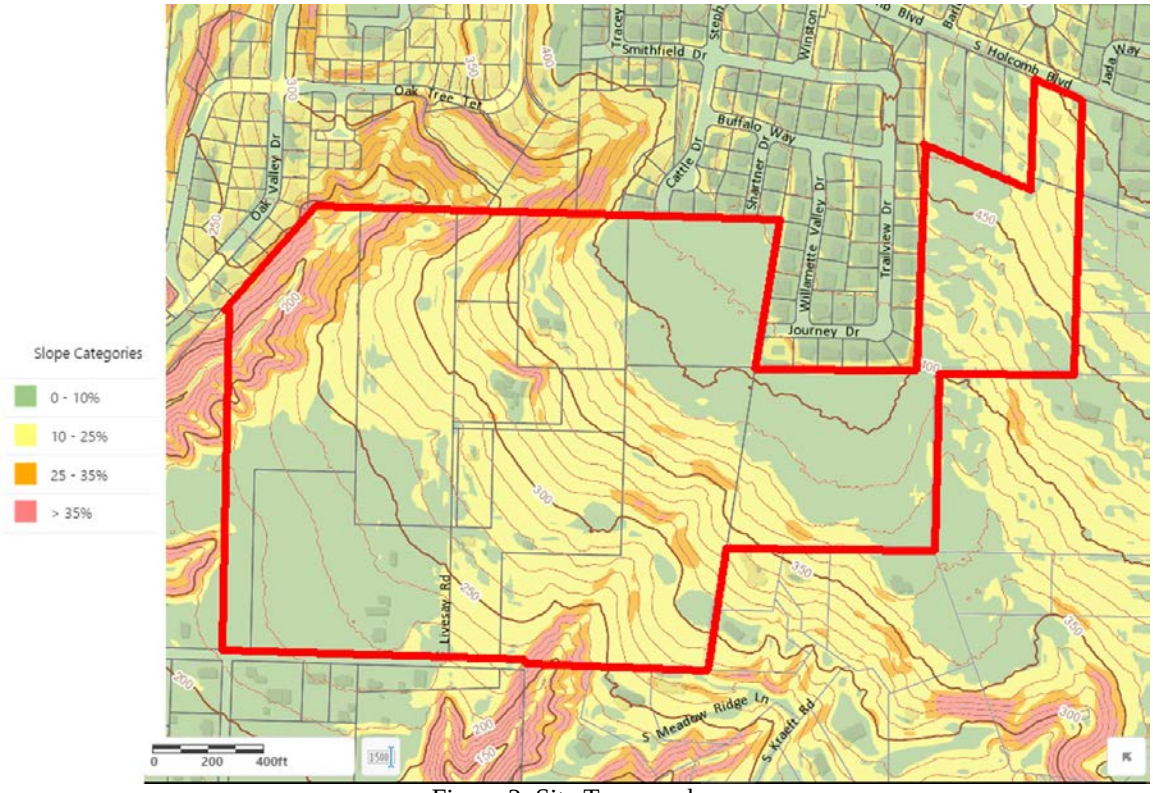


Figure 2: Site Topography

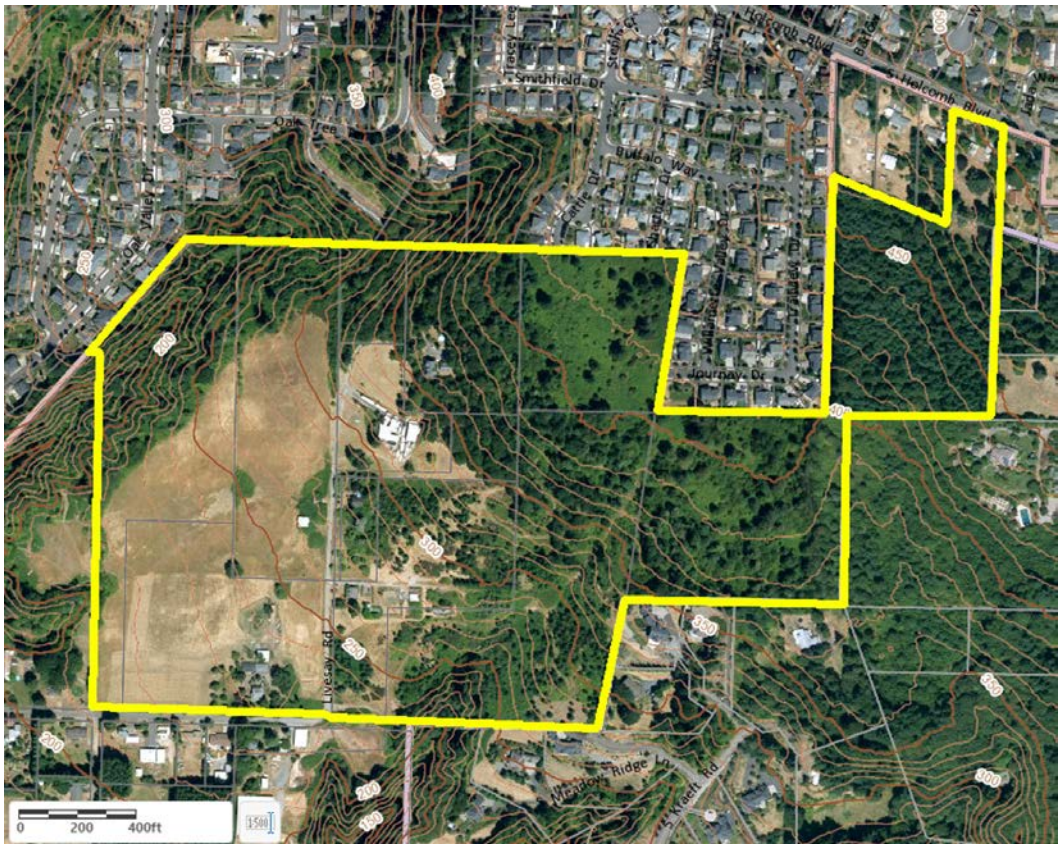


Figure 3: Aerial Photograph

As shown Figure 2, an 2015 aerial photograph from the City's GIS, the annexation area has mixed vegetation cover. The drainageway in the northwest corner of the area is wooded, as are some of the steeper grades, as well as Tax Lot 1000, on the eastern border of the annexation area. Open fields are found north of Livesay Road.

Compliance with Approval Criteria:

1. Concurrent Zoning Map Amendment from FU-10 to R-5, R-10 & NC.

The Site has acknowledged Oregon City Comprehensive Plan Map designations of Medium Density Residential (MR), Low Density Residential (LDR) and Mixed Use-Corridor (MUC). Oregon City Municipal Code ("OCMC") 17.68.025.A. provides that "notwithstanding any other section of this code", a concurrent zoning map application under OCMC Chapter 17.50 is required. Further, this section requires that the zoning map designation correlate to the corresponding Comprehensive Plan map designation for the site as shown in OCMC 17.68.025.A. The section is mandatory; it provides that "the property *shall* be rezoned upon annexation to the corresponding zoning designation as follows..."(emphasis added). In other words, there is no discretion to be applied to the zoning map amendment and not only is a concurrent zoning map amendment required, the outcome is automatic based on the acknowledged OCMC. Further, compliance with OCMC Chapter 17.50 requires a zoning map amendment application but does not require compliance with the discretionary zoning map amendment application criteria in OCMC 17.68.020.

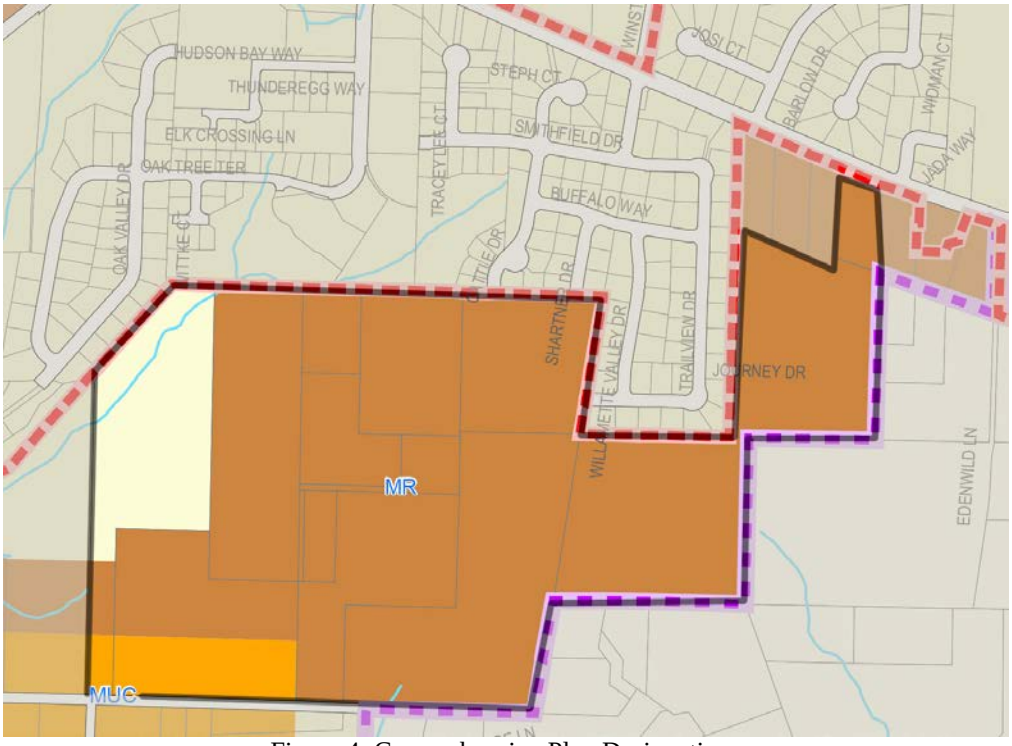


Figure 4: Comprehensive Plan Designations

In this instance, the zoning districts to be applied per the table in OCMC 17.68.025.A are R-5 for the MR area, R-10 for the LDR area, and Neighborhood Commercial (NC) for the MUC area. The Planning Commission can find that the Application satisfies the approval criteria in OCMC 17.68.025.A. and B. and the zoning map amendment shall be approved.

2. Transportation a Planning Rule ("TPR") Compliance.

OAR 660-012-0060(1) and (2) require land use regulation amendments, including amendments to zoning maps, to determine if the amendment will have a "significant affect" on transportation facilities and, if so, can it be mitigated. However, OAR 660-012-0060(9) provides that a zoning map amendment does not need to include this analysis, and the City can make a finding of no "significant affect", if:

a. A zoning map amendment is consistent with the existing comprehensive plan designation and does not change the map designation;

b. The City has an acknowledged Transportation System Plan ("TSP"); and

c. The area of the zoning map amendment was not exempted from the TPR at the time of the UGB amendment. OAR 660-012-0060(9)(a)-(c).

The subject property complies with these criteria as follows:

a. Oregon City's Comprehensive Plan Land Use Map within the acknowledged Oregon City Comprehensive Plan designates the subject property Low Density Residential, Medium Density Residential, and Mixed Use Commercial. The proposed zoning amendment would not change the map designation and the R-10, R-5 and NC zoning are implementing zones for those designations.

b. An updated Transportation System Plan (TSP) and associated amendments to the Oregon City Municipal Code (OCMC) was approved by the City Commission and became effective August 16, 2013. Information provided by City staff at the pre-application conference on November 29, 2016 indicate that this TSP is based upon the application of the default zoning consistent with the adopted Comprehensive Plan designations for this area.

c. The subject property has been in the City's UGB since the time of the adoption of the Comprehensive Plan and was not exempted from the Transportation Planning Rule.

The City can find that all three (3) of these requirements are met. Therefore, the City can find that the zoning map amendment does not "significantly affect" a transportation facility.

Finally, OCMC Title 12 does not apply to the concurrent annexation and zoning map amendments as they do not constitute "development" as that term is defined in the OCMC and ORS 227.160(2). The City will apply OCMC Title 12 when "development" is proposed for this

site. A condition of approval will be applied to the zone change application to ensure that development does not occur until such time as the requirements of Title 12 can be met.

Alternatively, the applicant would expect to propose that the City adopt a condition of approval based on OAR 660-012-0060(2)(e) similar to that in the Serres Farm annexation application.

Compliance with Title 14 – Annexations:

OCMC 14.04.050 Annexation Procedures

This section lists the submittal requirements and procedures to be followed in annexing property to the City of Oregon City.

A. Application Filing Deadlines. Annexation elections shall be scheduled for March, May, September and November of each year. Each application shall first be approved by the city commission, which shall provide a valid ballot title in sufficient time for the matter to be submitted to the voters as provided by the election laws of the state of Oregon.

Comment: SB 1573 is a validly enacted law. SB 1573 provides that, assuming certain conditions are met, charter and municipal code provisions requiring voter approval of annexations may not be applied. The requirements are that a site to be annexed must be within an Urban Growth Boundary ("UGB"), is subject to and complies with the acknowledged Comprehensive Plan and is contiguous to the City to which the real property is proposed to be annexed. In the case of this application, all of these conditions are met. The City has an acknowledged Comprehensive Plan. This application satisfies Plan Policies relevant to annexation and the concurrent Comprehensive Plan map and zoning map applications. Finally, the property to be annexed is contiguous to the City's current boundaries.

B. Preapplication Review. Prior to submitting an annexation application, the applicant shall confer in the manner provided by Section 17.50.050(A) with the representative of the planning division appointed by the city manager.

Comment: The initial pre-application conference to discuss the annexation of the subject property was held on November 17, 2015 (PA 15-35). Because the application was not submitted within six months of the pre-app date, and because the size of the annexation area increased, a second pre-application conference was held on October 3, 2016 (PA 16-40). The notes from this second pre-application conference were included in the initial submittal package for the annexation application. An additional pre-application conference was held on November 29, 2016 to discuss a zone change in conjunction with annexation.

C. Neighborhood Contact. Prior to filing an annexation application, the applicant is encouraged to meet with the city-recognized neighborhood association or associations within which the property proposed to be annexed is located. If the city manager deems

that more than one such association is affected, the applicant is encouraged to meet with each such association, as identified by the city manager. Unwillingness or unreasonable unavailability of a neighborhood association to meet shall not be deemed a negative factor in the evaluation of the annexation application.

Comment: The subject property is within the Park Place Neighborhood Association boundaries. The applicant contacted the Park Place Neighborhood Association, as required by city standards, and a meeting was held on June 7, 2016 at Alliance Charter Academy. A second neighborhood meeting was held on December 6, 2016 at 7:00pm at Alliance Charter Academy to discuss the application of city zoning to the annexation area.

D. *Signatures on Consent Form and Application. The applicant shall sign the consent form and the application for annexation. If the applicant is not the owner of the property proposed for annexation, the owner shall sign the consent form and application in writing before the city manager may accept the same for review.*

Comment: The consent form and the application for annexation are signed by the owners of record for the subject property.

E. *Contents of Application. An applicant seeking to annex land to the city shall file with the city the appropriate application form approved by the city manager. The application shall include the following:*
   1. *Written consent form to the annexation signed by the requisite number of affected property owners, electors or both, provided by ORS 222, if applicable;*
   2. *A legal description of the territory to be annexed, meeting the relevant requirements of the Metro Code and ORS Ch. 308. If such a description is not submitted, a boundary survey may be required. A lot and block description may be substituted for the metes and bounds description if the area is platted. If the legal description contains any deed or book and page references, legible copies of these shall be submitted with the legal description;*
   3. *A list of property owners within three hundred feet of the subject property and, if applicable, those property owners that will be "islanded" by the annexation proposal, on mailing labels acceptable to the city manager;*
   4. *Two full quarter-section county tax assessor's maps, with the subject property(ies) outlined;*
   5. *A site plan, drawn to scale (not greater than one inch = fifty feet), indicating:*
   6. *If applicable, a double-majority worksheet, certification of ownership and voters. Certification of legal description and map, and boundary change data sheet on forms provided by the city.*

Comment: The materials required in items 1 through 6 are included in our application submittal. Note that the applicant has paid the required fee for the City of Oregon City to provide the list and mailing labels for properties within three hundred feet of the subject

property and that this will include those property owners who will be "islanded" by the annexation proposal. The owners of the three islanded properties are as follows:

22E27B 00600: John & Joanne Miller, Kevin R. & Linda S. Miller
15030 S Holcomb Blvd.
Oregon City, OR 97045

22E27B 00800: Tod R. & Deanna L. Townsend
15050 S. Holcomb Blvd.
Oregon City, OR 97045

22E27B 00900: Mickey & Barbara Clift
15076 S. Holcomb Blvd.
Oregon City, OR 97045

7. *A narrative statement explaining the conditions surrounding the proposal and addressing the factors contained in the ordinance codified in this chapter, as relevant, including:*
   a. *Statement of availability, capacity and status of existing water, sewer, drainage, transportation, park and school facilities;*
   b. *Statement of increased demand for such facilities to be generated by the proposed development, if any, at this time;*
   c. *Statement of additional facilities, if any, required to meet the increased demand and any proposed phasing of such facilities in accordance with projected demand;*

Comment: There is no proposal to develop the subject property at the present time. Development cannot occur because it is not possible to meet the criteria of Chapter 12 of the OCMC until such time as Alternative Mobility Standards are adopted by the City of Oregon City. However, services are available to allow for the future development of this site at such time as the transportation issues are resolved. A condition of approval will be applied to the zone change to prohibit development beyond what is allowed under existing County zoning until such time as it is possible to meet the Alternative Mobility Standards.

The following information describes the existing availability, estimate of increased demand, and notes improvements that may be required to provide these services:

Water: The annexation area is currently partially served by the Clackamas River Water District (CRW). The City and CRW have an urban service agreement (Holcomb-Outlook-Park Place or HOPP agreement) for portions of the annexation area. The HOPP agreement generally states that CRW will service homes above the 450 foot elevation within the specified HOPP boundary. Only the upper northeast corner of the annexation area, near Holcomb Blvd. would be within the area to be served by CRW, as shown on the map below.

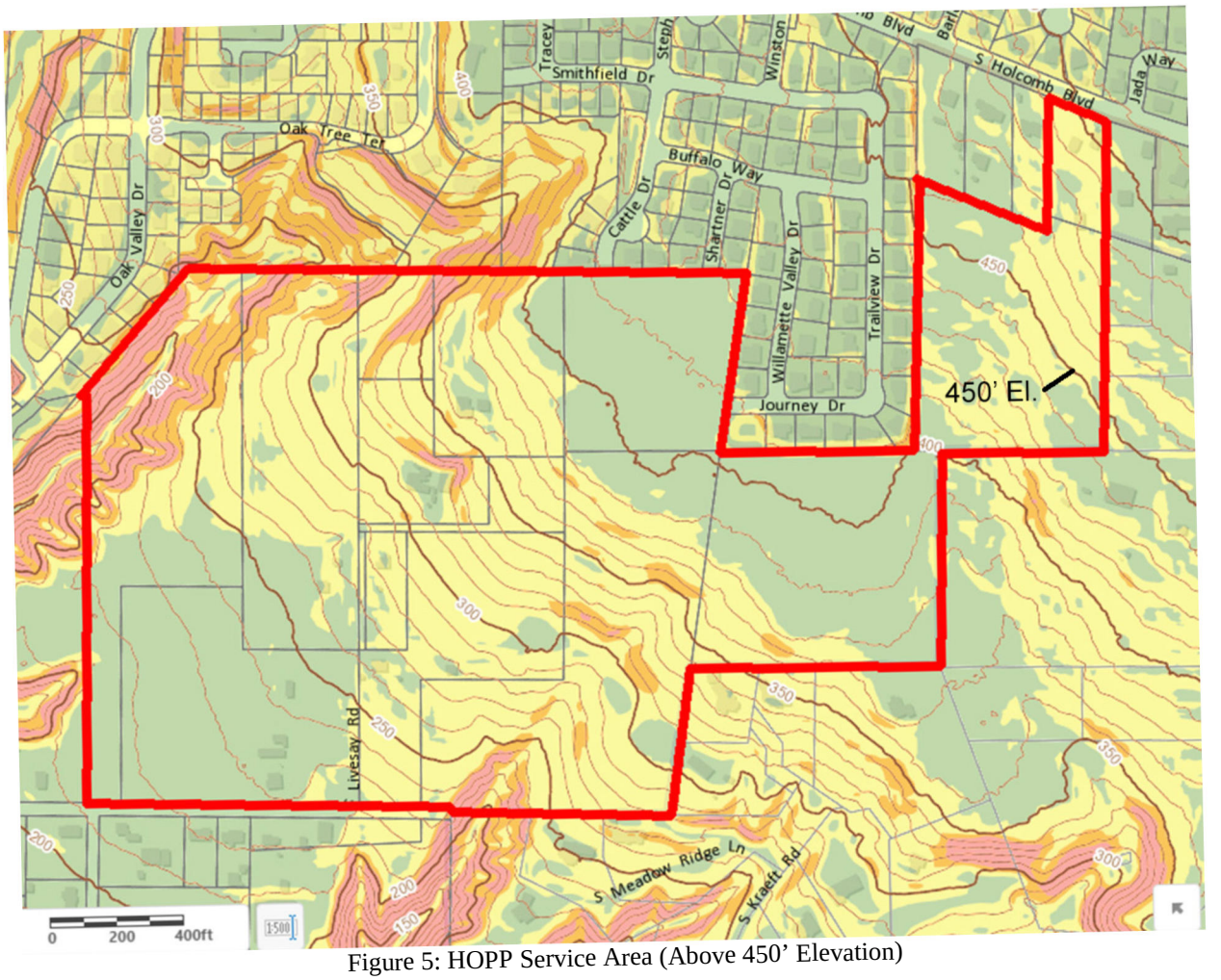


Figure 5: HOPP Service Area (Above 450' Elevation)

At the most recent pre-application conference (PA-16-40), information was presented by Clackamas River Water District indicating that there they have an issue in meeting the required fire flow standard of 1,000 gallons per minute. That issue is expected to be resolved with system upgrades that include replacing approximately 4,000 lineal feet of substandard water main within S Bradley Road with a 12-inch pipe. This improvement would be provided in conjunction with the construction of the Abernethy Landing subdivision (TP 16-0001). Contact with Adam M. Bjornstedt, P.E., Principal Engineer for CRW, on November 6, 2017, indicate that the plans for that project are on schedule. CRW has an existing 12" water line in Holcomb Blvd. that is capable of providing for service to the portion of the subject property that is within the HOPP area. Mr. Bjornstedt indicated that CRW has adequate storage capacity.

The majority of the site will be served with by the City of Oregon City. There is an existing 16-inch City of Oregon City water main in Holcomb Blvd. along the subject property's frontage on that street. A 4-inch water line is located in Livesay Road at the lower end of the subject property. There will be a requirement to construct a 12 inch water main in the future collector street from Holcomb Blvd. to Livesay Road, together with a pressure reducing station and the cost of removing an existing water pump station on Livesay Road. At the present time the additional costs for these improvements are not included in the City's capital improvement

program. The applicant will be seeking to have the CIP amended prior to development to include these regional costs.

We estimate that at full build-out the future development of the annexation properties will yield between 400 and 450 residential dwelling units. The City and Clackamas River Water District have adequate water storage capacity to service the proposed annexation area. The details of water service for the subject property will be worked out at the time of future development, but there is an adequate water supply available in the area to service this site. For the immediate future, until future development occurs, the existing homes within the annexation area will continue to make use of private wells and Clackamas River Water service.

Sanitary Sewer: The existing homes within the annexation area are served with private septic systems and these facilities will remain in place until such time as the area is developed in the future. The Oregon City Sanitary Sewer Master Plan calls for service to this area to be provided in accordance with the figure below:

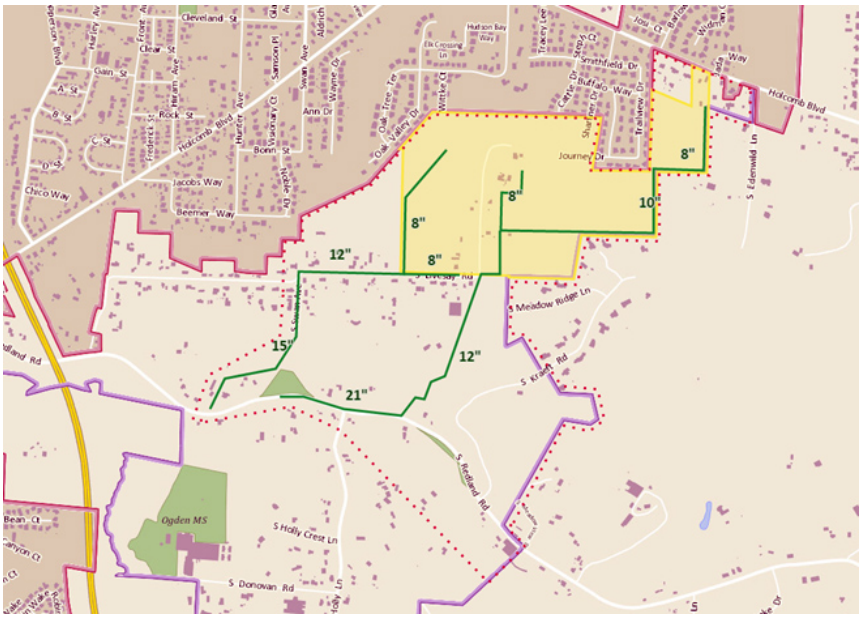


Figure 6: Sewer Master Plan

As a practical matter, the sewer master plan was prepared absent knowledge of the order in which the North Village area would be developed. It is practicable to service all of the proposed annexation area either from the Livesay Road sewer main or from the easterly sewer main. It would not be necessary to construct both of the off-site sewer lines in order to service the annexation area. Since the Livesay Road sewer is largely to be located within existing public road right-of-way, that would be the most likely route to be used in the future development of this area. The cost of this off-site sewer would be borne by the future developer, likely with a pay-back provision for a proportionate contribution for use by others as downhill properties are developed in the future.

The cost of the off-site sewer will be impacted significantly whether the project is done by the City or as a private construction project. We have completed City work sheets on estimated

costs based upon information from the City's water and sewer master plans. We estimate that private construction would save at least 25 to 30 percent over public constructon costs.

Storm Drainage: An existing storm sewer system drains across a portion of the subject property serving the Trail Ridge subdivision to the north of this site. Based upon natural topography, storm water run-off generated from future development will generally flow in a southerly direction from Holcomb Blvd. and will need to be conveyed to natural drainage channels as shown on the map below.

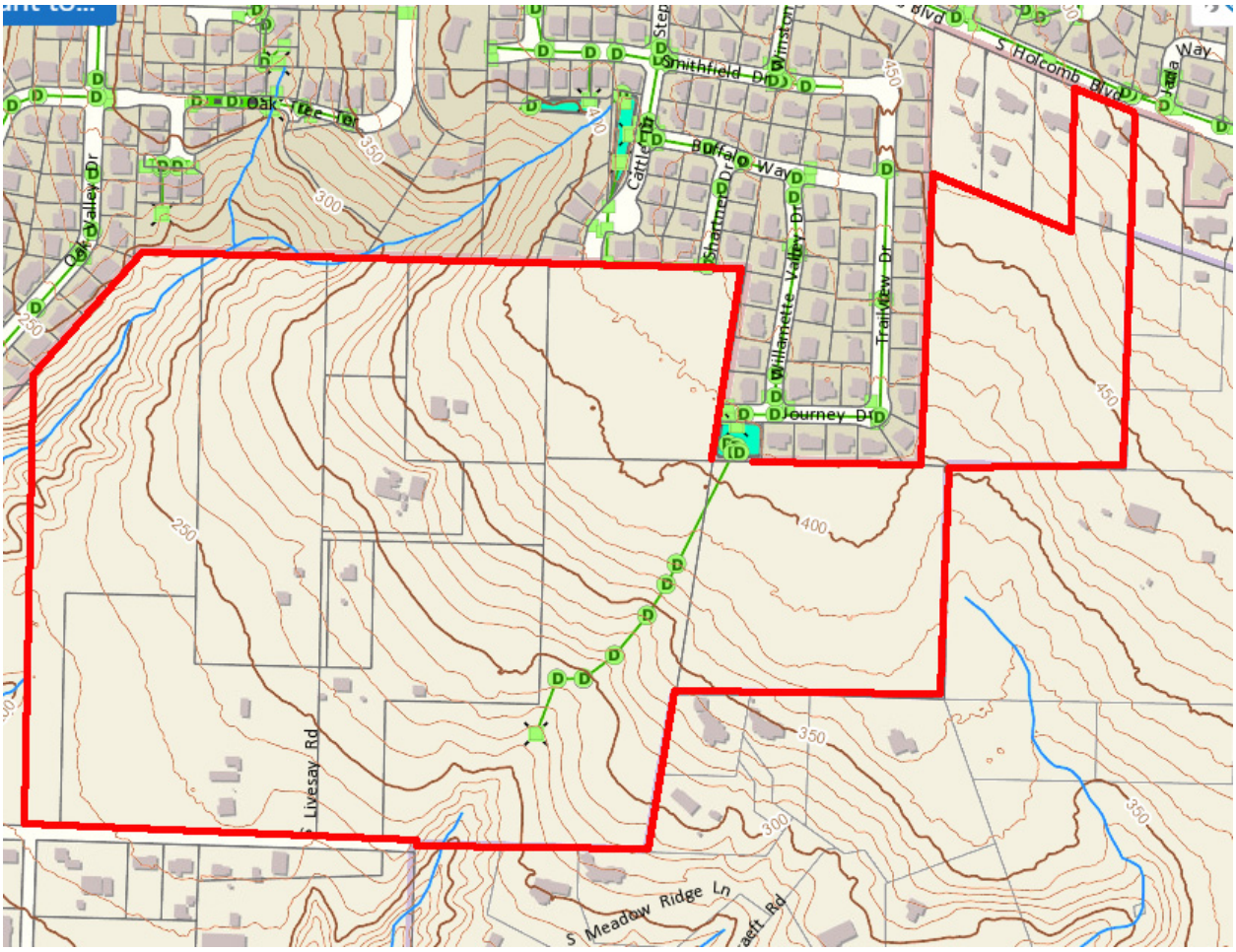


Figure 7: Storm Drainage

The future development of the site will require the construction of a storm sewer system that will collect runoff from the development. Storm water treatment and detention facilities will be required in accordance with City standards prior to release of storm water to the natural drainageways. The detention facilities will maintain the rate of runoff at predevelopment rates per City standards.

Transportation: No development of this property is being proposed at this time. No development may occur until such time as the requirements of OCMC Title 12 can be met.

This will not be feasible until Alternative Mobility standards are adopted by the City and approved by the ODOT. It is understood by the applicant that there are on-going regional transportation discussions between the City, Metro and ODOT affecting the larger Park Place Neighborhood area that will need to be resolved before development may be approved. Because no development will occur as a direct result of this annexation, the transportation analysis will be deferred until the time of a future development application. A condition of approval is proposed to be added to the zone change that would prohibit development until the transportation issues are resolved. Please see the discussion under the zone change portion of this application.

The primary access to the subject property will be from Holcomb Blvd., an arterial street. The Park Place Concept Plan calls for the future extension of Holly Lane as a collector street through the annexation area from Redland Road through to Holcomb Blvd. Local streets are stubbed to the annexation area from adjacent single-family neighborhoods at Journey Drive, Shartner Drive, and Cattle Drive and in the future development of this site, connections to these streets will be made. Livesay Road forms the lower border of the subject property and will be tied into the future development plan. Please refer to the Transportation Impact Analysis prepared by Lancaster Engineering, Inc. for more details on the transportation system.

The City has requested that we address the potential impacts of the future development of the proposed annexation area upon projects identified in the TSP for the area in proximity to the annexation. The applicable TSP projects are listed in the table below:

Proj. Number	Project Description	Project Extent	Project Elements	Phase	Likely to be funded ?
D15	Holcomb Boulevard Curve Warning System	Holcomb Boulevard just to the west of the OR 213 overcrossing	Install a curve warning system on Holcomb Boulevard that activates when a motorist approaches the curve at a high speed.	Long-term Phase 3	No
D16	Holcomb Boulevard Speed Warning System	Holcomb Boulevard east of Jada Way	Install a speed warning system that activates when a motorist approaches at high speed.	Long-Term Phase 4	No
D35	Redland Road/Anchor Way Operational Enhancement	Redland Road/Anchor Way	Install a traffic signal	Long-Term Phase 4	No
D36	Redland Road/Holly Lane Operational Enhancement	Redland Road/Holly Lane	Install a single-lane roundabout	Long-term Phase 4	No
D43	Holcomb Boulevard/Holly Lane North Extension Operational Enhancement	Holcomb Boulevard/Holly Lane North Extension	Install a single-lane roundabout	Long-term	Yes
D48	Holly Lane North extension	Redland Road to Holcomb Blvd	Extend Holly Lane from Redland Road to Holcomb Boulevard as a Residential Minor Arterial. Create local street connections to Cattle Drive and Journey Drive.	Long-term	Yes
D49	Swan Avenue extension	Livesay Road to Redland Road	Extend Swan Avenue from Livesay Road to Redland Road as an Residential Collector	Long-term	Yes
D50	Swan Avenue extension	Redland Road to Morton Road	Extend Swan Avenue from Redland Road to Morton Road as an Residential Collector	Long-term	Yes
D86	Livesay Road Upgrade	Redland Road to Swan Avenue	Improve to Residential Collector cross-section.	Long-term Phase 3	No
D87	Livesay Road Upgrade	Swan Avenue to Holly Lane extension	Improve to Mixed-Use Collector cross-section.	Long-term Phase 3	No
D91	Redland Road Upgrade	Holcomb Boulevard to Holly Lane	Improve to Minor Arterial cross-section, as a constrained street	Long-term Phase 2	No

Figure 8: TSP Projects in Vicinity

Comment: The future development of the subject property will increase traffic on S. Holcomb Blvd. Projects D15 and D16 would provide safety improvements on this roadway. These improvements are not required from a capacity standpoint, but would improve the safety of this roadway. Transportation SDCs from the future development of the property should reasonably be applied to the provision of these improvements.

Project D35 involves the Redland Rd/Anchor Way intersection. Traffic from the future development of the subject property would not be expected to contribute significantly to the need for these improvements due to distance from the site.

Project D43 calls for a future roundabout at the intersection of Holly Lane and Redland Rd. This improvement will not be needed until such time as Holly Lane is completed down to Redland Rd. from the subject property. That improvement will not occur until there is future development of intervening properties.

Project D48 calls for the extension of Holly Lane from Redland Rd. north to Holcomb Blvd. A significant portion of this project will be provided with the future development of the subject property.

Projects D49 and D50 relate to the future extension of Swan Avenue south from Livesay Rd. to the south, across Redland Road, to Morton Rd. This future planned extension is west of the subject property. Given that the majority of site-generated traffic will eventually make use of the Holly Lane connection to Redland Rd., the impact of future site traffic on the need for these improvements is negligible.

Projects D86 and D87 call for future upgrades to Livesay Road. The future development of the subject property will bring about frontage improvements on Livesay Road for a significant stretch of this roadway.

Project D91 relates to planned future upgrades to Redland Road from Holcomb Blvd. to Holly Lane. The need for these improvements will not be impacted by the future development of the subject property until such time as Holly Lane is connected from the subject property to the south to Redland Road. This will not happen until additional properties are annexed and developed.

Parks:

There is a need for additional parks in the Park Place neighborhood. The closest developed City park to the subject property is Park Place Park, a mile to a mile and half to the northwest of the site at the intersection of Hiram Avenue and Cleveland Street. The Park Place Concept Plan calls for a new community park to be developed between Redland Road and Holcomb Blvd., partially within the proposed annexation area. The map below shows the proposed annexation area overlaid on Figure 32 from the Park Place Concept Plan, which shows the North Village area of the plan. The proposed park site is situated on the western border of the annexation area and continues to the west.

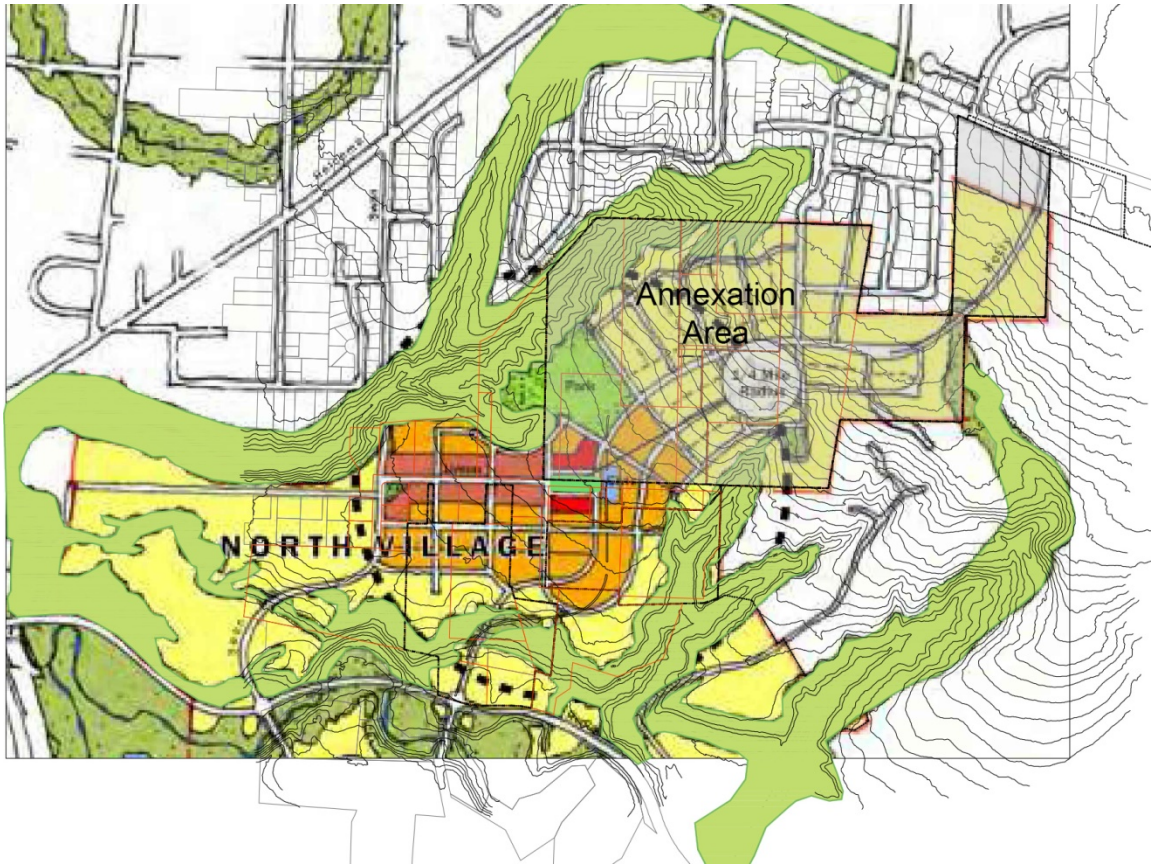


Figure 9: Park Place North Village Plan

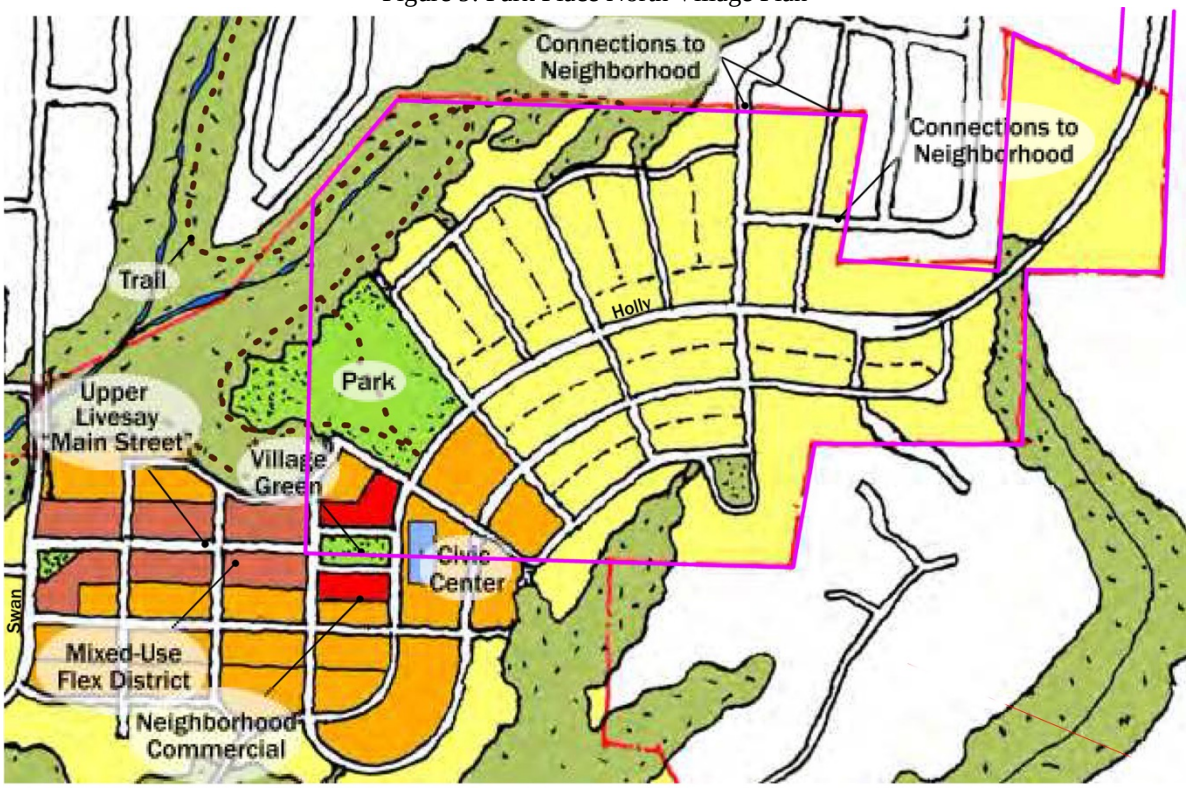


Figure 10: Park Place North Village Detail

The Park Place Concept Plan says the following about the community park in the North Village:

"The parks are intended to provide basic recreational opportunities for residents and may include amenities such as play equipment, athletic fields, picnic tables or shelters, walking trails, and other features. The neighborhood park in the North Village is approximately eight to ten acres and within walking distance of the Livesay Main Street."
(Final Concept Plan, Page 31)

Comments in the City's letter of May 12, 2017 from Community Services Director Phil Lewis state that "*we would ideally have a 12-15 acre community park in that location which would allow appropriate sizing for sports fields and parking.*" In a phone call with Mr. Lewis, he indicated his opinion that there is a need for a larger park in order to provide for soccer and other athletic fields. This comment, while indicative of the Director's assessment of City park needs, is not consistent with the park size called for by the adopted Park Place Community Plan. Further, topographic constraints associated with a drainageway to the northwest of the proposed park location, as well as the constraint of the proposed alignment of Holly Lane right-of-way, would limit the ability to provide a park of that size at this location with level enough areas for more athletic fields.

The applicant acknowledges that the future master plan for the annexation area will need to provide for the dedication of a community park consistent with the Park Place Concept Plan. The future comprehensive plan amendment and zone change will provide for the designation of the park site with the corresponding Park designation. It is the applicant's expectation that the City will make any necessary amendments to its Parks and Recreation Master Plan to make the dedication of the community park eligible for systems development charges credits. This will allow for lots in the master plan area to receive SDC credits in exchange for providing compensation to the owners of properties containing proposed park dedication areas.

The North Village Concept Plan also calls for a system of trails and paths to be included in the master plan for this area, as shown on the map below:

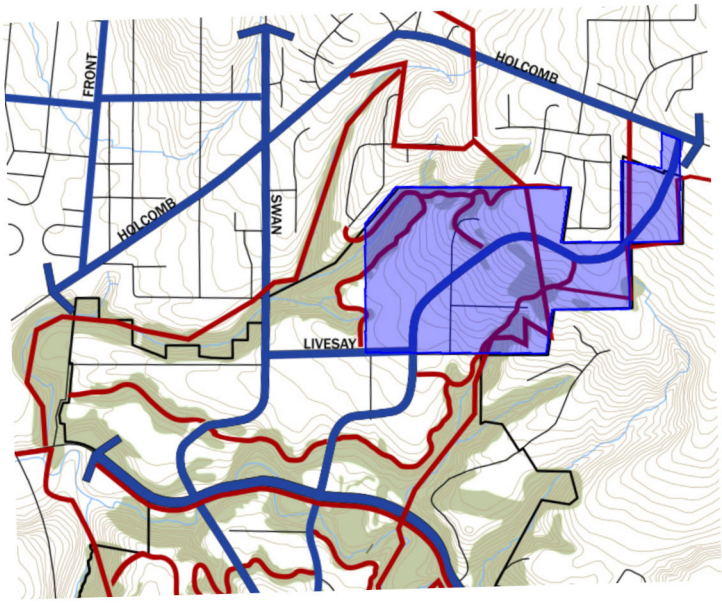


Figure 11: North Village Trails and Paths

It is understood by the applicants that the future master plan for the annexation area will need to incorporate park area and trails consistent with the Park Place Concept Plan. The most likely scenario for the funding of the dedications would be through Systems Development Credits (SDCs). The Plan states the following regarding funding mechanisms.

"**Once the Park Place Concept Plan is adopted, Oregon City and the regional agencies that fund or own elements of the services will have to amend their master plans and systems development charges.**"
(Final Concept Plan, Page 6)

Parks: The two parks identified in the Concept Plan have to be integrated into Oregon City's parks master plan and at that time decide how to fund the proposed parks. It may be funded entirely from system development charges or as an integral part of the master plan's financing strategies.
(Final Concept Plan, Page 6)

Schools:

The subject property is served by Oregon City Public Schools. The schools serving this site are Redland Elementary School, Ogden Middle School, and Oregon City High School. Although there will be no immediate development of this site that would impact the school system, discussions with School District staff indicate that there are no immediate capacity problems with these schools.

A letter dated March 13, 2017 from Mr. Wes Rogers, Director of Operations for Oregon City Public Schools, regarding school capacity associated with the Serres property annexation (File AN-16-0004, ZC 16-0001) makes the following comments regarding the subject annexation of approximately 92 acres:

"As to the larger 92 acre Park Place/Holcomb annexation mentioned by Mr. Givens but is not a direct part of this file, the District has always known that as the Park Place Concept Plan was significantly developed, additional elementary and middle school capacity would have to be constructed. Currently the elementary school of attendance for this area would be Redland Elementary.

Forecasted enrollment growth is not new to the District and the Oregon City School Board and administration have been studying facility needs for the past several years. Although well maintained, District facilities do not support current educational practice and all District facilities are in need of serious renovation or replacement and in some cases minor expansion. Preliminary plans to ask for a school construction bond have not been finalized but the current draft scenario shows that the District (with voter support) would have additional middle school capacity within 5 years and additional elementary school capacity within 5-10 years. In the meantime the District has several other tools to help with over capacities by installing semi-permanent buildings and/or redrawing attendance boundaries."

The anticipated time frame to begin construction within the annexation area, dependent upon resolution of the alternative mobility standards issue, would be in approximately two to three years. Full build-out is expected to be in the range of five to ten years. This schedule is consistent with the School District's stated timeline to provide additional school capacity.

Fire Protection: Fire protection services will be provided by Clackamas Fire District #1. The closest station is located at 300 Longview Way, off of Holcomb Blvd.

Police Protection: Police protection will be provided by the Oregon City Police Dept.

d. Statement outlining method and source of financing required to provide additional facilities, if any;

Comment: The required improvements to public services will be made by the developer concurrently with the future development of this property.

e. Statement of overall development concept and methods by which the physical and related social environment of the site, surrounding area and community will be enhanced;

Comment: The majority of the subject property is within the boundaries of the Park Place Concept Plan, specifically, the North Village Plan, and the eventual development of this site will be subject to the land uses and densities set forth in that document. The future development application will provide for a master plan consistent with the design concept of the North Village Plan. The future development application will likely need to include proposals to rezone the property to resolve apparent conflicts between the North Village Plan and the existing Oregon City Comprehensive Plan Map. One property, Tax Lot 2000 on Map 22E27B and which fronts on Holcomb Blvd., is located outside of the North Village Plan, is designated MR by the Comprehensive Plan and will be zoned R-5. That property will be developed in conjunction with the rest of the properties included in this annexation and zone change. The future development of this property will provide a mixture of approximately 400 to 450 single-family detached and attached housing units, as well as neighborhood commercial, park and community uses as shown on the North Village Plan. It will also aid in providing a needed collector road connection from the Holcomb Blvd. area down to Redland Road. It is anticipated that the development will occur in several phases over an approximate 10 year development plan.

f. Statement of potential physical, aesthetic, and related social effects of the proposed, or potential development on the community as a whole and on the small subcommunity or neighborhood of which it will become a part; and proposed actions to mitigate such negative effects, if any;

Comment: There will be no immediate physical, aesthetic, or related social effects from the annexation of this property because there will be no development at this time. Future development of the property will result in typical residential development impacts on traffic, schools, and public infrastructure, but these impacts have been anticipated by the City's Comprehensive Plan. No mitigation measures are anticipated to be needed.

g. Statement indicating the type and nature of any comprehensive plan text or map amendments, or zoning text or map amendments that may be required to complete the proposed development;

Comment: No change to the comprehensive plan text or map designation is proposed for this site. The zone change application that has been filed with the annexation proposal is a mandatory and non-discretionary re-zoning required pursuant to OCMC 17.68.025.A. This zone change is required concurrently with the annexation in order to replace Clackamas County RRFF-5 zoning and apply the appropriate City zones that implement the City's Comprehensive Plan Map designations for the site. In this instance, Neighborhood Commercial is proposed for the MUC area and R-10 would be applied to the LDR designation. It is understood that a future application will be required at the time that a master plan for the development of the property is proposed in order to amend the Comprehensive Plan and zoning for the site comply with the Park Place Concept Plan's conceptual plan for the North Village area. The master plan and the future comprehensive plan amendment and zone change for the subject property cannot proceed until such time as the regional transportation issues are resolved.

8. The application fee for annexations established by resolution of the city commission and any fees required by metro. In addition to the application fees, the city manager shall require a deposit, which is adequate to cover any and all costs related to the election;

9. Paper and electronic copies of the complete application as required by the community development director.

Comment: The required application fee and paper and digital copies of the application are included in the application submittal.

OCMC 14.04.060 - Annexation factors.

A. When reviewing a proposed annexation, the commission shall consider the following factors, as relevant:

1. Adequacy of access to the site;

Comment: The site has direct access onto Holcomb Blvd., an arterial street. This street would serve as the primary access for the future development of the property. Additional accesses are available from the local streets stubbed to the property: Journey Drive, Shartner Drive, and Cattle Drive as well as Livesay Road. Future development of the property will provide for the construction of a north extension of Holly Lane from Holcomb Blvd. to Livesay Road. Future development of properties to the south will eventually extend this street to Redland Road.

2. Conformity of the proposal with the city's comprehensive plan;

Comment: The proposed annexation is consistent with the comprehensive plan in that the property is within the UGB, is designated for residential and mixed use development, and is intended to be served by the City of Oregon City. Compliance with specific plan policies is discussed below in this report.

3. Adequacy and availability of public facilities and services to service potential development;

Comment: The adequacy and availability of public facilities and services is discussed in the preceding section of this report. Please refer to our comments there.

4. Compliance with applicable sections of ORS Ch. 222, and Metro Code Section 3.09;

ORS Ch. 222 was amended in 2016 with the adoption of Senate Bill 1573 as follows:

SECTION 1. Section 2 of this 2016 Act is added to and made a part of ORS 222.111 to 222.180.

SECTION 2. (1) This section applies to a city whose laws require a petition proposing annexation of territory to be submitted to the electors of the city.

(2) Notwithstanding a contrary provision of the city charter or a city ordinance, upon receipt of a petition proposing annexation of territory submitted by all owners of land in the territory, the legislative body of the city shall annex the territory without submitting the proposal to the electors of the city if:

(a) The territory is included within an urban growth boundary adopted by the city or Metro, as defined in ORS 197.015;

(b) The territory is, or upon annexation of the territory into the city will be, subject to the acknowledged comprehensive plan of the city;

(c) At least one lot or parcel within the territory is contiguous to the city limits or is separated from the city limits only by a public right of way or a body of water; and

(d) The proposal conforms to all other requirements of the city's ordinances.

Comment: The Oregon City Municipal Code requires annexations to be approved through an election. However, in this instance, the proposed annexation meets the requirements of the new State law in that it includes a petition that is signed by all owners of land in the territory, the area is within the adopted urban growth boundary, is within an area subject to the adopted and acknowledged Oregon City Comprehensive Plan, and the property is contiguous to the existing city limits. As demonstrated in this narrative, this proposal conforms to all other requirements of the city's ordinances.

(3) The territory to be annexed under this section includes any additional territory described in ORS 222.111 (1) that must be annexed in order to locate infrastructure and right of way access for services necessary for development of the territory described in subsection (2) of this section at a density equal to the average residential density within the annexing city.

Comment: No such additional territory is required for this property.

(4) When the legislative body of the city determines that the criteria described in subsection (2) of this section apply to territory proposed for annexation, the legislative body may declare that the territory described in subsections (2) and (3) of this section is annexed to the city by an ordinance that contains a description of the territory annexed.

Comment: The required ordinance will be adopted by the City upon approval of this annexation proposal.

5. *Natural hazards identified by the city, such as wetlands, floodplains and steep slopes;*

Comment: The subject property does have areas of potential natural hazards associated with steep slopes, primarily along ravines associated with drainageways and areas of steeper hillside grades. The map below from the City's GIS system shows these areas:

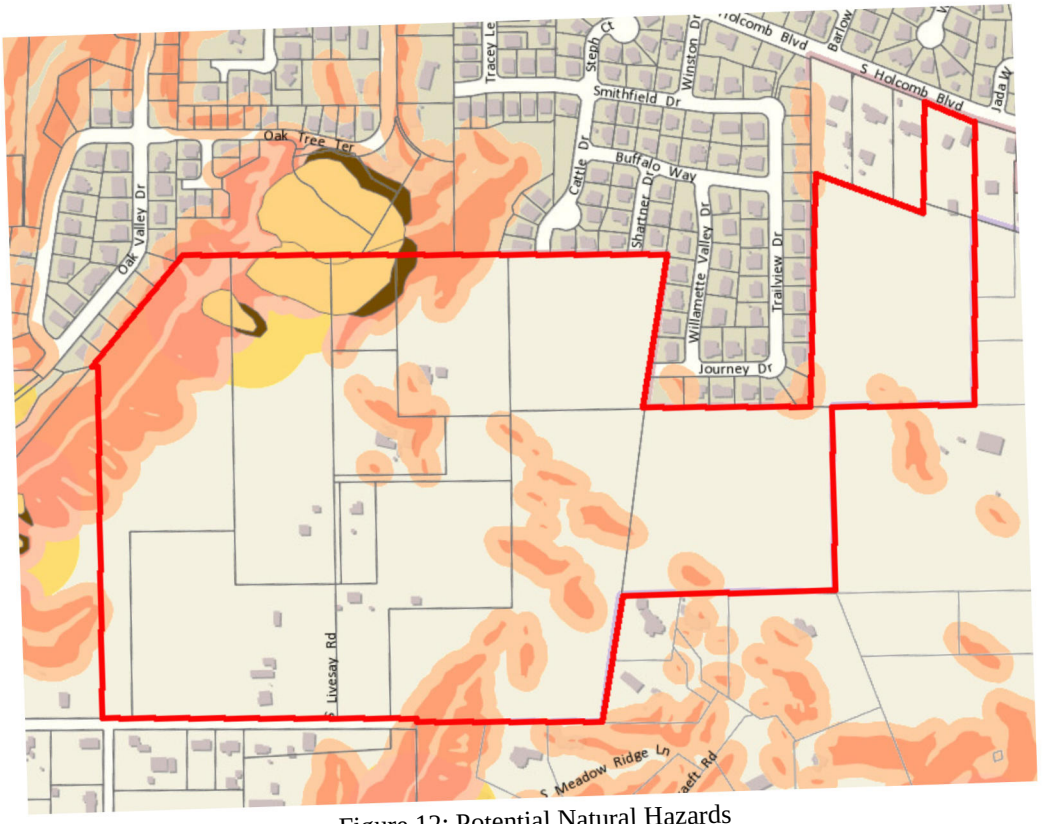


Figure 12: Potential Natural Hazards

When the property is developed in the future, the natural drainageways will remain undeveloped as open space. A geotechnical report will be prepared at the time of future development application to assess the safety of other potential hazard areas and the recommendations of that report will be followed in designing the future development plan.

6. *Any significant adverse effects on specially designated open space, scenic, historic or natural resource areas by urbanization of the subject property at time of annexation;*

Comment: No development will occur at this time and a condition of approval will preclude development until such time as the Alternative Mobility standards are adopted. Thus, there will be no impacts upon resource areas associated with this annexation. Assessment of impacts upon resource and hazard areas will be examined in detail at the time that the development plan is prepared for compliance with the standards set forth in the Oregon City Municipal Code.

7. *Lack of any significant adverse effects on the economic, social and physical environment of the community by the overall impact of the annexation.*

Comment: Because there will be no development on this site until off-site transportation issues are resolved, there will be no immediate impact upon the economic, social and physical environment of the community by the annexation. At such time as the site is developed, it will be in a manner consistent with the planned residential designation set for the property in the Park Place Concept Plan. This land use has been determined by the City, through the adoption of the Park Place Concept Plan, to be consistent with the surrounding land use pattern. Required public utilities and services are available or will be made available concurrently with the development of the site. The future development application for this property will provide a geotechnical report and the site plan will be designed to comply with the recommendations of that report so that the safety of future residents is assured. As such, the future development of the property will not have any significant impact upon the economic, social and physical environment of the community.

14.04.110 - Setting of boundaries and proclamation of annexation.
Upon approval by the voters of the proposed annexation, the city commission, by ordinance, shall set the boundaries of the area to be annexed by a legal description, adopt findings, and proclaim the results of the election.

Comment: SB 1573, adopted by the last legislative session, provides that, assuming certain conditions are met, charter and municipal code provisions requiring voter approval of annexations may not be applied. The requirements are that a site to be annexed must be within an Urban Growth Boundary ("UGB"), is subject to and complies with the acknowledged Comprehensive Plan and is contiguous to the City to which the real property is proposed to be annexed. In the case of this application, all of these conditions are met.

14.04.120 - Exceptions.
The city commission may authorize an exception to any of the requirements of this chapter. An exception shall require a statement of findings that indicates the basis for the exception. Exceptions may be granted for identified health hazards and for those matters which the city commission determines that the public interest would not be served by undertaking the entire annexation process. All annexations, however, shall be referred to the voters of the

city except those exempted by state law. An exception referring to an annexation application that meets the approval criteria to an election cannot be granted except as provided for in the Oregon Revised Statutes.

Comment: As discussed under OCMC 14.04.110, the annexation of properties consistent with SB 1573 is exempted from local requirements for voter approval. The subject property meets the requirements of SB 1573, as discussed above in comments on OCMC 14.04.050A.

Metro Code 3.09.045.A-D (Boundary Change Criteria)

The applicable approval criteria under the Metro Code are:

- *Whether the proposed boundary change will promote the timely, orderly and economic provision of public facilities and services.*

  Comment: As discussed above, all required public facilities and services will be available at the time of development. No development will occur until such time as the Alternative Mobility standards are adopted and compliance with Article 12 can be met. Upon approval of a future development plan, the developer will provide for the installation of needed public facilities and services.

- *Whether the proposed boundary change will affect the quality and quantity of urban services*

Comment: The annexation of this property will have no immediate impact upon the quality or quantity of urban services since development of the property will be prohibited until such time as the Alternative Mobility standards are adopted and compliance with Article 12 can be met. At such time as the site is developed in the future, it will be in a manner consistent with the North Village Concept Plan. The City has planned for the provision of necessary public facilities and services in this area in its Public Facilities Plan and Transportation Systems Plan. Since the future development will conform to the anticipated level of development, it will not have a negative impact upon the quality or quantity of urban services.

- *Whether the proposed boundary change would eliminate or avoid unnecessary duplication of facilities or services.*

Comment: With the exception of water, all services in this area will be provided by the City of Oregon City so there will be no unnecessary duplication of facilities and services. Water services in this area are provided by the City and Clackamas River Water District. These agencies have a plan and agreement that governs the provision of water services so as to avoid unnecessary duplication of facilities and services.

Oregon City Comprehensive Plan – Applicable Goals and Policies

Goal 1: Citizen Involvement

Goal 1.1 – Citizen Involvement Program

Policy 1.1.1 *Utilize neighborhood associations as the vehicle for neighborhood-based input to meet the requirements of the Land Conservation and Development Commission (LCDC) Statewide Planning Goal 1, Citizen Involvement. The Citizen Involvement Committee (CIC) shall serve as the officially recognized citizen committee needed to meet LCDC Statewide Planning Goal 1.*

Comment: The applicant attended neighborhood meetings with the Park Place Neighborhood Association to present the proposed annexation and zone change applications. The City's procedures for review of the application provided notice to Park Place Neighborhood Association and allow opportunity for public comment on the application.

Goal 1.4 – Community Involvement

Policy 1.4.1 *Notify citizens about community involvement opportunities when they occur.*

Comment: The City's procedures for review of the proposed annexation and zone change provide for notice to owners of affected properties and will provide opportunities for citizen input regarding the applications.

Goal 2: Land Use

Goal 2.1 – Efficient Use of Land

Policy 2.1.3 *Encourage sub-area master planning for larger developments or parcels, including re-development, where it may be feasible to develop more mixed uses, or campus-style industrial parks, with shared parking and landscaping areas. Allow developments to vary from prescriptive standards if planned and approved under this provision.*

Comment: The subject property is located within the Park Place Concept Plan, which provides sub-area master planning for this area. The future development of this property will provide mixed uses, including various types of residential development, parks, open spaces, commercial and institutional uses consistent with the North Village concept plan.

Goal 2.4 Neighborhood Livability

Policy 2.4.1 *Develop local neighborhood plans to strengthen and protect residential neighborhoods and historic areas from infill development; such as development along linear commercial corridors.*

Comment: The Park Place Concept Plan provides for a unified neighborhood plan that will serve as a guide to development of a desirable and diverse community in this area of the city.

Policy 2.4.2 *Strive to establish facilities and land uses in every neighborhood that help give vibrancy, a sense of place, and a feeling of uniqueness; such as activity centers and points of interest.*

Comment: The Park Place Concept Plan includes parks, natural open space areas, trails, neighborhood commercial and institutional uses that will provide vibrancy and a sense of place in the future development of this property.

Policy 2.4.3 *Promote connectivity between neighborhoods and neighborhood commercial centers through a variety of transportation modes.*

Comment: The Park Place Concept Plan encourages connectivity and diverse modes of transportation. The plan calls for the construction of Holly Lane to provide a much needed connection between Holcomb Blvd. and Redland Road. The plan also encourages an internal circulation system within the future neighborhood that will ensure connectivity and minimize out of direction travel. A trail system is planned that will provide greater opportunity for bicycle and pedestrian modes of transportation.

Policy 2.4.4 *Where environmental constraints reduce the amount of buildable land, and/or where adjacent land differs in uses or density, implement Comprehensive Plan and zoning designations that encourage compatible transitional uses.*

Comment: The subject property includes environmentally sensitive areas associated with drainageways. The Park Place Concept Plan and City ordinances provide for these water resource areas to be preserved as natural open spaces.

Goal 2.5 Retail and Neighborhood Commercial

Policy 2.5.1 *Encourage the redevelopment of linear commercial corridors in ways that encourage expansion of existing businesses and infill development, and at the same time reduces conflicting traffic movements, improves the aesthetic character of these commercial areas, and encourages trips by transit, bicycling and walking.*

Comment: Not applicable. The subject property does not contain any linear commercial corridors. The Park Place Concept Plan calls for limited neighborhood commercial development, but there is no existing commercial development within the area.

Policy 2.5.2 *Allow and encourage the development of small retail centers in residential neighborhoods that provide goods and services for local residents and workers. Generally, these centers should be located at the intersections of two or more streets that are classified as neighborhood collectors or higher.*

Comment: As shown on Figure 10 on page 12 of this report, the North Village Concept Plan calls for a small area of neighborhood commercial zoning in the southwest corner of the annexation area. This area is identified in the Park Place Concept Plan as a part of “Livesay Main Street”. The Plan (page 25) states the following regarding anticipated uses within this area of neighborhood commercial development:

Small-scale commercial businesses, like a coffee shop, bookstore, dry cleaners, or café, are proposed to anchor the intersection of Holly Lane Extension and Livesay Main Street and surround the Village Green.

Policy 2.5.3 *Review design standards and the sign code to ensure compatibility with existing neighborhoods.*

Comment: Design standards for single family development in the Park Place Concept Plan area are implemented by OCMC 17.21. The future development of this area will be reviewed for compliance with these standards prior to construction.

Policy 2.5.4 *Encourage the development of successful commercial areas organized as centers surrounded by higher density housing and office uses, rather than as commercial strips adjacent to low-density housing.*

Comment: The commercial development in this area is intended to be small in scale and service-oriented. It is seen by the Park Place Concept Plan as helping to provide a neighborhood identity rather than providing for the full range of commercial needs that are available elsewhere in Oregon City, as discussed in the following quote from page 18 of the Concept Plan:

"Commercial development in the planning area is not seen as necessary for the success of the area, which is expected to be developed largely as residential. The commercial needs of the planning area can be met outside of the concept planning area by existing and planned developments. However, commercial development can serve to organize the Park Place Concept Plan by providing a "center" to the community. In addition, commercial development can meet some of the needs of the community, providing a marketable amenity for residential development while reducing trips out of the neighborhood."

Policy 2.5.5 *Encourage commercial and industrial development that enhances livability of neighborhoods through the design of attractive LEEDTM-certified buildings and environmentally responsible landscaping that uses native vegetation wherever possible, and by ensuring that development is screened and buffered from adjoining residential neighborhoods and access is provided by a variety of transportation modes.*

Comment: These provisions are implemented by design standards within the OCMC that will be reviewed prior to site development.

Goal 2.7 Oregon City Comprehensive Plan Land-Use Map

Policy 2.7.2 *Use the following 11 land-use classifications on the Oregon City Comprehensive Plan Land-Use Map to determine the zoning classifications that may be applied to parcels:*

- *Low Density Residential (LR)*
- *Medium Density Residential (MR)*
- *High Density Residential (HR)*
- *Commercial (C)*
- *Mixed Use Corridor (MUC)*
- *Mixed Use Employment (MUE)*
- *Mixed Use Downtown (MUD)*
- *Industrial (I)*
- *Public and Quasi-Public (QP)*
- *Parks (P)*
- *Future Urban Holding (FUH)*

Comment: The cropped section from the Oregon City Comprehensive Plan Land Use Map below shows the designations applicable to the subject area (outlined in blue):

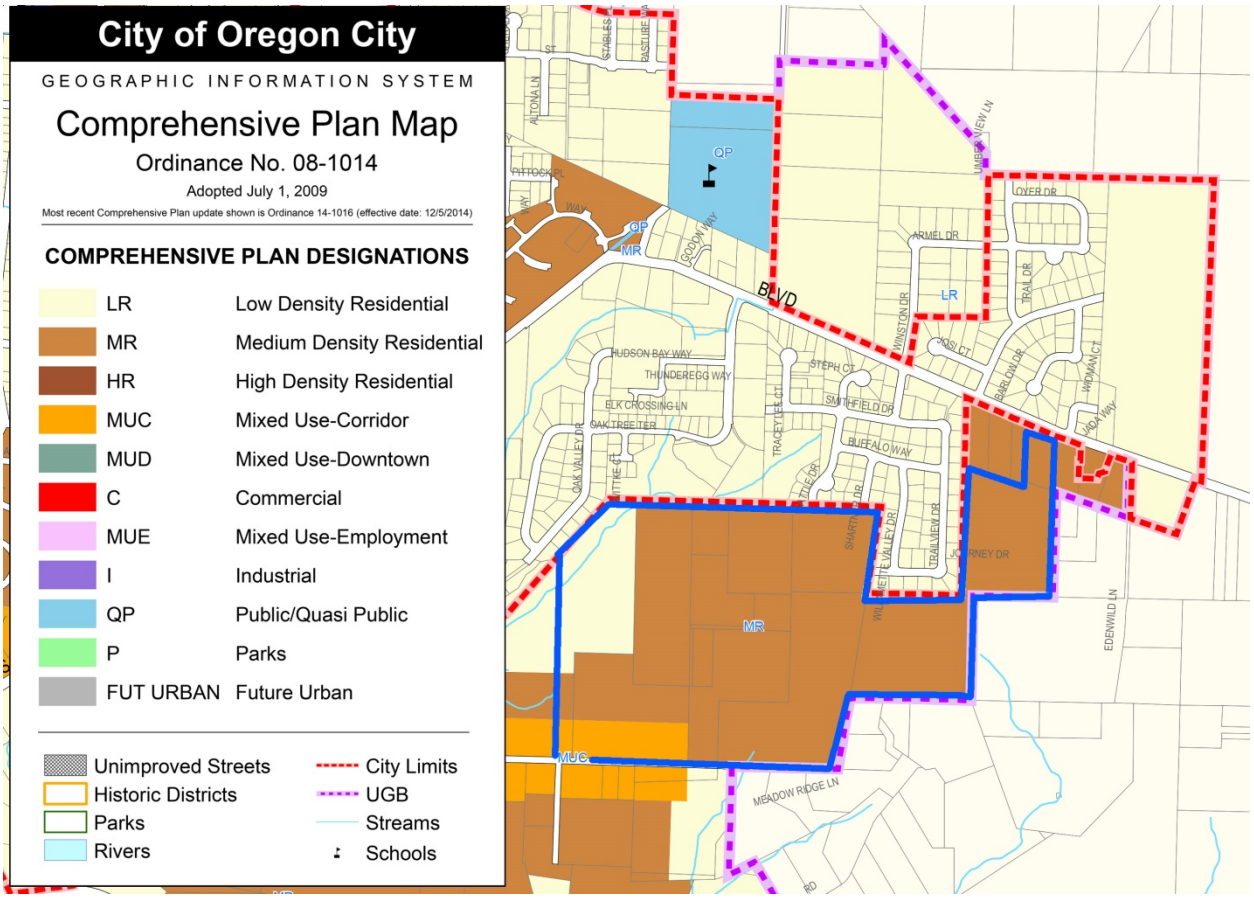


Figure 13: Comprehensive Plan Designations

The majority of the area is designated Medium Density Residential, which is implemented by the R-5 zone. There is a small area of Low Density Residential designation in the northwest corner of the annexation area. The R-10 through R-6 zones implement this designation, but R-10 is proposed. There is also a portion of the site that is designated Mixed Use-Corridor. The proposed zoning is consistent with the adopted comprehensive land use plan.

Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources

Goal 5.1 – Open Space

Policy 5.1.1 *Conserve open space along creeks, urban drainage ways, steep hillsides, and throughout Newell Creek Canyon.*

Comment: There is one major drainageway in the northwest corner of the proposed annexation area and the top of a drainageway in the southeast corner. Consistent with this policy, at the time of development these areas will be retained as open space.

Policy 5.1.2 *Manage open space areas for their value in linking citizens and visitors with the natural environment, providing solace, exercise, scenic views and outdoor education. Built features in open space sites should harmonize with natural surroundings.*

Comment: Future open space areas will be provided at the time of development to assist in meeting this policy.

Goal 5.2 Scenic Views and Scenic Sites

Policy 5.2.1 *Identify and protect significant views of local and distant features such as Mt. Hood, the Cascade Mountains, the Clackamas River Valley, the Willamette River, Willamette Falls, the Tualatin Mountains, Newell Creek Canyon, and the skyline of the city of Portland, as viewed from within the city.*

Comment: The site is located on a hillside with some nice vistas. These will be considered in the development of the future master plan for this area.

Policy 5.2.2 *Maximize the visual compatibility and minimize the visual distraction of new structures or development within important viewsheds by establishing standards for landscaping, placement, height, mass, color, and window reflectivity.*

Comment: Not applicable to this annexation and zone change application and not directly applicable to the future development of this site. This policy is a guide to city action in developing standards to protect visual compatibility.

Goal 5.3 Historic Resources

Policy 5.3.3 Promote the designation of qualifying properties outside Historic and Conservation Districts as historic.

Comment: The applicants are not aware of any historic resources within the annexation area and none are identified in the Park Place Concept Plan or Oregon City Comprehensive Plan. The Oregon State Historic Preservation Office will be contacted during the development of the future master plan in order to determine if there are any significant archeological sites within the annexation area.

Policy 5.3.8 Preserve and accentuate historic resources as part of an urban environment that is being reshaped by new development projects.

Comment: The applicants are not aware of any historic resources within the annexation area.

Goal 5.4 Natural Resources

Policy 5.4.1 *Conserve and restore ecological structure, processes and functions within the city to closely approximate natural ecosystem structure, processes, and functions.*

Comment: During the development of the future master plan for the annexation area, care will be taken to identify any sensitive ecological areas within the site boundaries.

Policy 5.4.5 *Ensure that riparian corridors along streams and rivers are conserved and restored to provide maximum ecological value to aquatic and terrestrial species. This could include an aggressive tree and vegetation planting program to stabilize slopes, reduce erosion, and mitigate against invasive species and stream impacts where appropriate.*

Comment: The riparian corridors along the natural drainageways within the annexation boundary will be protected as open space.

Policy 5.4.9 *Protect and enhance riparian corridors along streams in Oregon City to increase shade, reduce streambank erosion and intrusion of sediments, and provide habitat for a variety of plants, animals, and fish.*

Comment: There are no streams within the annexation area, but there are seasonal drainageways with areas of sensitive steep slopes. These areas will be protected as open space in the future master plan.

Policy 5.4.12 *Use a watershed-scale assessment when reviewing and planning for the potential effects from development, whether private or public, on water quality and quantity entering streams.*

Comment: Consistent with this policy and City standards regarding storm water treatment and detention, during development of the future master plan the project engineer will look at the regional watershed in determining appropriate methods of handling storm drainage.

Policy 5.4.13 *Adopt and/or establish standards for all new development that promote the use of pervious surfaces and prevent negative ecological effects of urban stormwater runoff on streams, creeks and rivers.*

Comment: This policy is fully implemented by the City's adopted storm water management standards. The project engineer will comply with these standards during preparation of the future master plan for this area.

Policy 5.4.16 *Protect surfacewater quality by:*

- *providing a vegetated corridor to separate protected water features from development*
- *maintaining or reducing stream temperatures with vegetative shading*
- *minimizing erosion and nutrient and pollutant loading into water*
- *providing infiltration and natural water purification by percolation through soil and vegetation*

Comment: A vegetated corridor will be preserved in the future master plan along drainageways in the annexation area to accomplish the objectives of this policy.

Policy 5.4.18 *Encourage use of native and hardy plants such as trees, shrubs and groundcovers to maintain ecological function and reduce maintenance costs and chemical use.*

Comment: Not applicable to this application for annexation and zoning. Landscape plans for future commercial and/or multi-family development will be reviewed in accordance with adopted City standards that implement this policy.

Goal 6: Quality of Air, Water, and Land Resources

Goal 6.1 Air Quality

Policy 6.1.1 *Promote land-use patterns that reduce the need for distance travel by single occupancy vehicles and increase opportunities for walking, biking and/or transit to destinations such as places of employment, shopping and education.*

Comment: The future master plan will be designed with a system of interconnected streets and pathways that will satisfy this policy.

Goal 6.2 Water Quality

Policy 6.2.1 *Prevent erosion and restrict the discharge of sediments into surface- and groundwater by requiring erosion prevention measures and sediment control practices.*

Comment: Consistent with this policy and adopted City storm water standards, the future master plan for this project will include plans for erosion and sediment control to mitigate for site grading and other development activities.

Policy 6.2.2 *Where feasible, use open, naturally vegetated drainage ways to reduce stormwater and improve water quality.*

Comment: The natural drainageways and a vegetated corridor abutting them will be protected as open space in the future master plan for this area.

Goal 6.3 Nightlighting

Policy 6.3.2 *Encourage new developments to provide even and energy-efficient lighting that ensures safety and discourages vandalism. Encourage existing developments to retrofit when feasible.*

Comment: The future development of this site will employ street lighting consistent with City and PGE standards that satisfy this policy.

Goal 6.4 Noise

Policy 6.4.1 *Provide for noise abatement features such as sound-walls, soil berms, vegetation, and setbacks, to buffer neighborhoods from vehicular noise and industrial uses.*

Comment: There are no significant noise sources that impact this annexation site.

Goal 7: Natural Hazards

Policy 7.1.1 *Limit loss of life and damage to property from natural hazards by regulating or prohibiting development in areas of known or potential hazards.*

Comment: City GIS mapping of natural hazards shows a couple of small areas of mapped landslide hazards and other areas with steep slopes. These areas are associated with the drainageways on portions of the property. The majority of this area will be preserved as open spaces in the future master plan. Where development will occur in proximity to these areas, appropriate geotechnical studies will be performed to determine site stability.

Policy 7.1.8 *Provide standards in City Codes for planning, reviewing, and approving development in areas of potential landslides that will prevent or minimize potential landslides while allowing appropriate development.*

Comment: This policy is implemented in Chapter 17.44 – Geologic Hazards. The future master plan will address the standards of this chapter.

Policy 7.1.9 *Locate, design, and construct structures in conformance with current building codes and standards for seismic-resistant design.*

Comment: Not applicable to this application for annexation and zone change. All future structures to be built on this site will obtain required building permits that include provisions to address this policy.

Policy 7.1.11 *Prioritize roadways needed for public service, medical, and emergency vehicles during emergencies.*

Comment: The future connection of Holly Lane through to Redland Road will be provide a much-needed route connecting the Holcomb Blvd. area to medical, emergency and public services. At the present time access is limited to Holcomb Blvd. and, to a lesser degree, Forsythe Road. The future development of this site will aid in meeting this policy.

Goal 8: Parks and Recreation

Policy 8.1.1 *Provide an active neighborhood park-type facility and community park-type facility within a reasonable distance from residences, as defined by the Oregon City Park and Recreation Master Plan, to residents of Oregon City*

Comment: There are presently no parks within convenient walking distance of the annexation area. The future development of this site will provide for a community park, consistent with this policy and the Park Place Concept Plan.

Policy 8.1.5 *Identify and construct a network of off-street trails throughout the city for walking and jogging.*

Comment: The Park Place Concept Plan calls for a system of off-street trails through the proposed annexation area. The future master plan for this site will address this requirement.

Policy 8.1.6 *Provide land for specialized facilities such as sports fields and indoor recreational facilities.*

Comment: It is anticipated that the community park that will be developed on a portion of the annexation area will provide for sports fields.

Policy 8.1.9 *Emphasize retaining natural conditions and the natural environment in proposed passive recreation areas.*

Comment: The future master plan will provide open spaces associated with the drainageway areas within the annexation area and these will be preserved in their natural condition.

Policy 8.1.12 *Identify and protect land for parks and recreation within the Urban Growth Boundary.*

Comment: The Park Place Concept Plan calls for a community park that is mostly within the proposed annexation area. The future master plan for this site will address this requirement.

Policy 8.1.14 *Require or encourage developers to dedicate park sites as part of the subdivision review process. When possible, require or encourage developers to build parks to City standards and give them to the City to operate and maintain.*

Comment: The future master plan will provide for the dedication of a community park consistent with this policy and other City standards.

Goal 10: Housing

Policy 10.1.1 *Maintain the existing residential housing stock in established older neighborhoods by maintaining existing Comprehensive Plan and zoning designations where appropriate.*

Comment: Not applicable. The subject property is not located within an established older neighborhood. There are a few homes on large acreage tracts and most of these will be removed to allow for redevelopment.

Policy 10.1.3 *Designate residential land for a balanced variety of densities and types of housing, such as single-family attached and detached, and a range of multi-family densities and types, including mixed-use development.*

Comment: The North Village Plan within the Park Place Concept Plan calls for a mixture of housing types and densities, as well as neighborhood commercial and institutional uses within the annexation area. The future master plan will implement these land uses.

Policy 10.1.4 *Aim to reduce the isolation of income groups within communities by encouraging diversity in housing types within neighborhoods consistent with the Clackamas County Consolidated Plan, while ensuring that needed affordable housing is provided.*

Comment: The Park Place Concept Plan calls for a variety of types of housing that will help in addressing this policy.

Policy 10.1.7 *Use a combination of incentives and development standards to promote and encourage well-designed single-family subdivisions and multi-family developments that result in neighborhood livability and stability.*

Comment: The City has adopted design standards in Chapter 17.21 that implement this policy. The future development will conform to these standards.

Policy 10.2.2 *Allow increases in residential density (density bonuses) for housing development that would be affordable to Oregon City residents earning less than 50 percent of the median income for Oregon City.*

Comment: Not directly applicable to this application or the future master plan.

Goal 11: Public Facilities

Policy 11.1.1 *Ensure adequate public funding for the following public facilities and services, if feasible: Transportation infrastructure • Wastewater collection • Stormwater management • Police protection • Fire protection • Parks and recreation • Water distribution • Planning, zoning and subdivision regulation • Library services • Aquatic Center • Carnegie Center • Pioneer Community Center • City Hall • Buena Vista House • Ermatinger House*

Comment: Not applicable to this application for annexation and zone change.

Policy 11.1.2 *Provide public facilities and services consistent with the goals, policies and implementing measures of the Comprehensive Plan, if feasible.*

Comment: As discussed above in this application, public facilities and services are available or will be provided concurrently with future development of this site to allow development consistent with this policy.

Policy 11.1.3 *Confine urban public facilities and services to the city limits except where allowed for safety and health reasons in accordance with state land-use planning goals and regulations. Facilities that serve the public will be centrally located and accessible, preferably by multiple modes of transportation.*

Comment: The proposed future development of this site will occur only after annexation to the City of Oregon City. Although sanitary sewer from Redland Road will have to pass through unincorporated areas, no service connections will be provided to areas outside of the city limits in conjunction with the development of this site.

Policy 11.1.5 *Design the extension or improvement of any major public facility and service to an area to complement other public facilities and services at uniform levels.*

Comment: Public services will be provided in accordance with adopted plans and standards that conform to this policy.

Policy 11.1.6 *Enhance efficient use of existing public facilities and services by encouraging development at maximum levels permitted in the Comprehensive Plan, implementing minimum residential densities, and adopting an Accessory Dwelling Unit Ordinance to infill vacant land.*

Comment: The future development of this site will be at densities planned in the Park Place Concept Plan. This development will be dense enough to make efficient use of existing and planned public facilities and services.

Policy 11.2.4 *Seek economical means to reduce inflow and infiltration of surface- and groundwater into the wastewater collection system. As appropriate, plant riparian vegetation to slow stormwater, and to reduce erosion and stream sedimentation.*

Comment: The sanitary sewer system that will serve the future development of this site will be installed in accordance with City standards and will be pressure tested to ensure that surface and ground waters do not enter the system. Storm water will be collected via a storm sewer system that will drain to storm water treatment and detention facilities that will be designed to City standards that include measures to slow stormwater to reduce erosion and stream sedimentation.

Policy 11.3.3 *Maintain adequate reservoir capacity to provide all equalization, operational, emergency, and fire flow storage required for the City's distribution system.*

Comment: Information provided at the pre-application conference indicates that the City and Clackamas River Water District have adequate water storage capacity to service the proposed annexation area.

Policy 11.4.1 *Plan, operate, and maintain the stormwater management system for all current and anticipated city residents within Oregon City's existing Urban Growth Boundary and plan strategically for future expansion areas.*

Comment: The future master plan will provide for a stormwater management system that conforms to City standards.

Policy 11.4.2 *Adopt "green streets" standards to reduce the amount of impervious surface and increase the use of bioswales for stormwater retention where practicable.*

Comment: The City has adopted standards for Low Impact Development streets that implement this policy. Where appropriate grades exist, the future master plan can employ these standards to provide for stormwater management consistent with this policy.

Policy 11.4.4 *Maintain existing drainageways in a natural state for maximum water quality, water resource preservation, and aesthetic benefits.*

Comment: The existing drainageway areas within the annexation area will be maintained as natural open spaces in the future master plan, in accordance with this policy.

Policy 11.4.5 *Design stormwater facilities to discharge surface water at pre-development rates and enhance stormwater quality in accordance with criteria in City of Oregon City Public Works Stormwater and Grading Design Standards.*

Comment: This policy is implemented by the City's stormwater standards. The future master plan will be designed to conform to these standards.

Goal 12: Transportation

Policy 12.1.1 *Maintain and enhance citywide transportation functionality by emphasizing multi-modal travel options for all types of land uses.*

Comment: The future development of this site will provide for a connected system of roadways and pathways that will provide for multi-modal forms of travel.

Policy 12.1.2 *Continue to develop corridor plans for the major arterials in Oregon City, and provide for appropriate land uses in and adjacent to those corridors to optimize the land use-transportation connection.*

Comment: The future master plan will provide for the extension of Holly Lane, consistent with the Park Place Concept Plan and this policy.

Policy 12.1.3 *Support mixed uses with higher residential densities in transportation corridors and include a consideration of financial and regulatory incentives to upgrade existing buildings and transportation systems.*

Comment: Not applicable. The subject property is not located in a transportation corridor.

Policy 12.1.4 *Provide walkable neighborhoods. They are desirable places to live, work, learn and play, and therefore a key component of smart growth.*

Comment: The future master plan will include a network of sidewalks and pathways that will provide for a walkable neighborhood with access to residential, commercial, parks and natural open space areas.

Policy 12.3.1 *Provide an interconnected and accessible street system that minimizes vehicle-miles-traveled and inappropriate neighborhood cut-through traffic.*

Comment: The future master plan will be designed with a network of interconnected streets. Primary access through the neighborhood will be via Holly Lane, which will discourage neighborhood cut-through traffic.

Policy 12.3.2 *Provide an interconnected and accessible pedestrian system that links residential areas with major pedestrian generators such as employment centers, public facilities, and recreational areas.*

Comment: There are no employment centers in the vicinity of the subject property, but the future master plan will provide for pedestrian connectivity to both parks and open space recreational areas.

Policy 12.3.3 *Provide a well-defined and accessible bicycle network that links residential areas, major bicycle generators, employment centers, recreational areas, and the arterial and collector roadway network.*

Comment: The future master plan will include a bicycle lane on Holly Lane, bicycle/pedestrian trails, as well as a network of bicycle-friendly local streets.

Policy 12.3.4 *Ensure the adequacy of pedestrian and bicycle connections to local, county, and regional trails.*

Comment: The future master plan will provide for connections to planned trails depicted in the Park Place Concept Plan.

Policy 12.3.5 *Promote and encourage a public transit system that ensures efficient accessibility, mobility, and interconnectivity between travel modes for all residents of Oregon City.*

Comment: There is presently no bus service in the vicinity of the subject property. The completion of the Holly Lane north extension may provide for a logical bus route in this area in the future.

Policy 12.3.6 *Establish a truck route network that ensures efficient access and mobility to commercial and industrial areas while minimizing adverse residential impacts.*

Comment: Not applicable. There are no commercial or industrial areas in the vicinity of the subject property.

Policy 12.6.1 *Provide a transportation system that serves existing and projected travel demand.*

Comment: Please refer to the Lancaster Engineering traffic study included with this application.

Policy 12.6.2 *Identify transportation system improvements that mitigate existing and projected areas of congestion.*

Comment: The future completion of the Holly Lane north extension will provide for another access route from the Holcomb area that will be consistent with this policy.

Policy 12.6.3 *Ensure the adequacy of travel mode options and travel routes (parallel systems) in areas of congestion.*

Comment: The future completion of the Holly Lane north extension will provide for another access route from the Holcomb area that will be consistent with this policy.

Policy 12.6.4 *Identify and prioritize improved connectivity throughout the city street system.*

Comment: The future master plan will be designed to provide connectivity consistent with this policy.

Goal 13 – Energy

Policy 13.1.2 *Encourage siting and construction of new development to take advantage of solar energy, minimize energy usage, and maximize opportunities for public transit.*

Comment: The subject property is located on a south-facing hill that will afford opportunities in the design of the future master plan for taking advantage of solar energy. A network of connected neighborhood streets will also be consistent with this policy.

Policy 13.2.1 *Promote mixed-use development, increased densities near activity centers, and home-based occupations (where appropriate).*

Comment: The Park Place Concept Plan proposes a mixed-use development pattern for the north village area that will include commercial, recreational and institutional uses, as well as a variety of residential types. The densities proposed in the Park Place Concept Plan are higher than other areas of the City, which is consistent with this policy.

Policy 13.2.2 *Create commercial nodes in neighborhoods that are underserved to reduce vehicle miles traveled.*

Comment: The Park Place Concept Plan includes the provision of a small amount of neighborhood commercial development near Livesay Road, which is consistent with this policy.

Policy 13.2.3 *Plan for complementary mixed uses when considering annexation of new, under- or undeveloped areas so that new urban residential areas have closer access to jobs and services.*

Comment: The Park Place Concept Plan includes some neighborhood commercial development that will provide for some commercial services in the neighborhood, consistent with this policy.

Goal 14.3 Orderly Provision of Services to Growth Areas

Plan for public services to lands within the Urban Growth Boundary through adoption of a concept plan and related Capital Improvement Program, as amendments to the Comprehensive Plan.

Policy 14.3.1
Maximize new public facilities and services by encouraging new development within the Urban Growth Boundary at maximum densities allowed by the Comprehensive Plan.

Comment: The proposed zoning is consistent with the adopted and acknowledged Oregon City Comprehensive Plan Map. A condition of approval will temporarily prohibit urban-density development due to on-going traffic policy considerations. At such time as the Alternative

Mobility standards are adopted and the requirements of Article 12 can be met, development will take place at densities consistent with the Park Place Concept Plan and the City's Comprehensive Plan. The proposed development will be reviewed for compliance with maximum and minimum density standards at the time of application for subdivision approval.

Policy 14.3.2
Ensure that the extension of new services does not diminish the delivery of those same services to existing areas and residents in the city.

Comment: As discussed above in this report, all required urban services will be available to serve this property concurrently with its future development. The City's Public Facilities Plan and Transportation Systems Plan will ensure that there are adequate supplies of services so that services to existing areas and residents in the city are not diminished.

Policy 14.3.3
Oppose the formation of new urban services districts and oppose the formation of new utility districts that may conflict with efficient delivery of city utilities within the Urban Growth Boundary.

Comment: Not applicable. No new urban services or utility districts are proposed. Services will be provided by the City of Oregon City, with the exception of any water services that may be appropriate to be provided by Clackamas River Water District pursuant to an agreement between the City and Water District.

Policy 14.3.4
Ensure the cost of providing new public services and improvements to existing public services resulting from new development are borne by the entity responsible for the new development to the maximum extent allowed under state law for Systems Development Charges.

Comment: All utilities that will be provided to serve the future development of this site will be the responsibility of the developer. The future homes to be built on this property will pay required Systems Development Charges at the time of application for building permits.

Goal 14.4 – Annexation of Lands to the city

Annex lands to the city through a process that considers the effects on public services and the benefits to the city as a whole and ensures that development within the annexed area is consistent with the Oregon City Comprehensive Plan, City ordinances, and the City Charter.

Policy 14.4.1
Promote compact urban form and support efficient delivery of public services by ensuring that lands to be annexed are within the City's Urban Growth Boundary, and contiguous with the city limits. Do not consider long linear extensions, such as cherry stems and flag lots, to be contiguous with the city limits.

Comment: The subject property is entirely within the City's Urban Growth Boundary and is contiguous with the existing city limits along its entire northern border and its frontage on Holcomb Blvd.

Policy 14.4.2
Include an assessment of the fiscal impacts of providing public services to unincorporated areas upon annexation, including the costs and benefits to the city as a whole as a requirement for concept plans.

Comment: The proposed annexation will have no immediate fiscal impacts upon the cost of providing public services because no development will be allowed until such time as transportation planning issues are resolved. The City's Public Facilities Plan and Transportation System Plan anticipate the future development of the subject property at densities consistent with the Comprehensive Plan and provide an analysis of the costs of providing adequate levels of services in this area of the city. The future development of this property will contribute to these costs by providing on-site infrastructure, as well as potential off-site sanitary sewer improvements, at the cost of the developer. Each home will be assessed appropriate System Development Charges to cover the proportionate impact of the future development of this site.

Policy 14.4.3

Comment: Creation of an island does not violate an applicable, mandatory Oregon City Comprehensive Plan policy. Oregon City Comprehensive Plan Policy 14.4.3 provides in its entirety:

> **"Evaluate and in some instances require that parcels adjacent to proposed annexations be included to:**
>
> - **avoid creating unincorporated islands within the city;**
> - **enable public services to be efficiently and cost-effectively extended to the entire area; or**
> - **implement a concept plan or sub-area master plan that has been approved by the Planning and City Commissions."**

Comprehensive Plan Policy 14.4.3 is an aspirational policy and not a mandatory policy. *Spiering v. Yamhill County*, 25 Or LUBA 695 (1993) (Aspirational comprehensive plan goals are not mandatory approval criteria). Had the City Commission wanted to prohibit the creation of islands, it would have used the word "shall", which is mandatory. *See Terra v. City of Newport*, 36 Or LUBA 582 (1999) (the word "shall in a comprehensive plan policy makes the policy a mandatory approval criteria). Moreover, nothing in ORS Chapter 222, or Metro Chapter 3.09 governing annexations, prohibits creation of an island. The Planning Commission can find that the creation of an island is not relevant to a mandatory approval standard.

The annexation area is contiguous to the existing city limits along its northern boundary. The proposed annexation will create a small unincorporated island within the city. The island area is

shown in pink on the map below. The owners of three parcels along Holcomb Blvd., Tax Lots 22E27B 600, 800 & 900, were contacted, but preferred not to join the annexation proposal at this time.

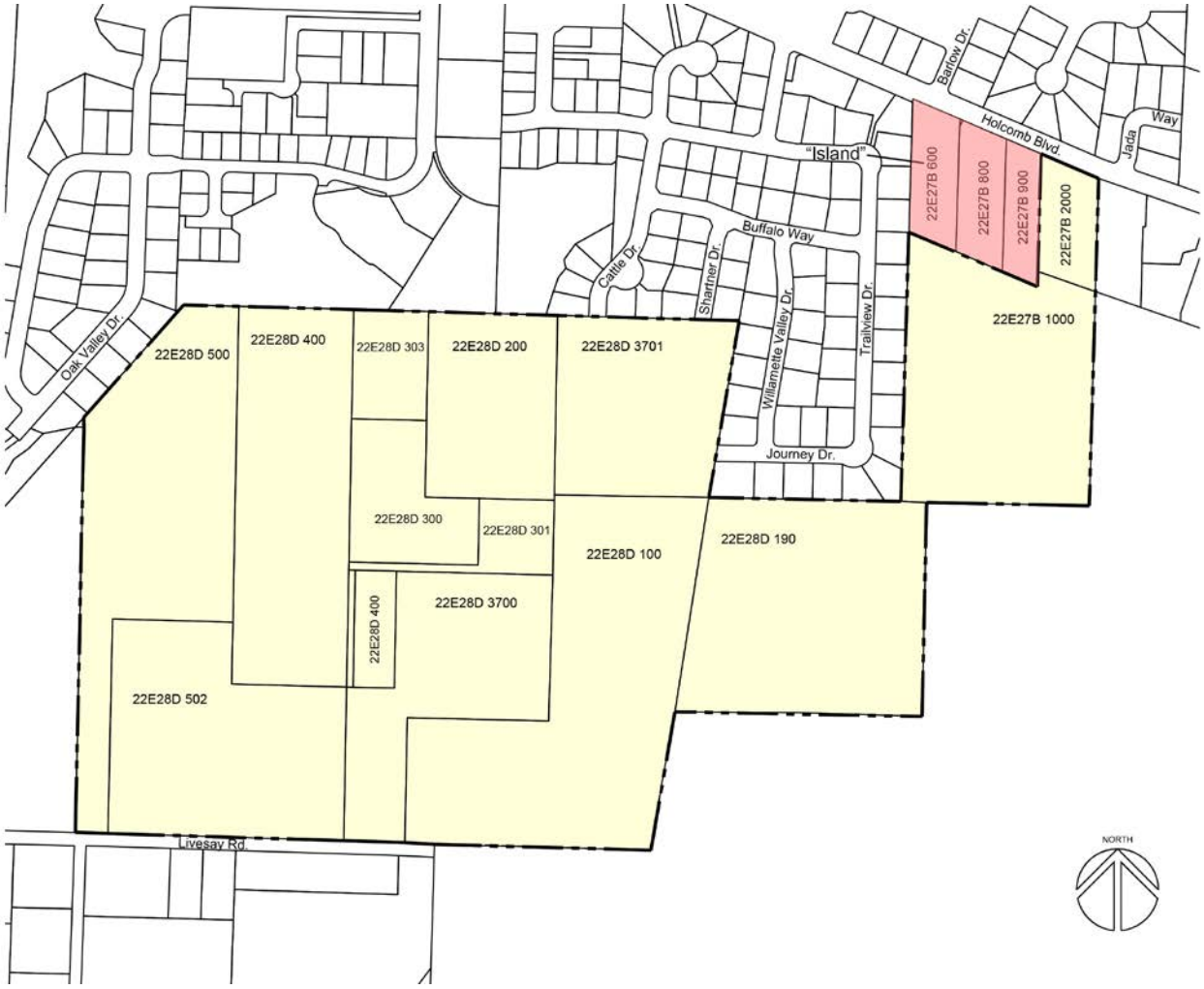


Figure 14: Annexation Area and Island

It is important to note that although this policy discourages island formation, it does not preclude them and they may be allowed when it is otherwise reasonable to do so. In fact implementing submittal language listed in OCMC 14.050.C3 clearly envisions that proposals may create islands in that it requires that public notification mailing labels include those property owners that will be "islanded" by the annexation proposal.

The language of this policy calls for an evaluation of whether the creation of an island, by itself or in conjunction with the other listed factors, would be sufficiently problematic that the annexation proposal must be altered to include the area of the potential island. The island itself is not problematic for the City in any significant way. It is small in size at 3.7 acres, and involves only three properties. All of these properties are developed with single-family homes. The island would only be separated from other unincorporated land by approximately 180 feet along Holcomb Blvd. No further development of these properties would be allowed until such time as

they are annexed to the City in the future. Rising land values and the provision of urban services to these properties are likely to bring an incentive for future development that will result in the voluntary annexation of these properties.

The creation of this island will have no impact upon the efficient provision of public services. Storm sewer and sanitary sewer drain to the south, away from the island area, and will be provided with the development of the annexation area. Holcomb Blvd. along the frontage of these properties is entirely within the city limits and access to water service is available in that right-of-way. While there will be a need for additional right-of-way to be dedicated from the islanded properties in order for Holcomb Blvd. to be developed to full City arterial standards. Such dedication and improvement of the road will likely not occur until such time as the owners of these properties choose to annex and develop their land. On the other hand, should the City desire to make these improvements on its own, the creation of an island at this time would have no impact on the City's ability to do so. It has the ability to annex islanded properties on its own motion and to acquire needed right-of-way either by purchase or by condemnation.

The inclusion of the island area in the annexation proposal is not needed to implement a concept plan or sub-area master plan that has been approved by the Planning and City Commissions. The three properties that would be islanded in this proposal are not a part of the Park Place Concept Plan or any other sub-area master plan.

Policy 14.4.4
Expedite the annexation of property as provided by state law in order to provide sewer service to adjacent unincorporated properties when a public health hazard is created by a failing septic tank sewage system.

Comment: Not applicable. The subject property is not subject to a public health hazard associated with a failing septic system.

Park Place Concept Plan

With the exception of 1.45 acres that fronts on Holcomb Blvd. (Tax Lot 22E27B 02000), all of the subject property lies within the boundaries of the Park Place Concept Plan. The proposed annexation and concurrent zone change are a first step towards implementing this plan.

The Park Place Concept Plan's Figure 3-2 "North Village Neighborhood", bears a note stating, "This map is for concept planning purposes only. The specific locations of natural resource boundaries, open space, parks, land uses, roads, trail, infrastructure and related improvements may change and is subject to on-site verification and design at the time of development." The Park Place Concept Plan is an ancillary document to the City's Comprehensive Plan. However, designations depicted on the Oregon City Comprehensive Plan Map, as adopted by Ordinance No. 08-1014, are authoritative for purposes of the requested zone change in conjunction with annexation of this property. It is understood that a future zone change/comprehensive plan map amendment application will be necessary at the time of preparation of the future master plan in order to implement the general conceptual design called for by the North Village Plan.

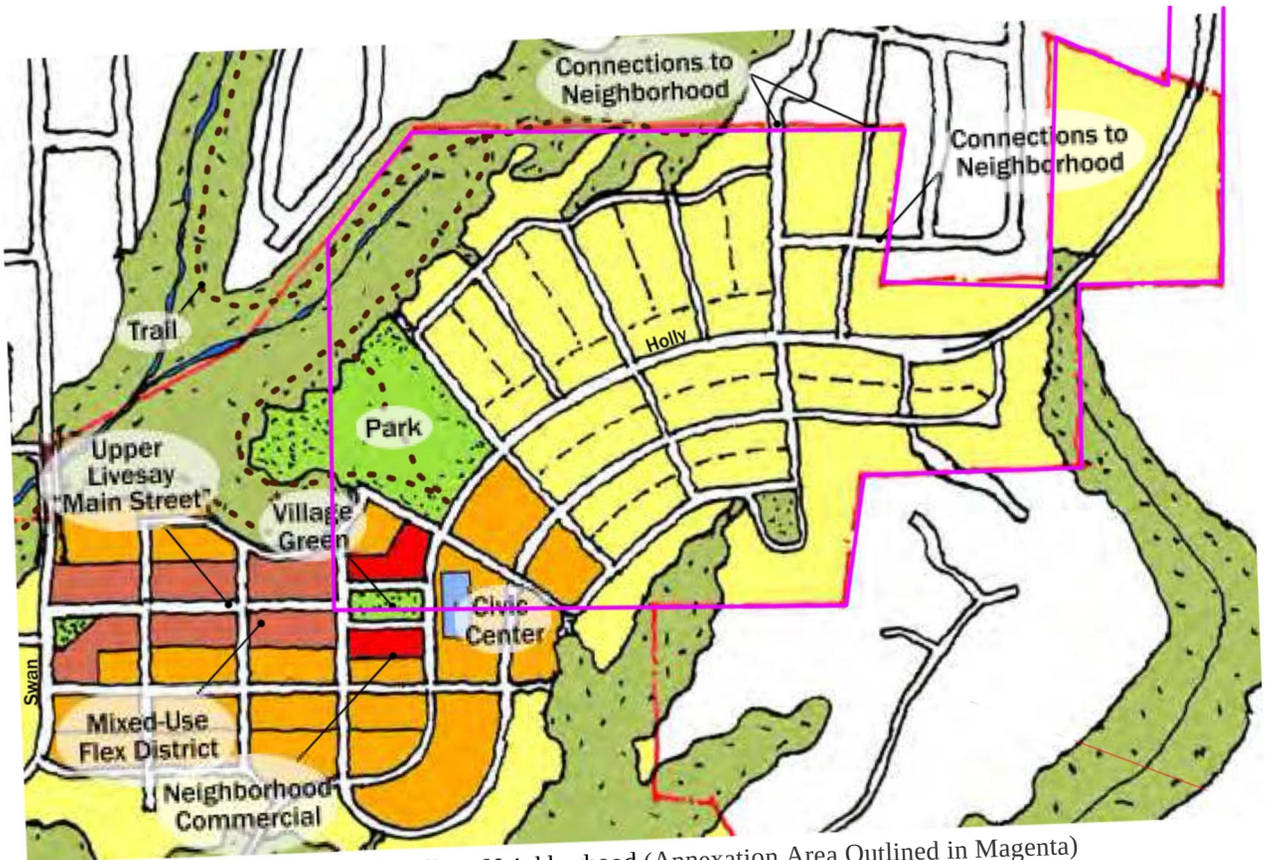


Figure 15: North Village Neighborhood (Annexation Area Outlined in Magenta)

The plan for the North Village area includes commercial development along a new main street along Upper Livesay Road. This area is shown in red on the map above and impacts a small area of the subject property. The orange color depicts Medium/High-Density Residential (R-3.5, minimum 9 units/acre) which would likely be developed with a mix of townhouse and duplex units. The yellow area is planned for Low/Medium-Density Residential (proposed R-5, minimum 6 units/acre) that would be a mix of single-family detached and single-family attached dwellings. A community park is also called for in the Plan. A collector road called the Holly Lane north extension would provide a roadway corridor tying Holcomb Blvd. through to Redland Road, which would be a significant improvement for the Park Place neighborhood that presently is restricted to the Holcomb Blvd. corridor for access.

The key components of the Park Place Concept Plan are listed on page 1 of that document:

- Two primary north-south connections between Holcomb Boulevard and Redland Road (Swan Avenue and Holly Lane)
- Two distinct mixed-use neighborhoods (North Village and South Village) that accommodate 1,459 new dwelling units
- Neighborhood-oriented commercial nodes that integrate commercial land uses, residential land uses, and public open space
- An area for a new civic institution, like a library or community center
- An 8-10 acre community park and a 3-5 acre neighborhood park
- A mix of housing types and ranges of affordability
- An extensive system of off-street and on-street trails and pedestrian/bicycle connections

- Innovative, green on-site stormwater treatment methods
- Protected sensitive areas, including drainages and steep slopes
- Streets and buildings oriented for solar access
- The use of green edges to define neighborhoods and buffer developments
- Integration of parks and open spaces into existing and future neighborhoods

The subject property includes part of the Holly Lane north extension, but is not involved in the Swan Avenue connection. The area of the annexation site along Livesay Road includes neighborhood commercial development, some of the civic institution uses and a major portion of the planned community park. As shown on the North Village Neighborhood plan, there are areas of sensitive land associated with drainageways that will need to be protected as open space. The plan will also include trails that will tie open spaces to residential and commercial components.

The present application involves only the annexation and application of the zoning that is consistent with the adopted Comprehensive Plan Map. It is not appropriate to discuss the goals and policies of the Park Place Community Plan in detail at this early stage. The future zone change and development applications will be reviewed for compliance with all relevant goals and objectives of the Park Place Concept Plan at such time as those applications are submitted.

CERTIFICATION OF LEGAL DESCRIPTION AND MAP

I hereby certify that the description of the property included within the attached petition (located on Assessor's Map 22E28D, 22E27B) has been checked by me and it is a true and exact description of the property under consideration, and the description corresponds to the attached map indicating the property under consideration.



NAME Amber Staley

TITLE Cartographer II

DEPARTMENT Assessment & Taxation

COUNTY OF Clackamas

DATE 9/8/16

CENTERLINE CONCEPTS
LAND SURVEYING, INC.



Exhibit "A"
Annexation
Legal Description (Page 1 of 3)

A Tract of land being all of the Tracts of land described in the following Document Numbers: 2013-045391, 84-04898, 2008-082067, 2015-013359, 2015-063896, 2014-020739, 2015-065124, 94-049182, 86-50150, 2003-086776, 2014-013360, and 89-38723 Clackamas County Deed Records, located in the Northwest one-quarter of Section 27 and the Southeast one-quarter and the Northeast one-quarter of Section 28, Township 2 South, Range 2 East of the Willamette Meridian, County of Clackamas, State of Oregon, being more particularly described as follows:

BEGINNING at the Southwest corner of the Plat of "Trailview", Clackamas County Plat Record, being coincident with the Northwest corner of that Tract of land described in Deed Document Number 2013-045391, Clackamas County Deed Records; thence along the North line of said Document Number 2013-045391, being coincident with the South line of said "Trailview", N90°00'00"E, 589.00 feet more or less to the Southwest corner of that Tract of land described in Deed Document Number 2014-013360, Clackamas County Deed Records; thence along the West line of said Document Number 2014-013360, being coincident with the East line of said "Trailview", N00°02'00"E, 832.00 feet to the Northwest corner of said Document Number 2014-013360; thence along the North line of said Document Number 2014-013360, being coincident with the South line of those Tract of land described in Deed Document Numbers 94-049182, 86-50150, and 2003-086776, Clackamas County Deed Records, S68°15'00"E, 430.77 feet to the Southeast corner of said Document Number 2003-086776; thence along the East line of said Document Number 2003-086776, being coincident with the West line of that Tract of land described in Deed Document Number 2014-020739, Clackamas County Deed Records, N00°02'00"E, 435.00 feet to the centerline of Holcomb Boulevard; thence along the centerline of said Holcomb Boulevard, S68°15'00"E, 192.68 feet to the East line of said Document Number 2014-020739; thence along said East line, and continuing along the East line of said Document Number 2014-013360, S00°02'00"W, 1030.30 feet to the South line of said Document Number 2014-013360, being coincident with the East and West centerline of Section 27; thence along said South line, being coincident with said East and West Section line, N90°00'00"W, 508.20 feet more or less to the Quarter Section corner between Sections 27 and 28; thence along the East line of that Tract of land described in Deed Document Number 2013-045391, Clackamas County Deed Records, being coincident with the Section line between said Section 27 and 28, S00°00'00"E, 659.60 feet more or less to the Southeast corner of said Document Number 2013-045391; thence along the South line of said Document Number 2013-045391, S90°00'00"W,

CENTERLINE CONCEPTS
LAND SURVEYING, INC.

Exhibit "A"
Annexation
Legal Description (Page 2 of 3)

751.91 feet more or less to the East line of that Tract of land described in Deed Document Number 2013-045391, Clackamas County Deed Records, being coincident with the East line of the George Abernethy Donation Land Claim Number 58; thence along the East line of said Deed Document Number 2013-045391, being coincident with the East line of the George Abernethy Donation Land Claim Number 58, S08°00'00"W, 462.00 feet more or less to the South line of said Document Number 2013-045391; thence along said South line, and the South line of the Tracts of land described in Deed Document Numbers 2015-063896, 2011-063635 and 2015-013359, Clackamas County Deed Records, being coincident with the North line of "Meadow Ridge Estates", Clackamas County Plat Records, and the North right of way line of Livesay Road, being 20.00 feet North of centerline when measure at right angles, N90°00'00"W, 1946.57 feet more or less to the Southwest corner of that Tract of land described in Deed Document Number 2015-013359, Clackamas County Deed Records; thence along the West line of said Document Number 2015-013359, N00°00'00"E, 1350.12 feet more or less to the Northeast corner of that Tract of land described in Deed Document Number 2013-005499, Clackamas County Deed Records; thence along the North line of said Document Number 2013-005499, S90°00'00"W, 27.06 feet to the most Easterly corner of said Document Number 2015-013359, being coincident with the Southeasterly line of "Holcomb Ridge Estates No. 2", Clackamas County Plat Records; thence along the Northwesterly line of said Document Number 2015-013359, and the Southeasterly line of said "Holcomb Ridge Estates No. 2", N58°00'00"E, 590.45 feet to the North line of said Document Number 2015-013359, being coincident with the South line of "Wittke Estates", Clackamas County Plat Records; thence along the North line of said Document Number 2015-013359, and the North line of the Tracts of land described in Deed Document Numbers 2008-2067, 84-04898, 89-38723, and 2015-065124, Clackamas County Deed Records, being coincident with the South line of said "Wittke Estates", and the South line of "Tracey Heights" and "Wasko Acres", Clackamas County Plat Records, N90°00'00"E, 1706.62 feet more or less to the East line of said Document Number 2015-065124, being coincident with

CENTERLINE CONCEPTS
LAND SURVEYING, INC.

Exhibit "A"
Annexation
Legal Description (Page 3 of 3)

the East line of the George Abernethy Donation Land Claim Number 58, and the West line of said "Trail View"; thence along the East line of said Document Number 2015-065124, being coincident with a the East line of the George Abernethy Donation Land Claim Number 58, and the West line of said "Trail View", S08°00'00"W, 557.00 feet more or less to the ***POINT OF BEGINNING.***

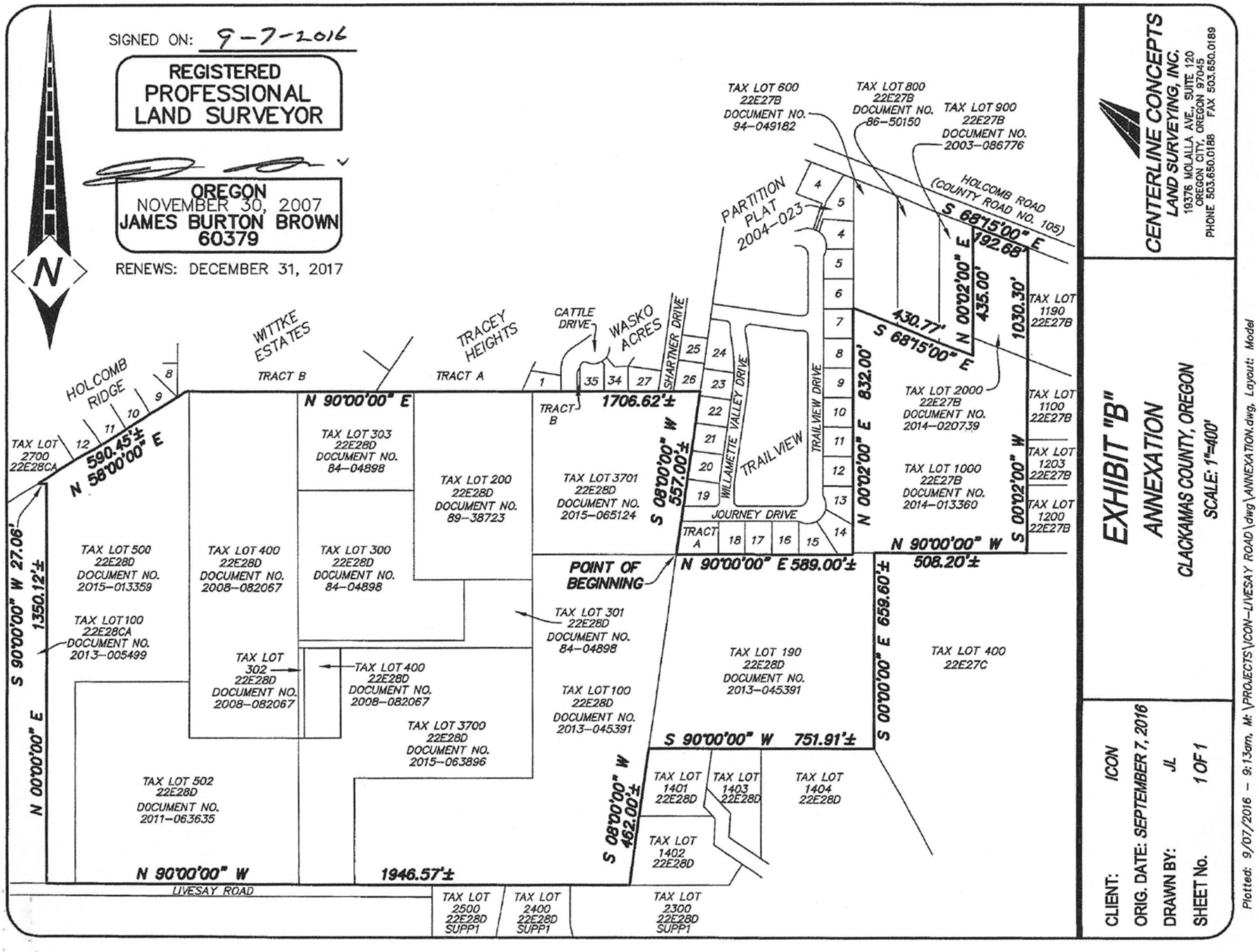
Contains 99 acres more or less.

SIGNED ON: 9-7-2016

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
NOVEMBER 30, 2007
JAMES BURTON BROWN
60379

VALID THROUGH DECEMBER 31, 2017



CENTERLINE CONCEPTS
LAND SURVEYING, INC.
19376 MOLALLA AVE., SUITE 120
OREGON CITY, OREGON 97045
PHONE 503.650.0188 FAX 503.650.0189

EXHIBIT "B"
ANNEXATION
CLACKAMAS COUNTY, OREGON
SCALE: 1"=400'

CLIENT: ICON
ORIG. DATE: SEPTEMBER 7, 2016
DRAWN BY: JL
SHEET No. 1 OF 1

Plotted: 9/07/2016 - 9:13am, M:\PROJECTS\ICON-LIVESAY ROAD\dwg\ANNEXATION.dwg, Layout: Model

CERTIFICATION OF LEGAL DESCRIPTION AND MAP

I hereby certify that the description of the property included within the attached petition (located on Assessor's Map 22E28D, 22E27B) has been checked by me and it is a true and exact description of the property under consideration, and the description corresponds to the attached map indicating the property under consideration.



NAME Amber Staley

TITLE Cartographer II

DEPARTMENT Assessment & Taxation

COUNTY OF Clackamas

DATE 9/8/16

CENTERLINE CONCEPTS
LAND SURVEYING, INC.

SEP 2016
RECEIVED
CLACKAMAS
COUNTY
ASSESSOR

Exhibit "A"
Annexation
Legal Description (Page 1 of 3)

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CENTERLINE CONCEPTS
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CENTERLINE CONCEPTS
LAND SURVEYING, INC.

Exhibit "A"
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Legal Description (Page 3 of 3)

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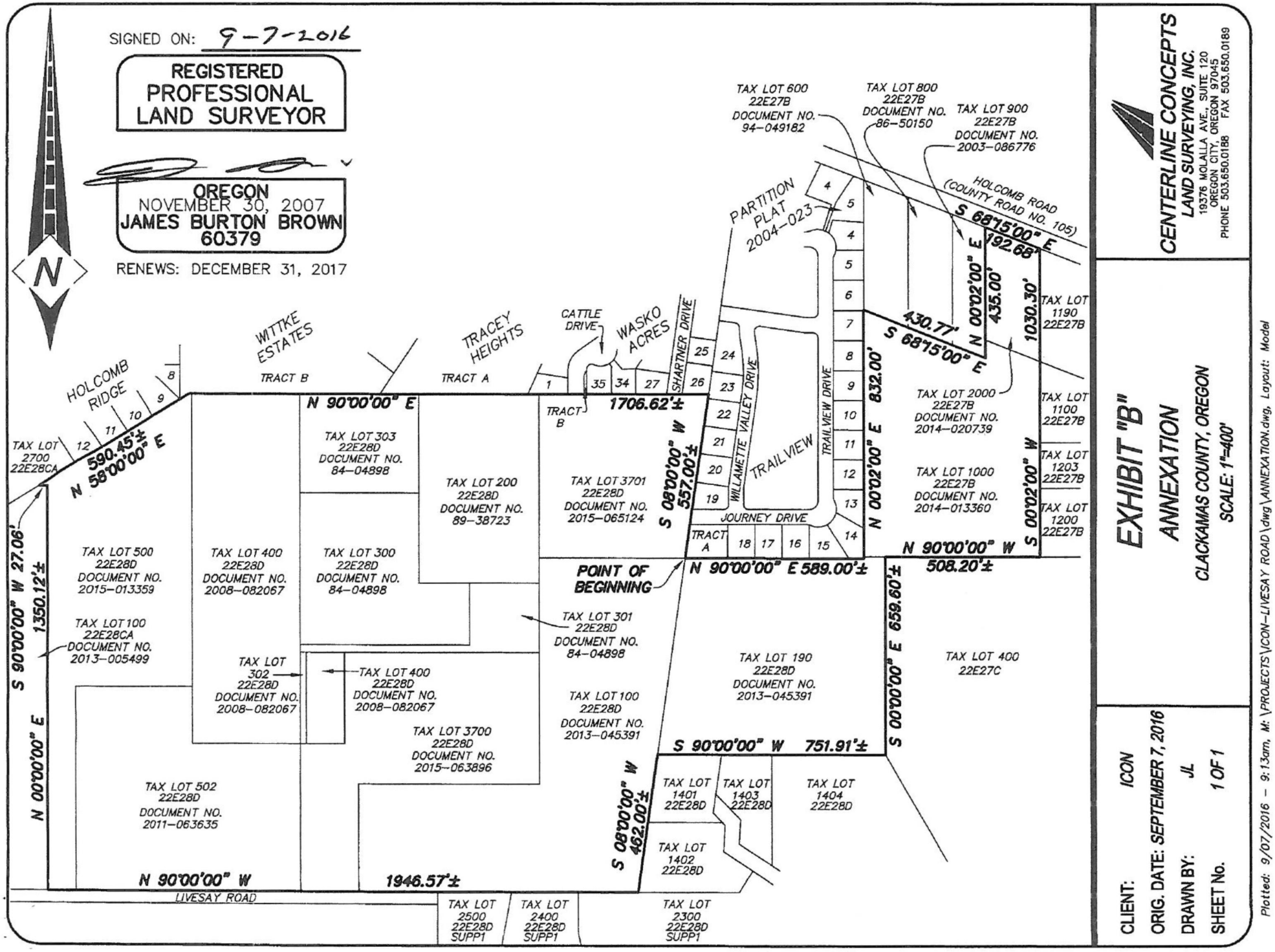
Contains 99 acres more or less.

SIGNED ON: 9-7-2016

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
NOVEMBER 30, 2007
JAMES BURTON BROWN
60379

VALID THROUGH DECEMBER 31, 2017



CENTERLINE CONCEPTS
LAND SURVEYING, INC.
19376 MOLALLA AVE., SUITE 120
OREGON CITY, OREGON 97045
PHONE 503.650.0188 FAX 503.650.0189

EXHIBIT "B"
ANNEXATION
CLACKAMAS COUNTY, OREGON
SCALE: 1"=400'

CLIENT: ICON
ORIG. DATE: SEPTEMBER 7, 2016
DRAWN BY: JL
SHEET No. 1 OF 1

Plotted: 9/07/2016 - 9:13am, M:\PROJECTS\ICON-LIVESAY ROAD\dwg\ANNEXATION.dwg, Layout: Model

CERTIFICATION OF PROPERTY OWNERSHIP OF

100% OF LAND AREA

(City 100% Ownership Method)

I hereby certify that the attached petition for a proposed boundary change involving the territory described in the petition contains the names of the owners* of 100% of the land area within the annexation area described in the petition, as shown on the last available complete assessment roll.



NAME Mary Neigel

TITLE GIS Cartographer II

DEPARTMENT Assessment & Tax

COUNTY OF Clackamas

DATE 12-19-17

* "Owner" means the legal owner of record or, where there is a recorded land contract which is in force, the purchaser thereunder. If there is a multiple ownership in a parcel of land each consenting owner shall be counted as a fraction to the same extent as the interest of the owner in the land bears in relation to the interest of the other owners and the same fraction shall be applied to the parcel's land mass and assessed value for purposes of the consent petition. If a corporation owns land in territory proposed to be annexed, the corporation shall be considered the individual owner of that land.

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NAME Amber Staley

TITLE Cartographer II

DEPARTMENT Assessment & Taxation

COUNTY OF Clackamas

DATE 9/8/16

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CITY OF OREGON CITY

ANNEXATION PETITION

By signing below I indicate my consent to and support of being annexed into the City of Oregon City, and my consent for having my signature (below) used for any application form required for the annexation, including but not limited to the City of Oregon City's Land Use Application Form.

NOTE: This petition may be signed by qualified persons even though they may not know their property description or precinct number.

SIGNATURE	PRINTED NAME	I AM A *			ADDRESS	PROPERTY DESCRIPTION				PRECINCT #	DATE
		PO	RV	OV		LOT #	1/4 SEC	TWNSHP	RANGE		
Emily Tolstrup	Emily Tolstrup		X		16530 Livesay Rd. Oregon City, OR 97045	200	28D	2S	2E	519	9/8/16
Sarah Tolstrup	Sarah Tolstrup		X		16530 Livesay Rd. Oregon City, OR 97045	200	28D	2S	2E	519	9-8-16
Daniel Tolstrup	Daniel Tolstrup		X		16530 Livesay Rd. Oregon City, OR 97045	200	28D	2S	2E	519	9/8/16
	Colin StClair		X		16644 Livesay Rd. Oregon City, OR 97045	300	28D	2S	2E	519	
	Allen Yoder		X		16644 Livesay Rd. Oregon City, OR 97045	300	28D	2S	2E	519	
Linda R Thomas	Linda Thomas		X		16644 Livesay Rd. Oregon City, OR 97045	300	28D	2S	2E	519	9-9-16
	Brandi StClair		X		16644 Livesay Rd. Oregon City, OR 97045	300	28D	2S	2E	519	
	Candice Covington		X		16472 Livesay Rd. Oregon City, OR 97045	3700	28D	2S	2E	519	

* PO = Property Owner
RV = Registered Voter
OV = Owner and Registered Voter

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SIGNATURE	PRINTED NAME	I AM A *			ADDRESS	PROPERTY DESCRIPTION				PRECINCT #	DATE
		PO	RV	OV		LOT #	1/4 SEC	TWNSHP	RANGE		
	Hidden Falls Development LLC	X			1980 Willamette Falls Dr. #200 West Linn, OR 97068	302,400 & 500	28D	2S	2E	NA	12-18-2017

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SIGNATURE	PRINTED NAME	I AM A *			ADDRESS	PROPERTY DESCRIPTION				PRECINCT #	DATE
		PO	RV	OV		LOT #	1/4 SEC	TWNSHP	RANGE		
	Kevin Miller			X	15030 Holcomb Blvd. Oregon City, OR 97045	600	27B	2S	2E	519	
	Linda Miller			X	15030 Holcomb Blvd. Oregon City, OR 97045	600	27B	2S	2E	519	
	Ted Townsend			X	15050 Holcomb Blvd. Oregon City, OR 97045	800	27B	2S	2E	519	
	Deanna Townsend			X	15050 Holcomb Blvd Oregon City, OR 97045	800	27B	2S	2E	519	
	Mickey Clift, Sr.			X	15076 Holcomb Blvd. Oregon City, OR 97045	900	27B	2S	2E	519	
	Barbara Clift			X	15076 Holcomb Blvd. Oregon City, OR 97045	900	27B	2S	2E	519	
	Michael Erickson	X			10260 SW Greenburg Rd.#1020 Tigard, OR 97223	1000	27B	2S	2E	NA	7-25-16
	Michael Erickson	X			10260 SW Greenburg Rd.#1020 Tigard, OR 97223	2000	27B	2S	2E	NA	7-25-16

* PO = Property Owner
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CITY OF OREGON CITY

ANNEXATION PETITION

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SIGNATURE	PRINTED NAME	I AM A *			ADDRESS	PROPERTY DESCRIPTION				PRECINCT #	DATE
		PO	RV	OV		LOT #	1/4 SEC	TWNSHP	RANGE		
	Robert Tershel	X			5933 SW Ralston Dr. Portland, OR 97239	502	28D	2S	2E	519	7/24/2016
	Chelsie Harmon		X								8/11/2016
	~~Mark~~ Hundris for Redland Rd LLC	X			1980 Willamette Falls West Linn, OR 97068	3701	28D	2S	2E	NA	9/8/2016

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CITY OF OREGON CITY

ANNEXATION PETITION

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SIGNATURE	PRINTED NAME	I AM A *			ADDRESS	PROPERTY DESCRIPTION				PRECINCT #	DATE
		PO	RV	OV		LOT #	1/4 SEC	TWNSHP	RANGE		
	Hidden Falls Development LLC	X			1980 Willamette Falls Dr.#200 West Linn, OR 97068	100	28D	2S	2E	NA	
	Hidden Falls Development LLC	X			1980 Willamette Falls Dr.#200 West Linn, OR 97068	190	28D	2S	2E	NA	
	Hidden Falls Development LLC	X			1980 Willamette Falls Dr.#200 West Linn, OR 97068	3700	28D	2S	2E	NA	
	Michael Erickson	X			1980 Willamette Falls Dr.#200 West Linn, OR 97068	3701	28D	2S	2E	NA	
Kirk Tolstrup	Kirk Tolstrup			X	16530 Livesay Rd. Oregon City, OR 97045	200	28D	2S	2E	519	April 22, 2016
Michelle Tolstrup	Michelle Tolstrup			X	16530 Livesay Rd. Oregon City, OR 97045	200	28D	2S	2E	519	"
George E Thomas	George Thomas	X			16644 Livesay Rd. Oregon City, OR 97045	300	28D	2S	2E	NA	4-22-16
George E. Thomas	George Thomas			X	16644 Livesay Rd. Oregon City, OR 97045	301	28D	2S	2E	519	4-22-16
	Park Place Enterprises LLC	X			25020 Valley View Rd. West Linn, OR 97068	302	28D	2S	2E	NA	
George E. Thomas	George Thomas	X			16644 Livesay Rd. Oregon City, OR 97045	303	28D	2S	2E	NA	4-22-16
	Park Place Enterprises LLC	X			25020 Valley View Rd. West Linn, OR 97068	400	28D	2S	2E	NA	
	Nel Investors LLC	X			13504 NE 84th St.#103-313 Vancouver, WA 98682	500	28D	2S	2E	NA	

PO = Property Owner
RV = Registered Voter
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RECEIVED
AUG 08 2016

CITY OF OREGON CITY

ANNEXATION PETITION

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NOTE: This petition may be signed by qualified persons even though they may not know their property description or precinct number.

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		PO	RV	OV		LOT #	1/4 SEC	TWNSHP	RANGE		
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	Hidden Falls Development LLC	X			1980 Willamette Falls Dr.#200 West Linn, OR 97068	3700	28D	2S	2E	NA	9-8-16 +1
	Michael Erickson	X			1980 Willamette Falls Dr.#200 West Linn, OR 97068	3701	28D	2S	2E	NA	
	Kirk Tolstrup			X	16530 Livesay Rd. Oregon City, OR 97045	200	28D	2S	2E	519	
	Michelle Tolstrup			X	16530 Livesay Rd. Oregon City, OR 97045	200	28D	2S	2E	519	
	George Thomas	X			16644 Livesay Rd. Oregon City, OR 97045	300	28D	2S	2E	NA	
	George Thomas			X	16644 Livesay Rd. Oregon City, OR 97045	301	28D	2S	2E	519	
	~~Park Place Enterprises LLC~~	~~X~~			~~25020 Valley View Rd. West Linn, OR 97068~~	~~302~~	~~28D~~	~~2S~~	~~2E~~	~~NA~~	~~9/8/16~~
	George Thomas	X			16644 Livesay Rd. Oregon City, OR 97045	303	28D	2S	2E	NA	
	~~Park Place Enterprises LLC~~	~~X~~			~~25020 Valley View Rd. West Linn, OR 97068~~	~~400~~	~~28D~~	~~2S~~	~~2E~~	~~NA~~	~~9/8/16~~
	~~Nei Investors LLC~~	~~X~~			~~13504 NE 84th St.#103-313 Vancouver, WA 98682~~	~~500~~	~~28D~~	~~2S~~	~~2E~~	~~NA~~	~~8/9/16~~

* PO = Property Owner
RV = Registered Voter
OV = Owner and Registered Voter

CERTIFICATION OF REGISTERED VOTERS

I hereby certify that the attached petition for annexation of territory described herein to the City of Oregon City contains the names of at least a majority of the electors registered in the territory to be annexed.

NAME PAUL HANES

TITLE DEPUTY CLERK

DEPARTMENT CLERK / ELECTIONS

COUNTY OF CLACKAMAS

DATE 9/9/16

COUNTY OF CLACKAMAS 43 STATE OF OREGON

CLACKAMAS COUNTY ELECTIONS
SHERRY HALL, COUNTY CLERK
1710 RED SOILS CT, SUITE 100
OREGON CITY, OR 97045

AN 16-05 Fiscal impact to provide public services, over typical project cost

Note: The easterly off-site sewer mains shown on the map below (12" & 21") are NOT needed to serve the annexation area. Those costs would be borne by the future annexation of property south of Livesay Road.

SANITARY SEWER:

Oregon City Sanitary Master Plan 2014 and Park Place Concept Plan

Green = mains to be constructed per master plan
Yellow = AN 16-05
Red dotted line = approximate total boundary of basin to lower convergence point on Redland Road

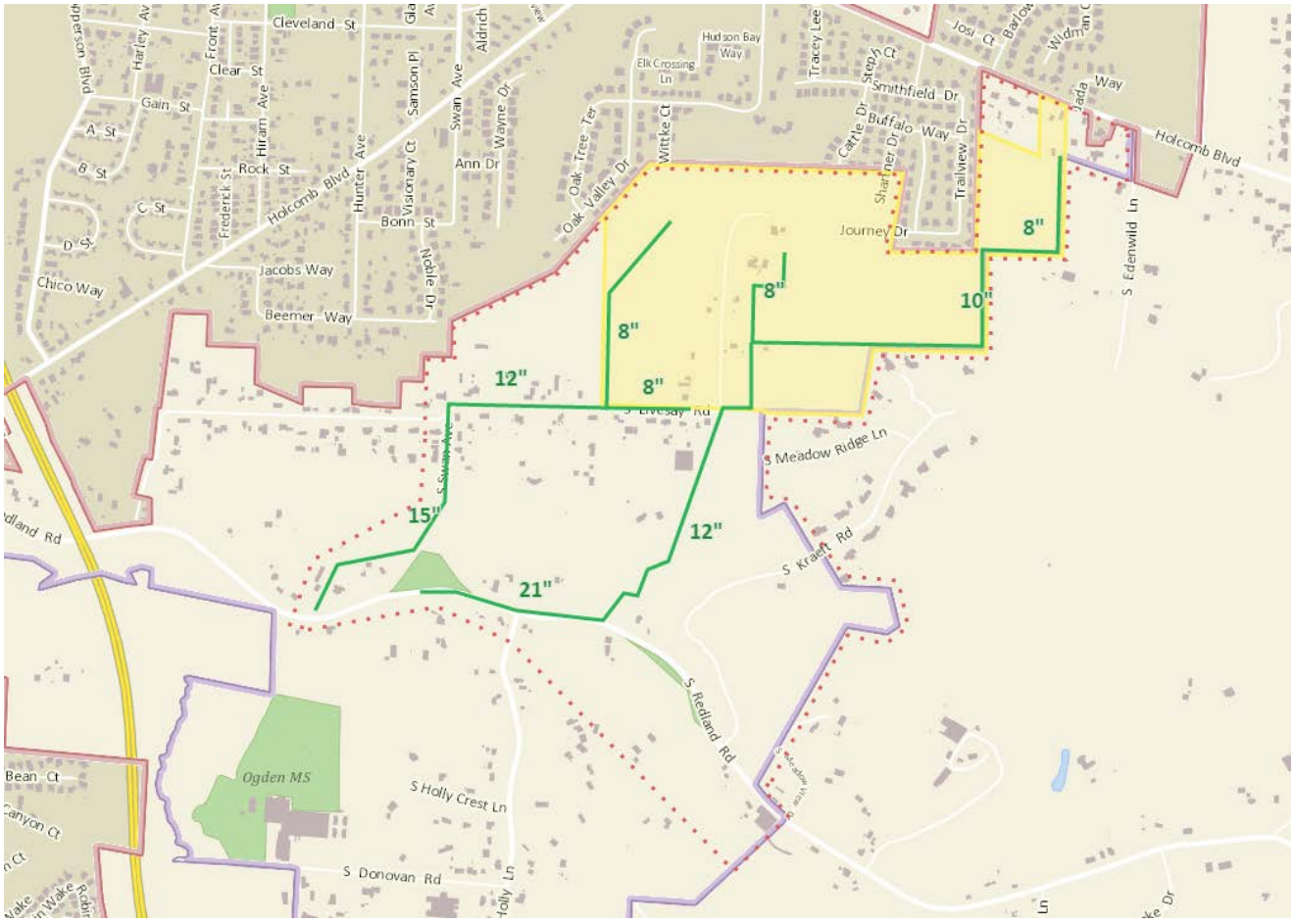
1. Within Site Boundary: In yellow area, AN 16-05 derives 100% of benefit from sanitary mains lying within boundaries. These mains are the minimum size needed to serve the development, and should not be included in the fiscal impact figure.

2. Offsite Improvements: Outside yellow area, within red dotted line, AN 16-05 derives a portion of the benefit from sanitary mains lying between site boundary and total basin boundary, or 91 acres/265 acres = 34%
   _3,000_ LF x $225 /LF x 34% = $ 229,500

3. Offsite easement or right-of-way: _30,000_ SF x $_2.50_/SF land acquisition cost = $_75,000_

4. No SDC Credits anticipated at this time.

5. **Approximate fiscal impact of providing public sanitary service, over typical project cost = $**_304,500__



WATER:
Oregon City Water Master Plan 2012 and Park Place Concept Plan

Red dashed area = approximate limits of AN 16-05

- Proposed annexation area appears to be located within the Park Place Intermediate pressure zone, Park Place Upper pressure zone, and Park Place Livesay Road pressure zone.
  - Upper Zone is served by Clackamas River Water (CRW) through HOPP Agreement.
  - Intermediate zone is served by Oregon City.
  - Livesay Road Zone is a sub-zone that will be rezoned with the development of the annexation area.
- Water Infrastructure required:
  - 12”-inch waterline required through annexation area providing transmission/distribution main from Holcomb Boulevard to Livesay Road.
  - One pressure reducing valve station between Park Place Intermediate zone and Park Place Lower zone.
  - Removal of one water pump station at Livesay Road when Livesay Road zone is rezoned to Intermediate zone.

Within limits of annexation Site Boundary: AN 16-05 needs 100% of 12” water main from Holcomb Boulevard to Livesay Road, one pressure reducing valve station, and removal of one water pump station.

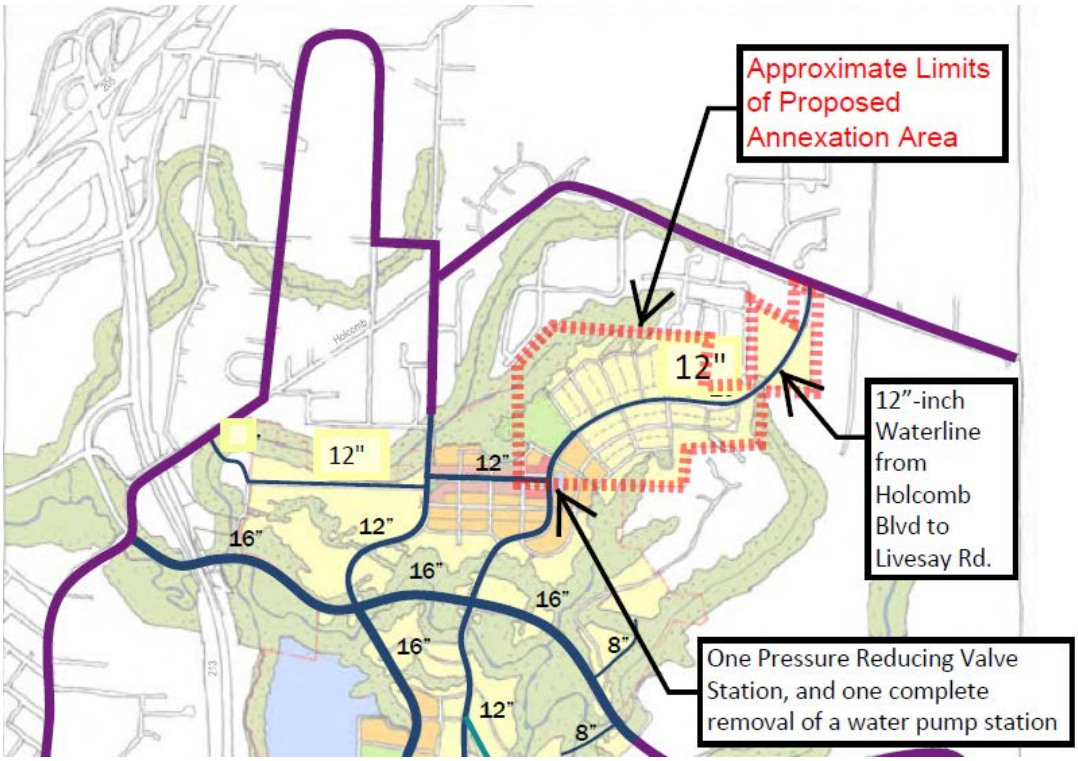
1. (4,000 LF of 12-inch waterline and all appurtenances) x $_170_/LF x 100% = $__680,000____

2. (one pressure reducing valve station) x $20,000_ Lump Sum x 100% = $20,000___

3. (one complete removal of water pump station) x $15,000 Lump Sum x 100% = $15,000____

4. No SDC Credits anticipated at this time.

5. **Approximate fiscal impact of providing public water service, over typical project cost = $715,000**



Park Place Annexation

Transportation Impact Study

Oregon City, Oregon

Date:
August 2, 2017

Prepared for:
Mark Handris

Prepared by:
Daniel Stumpf, EI
Michael Ard, PE

8/2/17

REGISTERED PROFESSIONAL ENGINEER
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OREGON
JULY 10, 2002
MICHAEL T. ARD

EXPIRES: 12/31/17

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Executive Summary

- A 92-acre property north and west of S Livesay Road and south of S Holcomb Boulevard is proposed for annexation into the Oregon City. Upon annexation, 87.5 acres of the property will be rezoned to R-5 zoning and 4.5 acres of the property will be rezoned to Neighborhood Commercial, in conformance with the city's Comprehensive Plan.
- Based on a comparison of the allowed uses under the existing and proposed zoning of the subject property, the proposed annexation could result in up to 385 additional trips during the morning peak hour, with 100 entering and 285 exiting the site. During the evening peak hour, 531 additional site trips are projected, with 322 entering and 209 exiting the site.
- Based on the operational analysis, several study intersections are not projected to meet the relevant operational standards of Oregon City and ODOT under year 2035 traffic conditions either with or without the addition of site trips from the proposed annexation and zone change. Although the intersection of Beavercreek Road at OR-213 is not projected to experience a significant change in operation as a result of the proposed annexation and zone change, several other study intersections are projected to experience further degradation in performance upon development within the subject property.
- Based on the Transportation Planning Rule analysis, the city may find that the proposed annexation and zone change will not significantly effect an existing or planned transportation facility since the city's acknowledged Transportation System Plan already accounted for development under the proposed zoning. Alternatively, conditions of development or a development agreement may be implemented to ensure that no development can occur except as permitted under the existing zoning until appropriate refinement plans are prepared to address future capacity concerns, or proportionate mitigation is provided concurrent with development to offset the actual traffic impacts of the development.
- Based on the detailed review of crash history at the study area intersections, the intersection of Beavercreek Road at OR-213 was found to be among the top ten percent of high-crash intersections in the State of Oregon, with the vast majority of the reported crashes being rear-end collisions. One potential safety mitigation would be installing flashing warning signs that alert drivers to the potential for stopped queues ahead. These warning signs are most appropriate for the high-speed approaches on OR-213, and particularly the southbound approach which has uninterrupted flow for 2.5 miles. This project is already included as a "likely to be funded" project for near-term implementation in the city's Transportation System Plan.
- The intersection of 14th Street at Main Street was also identified as having a high crash rate. Per Oregon City's Transportation System Plan, project D13, the intersection could be converted to all-way stop control to be consistent with the traffic countrols at surrouding intersections along Main Street. Additionally, by implementing project D7 and restriping 14th Street to allow one-way eastbound travel, it is expected that the potential for crashes at the intersection will be reduced. Both projects are listed as "likely to be funded" in the city's TSP.
- All other study intersections are currently operating acceptably with respect to safety.

- Left-turn lane warrants are projected to be met for the following three intersection approaches:
    - Northwest-bound approach at the intersection of 14th Street at Main Street under existing conditions during the morning and evening peak hours;
    - Eastbound approach at the intersection of Holly Lane at S Redland Road under the 2035 planning horizon year, with the proposed annexation, during the morning and evening peak hours; and
    - Westbound approach at the intersection of Holly Lane at S Redland Road under existing conditions during the morning peak hour.

  14th Street may be planned for conversion to one-way eastbound travel in the near-term. If the one-way street conversion is implemented, the left-turn lane warrant will no longer be applicable.
- Traffic signal warrants are projected to be met for the intersection of Holly Lane at S Redland Road under the 2035 planning year with site trips from the proposed annexation per Condition B – *Interruption of Continuous Traffic*, and a *Combination Warrant*. Alternatively, a roundabout could be installed at the intersection in conformance with the city's TSP. Traffic signal warrants are not projected to be met for any of the other unsignalized intersections under any of the analysis scenarios.

Project Description and Location

Introduction

A 92-acre property north and west of S Livesay Road and south of S Holcomb Boulevard is proposed for annexation into Oregon City. The proposed annexation will also result in a zone change from the existing Clackamas County zoning to 87.5 acres of R-5 zoning and 4.5 acres of Neighborhood Commercial zoning, in conformance with Oregon City's Comprehensive Plan.

Base on the scope of work conforming to Oregon City and ODOT standards and approved by Oregon City's transportation engineering consultant, John Replinger, this report addresses the impact of the proposed development on the nearby street system and includes safety and operational analyses of the following intersections:

1. Interstate 205 (I-205) southbound ramps at Mcloughlin Boulevard (OR-99E);
2. I-205 northbound ramps at OR-99E;
3. 15th Street at OR-99E;
4. 14th Street at OR-99E;
5. Abernethy Road/S Holcomb Boulevard at Redland Road;
6. Abernethy Road at Washington Street;
7. 15th Street at Washington Street;
8. 14th Street at Washington Street;
9. 14th Street at Main Street;
10. I-205 southbound ramps at Trails End Highway (OR-213);
11. I-205 northbound ramps at OR-213;
12. Prairie Schooner Way/Clackamas River Drive at OR-213;
13. Redland Road at OR-213;
14. Beavercreek Road at OR-213;
15. Holly Lane at S Holcomb Boulevard (future intersection); and
16. Holly Lane at S Redland Road.

The purpose of this study is to assess the potential impacts of the proposed annexation and address the transportation analysis requirements of Oregon City, the Oregon Department of Transportation (ODOT), and Oregon's Transportation Planning Rule. The report will identify the potential net increase in traffic and examine the transportation impacts of the added trips at the planning horizon. The report will also include level-of-service calculations and volume-to-capacity calculations for existing conditions as well as year 2035

traffic conditions both with and without the proposed annexation and zone change. Additionally, a review and assessment of crash history at the study intersections was conducted.

Detailed information on traffic counts, crash data, and level-of-service calculations are included in the appendix to this report.

Location Description

The subject site is located south of S Holcomb Boulevard and north of S Redland Road in a predominately residential area, and has frontage along S Holcomb Boulevard and S Livesay Road. The site includes multiple properties which are either currently undeveloped or are occupied by a single-family house.

Vicinity Streets

OR-99E is classified by ODOT as a Regional Highway south and a District Highway north of I-205 and by Oregon City as a Major Arterial. The roadway has a varying cross-section of four to eight travel lanes and has a posted speed of 40 mph north and 30 mph south of 14th Street. On-street parking is permitted along both sides of the roadway at marked locations south of 14th Street. Curbs, sidewalks, and bicycle lanes are intermittently provided along both sides of the roadway.

Main Street is classified by Oregon City as a Collector. The roadway has a two-lane cross-section with on-street parking permitted along both sides of the roadway south of 15th Street where either adequate roadway width is provided or spaces are marked. Bicycle lanes are provided along both sides of the roadway north while sharrows are marked within vehicle travel lanes south of 15th Street. Curbs and sidewalks are provided along both sides of the roadway south of 15th Street while only partially provided to the north.

Washington Street is classified by Oregon City as a Minor Arterial north and a Local Street south of 5th Street. The roadway has a varying cross-section between two to six travel lanes and has a posted speed which varies between 25 mph and 35 mph within the study area. On-street parking is permitted along both sides of the roadway south of 11th Street while bicycle lanes are provided along both sides to the north. Curbs and sidewalks are provided along both sides of the roadway south and intermittently provided north of Abernethy Road.

OR-213 is classified by ODOT as a District Highway and by Oregon City as an Expressway. The roadway has a varying cross-section between four to seven travel lanes and has a posted speed of 45 mph north and 55 mph south of Prairie Schooner Way. Bicycle lanes or shoulders are provided along both sides of the roadway. Curbs and sidewalks are intermittently provided along both sides of the roadway.

Holly Lane is classified by Oregon City as a Minor Arterial. The roadway has a two-lane cross-section and has a posted speed of 40 mph. Curbs, sidewalks, and bicycle lanes are not provided along either side of the roadway. The Oregon City Transportation System Plan (TSP) includes a planned project to extend Holly Lane from S Redland Road to S Holcomb Boulevard. The planned extension is listed as a "Likely To Be Funded" project.

Prairie Schooner Way is classified by Oregon City as a Minor Arterial. The roadway has a three to five-lane cross-section, with two eastbound and one to three westbound travel lanes. Curbs and bicycle lanes are provided along both sides of the roadway.

Clackamas River Drive is classified by Oregon City as a Minor Arterial. The roadway has a two-lane cross-section north of the roundabout at Washington Street, and a four-lane cross-section to the south with two southbound travel lanes, a two-way left-turn lane, and a northbound travel lane. It has a posted speed of 40 mph north and 30 mph south of S Melinda Street. Bicycle lanes are provided along both sides of the roadway while curbs and sidewalks are intermittently provided.

Redland Road is classified by Oregon City as a Minor Arterial. The roadway has a five-lane cross-section between OR-213 and Abernethy Road/S Holcomb Boulevard and a two-lane cross-section south of S Holcomb Boulevard. It has a posted speed of 45 mph. Bicycle lanes are provided along both sides of the roadway while curbs and sidewalks are only available for approximately 450 feet south of Abernethy Road/S Holcomb Boulevard.

Abernethy Road is classified by Oregon City as a Minor Arterial. The roadway has a three-lane cross-section, with one travel lane and a center two-way left-turn lane, and has a posted speed of 35 mph. Bicycle lanes are provided along both sides of the roadway while curbs and sidewalks are intermittently provided along both sides.

S Holcomb Boulevard is classified by Oregon City as a Minor Arterial. The roadway has a two-lane cross-section and has a posted speed of 40 mph. Curbs, sidewalks, and bicycle lanes are intermittently provided along both sides of the roadway.

15th Street is classified by Oregon City as a Collector. The roadway has a two-lane cross-section and has a posted speed of 25 mph. On-street parking is permitted along both sides of the roadway east of Washington Street where adequate roadway width is available. Curbs and sidewalks are intermittently provided along both sides of the roadway.

14th Street is classified by Oregon City as a Collector west and Local Street east of Washington Street. The roadway has a four-lane cross-section between OR-99E and Main Street, with two travel lanes in each direction, and a two-lane cross-section east of Main Street. On-street parking is permitted along both sides of the roadway east of Washington Street. Curbs and sidewalks are provided along both sides of the roadway.

Beavercreek Road is classified by Oregon City as a Major Arterial east of Molalla Avenue. The roadway has a five-lane cross-section, with two travel lanes in each direction and either a center two-way left-turn lane or raised median. It has a posted speed is 35 mph. Curbs, sidewalks, and bicycle lanes are provided along both sides of the roadway.

Study Intersections

The I-205 southbound ramps intersection at OR-99E is a three-legged intersection that is controlled by a traffic signal. The northbound approach has three through lanes and one channelized right-turn lane that

operates under yield control. The southbound approach has three through lanes and one left-turn lane served by protected phasing. The westbound approach has two left-turn lanes and one right-turn lane served by permitted/overlapping phasing. One crosswalk is marked across the eastern intersection leg.

The I-205 northbound ramps intersection at OR-99E is a three-legged intersection that is controlled by a traffic signal. The northbound approach has three through lanes and one right-turn lane served by permitted/overlapping phasing. The southbound approach has three through lanes and one left-turn lane served by protected phasing. The westbound approach has one left-turn lane and one channelized right-turn lane that operates under yield control. One crosswalk is marked across the eastern intersection leg.

The intersection of 15th Street at OR-99E is a three-legged intersection that is stop-controlled for the westbound approach of 15th Street. The northeast-bound approach has one through lane and one shared through/right-turn lane. The southwest-bound approach has three through lanes. The northwest-bound approach has one right-turn lane. One crosswalk is marked across the southeastern intersection leg.

The intersection of 14th Street at OR-99E is a three-legged intersection that is controlled by a traffic signal. The northeast-bound approach has one through lane and one shared through/right-turn lane. The southwest-bound approach has two through lanes and a left-turn lane served by flashing-yellow-arrow phasing. The northwest-bound approach of 14th Street has one left-turn lane and one right-turn lane served by permitted/overlapping phasing. Crosswalks are marked across all intersection legs.

The intersection of 14th Street at Main Street is a four-legged intersection that is two-way stop-controlled for the northeast-bound and southwest-bound approaches of Main Street. The northeast-bound approach has one shared left-turn/through lane and one right-turn lane. The southwest-bound and northwest-bound approaches each have one shared lane for all turning movements. The southeast-bound approach has one left-turn lane and one shared through/right-turn lane. Crosswalks are marked across all intersection legs.

The intersection of 14th Street at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane served by flashing-yellow-arrow phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound approach has one shared lane for all turning movements. The southeast-bound approach has one shared left-turn/through lane and one right-turn lane. Crosswalks are marked across all intersection legs.

The intersection of 15th Street at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound and southwest-bound approaches of Washington Street each have one left-turn lane served by flashing-yellow-arrow phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound and southeast-bound approaches each have one shared lane for all turning movements. Crosswalks are marked across all intersection legs.

The intersection of Abernethy Road at Washington Street is a four-legged intersection that is controlled by a traffic signal. The northeast-bound approach has one left-turn lane served by permitted phasing, one through lane, one right-turn lane, and a bicycle lane situated between the through and right-turn lanes. The southwest-bound approach has one left-turn turn lane served by permitted phasing, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The northwest-bound approach has one

left-turn lane served by permitted phasing and one shared through/right-turn lane. The southeast-bound approach has one shared lane for all turning movements. Crosswalks are marked across all intersection legs.

The I-205 southbound ramps intersection at OR-213 is a three-legged intersection that is stop-controlled for the eastbound approach's left-turn movement and the southbound approach's through movement. The northbound approach has one left-turn lane, one through lane, and a bicycle lane to the right of the outermost standard travel lane. The southbound approach has one channelized right-turn lane that yields to other vehicles entering the freeway on-ramp, one through lane, and a bicycle lane situated in between the right-turn and through lanes. The eastbound approach has one left-turn lane and two free-flowing channelized right-turn lanes. Crosswalks are unmarked across all three intersection legs.

The I-205 northbound ramps intersection at OR-213 is a four-legged intersection with continuous flow for all approach lanes. The northbound approach has one through lane, one shared through/right-turn lane, one right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The southbound approach has two through lanes and a bicycle lane to the right of the outermost standard travel lane. The eastbound approach has one right-turn lane. Crosswalks are unmarked across all four intersection legs.

The intersection of Prairie Schooner Way/Clackamas River Drive at OR-213 is a four-legged intersection that is controlled by a traffic signal. The northbound and southbound approaches of OR-213 each have three through lanes, one channelized right-turn lane that operates without stop/yield/signal controls, and a bicycle lane to the right of the outermost standard travel lane. The eastbound and westbound approaches of Prairie Schooner Way and Clackamas River Drive, respectively, each have two right-turn lanes that prohibit turns during the red indication and a bicycle lane to the right of the outermost standard travel lane. Crosswalks are marked across the eastern and western intersection legs.

The intersection of Redland Road at OR-213 is a three-legged intersection that is controlled by a traffic signal. The northbound approach has one left-turn lane served with protected phasing, two through lanes, and a bicycle lane to the right of the outermost standard travel lane. The southbound approach has two through lanes, one right-turn lane served with permitted/overlap phasing, and a bicycle lane to the right of the outermost standard travel lane. The eastbound approach has two left-turn lanes served with protected phasing, one right-turn lane served with permitted/overlap phasing, and a bicycle lane to the right of the outermost standard travel lane. Crosswalks are marked across the southern and western intersection legs.

The intersection of Beavercreek Road at OR-213 is a four-legged intersection that is controlled by a traffic signal. The northbound approach has one left-turn lane served with protected phasing, two through lanes, one channelized right-turn lane that operates under yield control, and a bicycle lane to the right of the outermost standard travel lane. The southbound approach has two left-turn lanes served with protected phasing, two through lanes, and one channelized right-turn lane that operates under yield control. The eastbound approach has two left-turn lanes served with protected phasing, one through lane, one shared through/right-turn lane, and a bicycle lane to the right of the outermost standard travel lane. The westbound approach has two left-turn lanes served with protected phasing, two through lanes, one channelized right-turn lane that operates under yield control, and a bicycle lane situated in between the outermost through and right-turn lanes. Crosswalks are marked across all four intersection legs.

The intersection of Holly Lane at S Redland Road is a three-legged intersection that is stop-controlled for the northbound approach of Holly Lane. The northbound approach has one shared lane for all turning movements. The eastbound and westbound approaches of S Redland Road each have one shared lane for all turning movements and a bicycle lane to the right of the standard travel lane. Crosswalks are unmarked across all three intersection legs.

A vicinity map displaying the project site, vicinity streets, and the study intersections with their associated lane configurations is shown in Figure 1 on page 9.

Traffic Counts

Manual turning movement counts were conducted at the study intersections on the following dates, during which school was in session and no adverse weather nor abnormal travel conditions were present:

- Tuesday, January 24th, 2017 from 4:00 PM to 6:00 PM;
- Wednesday, January 25th, 2017 from 4:00 PM to 6:00 PM;
- Thursday, January 26th, 2017 from 7:00 AM to 9:00 AM;
- Tuesday, May 2nd, 2017 from 4:00 PM to 6:00 PM; and
- Wednesday, May 3rd, 2017 from 7:00 AM to 9:00 AM.

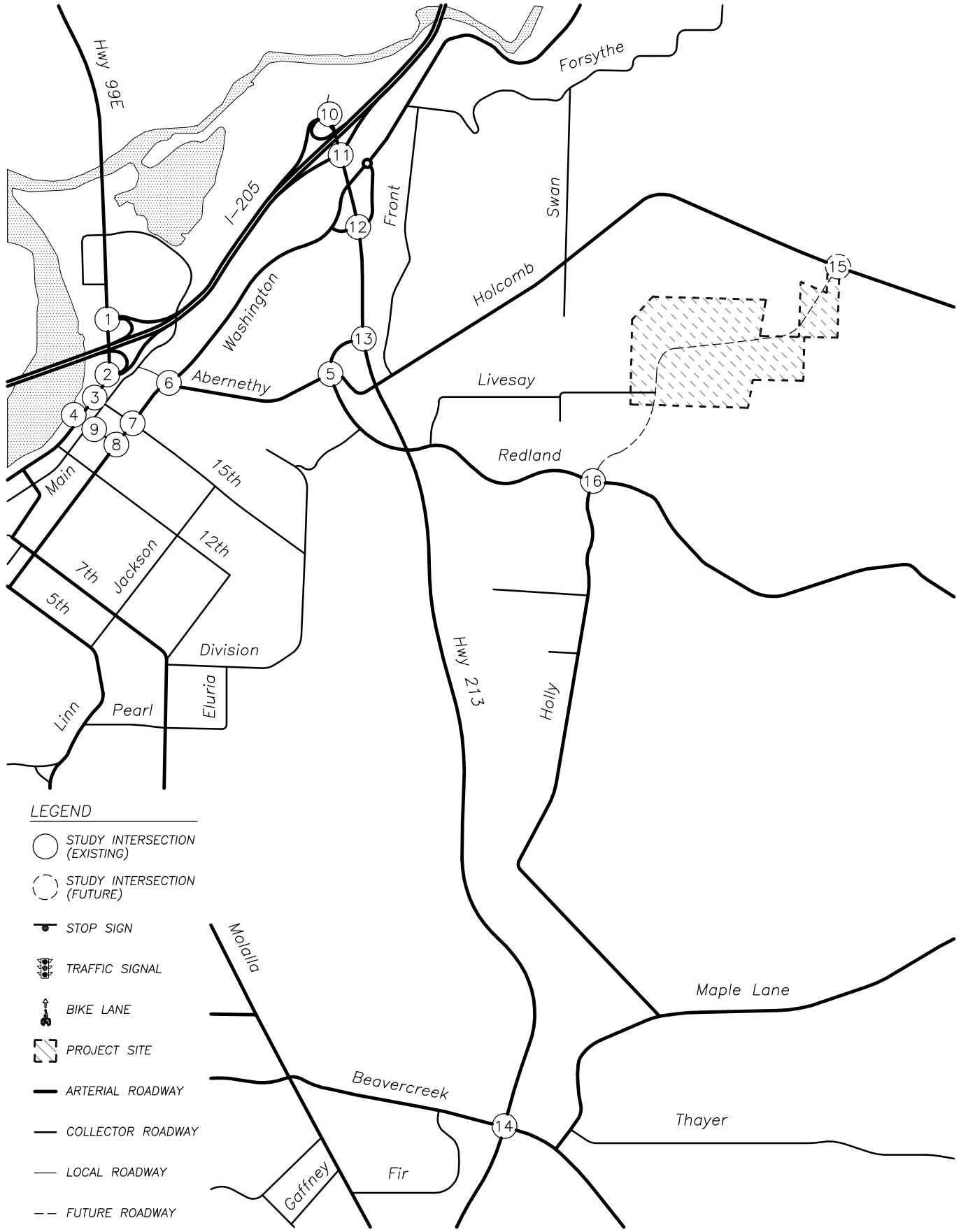
Data was used from each intersection's respective morning and evening peak hours.

Count data for the intersection of Holly Lane at S Redland Road was collected on March 17th, 2015 and adjusted based on the increase in traffic volumes collected between March 17th, 2015 and January 24th/25th, 2017 on the south leg of the intersection of Abernethy Road/S Holcomb Boulevard at Redland Road. The measured growth rate on S Redland Road during this time period was 2.69 percent per year, which was applied over a period of two years. For the segment of S Holcomb Boulevard anticipated to accommodate the future Holly Lane extension, through traffic volumes on S Holcomb Boulevard were determined based on traffic counts collected on June 21st, 2016 at the intersection of S Holcomb Boulevard at Jada Lane, located immediately east of the anticipated Holly Lane extension location. The 2016 counts were adjusted to account for one year of growth at a rate of 3.85 percent per year based on the observed historical growth in traffic volumes on Holcomb Boulevard, as measured at the east leg of the intersection of Redland Road at Holcomb Boulevard.

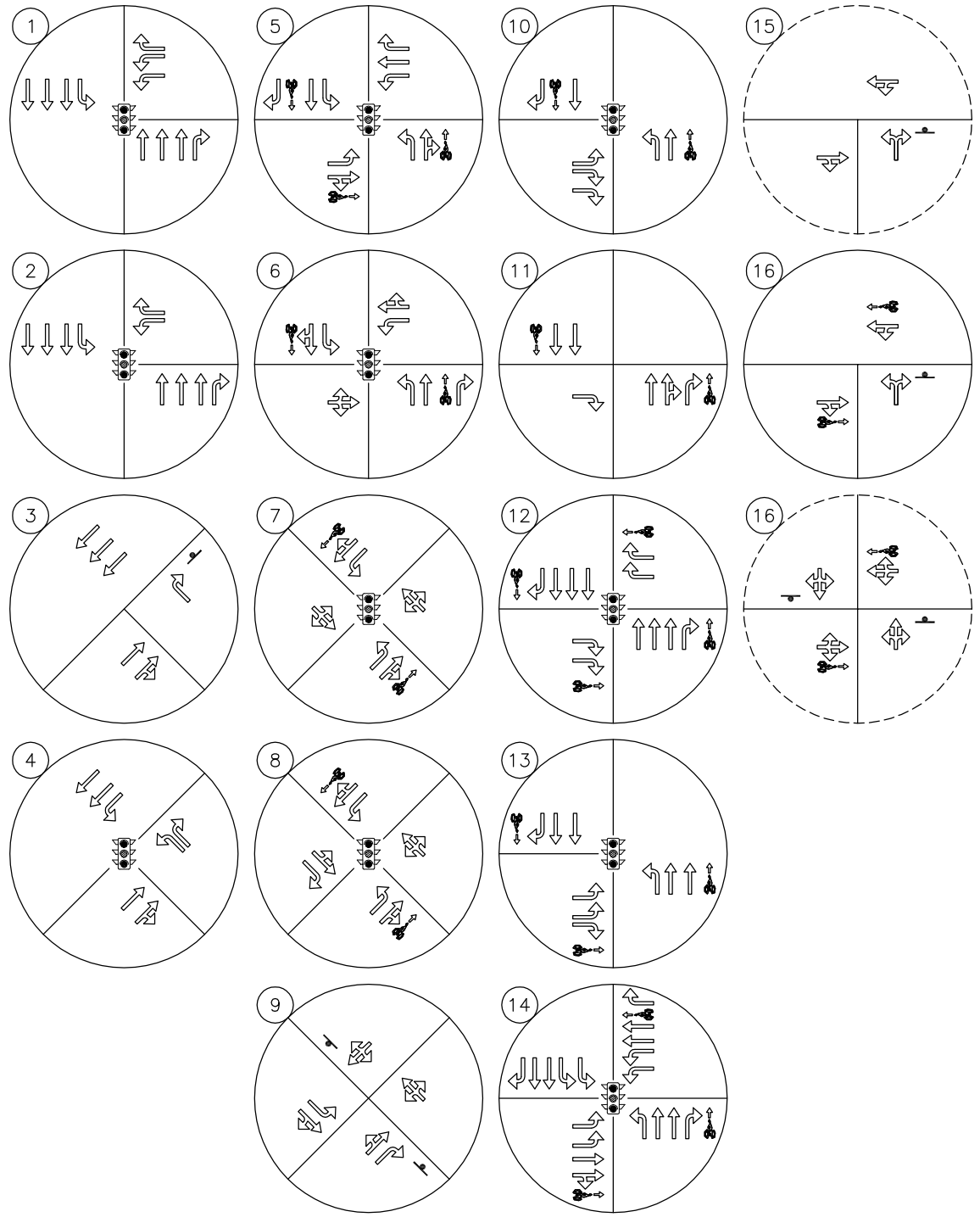
Figure 2 on page 10 and Figure 3 on page 11 show the existing morning and evening peak hour traffic volumes at the study intersections, respectively. Detailed traffic count data is included in the appendix to this report.

VICINITY MAP
Intersection Configurations
Traffic Control Devices and Lane Configurations

FIGURE 1
Page 9



*Matches the alignment in the City's TSP



No Scale

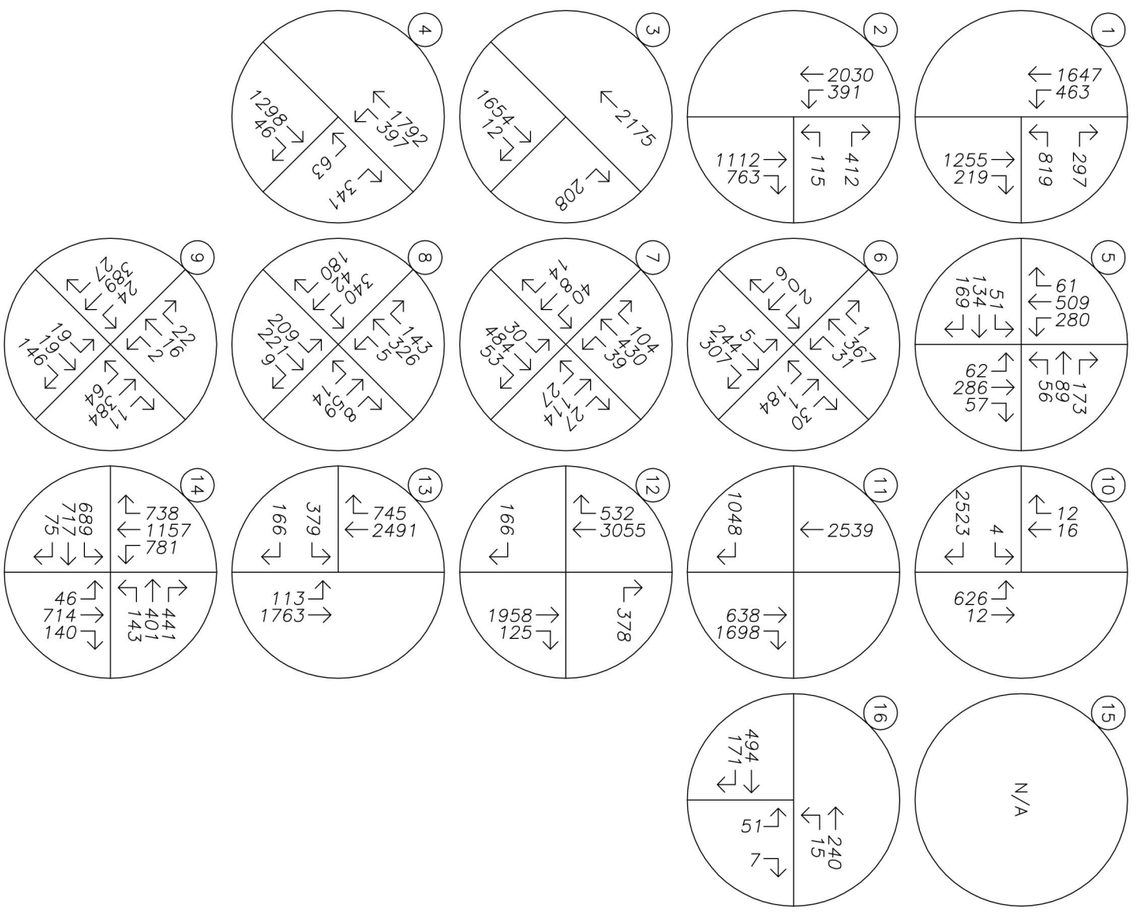
*Matches the alignment in the City's TSP

No Scale

TRAFFIC VOLUMES
Existing Conditions
AM Peak Hour

FIGURE 2
Page 10





*Matches the alignment in the City's TSP

No Scale

TRAFFIC VOLUMES
Existing Conditions
PM Peak Hour

FIGURE 3
Page 11

Site Trips

Trip Generation

The subject site consists of 34.57 acres currently zoned RRFF-5 and 57.43 acres currently zoned Future-Use 10-acre minimum (FU-10) by Clackamas County. Upon annexation of the property into the City of Oregon City, the property will be rezoned for 87.5 acres of residential use under R-5 zoning with a minimum lot size of 5,000 sf and 4.5 acres of Neighborhood Commercial zoning.

Under the existing Clackamas County zoning, the property can be developed with up to 11 lots with properties zoned RRFF-5 requiring a minimum lot size of 5 acres and properties zoned FU-10 having a minimum lot size of 10 acres. Each lot may be developed with a single-family home.

Under the proposed zoning, the property can be developed with up to 533 lots in the area zoned R-5, as well as the 4.5 acres of Neighborhood Commercial property. The lots zoned R-5 could each hold a single-family dwelling, and the property zoned Neighborhood Commercial can accommodate up to 49,000 square feet of gross floor area for neighborhood commercial uses.

Based on the comparison between the "reasonable worst-case" development scenarios for the existing and proposed zonings, annexation of the subject property could result in a net increase of up to 522 new homes within the subject property, as well as 49,000 square feet of retail uses.

To estimate the number of trips that could be generated under the existing and proposed zonings, trip generation data from the *TRIP GENERATION MANUAL*, 9th Edition, published by the Institute of Transportation Engineers was used. The trip projections for the residential uses was drawn from land use 210, *Single-Family Detached Housing*, and is based on the number of dwelling units. The trip data for the NC zoning was drawn from land use 820, *Shopping Center*.

The calculations indicate that the proposed annexation and zone change could result in up to 385 additional trips during the morning peak hour, with 100 entering and 285 exiting the site. During the evening peak hour, 531 additional trips could be expected, with 329 entering and 209 exiting the site. A daily increase of 5,608 trips is projected, with half entering and half exiting the site.

A summary of the potential trip generation under the proposed zoning is provided in Table 1 on the following page. Table 2 provides a comparison between the trip generation potential under the existing and proposed zones. Detailed trip generation worksheets are included in the attached technical appendix.

Table 1 - Trip Generation Summary (Proposed Zoning)

	ITE Code	Size	Morning Peak Hour			Evening Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
Single-Family Homes	210	533 units	100	300	400	299	175	474	4,896
Internalization (9%)			-18	-18	-36	-21	-21	-42	-440
Shopping Center	820	49 ksf	29	18	47	87	95	182	2,092
Internalization (9%)			-2	-2	-4	-8	-8	-16	-188
Pass-by Trips (34%)			-7	-7	-14	-28	-28	-56	-648
Total Driveway Trips			129	318	447	386	270	656	6,988
Total Internal Trips			-20	-20	-40	-29	-29	-58	-628
Total Pass-by Trips			-7	-7	-14	-28	-28	-56	-648
Net Site Trips			**102**	**291**	**393**	**329**	**213**	**542**	**5,712**

Table 2 - Trip Generation Comparison (Existing and Proposed Zoning)

	Morning Peak Hour			Evening Peak Hour			Weekday Total
	Enter	Exit	Total	Enter	Exit	Total	
Existing Zoning Trips	2	6	8	7	4	11	104
Proposed Zoning Trips	102	291	393	329	213	542	5,712
Net Increase in Site Trips	**100**	**285**	**385**	**322**	**209**	**531**	**5,608**

Trip Distribution

The distribution of site trips was determined based on the locations of likely trip destinations as well as the locations of major transportation facilities in the site vicinity. Since the subject property has frontage on both S Holcomb Boulevard and S Livesay Road, it is anticipated that upon development of the subject property a new connection through the property will be available between S Holcomb Boulevard and S Redland Road. At the planning horizon, it is anticipated that this connection will take the form of the North Holly Lane Extension, which is included within the financially constrained project list of the city's TSP. With completion of this new street connection, it is anticipated that site trips will access the site via both S Holcomb Boulevard and S Redland Road.

The following distribution was estimated and used for analysis:

- Approximately 25 percent of site trips will travel to/from the northeast along I-205;
- Approximately 15 percent of site trips will travel to/from the southwest along I-205;
- Approximately 13 percent of site trips will travel to/from the southwest along Washington Street;
- Approximately 9 percent of site trips will travel to/from the east along S Holcomb Boulevard;
- Approximately 9 percent of site trips will travel to/from the east along S Redland Road;
- Approximately 8 percent of site trips will travel to/from the north along OR-99E;
- Approximately 4 percent of site trips will travel to/from the south along S Holly Lane;
- Approximately 3 percent of site trips will travel to/from the southwest along Main Street;
- Approximately 3 percent of site trips will travel to/from the southwest along S Anchor Way;
- Approximately 2 percent of site trips will travel to/from the south along OR-213;
- Approximately 1.5 percent of site trips will travel to/from the west along Beavercreek Road;
- Approximately 1 percent of site trips will travel to/from the southwest along OR-99E;
- Approximately 0.5 percent of site trips will travel to/from the east along Beavercreek Road; and
- Approximately 6 percent of site trips will travel to/from locales within the immediate vicinity, including surrounding residential areas, Holcomb Elementary School, and other land-uses such as Steve's Marketplace and the Quick Stop Market.

Since the majority of the subject property is located west of the anticipated future intersection of S Holcomb Boulevard at the Holly Lane north extension, most residents would be expected to prefer the more direct travel path available on S Redland Road rather than S Holcomb Boulevard for trips to and from the west. Accordingly, site trips from origins within the proposed development were assumed to be four times more likely to utilize S Redland Road for such trips than to utilize S Holcomb Boulevard. This distribution reflects the fact that only residents in the northeastern-most portion of the site would be expected to experience

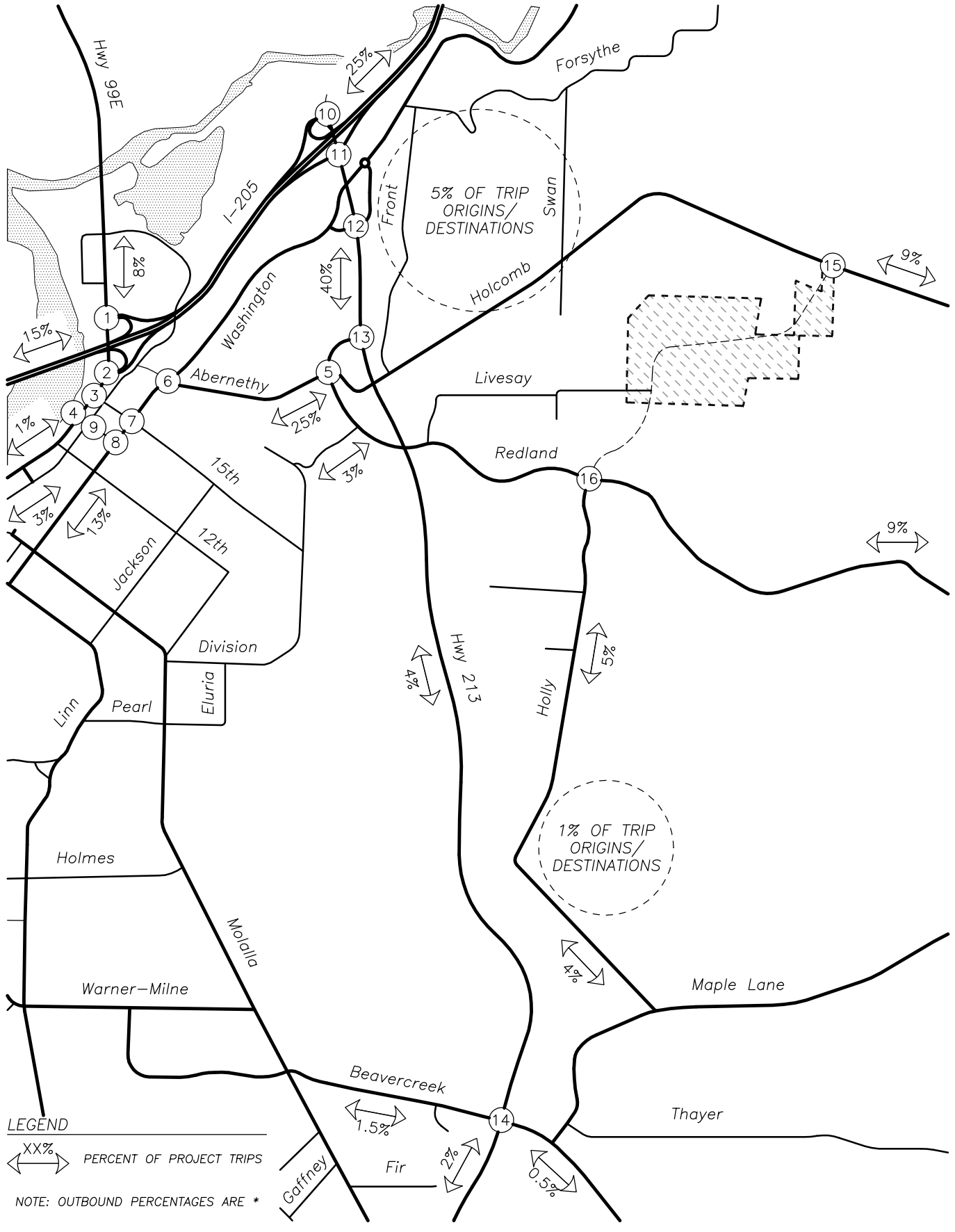
similar travel times regardless of whether they utilize S Holcomb Boulevard or S Redland Road to travel to and from the west.

The trip distribution percentages utilized for the site trips generated by the proposed development are shown in Figure 4 on page 16 at each of the study intersections. The trip assignment for the site trips generated by the proposed development during the morning and evening peak hours are shown in Figure 5 on page 17 and Figure 6 on page 18, respectively.

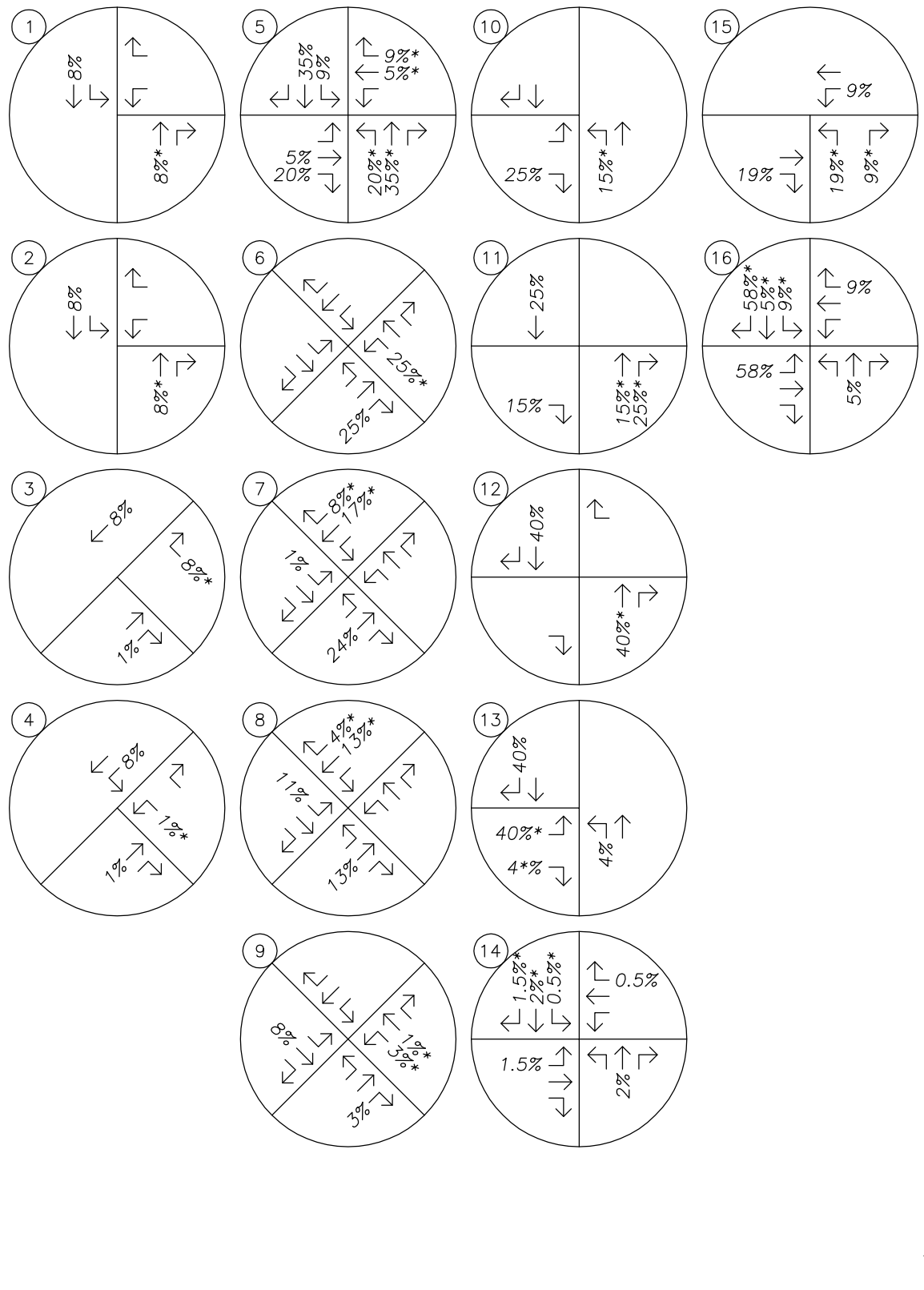
SITE TRIP DISTRIBUTION

Inbound & Outbound Percentages – Site Trips
AM & PM Peak Hours

FIGURE 4
Page 16



*Matches the alignment in the City's TSP



No Scale

SITE TRIP ASSIGNMENT

Proposed Zone Change – Net Additional Site Trips

AM Peak Hour

FIGURE 5
Page 17

NET ADDITIONAL TRIP GENERATION			
	IN	OUT	TOTAL
AM	100	285	385

*Matches the alignment in the City's TSP

No Scale

SITE TRIP ASSIGNMENT

Proposed Zone Change – Net Additional Site Trips

PM Peak Hour

FIGURE 6
Page 18

NET ADDITIONAL TRIP GENERATION			
	IN	OUT	TOTAL
PM	322	209	531

*Matches the alignment in the City's TSP

No Scale

Operational Analysis

Background Volumes

In order to assess the impacts of the proposed annexation on traffic conditions at the planning horizon, the existing traffic volumes at the study area intersections were increased to account for anticipated growth through year 2035. Growth for most facilities within Oregon City was estimated based on conformance with growth data from the 2013 TSP, which shows an overall growth from 33,012 trips during the evening peak hour in 2010 to 54,461 trips during the evening peak hour in 2035. This equates to an exponential growth rate of 2.02 percent per year, which was applied to all intersection movements except the through movements along OR-99E and OR-213. Traffic volume growth along OR-99E and OR-213 was estimated using data from ODOT's Future Volume Tables, which show projected linear growth rates of 0.81 percent per year and 0.73 percent per year, respectively.

For the intersections of Beavercreek Road at OR-213; the I-205 southbound ramps at OR-99E; and the I-205 northbound ramps at OR-99E, Oregon City's 2013 TSP included projected year 2035 volumes for the evening peak hour. In order to ensure consistency with the city's TSP, these volumes were used for this intersection's evening peak hour analysis scenario. Additionally, traffic volumes for other intersections along OR-99E and OR-213 were balanced along each respective highway to ensure that the analysis of all intersections along these facilities remains consistent with the TSP. ODOT Ramp Interchange Volume Diagrams were also referenced to accurately determine turning-movement volumes at the intersections of OR-213 with the I-205 northbound on/off ramps.

In addition to the increase in traffic volumes within the site vicinity, completion of the North Holly Lane Extension is expected to result in some re-distribution of existing traffic volumes in the site vicinity. Specifically, it is anticipated that approximately two thirds of the trips between S Holcomb Boulevard and S Redland Road south of S Holcomb Boulevard will utilize the new Holly Lane extension, since this route will provide a more direct connection between these roadways. It is also anticipated that some site trips between S Holcomb Boulevard and OR-213 south of Redland Road will utilize the new North Holly Lane extension, since this route will provide a good connection between S Holcomb Boulevard and destinations such as Oregon City High School and the Berry Hill Shopping Center.

The background conditions analysis volumes include all city-identified projected development through the 2035 planning horizon, with the exception of the Park Place property. Omission of this property from the background conditions allows for a meaningful comparison between future background conditions without approval of the proposed annexation and zone change and the 2035 "annexation and zone change" conditions, which include the addition of site trips from the Park Place property.

Figure 7 on page 21 and Figure 8 on page 22 show the projected year 2035 background traffic volumes at the study intersections during the morning and evening peak hours, respectively.

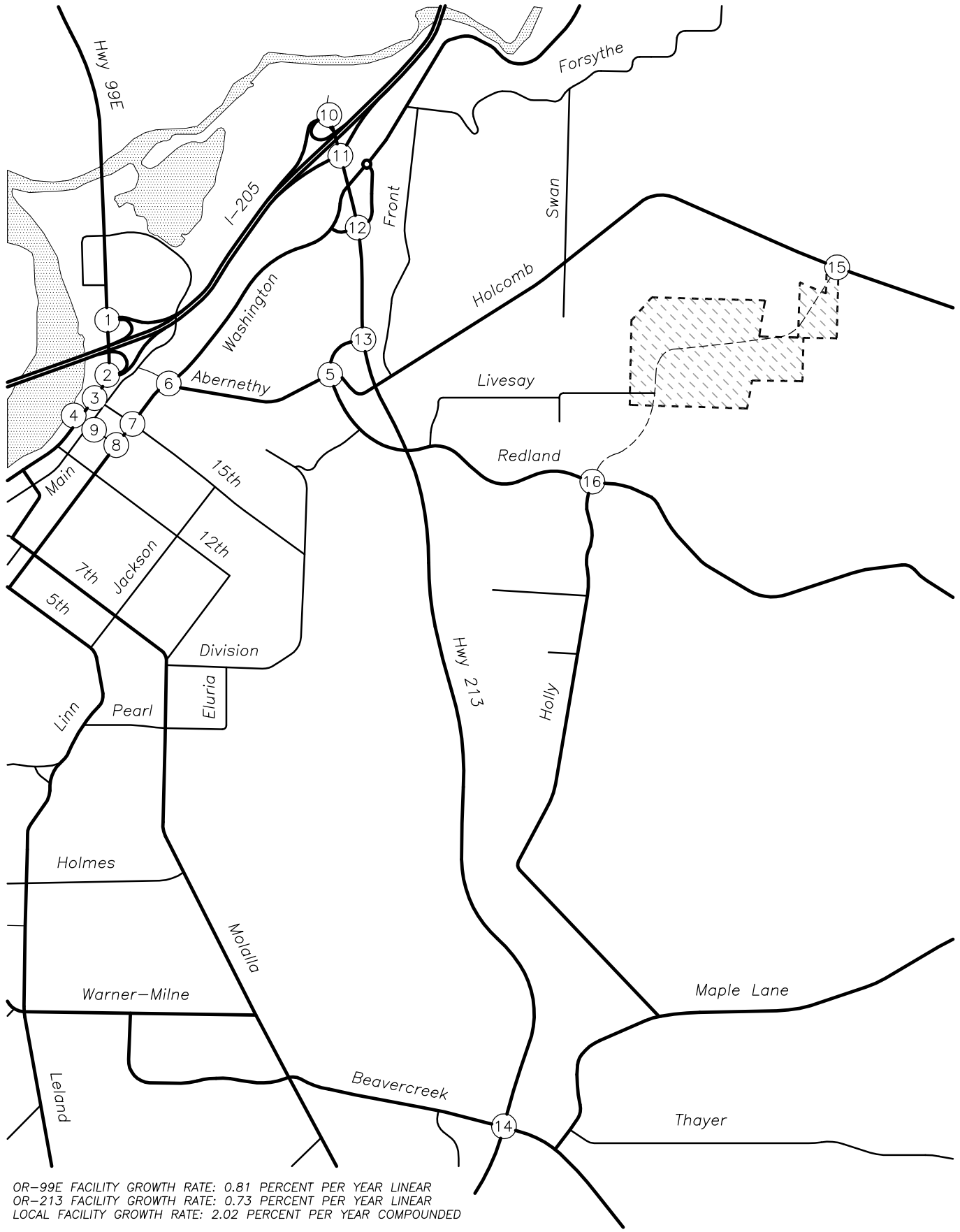
Background Volumes plus Site Trips

Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the projected year 2035 background traffic volumes to obtain the expected 2035 background volumes plus site trips.

Figure 9 on page 23 and Figure 10 on 24 show the projected year 2035 peak hour background traffic volumes plus the addition of site trips at the study intersections during the morning and evening peak hours, respectively.

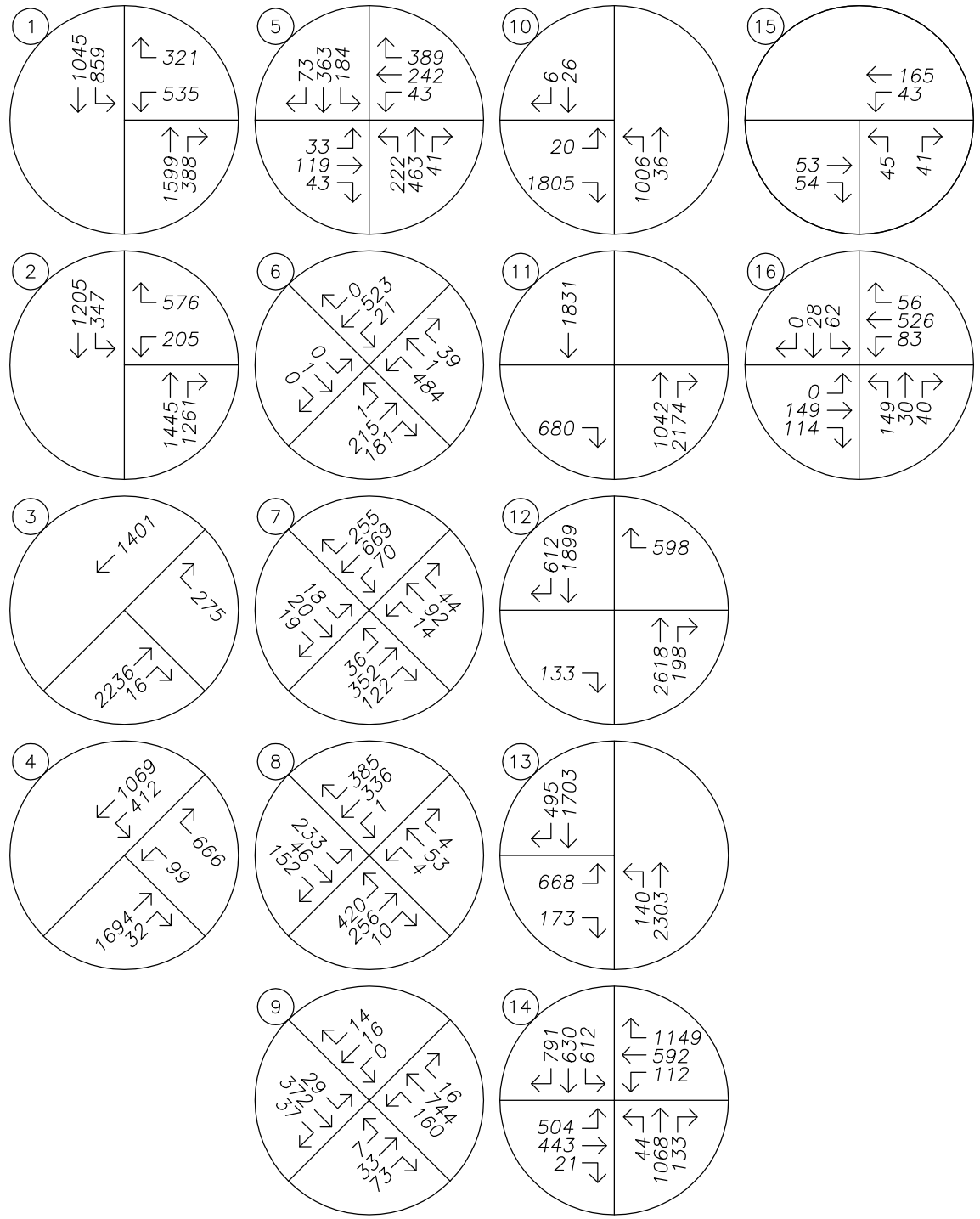
TRAFFIC VOLUMES
Year 2035 Planning Horizon – w/ Holly Extension
AM Peak Hour

FIGURE 7
Page 21



OR–99E FACILITY GROWTH RATE: 0.81 PERCENT PER YEAR LINEAR
OR–213 FACILITY GROWTH RATE: 0.73 PERCENT PER YEAR LINEAR
LOCAL FACILITY GROWTH RATE: 2.02 PERCENT PER YEAR COMPOUNDED

*Matches the alignment in the City's TSP



No Scale

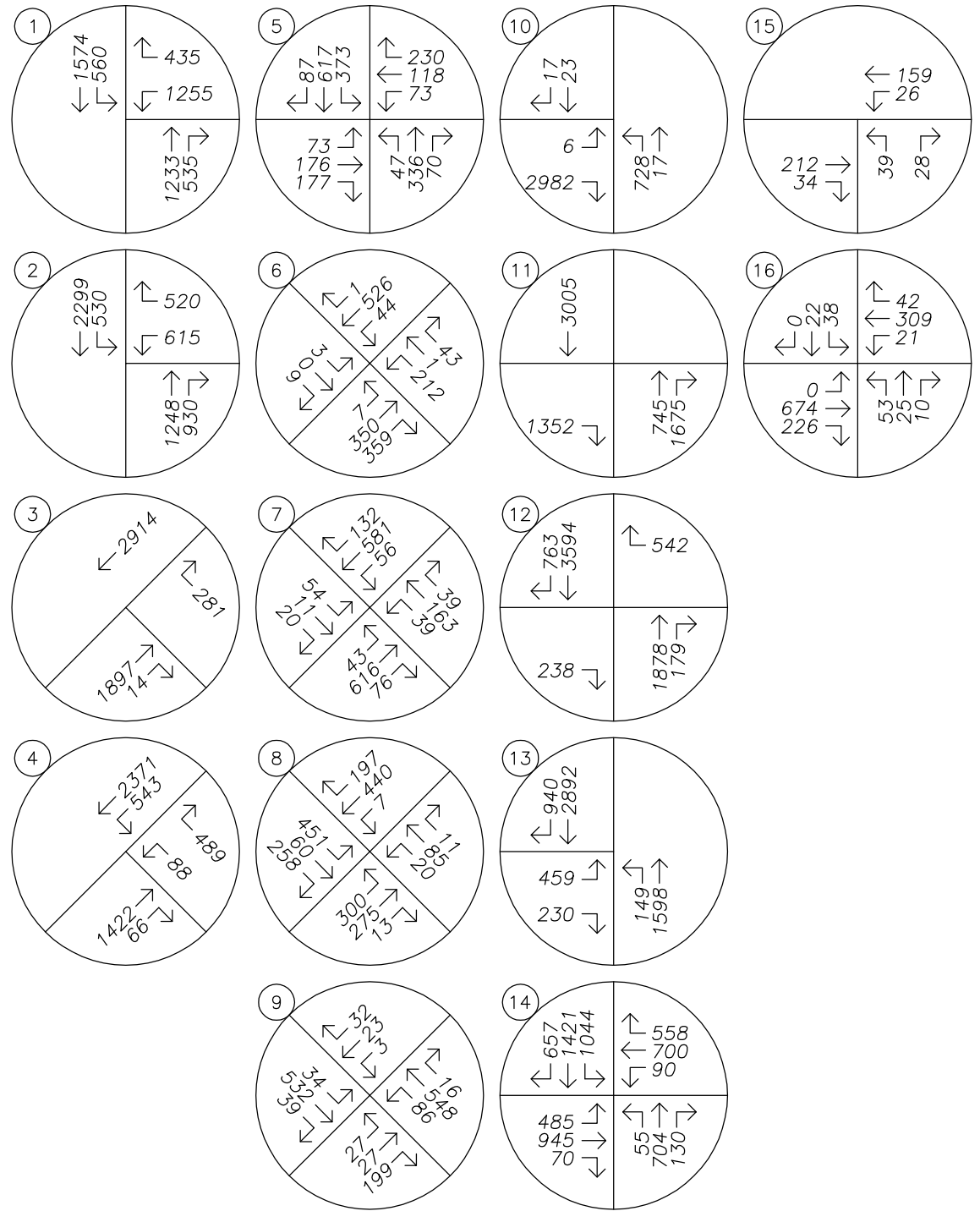
TRAFFIC VOLUMES
Year 2035 Planning Horizon – w/ Holly Extension
PM Peak Hour

FIGURE 8
Page 22



OR–99E FACILITY GROWTH RATE: 0.81 PERCENT PER YEAR LINEAR
OR–213 FACILITY GROWTH RATE: 0.73 PERCENT PER YEAR LINEAR
LOCAL FACILITY GROWTH RATE: 2.02 PERCENT PER YEAR COMPOUNDED

*Matches the alignment in the City's TSP



No Scale

TRAFFIC VOLUMES
Year 2035 Planning Horizon plus Annexation
AM Peak Hour

FIGURE 9
Page 23

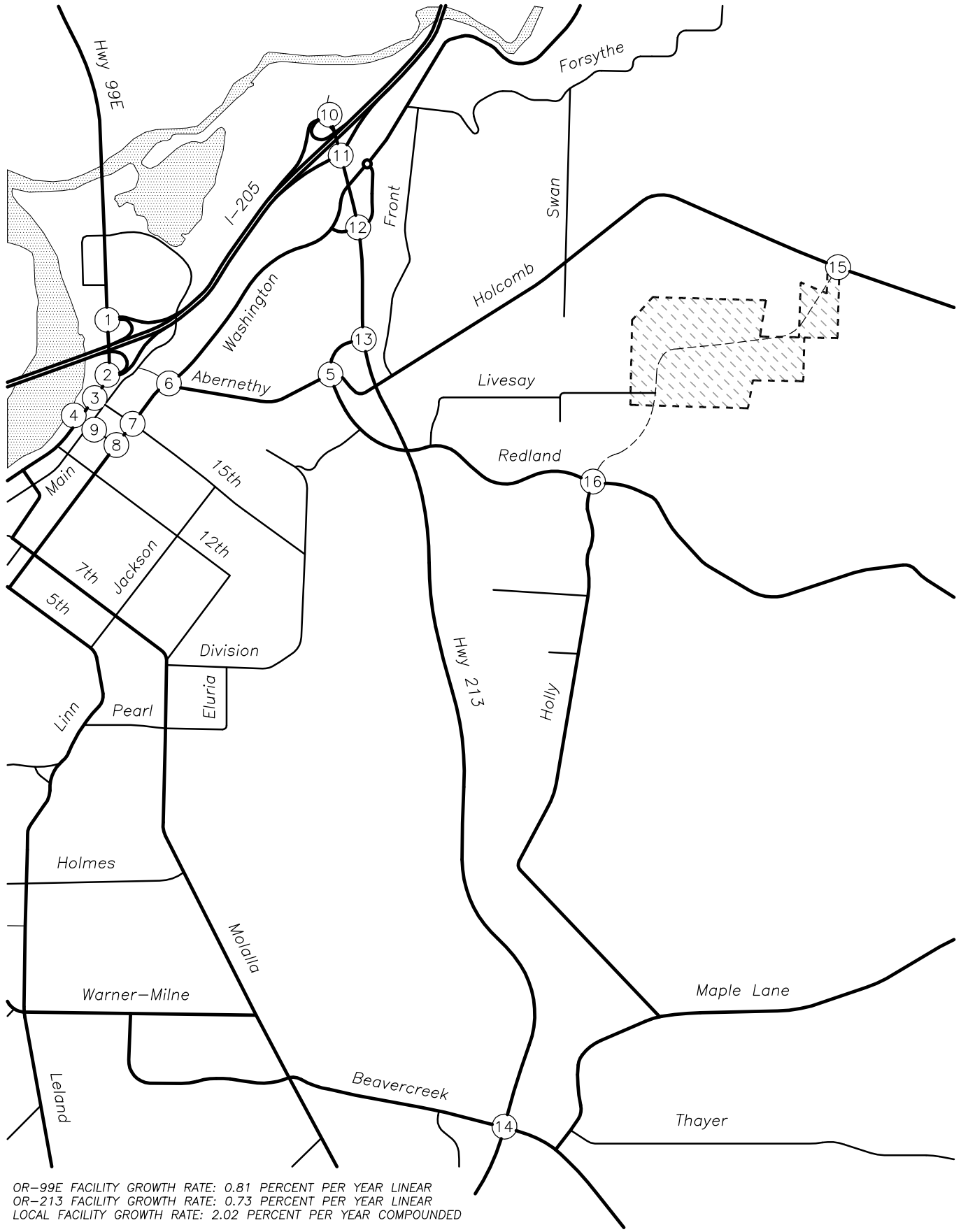
*Matches the alignment in the City's TSP

OR–99E FACILITY GROWTH RATE: 0.81 PERCENT PER YEAR LINEAR
OR–213 FACILITY GROWTH RATE: 0.73 PERCENT PER YEAR LINEAR
LOCAL FACILITY GROWTH RATE: 2.02 PERCENT PER YEAR COMPOUNDED

No Scale

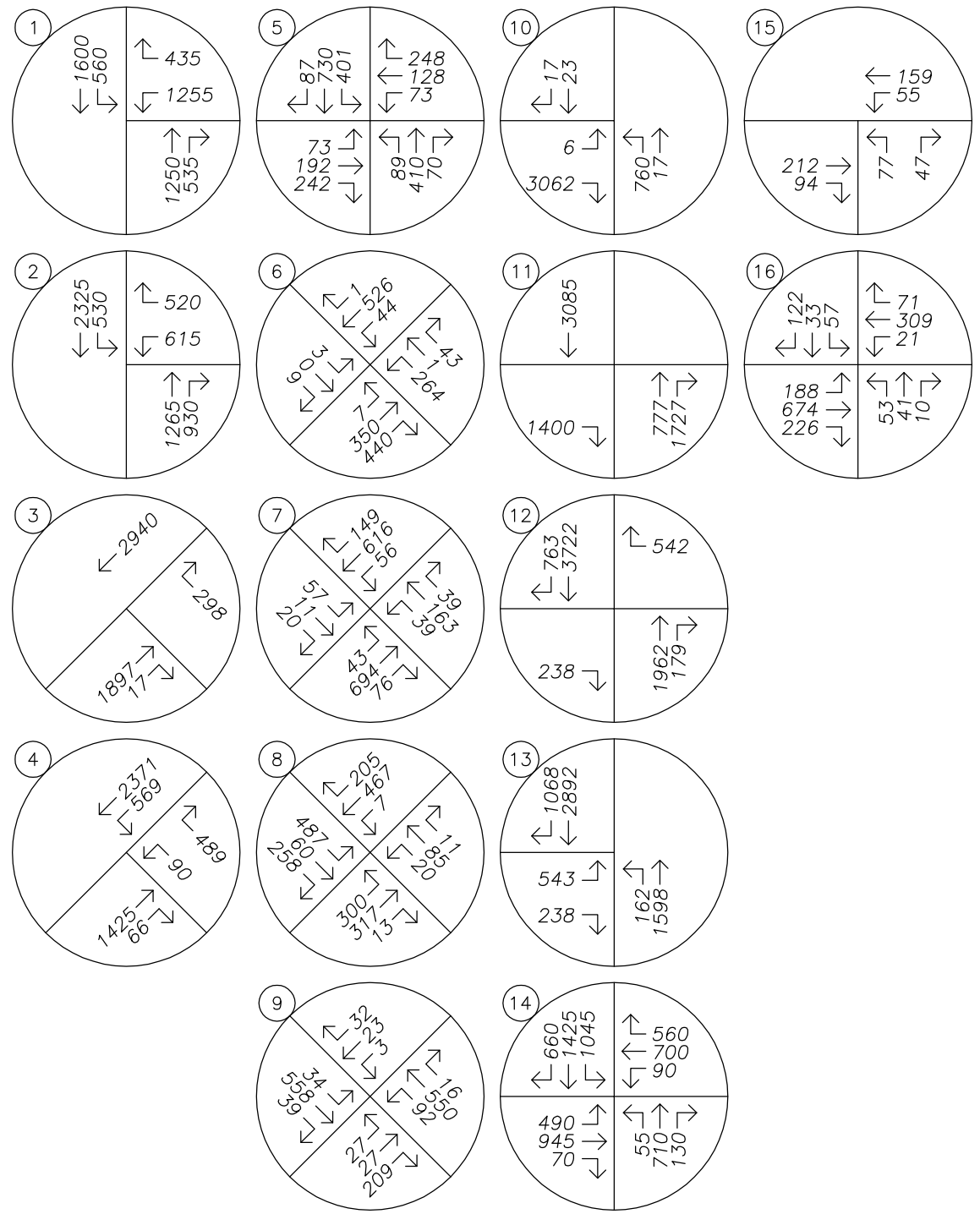
TRAFFIC VOLUMES
Year 2035 Planning Horizon plus Annexation
PM Peak Hour

FIGURE 10
Page 24



OR-99E FACILITY GROWTH RATE: 0.81 PERCENT PER YEAR LINEAR
OR-213 FACILITY GROWTH RATE: 0.73 PERCENT PER YEAR LINEAR
LOCAL FACILITY GROWTH RATE: 2.02 PERCENT PER YEAR COMPOUNDED

*Matches the alignment in the City's TSP



No Scale

Capacity Analysis

A capacity and delay analysis was conducted for each of the study intersections per the signalized and unsignalized intersection analysis methodologies in the *HIGHWAY CAPACITY MANUAL* (HCM)[1]. The level-of-service (LOS) of an intersection can range from LOS A, which indicates very little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

Per Section 12.04.205 of the *Oregon City Municipal Code*, the following minimum acceptable operation standards apply when evaluating traffic impacts associated with the proposed annexation.

- For intersections within the Regional Center (Downtown Community Plan), a maximum v/c ratio of 1.10 is permissible during the peak hour, provided that during the second hour the v/c ratio is 0.99 or less. For signalized intersections, these standards apply to the intersection as a whole. For unsignalized intersections, these standards apply to the major-street approaches only. There is no performance standard for unsignalized minor-street approaches.
- For intersections outside the Regional Center but designated on the Arterial and Throughway Network, a maximum v/c ratio of 0.99 shall be maintained. This standard applies to signalized intersections as a whole, and to the major-street approaches at unsignalized intersections. There is no performance standard for unsignalized minor-street approaches.
- Signalized intersections located outside the Regional Center boundaries and not designated on the Arterial and Throughway Network shall operate at LOS D or better for the intersection as a whole, no approach shall operate worse than LOS E, and the intersection shall operate with a v/c ratio no higher than 1.0 for the sum of critical movements.
- Unsignalized intersections located outside the Regional Center boundaries and not designated on the Arterial and Throughway Network shall operate at LOS E or better for all approaches serving more than 20 peak hour vehicles. LOS F will be tolerated at movements serving no more than 20 vehicles during the peak hour.
- Until the city adopts new performance measures that identify alternative mobility targets, the city exempts proposed developments that are permitted, either conditionally, outright, or through a detailed development master plan approval from compliance with the above mobility standards for identified intersections, including the intersections of OR-99E at the I-205 northbound and southbound ramp terminals, and the intersection of Beavercreek Road at OR-213.

According to Oregon City's Downtown Community Plan, the Regional Center encompasses all of the study intersections except Beavercreek Road at OR-213, the future Holly Lane at S Holcomb Boulevard, and Holly Lane at S Redland Road.

[1] Transportation Research Board, *HIGHWAY CAPACITY MANUAL 2000* and *HIGHWAY CAPACITY MANUAL 2010*.

The future intersection of Holly Lane at S Holcomb Boulevard will be an unsignalized intersection currently not designated on the Arterial and Throughway Network whereas Holly Lane at S Redland Road is designated on the Arterial and Throughway Network.

The I-205 southbound ramps intersection at OR-213 was analyzed as two separate intersections due to its unique configuration that includes two distinct stop bars for southbound vehicles. Based on the capacity analysis, the highest average control delay experienced for any intersection approach was determined to be for the eastbound left-turn from the I-205 off-ramp. The highest projected v/c ratio was for the northbound approach.

The I-205 southbound ramps intersection at OR-99E currently operates with v/c ratios of 0.95 during the morning peak hour and 0.91 during the evening peak hour. Under planning year 2035 conditions, regardless the addition of site trips from the proposed annexation and zone change, the intersection is projected to operate with v/c ratios in excess of 1.10 during both the morning and evening peak hours.

The I-205 northbound ramps intersection at OR-99E currently operates with v/c ratios of 0.78 during the morning peak hour and 0.71 during the evening peak hour. Under year 2035 conditions, regardless of the addition of site trips from the proposed annexation and zone change, the intersection is projected to operate with v/c ratios in excess of 1.10 during both the morning and evening peak hours.

The intersection of 15th Street at OR-99E operates with v/c ratios of 0.92 or less during the morning peak hour and 0.78 or less during the evening peak hour for all analysis scenarios.

The intersection of 14th Street at OR-99E currently operates with v/c ratios of 0.90 during the morning peak hour and 0.80 during the evening peak hour. Under planning year 2035 conditions, regardless of the addition of site trips from the proposed annexation and zone change, the intersection is projected to operate with v/c ratios in excess of 1.10 during the morning peak hour and 0.96 or less during the evening peak hour.

The intersection of Abernethy Road/S Holcomb Boulevard at Redland Road operates with v/c ratios of 0.88 or less during the morning peak hour and 0.91 or less during the evening peak hour for the existing and background analysis scenarios. Under planning year 2035 conditions with inclusion of site trips from the proposed annexation and zone change, the intersection is projected to operate with a v/c ratio of 0.88 during the morning peak hour and 1.08 during the evening peak hour.

The intersection of Abernethy Road at Washington Street is projected to operate with v/c ratios of 0.91 or less during the morning peak hour and 0.66 or less during the evening peak hour for all analysis scenarios.

The intersection of 15th Street at Washington Street is projected to operate with v/c ratios of 0.87 or less during the morning peak hour and 0.77 or less during the evening peak hour for all analysis scenarios.

The intersection of 14th Street at Washington Street currently operates with v/c ratios of 0.78 during the morning peak hour and 0.80 during the evening peak hour. Under planning year 2035 conditions without inclusion of site trips from the proposed annexation and zone change, the intersection is projected to operate with v/c ratios of 1.06 during the morning peak hour and in excess of 1.10 during the evening peak hour.

With inclusion of site trips from the proposed annexation and zone change, the intersection is projected to operate with v/c ratios in excess of 1.10 during both the morning and evening peak hours.

The intersection of 14th Street at Main Street is projected to operate with v/c ratios of 0.26 or less during the morning peak hour and 0.37 or less during the evening peak hour for all analysis scenarios.

The I-205 southbound ramp intersection at OR-213 is projected to operate with v/c ratios of 0.70 or less during the morning peak hour and 0.95 or less during the evening peak hour for all analysis scenarios.

The intersection of Prairie Schooner Way/Clackamas River Drive at OR-213 is projected to operate with v/c ratios of 0.89 or less during the morning peak hour and 0.95 or less during the evening peak hour under all analysis scenarios.

The intersection of Redland Road at OR-213 currently operates with v/c ratios of 0.87 during the morning peak hour and 1.01 during the evening peak hour. Under planning year 2035 conditions without inclusion of site trips from the proposed annexation and zone change, the intersection is projected to operate with v/c ratios of 1.01 during the morning peak hour and in excess of 1.10 during the evening peak hour. With inclusion of site trips from the proposed annexation and zone change, the intersection is projected to operate with v/c ratios of 1.05 during the morning peak hour and in excess of 1.10 during the evening peak hour.

The intersection of Beavercreek Road at OR-213 currently operates with v/c ratios of 0.79 during the morning peak hour and 0.92 during the evening peak hour. Under planning year 2035 conditions, regardless of the addition of site trips from the proposed annexation and zone change, the intersection is projected to operate with v/c ratios of 1.01 during the morning peak hour and 1.04 during the evening peak hour.

The future intersection of Holly Lane at S Holcomb Boulevard is projected to operate at LOS B with v/c ratios of 0.09 or less during the morning peak hour and 0.20 or less during the evening peak hour for all analysis scenarios.

The intersection of Holly Lane at S Redland Road is projected to operate with v/c ratios of 0.07 or less during the morning peak hour and 0.17 or less during the evening peak hour for all analysis scenarios.

The v/c, delay, and LOS results of the capacity analysis are shown in Table 3 - Table 5 for the morning and evening peak hours. The v/c ratio for two-way stop-controlled intersections represent that highest reported v/c for the major-street approach while LOS and delay are representative of the minor-street approach lane experiencing the highest delay. The reported results are generally based on the analysis methodologies provided in the 2010 HCM; however, for intersections where the 2010 methodology fails to report major-street v/c ratio or does not provide a v/c ratio for a signalized intersection, v/c ratios were evaluated using the HCM 2000 methodologies. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

Table 3 - Capacity Analysis Summary (Intersections 1 – 6)

	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
1. I-205 SB Ramps at OR-99E						
2017 Existing Conditions	D	40	0.95	C	28	0.91
2035 Planning Horizon (w/o Annexation Trips)	F	> 80	**1.21**	E	71	**1.13**
2035 Planning Horizon (w/ Annexation Trips)	F	> 80	**1.21**	E	71	**1.13**
2. I-205 NB Ramps at OR-99E						
2017 Existing Conditions	C	21	0.78	B	17	0.71
2035 Planning Horizon (w/o Annexation Trips)	F	> 80	**1.33**	E	57	**1.17**
2035 Planning Horizon (w/ Annexation Trips)	F	> 80	**1.33**	E	57	**1.17**
3. 15th St at OR-99E						
2017 Existing Conditions	C	24	0.82	C	21	0.68
2035 Planning Horizon (w/o Annexation Trips)	F	54	0.92	E	43	0.78
2035 Planning Horizon (w/ Annexation Trips)	F	67	0.92	E	50	0.78
4. 14th St at OR-99E						
2017 Existing Conditions	C	23	0.90	B	15	0.80
2035 Planning Horizon (w/o Annexation Trips)	E	62	**1.14**	C	27	0.94
2035 Planning Horizon (w/ Annexation Trips)	E	60	**1.14**	C	31	0.96
5. Abernethy Rd/S Holcomb Blvd at Redland Rd						
2017 Existing Conditions	C	27	0.75	C	29	0.78
2035 Planning Horizon (w/o Annexation Trips)	C	30	0.79	D	41	0.91
2035 Planning Horizon (w/ Annexation Trips)	D	40	0.88	E	71	1.08
6. Abernethy Rd at Washington St						
2017 Existing Conditions	B	13	0.70	A	7	0.49
2035 Planning Horizon (w/o Annexation Trips)	C	21	0.85	A	9	0.61
2035 Planning Horizon (w/ Annexation Trips)	C	27	0.91	B	10	0.66

BOLDED results exceed Oregon City operational standards.

Table 4 - Capacity Analysis Summary (Intersections 7 - 13)

	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
7. 15th St at Washington St						
2017 Existing Conditions	B	11	0.66	B	11	0.58
2035 Planning Horizon (w/o Annexation Trips)	B	19	0.81	B	18	0.73
2035 Planning Horizon (w/ Annexation Trips)	C	23	0.87	C	21	0.77
8. 14th St at Washington St						
2017 Existing Conditions	C	25	0.78	C	26	0.80
2035 Planning Horizon (w/o Annexation Trips)	E	56	1.06	E	70	**1.17**
2035 Planning Horizon (w/ Annexation Trips)	E	65	**1.12**	F	> 80	**1.26**
9. 14th St at Main St						
2017 Existing Conditions	D	35	0.18	D	30	0.26
2035 Planning Horizon (w/o Annexation Trips)	F	> 80	0.25	F	106	0.35
2035 Planning Horizon (w/ Annexation Trips)	F	> 80	0.26	F	128	0.37
10. I-205 SB Ramps at OR-213						
2017 Existing Conditions	F	> 80	0.60	D	30	0.80
2035 Planning Horizon (w/o Annexation Trips)	F	> 80	0.68	E	43	0.92
2035 Planning Horizon (w/ Annexation Trips)	F	> 80	0.70	E	49	0.95
12. Prairie Schooner/Clackamas River Dr at OR-213						
2017 Existing Conditions	A	9	0.78	A	9	0.83
2035 Planning Horizon (w/o Annexation Trips)	B	13	0.87	B	14	0.92
2035 Planning Horizon (w/ Annexation Trips)	B	14	0.89	B	15	0.95
13. Redland Rd at OR-213						
2017 Existing Conditions	C	22	0.87	D	38	1.01
2035 Planning Horizon (w/o Annexation Trips)	C	33	1.01	E	77	**1.19**
2035 Planning Horizon (w/ Annexation Trips)	D	41	1.05	F	> 80	**1.23**

BOLDED results exceed Oregon City operational standards.

Table 5 - Capacity Analysis Summary (Intersections 14 - 16)

	Morning Peak Hour			Evening Peak Hour		
	LOS	**Delay (s)**	**v/c**	**LOS**	**Delay (s)**	**v/c**
14. Beavercreek Rd at OR-213						
2017 Existing Conditions	D	39	0.79	D	49	0.92
2035 Planning Horizon (w/o Annexation Trips)	E	61	1.01	E	64	1.04
2035 Planning Horizon (w/ Annexation Trips)	E	62	1.01	E	64	1.04
15. Holly Ln at S Holcomb Blvd (Future)						
2035 Planning Horizon (w/o Annexation Trips)	B	11	0.07	B	12	0.16
2035 Planning Horizon (w/ Annexation Trips)	B	13	0.09	B	14	0.20
16. Holly Ln at S Redland Rd*						
2017 Existing Conditions	B	14	0.05	B	13	0.02
2035 Planning Horizon (w/o Annexation Trips)	C	21	0.07	C	22	0.03
2035 Planning Horizon (w/ Annexation Trips)	F	> 80	0.07	F	> 80	0.17

* Intersection converted from three-legged to four-legged under year 2035 conditions.

BOLDED results exceed Oregon City operational standards.

Based on the capacity analysis, there are six study intersections that are not projected to meet the minimum Oregon City intersection performance standards:

- I-205 southbound ramps at OR-99E;
- I-205 northbound ramps at OR-99E;
- 14th Street at OR-99E;
- 14th Street at Washington Street;
- Redland Road at OR-213; and
- Beavercreek Road at OR-213.

Additionally, the intersection of Abernethy Road/S Holcomb Boulevard at Redland Road is projected to operate within Oregon City standards but with a v/c ratio in excess of 1.00.

Further inspection and potential mitigations at the intersections listed above are discussed within the *Mitigation Analysis* section of this report.

All other study intersections are currently and projected to operate acceptably per Oregon City standards and with v/c ratios of 1.00 or less through the 2035 planning horizon. No operational mitigation is necessary or recommended for these intersections.

Queuing Analysis

The I-205 southbound ramps intersection at OR-213 reports high delays and v/c ratios during both the morning and evening peak hours under the 2035 planning horizon conditions either with or without the addition of site trips from the proposed annexation and zone change. To determined whether eastbound left-turn queues may exceed the available lane storage and impede eastbound right-turning traffic flowing off the -205 freeway, an analysis of projected queuing was conducted for the intersection. The queue length for the eastbound left-turn lane was projected based on the results of a Synchro/SimTraffic simulation, with the reported values based on the 95th-percentile queue length for the year 2035 background plus zone change conditions. This means that 95 percent of the time, the queue lengths will be less than or equal to the reported values.

The projected 95th percentile queue lengths reported by the Synchro/SimTraffic simulation are presented in Table 6 below for the morning and evening peak hours. Available lane storage was measured and rounded to the nearest five feet. Detailed queuing analysis worksheets are included in the technical appendix.

Table 6 – 95th-Percentile Queuing Analysis Summary

	Available Storage (Feet)	95th Percentile Queue 2035 w/ Annexation	
		AM	PM
10. I-205 SB Ramps at OR-213			
EB LT Lane	125	109	26

Based on the results of the queuing analysis, the eastbound left-turn lane of the I-205 southbound ramps intersection at OR-213 is projected to have adequate vehicle storage space to accommodate the projected queues. Accordingly, no operational or queuing-related mitigation is necessary or recommended for this intersection.

Mitigation Analysis

As determined within the *Capacity Analysis* section, there are six study intersections that are not projected to meet Oregon City standards and one additional intersection that is projected to operate with a v/c ratio in excess of 1.00. The following narrative discusses potential mitigative measures, some of which are described within the city's TSP, that may improve operation of these intersections to acceptable levels. Further analyses of other study intersections that may be significantly impacted by mitigations was also conducted.

Additionally, the two study intersections on Holly Lane were analyzed as roundabouts in accordance with planned projects included within the TSP.

I-205 Southbound Ramps at OR-99E

The I-205 southbound ramps intersection at OR-99E is projected to operate with v/c ratios in excess of 1.10 under the 2035 planning horizon during both the morning and evening peak hours. Per Oregon City's TSP, project number D75, dual left-turn lanes on the southbound approach of OR-99E are planned for installation in the long-term (Phase 3). Upon implementation of mitigative measures, the study intersection is projected to operate with v/c ratios of 0.94 or less during both the morning and evening peak hours under the 2035 planning year.

I-205 Northbound Ramps at OR-99E

The I-205 northbound ramps intersection at OR-99E is projected to operate with v/c ratios in excess of 1.10 under the 2035 planning horizon during both the morning and evening peak hours. Per Oregon City's TSP, project number D76, dual left-turn lanes on the westbound off-ramp approach are planned for installation in the long-term (Phase 3). Additionally, dual right-turn lanes on the northbound OR-99E approach are also necessary to reduce the intersection v/c ratio to acceptable levels per city standards. Upon implementation of these mitigative measures, the study intersection is projected to operate with v/c ratios of 0.88 or less during both the morning and evening peak hours under the 2035 planning year.

15th Street at OR-99E

The intersection of 15th Street at OR-99E is projected to operate acceptably per Oregon City capacity standards; however, the intersection is affected by mitigations proposed at other study intersections, where project numbers D7 and D8 of the city's TSP are planned for implementation in the short-term. Project number D8 includes converting 15th Street to be one-way westbound travel between Washington Street and OR-99E. This segment of roadway will be restriped to include two travel lanes.

Limited information regarding the future design of the intersection is available; therefore, it is assumed the intersection will be converted to provide both northwest-bound left-turn and right-turn movements. In order to meet acceptable operational standards, it is recommended that a traffic signal be installed and the northwest-bound approach be restriped to have one left-turn lane and two right-turn lanes. Upon implementation of these mitigative measures, the study intersection is projected to operate with v/c ratios of 0.96 or less during both the morning and evening peak hours under the 2035 planning year.

14th Street at OR-99E

The intersection of 14th Street at OR-99E is projected to operate with a v/c ratio in excess of 1.10 during the morning peak hour. Per Oregon City's TSP, project number D7, 14th Street may be converted to one-way eastbound travel between OR-99E and John Adams Street. From OR-99E to Main Street, the roadway will be restriped to include two travel lanes. It is recommended that the traffic signal remain at the intersection to reduce forming extended southwest-bound queues. Upon implementation of these mitigative measures, the

study intersection is projected to operate with v/c ratios of 0.96 or less during both the morning and evening peak hours under the 2035 planning year.

Abernethy Road/S Holcomb Boulevard at Redland Road

The intersection of Abernethy Road/S Holcomb Boulevard at Redland Road is projected to operate acceptably per Oregon City standards; however, the intersection is projected to operate over capacity with a v/c ratio of 1.08 during the evening peak hour. No planned project is currently included within the city's TSP, however, a potential mitigative measure to reduce the v/c ratio may include restriping the intersection. Currently, the western intersection leg has two receiving lanes; however, it does not have more than one travel lane from any approach feeding into it. It is recommended that the western intersection leg be restriped to have one eastbound left-turn, one eastbound through, one eastbound right-turn, and one westbound receiving lane. Upon implementation of mitigative measures, the intersection is projected to operate with v/c ratios of 0.93 or less during both the morning and evening peak hours under the 2035 planning year.

15th Street at Washington Street

The intersection of 15th Street at Washington Street is projected to operate acceptably per Oregon City capacity standards; however, the intersection is affected by mitigations proposed at other study intersections, TSP projects D7 and D8. Project D8 proposes the restriping of 15th Street to be one-way westbound travel Washington Street and OR-99E. This segment of roadway will be restriped to include two westbound travel lanes. Upon implementation of mitigative measures, the study intersection is projected to operate with v/c ratios of 0.88 or less during both the morning and evening peak hours under the 2035 planning year.

14th Street at Washington Street

The intersection of 14th Street at Washington Street is projected to operate with v/c ratios in excess of 1.10 during both the morning and evening peak hours. Per Oregon City's TSP, project number D7, 14th Street may be converted to one-way eastbound travel between OR-99E and John Adams Street. From Main Street to Washington Street the roadway will be restriped to include two travel lanes, while from Washington Street to John Adams Street the roadway will be restriped to include one travel lane. Upon implementation of mitigative measures, the intersection is projected to operate with v/c ratios of 0.85 or less during both the morning and evening peak hours under the 2035 planning year.

14th Street at Main Street

For safety concerns rather than operational issues, the intersection of 14th Street at Main Street is proposed for conversion to all-way stop control, per TSP project number D13, to be consistent with traffic controls of surrounding intersections. In addition, project number D7 includes restriping 14th Street to be one-way eastbound travel with two travel lanes between OR-99E and Washington Street. Upon implementation of these mitigative measures, the study intersection is projected to operate with v/c ratios of 0.56 or less during both the morning and evening peak hours under the 2035 planning year.

Redland Road at OR-213

The intersection of Redland Road at OR-213 is projected to operate with a v/c ratio in excess of 1.10 during the evening peak hour. Per Oregon City's TSP, project number D79 (currently unfunded), an additional northbound through lane and an additional southbound through lane are planned for installation in the long-term (Phase 4). Upon implementation of these mitigative measures, the study intersection is projected to operate with v/c ratios of 0.96 or less during both the morning and evening peak hours under the 2035 planning year.

Holly Lane at S Holcomb Boulevard

The intersection of Holly Lane at S Holcomb Boulevard is projected to operate well within capacity of Oregon City standards where no mitigation is recommended. However, project number D43 of the city's TSP includes the construction of a single-lane roundabout in lieu of a one-way stop-controlled intersection, which is planned for installation in the long-term in conjunction with the Holly Lane extension. If constructed, the intersection is projected to operate at LOS A with v/c ratios of 0.33 or less during both the morning and evening peak hours under the 2035 planning year.

Holly Lane at S Redland Road

The intersection of Holly Lane at S Redland Road is also projected to operate with v/c ratios well within Oregon City standards, however, high delays are projected on the Holly Lane minor-street approaches. Although mitigation is not necessary per city standards, project number D36 of the city's TSP includes the construction of a single-lane roundabout in lieu of a two-way stop-controlled intersection, which is planned for installation in the long-term (Phase 4). Based on preliminary analyses of a single-lane roundabout, if project number D36 is implemented it is recommended that an additional right-turn lane be constructed on the eastbound approach to maintain adequate lane capacities within the intersection. If constructed, the intersection is projected to operate with v/c ratios of 0.92 or less.

The v/c, delay, and LOS results of the mitigation analysis are shown in Table 7 and Table 8 for the morning and evening peak hours. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

Table 7 - Mitigative Capacity Analysis Summary (Intersections 1 – 9)

	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
1. I-205 SB Ramps at OR-99E						
2035 Planning Horizon (w/ Annexation Trips)	F	> 80	**1.21**	E	71	**1.13**
Mitigated Conditions (2 SB LT Lanes)	C	29	0.92	D	41	0.94
2. I-205 NB Ramps at OR-99E						
2035 Planning Horizon (w/ Annexation Trips)	F	> 80	**1.33**	E	57	**1.17**
Mitigated Conditions (2 WB LT & 2 NB RT Lanes)	C	22	0.82	C	23	0.88
3. 15th St at OR-99E						
2035 Planning Horizon (w/ Annexation Trips)	F	67	0.92	E	50	0.78
Mitigated Conditions (One-way Street w/ 2 travel lanes & Signal)	C	27	0.95	C	30	0.96
4. 14th St at OR-99E						
2035 Planning Horizon (w/ Annexation Trips)	E	60	**1.14**	C	31	0.96
Mitigated Conditions (One-way Street & Signal)	B	11	0.93	A	9	0.96
5. Abernethy Rd/S Holcomb Blvd at Redland Rd						
2035 Planning Horizon (w/ Annexation Trips)	D	40	0.88	E	71	1.08
Mitigated Conditions (1 WB LT, Th, & RT Lanes)	D	40	0.88	D	48	0.93
7. 15th St at Washington St						
2035 Planning Horizon (w/ Annexation Trips)	C	23	0.87	C	21	0.77
Mitigated Conditions (One-way Street)	B	20	0.80	C	22	0.88
8. 14th St at Washington St						
2035 Planning Horizon (w/ Annexation Trips)	E	65	**1.12**	F	> 80	**1.26**
Mitigated Conditions (One-way Street)	B	16	0.79	C	23	0.85
9. 14th St at Main St						
2035 Planning Horizon (w/ Annexation Trips)	F	> 80	0.26	F	128	0.37
Mitigated Conditions (One-way Street & All-way)	B	11	0.37	B	15	0.56

BOLDED results exceed Oregon City operational standards.

Intersection 6. Abernethy Road at Washington Street was excluded from mitigative analyses since no mitigation or changes in traffic conditions would occur at the intersection.

Table 8 - Mitigative Capacity Analysis Summary (Intersections 13 – 16)

	Morning Peak Hour			Evening Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
13. Redland Rd at OR-213						
2035 Planning Horizon (w/ Annexation Trips)	D	41	1.05	F	82	**1.23**
Mitigated Conditions (Add 1 NB & SB Th Lane)	C	24	0.81	C	28	0.96
15. Holly Ln at S Holcomb Blvd						
2035 Planning Horizon (w/ Annexation Trips)	B	13	0.09	B	14	0.20
Mitigated Conditions (Single Lane Roundabout)	A	6	0.27	A	6	0.33
16. Holly Ln at S Redland Rd						
2035 Planning Horizon (w/ Annexation Trips)	F	> 80	0.07	F	> 80	0.17
Mitigated Conditions (Single Lane Roundabout except w/ EB LT/Th & RT Lanes)	C	22	0.88	C	21	0.92

BOLDED results exceed Oregon City operational standards.

Intersection 14. Beavercreek Road at OR-213 was exduded from mitigative analyses since no reasonable mitigation is currently available and no significant changes in traffic conditions would occur at the intersection.

Although specific mitigation was identified sufficient to offset the impacts of future development following the proposed annexation and zone change on the subject property, it should be noted that there may be other mitigations that would equally or better serve the needs of the development, Oregon City, and ODOT.

The applicant is not currently proposing to make any physical improvements at any area intersections in conjunction with the proposed zone change. Rather, the improvements listed were included as suggestions of possible mitigation. Actual intersection configurations including lane configurations, traffic control devices and signal phasing as applicable for the intersections of Holly Lane at S Holcomb Boulevard and Holly Lane at S Redland Road should appropriately be determined based on the nature of actual development proposed within the subject property and adjacent properties in order to ensure that appropriate warrants are met, safety is preserved and maximized, and mitigations are both appropriate for and proportionate to the impacts of actual development. Accordingly, the currently-proposed mitigation for the requested annexation and zone change consists of conditions of approval pursuant to OAR 660-012-0060(2)(d), as described in the *Transportation Planning Rule Analysis* section of this report.

Transportation Planning Rule Analysis

The Transportation Planning Rule (TPR) is in place to ensure that the transportation system is capable of supporting the potential increase in traffic intensity that could result from changes to adopted plans and land use regulations. The applicable portions of the TPR are quoted in italics below, with responses directly following.

660-012-0060

(1) If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:

(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);

The proposed zone change will not necessitate changes to the functional classification of existing or planned transportation facilities. Accordingly, this section is not triggered.

(b) Change standards implementing a functional classification system; or

The proposed zone change will not change any standards implementing the functional classification system. Accordingly, this section is also not triggered.

(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.

(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or

(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.

In this instance, the proposed zone change would be expected to degrade the performance of several study area intersections that are otherwise not projected to meet the relevant performance standards of Oregon City and ODOT.

Having determined that the proposed annexation and zone change may result in a significant effect on operation of several study area intersections, the TPR also includes the following language:

(9) *Notwithstanding section (1) of this rule, a local government may find that an amendment to a zoning map does not significantly affect an existing or planned transportation facility if all of the following requirements are met.*

(a) The proposed zoning is consistent with the existing comprehensive plan map designation and the amendment does not change the comprehensive plan map;

(b) The local government has an acknowledged TSP and the proposed zoning is consistent with the TSP; and

(c) The area subject to the zoning map amendment was not exempted from this rule at the time of an urban growth boundary amendment as permitted in OAR 660-024-0020(1)(d), or the area was exempted from this rule but the local government has a subsequently acknowledged TSP amendment that accounted for urbanization of the area.

In this instance, the proposed zoning is consistent with the Comprehensive Plan map designation, Oregon City has an acknowledged TSP that accounted for future development under the proposed zoning, and the area was not exempted from the rule at the time of the urban growth boundary amendment. Accordingly, the city may find that the proposed annexation and zone change is consistent with the city's adopted plans and does not significantly effect an existing or planned transportation facility.

Alternatively, if it is determined that mitigation may be required for the proposed annexation and zone change, the requirements of the TPR are as follows:

(2) *If a local government determines that there would be a significant effect, then the local government must ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility measured at the end of the planning period identified in the adopted TSP through one or a combination of the remedies listed in (a) through (e) below, unless the amendment meets the balancing test in subsection (2)(e) of this section or qualifies for partial mitigation in section (11) of this rule. A local government using subsection (2)(e), section (3), section (10) or section (11) to approve an amendment recognizes that additional motor vehicle traffic congestion may result and that other facility providers would not be expected to provide additional capacity for motor vehicles in response to this congestion.*

(a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.

(b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.

(c) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.

(d) Providing other measures as a condition of development or through a development agreement or similar funding method, including, but not limited to, transportation system management measures or minor transportation improvements. Local governments shall, as part of the amendment, specify when measures or improvements provided pursuant to this subsection will be provided.

(e) Providing improvements that would benefit modes other than the significantly affected mode, improvements to facilities other than the significantly affected facility, or improvements at other locations, if:

(A) *The provider of the significantly affected facility provides a written statement that the system-wide benefits are sufficient to balance the significant effect, even though the improvements would not result in consistency for all performance standards;*

(B) *The providers of facilities being improved at other locations provide written statements of approval; and*

(C) *The local jurisdictions where facilities are being improved provide written statements of approval.*

In this instance, option (d) would allow conditions of development or a development agreement to be adopted for the subject property to mitigate any potential traffic impacts. Appropriate conditions of approval could consist either of requirements to construct mitigation sufficient to offset traffic impacts at the study intersections or to delay development until the city's TSP is amended to specifically address operation of these intersections.

Since site development is not currently proposed and it is anticipated that refinement plans will be developed by Oregon City in conjunction with ODOT, a condition of approval is proposed which will limit development within the subject property to levels permissible under the existing zoning until appropriate refinement plans are prepared to address future capacity concerns.

Subject to further discussion with City and ODOT staff and refinement of the proposed condition, the applicant tentatively proposes the following condition of approval:

In accordance with City, County and State Transportation requirements, no development, except that permitted under the County's Future Urban FU-10 zoning designation, in effect as of the date of this application's submittal, shall be allowed until the following occurs and the Applicant demonstrates compliance with these requirements:

a. *Highway 213 at Redland Road intersection (an Oregon Highway intersection) is forecasted to fall below adopted performance standards prior to year 2035. As a result, a new Refinement Plan, shall be adopted and acknowledged.*

b. *Redland Road at Holcomb Boulevard/Abernethy Road (a non-Oregon Highway intersection) is forecasted to fall below adopted performance standards prior to year 2035. As a result, the City must do one of the following:*

   i. *Adopt amendments to the City's Transportation System Plan and OCMC Chapter 12.04 to include projects that satisfy the then-applicable performance standards and these standards must be acknowledged; or*

   ii. *Condition of approval of a land division application that satisfies then-applicable OCMC Chapter 12.04 Page 5 of 7 by including proportional mitigation of the application's impacts on that intersection, or such other mitigation measure(s) as may be approved which assure(s) that the intersection will either meet, or perform no words than, the then-applicable performance standards.*

Safety Analysis

Crash Data Analysis

Using data obtained from the ODOT's Crash Analysis and Reporting Unit, a review of the most recent available five years of crash history (from January 2011 to December 2015) at the study intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection. Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak period represents 10 percent of average daily traffic (ADT) at the intersection. Crash rates in excess of one to two crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

I-205 Southbound Ramps Intersection at OR-99E

The I-205 southbound ramps intersection at OR-99E had 47 reported crashes during the analysis period. The crashes consisted of 25 rear-end collisions, 19 turning-movement collisions, one fixed-object collision, one collision involving a pedestrian, and one collision involving a bicyclist. Of the crashes reported, 20 were classified as "Property Damage Only" (*PDO*), 20 were classified as "Possible Injury – Complaint of Pain" (*Injury C*), six were classified as "Non-Incapacitating Injury" (*Injury B*), and one was classified as "Incapacitating Injury – Bleeding, Broken Bones" (*Injury A*). The crash rate at the intersection was calculated to be 0.55 CMEV.

Three of the reported crashes at the intersection involved a pedestrian or bicyclist, or resulted in an incapacitating injury. The crash involving a pedestrian occurred when the driver of a westbound right-turning passenger car failed to yield right-of-way to a non-motorist in an intersection crosswalk. The driver of the vehicle had turned right after coming to a stop at the intersection. The pedestrian sustained injuries consistent with *Injury B* classification while the driver of the vehicle was uninjured. The crash involving a bicyclist occurred when the driver of a westbound right-turning passenger car struck a southbound bicyclist who was traveling on the roadway shoulder against the flow of traffic. The bicyclist had disregarded the traffic signal and had entered the intersection illegally. The bicyclist sustained injuries consistent with *Injury B* classification while the driver of the vehicle was uninjured. The crash which resulted in incapacitating injuries occurred when the driver of a northbound passenger car disregarded the traffic signal and collided with a westbound left-turning passenger car. The driver of the northbound vehicle sustained injuries while the other driver was uninjured.

I-205 Northbound Ramps Intersection at OR-99E

The I-205 northbound ramps intersection at OR-99E had 42 reported crashes during the analysis period. The crashes consisted of 28 rear-end collisions and 14 turning-movement collisions. Of the crashes reported, 23

were classified as *PDO*, 17 were classified as *Injury C*, one was classified as *Injury B*, and one was classified as *Injury A*. The crash rate at the intersection was calculated to be 0.48 CMEV.

One of the reported crashes at intersection was classified as an *Injury A* collision. The crash occurred when the driver of a westbound right-turning vehicle was following too close and rear-ended another passenger car that had stopped at the intersection. The driver of the vehicle that was rear-ended sustained incapacitating injuries while the other driver was uninjured.

15th Street at OR-99E

The intersection of 15th Street at OR-99E had 20 reported crashes during the analysis period. The crashes consisted of 14 rear-end collisions, five turning-movement collisions, and one collision involving a bicyclist. Of the crashes reported, six were classified as *PDO*, 12 were classified as *Injury C*, one was classified as *Injury B*, and one was classified as *Injury A*. The crash rate at the intersection was calculated to be 0.27 CMEV.

One of the reported crashes at the intersection was classified as an *Injury A* collision. The crash occurred when the driver of a northwest-bound right-turning passenger car failed to yield right-of-way to a bicyclist crossing through the intersection. The driver of the passenger car had proceeded through the intersection after stopping, however had their vision obscured by some roadside obstruction. The bicyclist sustained injuries while the driver of the vehicle was uninjured.

14th Street at OR-99E

The intersection of 14th Street at OR-99E had 49 reported crashes during the analysis period. The crashes consisted of 24 turning-movement collisions, 23 rear-end collisions, and two collisions involving bicyclists. Of the crashes reported, 15 were classified as *PDO*, 25 were classified as *Injury C*, and nine were classified as *Injury B*. The crash rate at the intersection was calculated to be 0.68 CMEV.

Two of the reported crashes at the intersection involved a bicyclist. One of the bicycle-related crashes occurred when the driver of a southwest-bound left-turning passenger car was struck by a bicyclist who disregarded the traffic signal and had entered the intersection illegally. The driver of the vehicle was uninjured while the bicyclist sustained injuries consistent with *Injury B* classification. The second bicycle related crash occurred when the driver of a northeast-bound right-turning passenger car failed to yield right-of-way to a bicyclist. The driver of the vehicle was uninjured while the bicyclist sustained injuries consistent with *Injury B* classification.

Abernethy Road/S Holcomb Boulevard at Redland Road

The intersection of Abernethy Road/S Holcomb Boulevard at Redland Road had 15 reported crashes during the analysis period. The crashes consisted of 9 rear-end collisions, 5 turning-movement collisions, and 1 angle-type collision. Of the crashes reported, 9 were classified as *PDO*, 4 were classified as *Injury C*, and 2 were classified as *Injury B*. the crash rate at the intersection was calculated to be 0.43 CMEV.

Abernethy Road at Washington Street

The intersection of Abernethy Road at Washington Street had no reported crashes during the analysis period.

15th Street at Washington Street

The intersection of 15th Street at Washington Street had 20 reported crashes during the analysis period. The crashes consisted of ten turning-movement collisions, six angle-type collisions, three rear-end collisions, and one collision involving a bicyclist. Of the crashes reported, nine were classified as *PDO*, nine were classified as *Injury C*, and two were classified as *Injury B*. The crash rate at the intersection was calculated to be 0.80 CMEV.

One of the reported crashes at the intersection involved a bicyclist. The crash occurred when the driver of a southeast-bound left-turning passenger car failed to yield right-of-way to a bicyclist. The driver of the passenger car had their vision obscured by some roadside obstruction. The bicyclist sustained injuries consistent with *Injury C* classification while the driver of the vehicle was uninjured.

14th Street at Washington Street

The intersection of 14th at Washington Street had nine reported crashes during the analysis period. The crashes consisted of four turning-movement collisions, three rear-end collisions, one fixed-object collision, and one angle-type collision. Of the crashes reported, four were classified as *PDO* and five were classified as *Injury C*. The crash rate at the intersection was calculated to be 0.32 CMEV.

14th Street at Main Street

The intersection of 14th Street at Main Street had 30 reported crashes during the analysis period. The crashes consisted of 21 angle-type collisions, six turning-movement collisions, two collisions involving bicyclists, and one collision involving a pedestrian. Of the crashes reported, 15 were classified as *PDO*, 11 were classified as *Injury C*, and four were classified as *Injury B*. The crash rate at the intersection was calculated to be 1.46 CMEV.

Based on the calculated crash rate being in excess of one crash per million entering vehicles, additional investigation regarding the safety of the intersection is appropriate. It was noted that Oregon City's TSP includes a recommendation to convert this intersection to all-way stop control and potentially convert 14th Street to one-way travel as mitigation for the high incidence of crashes at the intersection. The intersection crash history shows five or more crashes per year that are susceptible to correction by installation of all-way stop control for each of the three most recent years analyzed (2013, 2014 and 2015). Accordingly, all-way stop control is both warranted and recommended based on the crash history. No other specific safety mitigations are recommended based on the crash history.

I-205 Southbound Ramps at OR-213

The I-205 southbound ramps intersection at OR-213 had no reported crashes during the analysis period.

I-205 Northbound Ramps at OR-213

The I-205 northbound ramps intersection at OR-213 had no reported crashes during the analysis period.

Prairie Schooner Way/Clackamas River Drive at OR-213

The intersection of Prairie Schooner Way/Clackamas River Drive at OR-213 was recently reconstructed near the end of year 2012. Prior to reconstruction, the intersection allowed full turning-movements for all approaches. Currently, the intersection allows only right-in/right-out movements for the minor-street approaches while bi-directional traffic along the major-street is separated by a raised median.

Since significant changes to traffic controls had occurred at the intersection, it's reasonable to assume that crash patterns have also significantly changed. Prior to reconstruction of the intersection, over a duration of two years (between 2011 and 2012) a total of 19 crashes were reported at the intersection. After construction was completed, over a duration of three years (between 2013 and 2015) a total of 15 crashes were reported. Based on this information, on average 9.5 crashes per year had occurred at the intersection prior to reconstruction while 5.0 crashes per year had occurred after construction had ended. In order to more accurately assess safety at the intersection, only the most recent three years of crash data (between years 2013 and 2015) was reviewed.

Based on the three years of crash history, the intersection had 15 reported crashes during the analysis period. The crashes consisted of eight rear-end collisions, two turning-movement collisions, two overturning collisions, one angle-type collision, one fixed-object collision, and one sideswipe collision. Of the crashes reported, four were classified as *PDO*, eight were classified as *Injury C*, and three were classified as *Injury B*. The crash rate at the intersection was calculated to be 0.22 CMEV.

Redland Road at OR-213

The intersection of Redland Road at OR-213 had 36 reported crashes during the analysis period. The crashes consisted of 28 rear-end collisions, 7 turning-movements, and 1 sideswipe collision. Of the crashes reported, 10 were classified as *PDO*, 24 were classified as *Injury C*, 1 was classified as *Injury B*, and 1 was classified as *Injury A*. The crash rate at the intersection was calculated to be 0.35 CMEV.

One of the crashes at the intersection was classified as *Injury A*. The crash occurred when the driver of a southbound through passenger car disregarded the traffic signal and collided with a northbound left-turning passenger car. During the collision, the southbound vehicle overturned and struck a third passenger car after the initial collision. The driver of the southbound vehicle sustained injuries consistent with *Injury A* classification, while the driver of the northbound left-turning vehicle sustained injuries consistent with *Injury C* classification. The driver of the third vehicle was uninjured.

Beavercreek Road at OR-213

The intersection of Beavercreek Road at OR-213 had 143 reported crashes during the analysis period. The crashes consisted of 124 rear-end collisions, 9 turning-movement collisions, 5 angle-type collisions, 5 sideswipe collisions, 1 fixed-object collision, and 1 collision involving a pedestrian. Of the crashes reported,

66 were classified as *PDO*, 64 were classified as *Injury C*, 11 were classified as *Injury B*, 1 was classified as *Injury A*, and 1 resulted in a fatality. The crash rate at the intersection was calculated to be 1.30 CMEV.

Two of the crashes at the intersection either involved a pedestrian or was classified as an *Injury A* collision. The crash that involved a pedestrian occurred when an east/west traveling pedestrian disregarded the traffic signal, entered the intersection illegally, and was struck by a southbound passenger car. The pedestrian sustained injuries consistent with *Injury B* classification while the driver of the passenger car was uninjured. The crash that was classified as *Injury A* occurred when the driver of a northbound passenger car disregarded the traffic signal and collided with a southbound left-turning passenger car. The passenger in the left-turning vehicle sustained injuries consistent with *Injury A* classification while the vehicle's driver sustained injuries consistent with *Injury C* classification. The driver of the northbound vehicle sustained no injuries.

Over the five-year analysis period, one of the crashes at the intersection resulted in a fatality. The crash was classified as an angle-type collision which occurred at 1:00 AM on Sunday, September 18th, 2011. Driving conditions were during night hours with streetlight, rain, and wet roadways present. The crash occurred when the driver of an eastbound passenger car disregarded the traffic signal and collided with southbound passenger car. The driver of the eastbound vehicle sustained fatal injuries while the passenger of the vehicle sustained injuries consistent with *Injury B* classification. The driver of the southbound vehicle sustained injuries consistent with *Injury C* classification. Although not reported within the crash data, Oregon State police had indicated alcohol was a contributing factor in the collision.

Based on the detailed review of crash history at the intersection, the number of crashes occurring at the intersection is higher than would be expected for a typical intersection with similar characteristics. The vast majority of the reported crashes (86.7 percent of total intersection crashes) were rear-end collisions. However, the rear-end collisions were distributed somewhat evenly among each of the intersection approaches, with 31 on the northbound approach, 29 on the southbound approach, 14 on the eastbound approach, 48 on the westbound approach. The two remaining rear-end collisions were noted as "unknown" with respect to travel direction. Since the rear-end collisions are occurring with relatively similar frequency on each of the approaches, it is unlikely that the crashes result from any specific design deficiency.

It is recommended that consideration be given to installing flashing warning signs that alert drivers to the potential for stopped queues ahead. These warning signs are most appropriate for the high-speed approaches on OR-213, and particularly the southbound approach since the nearest traffic signal to the north is approximately 2.5 miles away at Redland Road. It should be noted that such a system is included in the city's TSP (project D14), which will install a queue warning system for southbound drivers on OR-213 which includes a variable message sign. The project is within the "Likely To Be Funded" list and is designated for near-tern implementation.

Holly Lane at S Redland Road

The intersection of Holly Lane at S Redland Road had no reported crashes during the analysis period.

Based on the detailed crash data for the study intersections, it is recommended that the intersection of 14th Street at Main Street be converted to all-way stop control and 14th Street be converted to one-way travel. Additionally, for the intersection of Beavercreek Road at OR-213, it is recommended that consideration be

given to installing flashing warning signs that alert drivers to the potential for stopped queues ahead. No other specific mitigations are recommended for the study area intersections based on the crash history.

Warrant Analysis

Left-turn lane and traffic signal warrants were examined for the study intersections where such treatments would be applicable.

A left-turn refuge lane is primarily a safety consideration for the major street, removing left-turning vehicles from the through traffic stream. The left-turn lane warrants used were developed from the National Cooperative Highway Research Project's (NCHRP) Report 457. Turn lane warrants were evaluated based on the number of advancing and opposing vehicles as well as the number of turning vehicles, the travel speed, and the number of through lanes.

Left-turn lane warrants are projected to be met for the following three intersection approaches:

- Northwest-bound approach at the intersection of 14th Street at Main Street under existing conditions during the morning and evening peak hours;
- Eastbound approach at the intersection of Holly Lane at S Redland Road under the 2035 planning horizon year with the proposed annexation, during the morning and evening peak hours; and
- Westbound approach at the intersection of Holly Lane at S Redland Road under existing conditions during the morning peak hour.

The intersection of 14th Street at Main Street is included within Oregon City's TSP and is planned for conversion to all-way stop control in the short-term. Typically, conversion of an intersection to all-way stop control means that the left-turn lane warrants are no longer applicable; however, based on a capacity analysis of the intersection operating under all-way stop control, it is recommended that a northwest-bound left-turn lane be provided at the intersection regardless in order to ensure all approaches will continue to operate within capacity. Additionally, 14th Street may be converted to one-way southeast-bound travel in conjunction with the intersection converting to all-way stop-control. Implementation of a one-way street conversion would eliminate the need for the left-turn lane.

Traffic signal warrants were examined for the unsignalized study intersections to determine whether the installation of any new traffic signal will be warranted at the intersections upon completion of the proposed development. Traffic signal warrants are triggered at the intersection of Holly Lane at S Redland Road under the 2035 planning year with site trips per Condition B – *Interruption of Continuous Traffic*, and a *Combination Warrant*. Traffic signal warrants are not projected to be met for any of the other unsignalized intersections under any of the analysis scenarios. Alternatively, installation of a roundabout in conformance with the city's TSP may be appropriate in lieu of signalization of this intersection.

Conclusions

Based on the operational analysis, several study intersections are not projected to meet the relevant operational standards of Oregon City and ODOT under year 2035 traffic conditions either with or without the addition of site trips from the proposed annexation and zone change. Although the intersection of Beavercreek Road at OR-213 is not projected to experience a significant change in operation as a result of the proposed annexation and zone change, several other study intersections are projected to experience further degradation in performance upon development within the subject property.

Based on the Transportation Planning Rule analysis, the city may find that the proposed annexation and zone change will not significantly effect an existing or planned transportation facility since the city's acknowledged Transportation System Plan already accounted for development under the proposed zoning. Alternatively, conditions of development or a development agreement may be implemented to ensure that no development can occur except as permitted under the existing zoning until appropriate refinement plans are prepared to address future capacity concerns, or proportionate mitigation is provided concurrent with development to offset the actual traffic impacts of the development.

Based on the detailed review of crash history at the study area intersections, the intersection of Beavercreek Road at OR-213 was found to be among the top ten percent of high-crash intersections in the State of Oregon, with the vast majority of the reported crashes being rear-end collisions. One potential safety mitigation would be installing flashing warning signs that alert drivers to the potential for stopped queues ahead. These warning signs are most appropriate for the high-speed approaches on OR-213, and particularly the southbound approach which has uninterrupted flow for 2.5 miles. This project is already included as a "likely to be funded" project for near-term implementation in the city's Transportation System Plan.

The intersection of 14th Street at Main Street was also identified as having a high crash rate. Per Oregon City's Transportation System Plan, project D13, the intersection could be converted to all-way stop control to be consistent with the traffic countrols at surrouding intersections along Main Street. Additionally, by implementing project D7 and restriping 14th Street to allow one-way eastbound travel, it is expected that the potential for crashes at the intersection will be reduced. Both projects are listed as "likely to be funded" in the city's TSP.

All other study intersections are currently operating acceptably with respect to safety.

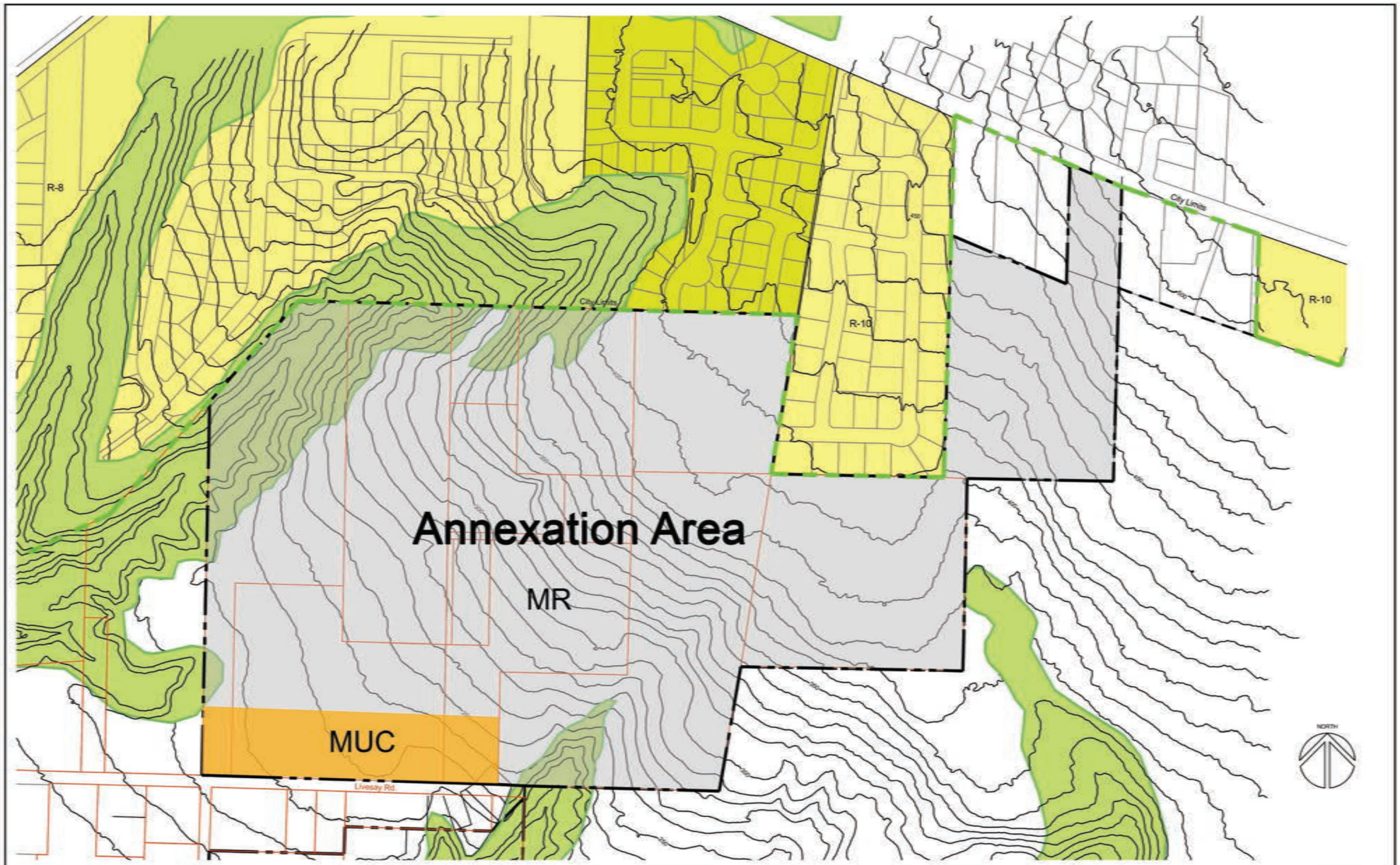
Left-turn lane warrants are projected to be met for the following three intersection approaches:

- Northwest-bound approach at the intersection of 14th Street at Main Street under existing conditions during the morning and evening peak hours;
- Eastbound approach at the intersection of Holly Lane at S Redland Road under the 2035 planning horizon year, with the proposed annexation, during the morning and evening peak hours; and
- Westbound approach at the intersection of Holly Lane at S Redland Road under existing conditions during the morning peak hour.

14th Street may be planned for conversion to one-way eastbound travel in the near-term. If the one-way street conversion is implemented, the left-turn lane warrants will no longer be applicable.

Traffic signal warrants are triggered at the intersection of Holly Lane at S Redland Road under the 2035 planning year with site trips from the proposed annexation per Condition B – *Interruption of Continuous Traffic*, and a *Combination Warrant*. Traffic signal warrants are not projected to be met for any of the other unsignalized intersections under any of the analysis scenarios.

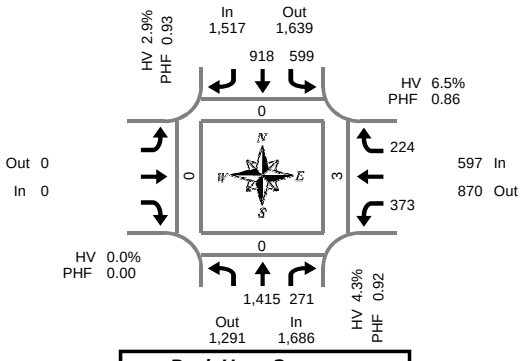
Appendix



DESIGNED: R.E.G.				Richard E. Givens, Planning Consultant 18680 Sunblaze Dr. Oregon City, OR 97045 PH: (503) 479-0097	APPLICANT: Hidden Falls Development, LLC 1980 Willamette Falls Drive, Suite 200 West Linn, OR 97068 PH: (503) 657-0406	Park Place Annexation Site Plan	SHEET: 1/1
DRAWN: R.E.G.							
SCALE: 1" = 300'							
DATE: Sept. 2016							
FILE: 15-EDN-106	DATE	NO.	REVISION				

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:10 AM to 8:10 AM

Hwy 99 & I-205 SB Ramp

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	101	36	0		47	56		0				0	37		18	0	295	0	0	2	0
7:05 AM	95	33	0		44	81		0				0	19		19	0	291	0	0	0	0
7:10 AM	89	24	0		55	67		1				0	23		13	0	271	0	0	0	0
7:15 AM	106	28	0		46	63		0				0	37		12	0	292	0	0	1	0
7:20 AM	107	20	0		51	67		0				0	30		21	0	296	0	0	0	0
7:25 AM	92	21	0		61	61		0				0	29		9	0	273	0	0	0	0
7:30 AM	128	27	0		45	66		0				0	34		9	0	309	0	0	0	0
7:35 AM	145	15	0		50	73		0				0	26		23	0	332	0	0	2	0
7:40 AM	112	17	0		56	85		0				0	30		18	0	318	0	0	0	0
7:45 AM	136	25	0		44	86		0				0	43		22	0	356	0	0	0	0
7:50 AM	145	21	0		52	86		0				0	20		25	0	349	0	0	0	0
7:55 AM	115	17	0		48	92		0				0	30		27	0	329	0	0	0	0
8:00 AM	128	27	0		42	87		0				0	47		22	0	353	0	0	0	0
8:05 AM	112	29	0		49	85		0				0	24		23	0	322	0	0	0	0
8:10 AM	88	22	0		46	69		0				0	23		21	0	269	0	0	1	0
8:15 AM	102	18	0		32	74		0				0	33		32	0	291	0	0	0	0
8:20 AM	87	20	0		31	85		0				0	22		27	0	272	0	0	0	0
8:25 AM	76	17	0		35	79		0				0	21		17	0	245	0	0	1	0
8:30 AM	97	17	0		44	81		0				0	45		23	0	307	0	0	0	0
8:35 AM	77	13	0		48	81		0				0	33		30	0	282	0	0	0	0
8:40 AM	79	16	0		44	73		0				0	31		30	0	273	0	0	0	0
8:45 AM	105	22	0		41	74		0				0	46		26	0	314	0	0	0	0
8:50 AM	97	18	0		35	80		0				0	31		31	0	292	0	0	1	0
8:55 AM	79	14	0		36	55		0				0	25		22	0	231	0	0	0	0
Total Survey	2,498	517	0		1,082	1,806		1				0	739		520	0	7,162	0	0	8	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	285	93	0		146	204		1				0	79		50	0	857	0	0	2	0
7:15 AM	305	69	0		158	191		0				0	96		42	0	861	0	0	1	0
7:30 AM	385	59	0		151	224		0				0	90		50	0	959	0	0	2	0
7:45 AM	396	63	0		144	264		0				0	93		74	0	1,034	0	0	0	0
8:00 AM	328	78	0		137	241		0				0	94		66	0	944	0	0	1	0
8:15 AM	265	55	0		98	238		0				0	76		76	0	808	0	0	1	0
8:30 AM	253	46	0		136	235		0				0	109		83	0	862	0	0	0	0
8:45 AM	281	54	0		112	209		0				0	102		79	0	837	0	0	1	0
Total Survey	2,498	517	0		1,082	1,806		1				0	739		520	0	7,162	0	0	8	0

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,686	1,291	2,977	0	1,517	1,639	3,156	1	0	0	0	0	597	870	1,467	0	3,800	0	0	3	0
%HV	4.3%				2.9%				0.0%				6.5%				4.1%				
PHF	0.92				0.93				0.00				0.86				0.92				

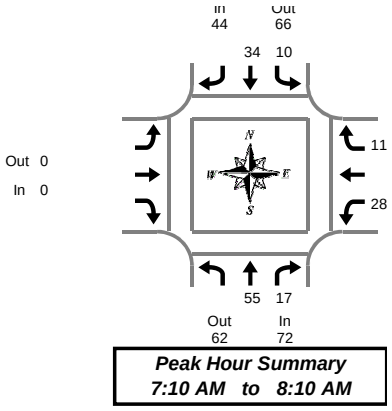
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,415	271	1,686		599	918		1,517				0	373		224	597	3,800
%HV	NA	3.9%	6.3%	4.3%	1.7%	3.7%	NA	2.9%	NA	NA	NA	0.0%	7.5%	NA	4.9%	6.5%	4.1%
PHF		0.89	0.93	0.92	0.95	0.87		0.93				0.00	0.92		0.76	0.86	0.92

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	1,371	284	0		599	883		1				0	358		216	0	3,711	0	0	5	0
7:15 AM	1,414	269	0		590	920		0				0	373		232	0	3,798	0	0	4	0
7:30 AM	1,374	255	0		530	967		0				0	353		266	0	3,745	0	0	4	0
7:45 AM	1,242	242	0		515	978		0				0	372		299	0	3,648	0	0	2	0
8:00 AM	1,127	233	0		483	923		0				0	381		304	0	3,451	0	0	3	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 SB Ramp

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		3	2	5	0	3		3				0	2		3	5	13
7:05 AM		1	1	2	2	3		5				0	1		0	1	8
7:10 AM		1	2	3	1	2		3				0	1		1	2	8
7:15 AM		6	0	6	0	3		3				0	1		2	3	12
7:20 AM		4	2	6	0	6		6				0	2		0	2	14
7:25 AM		4	1	5	1	2		3				0	2		0	2	10
7:30 AM		5	4	9	1	2		3				0	3		0	3	15
7:35 AM		5	1	6	1	1		2				0	1		3	4	12
7:40 AM		5	0	5	1	3		4				0	2		1	3	12
7:45 AM		4	1	5	0	3		3				0	2		2	4	12
7:50 AM		6	2	8	1	2		3				0	2		0	2	13
7:55 AM		5	0	5	2	3		5				0	6		1	7	17
8:00 AM		6	0	6	0	2		2				0	3		0	3	11
8:05 AM		4	4	8	2	5		7				0	3		1	4	19
8:10 AM		6	3	9	0	7		7				0	1		1	2	18
8:15 AM		9	2	11	0	4		4				0	3		3	6	21
8:20 AM		6	2	8	2	5		7				0	3		3	6	21
8:25 AM		5	0	5	3	7		10				0	3		0	3	18
8:30 AM		5	2	7	0	5		5				0	3		1	4	16
8:35 AM		3	0	3	1	1		2				0	3		1	4	9
8:40 AM		3	0	3	2	5		7				0	5		3	8	18
8:45 AM		5	2	7	4	4		8				0	3		2	5	20
8:50 AM		1	2	3	1	7		8				0	2		0	2	13
8:55 AM		4	0	4	2	3		5				0	1		1	2	11
Total Survey		106	33	139	27	88		115				0	58		29	87	341

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		5	5	10	3	8		11				0	4		4	8	29
7:15 AM		14	3	17	1	11		12				0	5		2	7	36
7:30 AM		15	5	20	3	6		9				0	6		4	10	39
7:45 AM		15	3	18	3	8		11				0	10		3	13	42
8:00 AM		16	7	23	2	14		16				0	7		2	9	48
8:15 AM		20	4	24	5	16		21				0	9		6	15	60
8:30 AM		11	2	13	3	11		14				0	11		5	16	43
8:45 AM		10	4	14	7	14		21				0	6		3	9	44
Total Survey		106	33	139	27	88		115				0	58		29	87	341

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound I-205 SB Ramp			Westbound I-205 SB Ramp			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	72	62	134	44	66	110	0	0	0	39	27	66	155
PHF	0.90			0.79			0.00			0.70			0.82

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		55	17	72	10	34		44				0	28		11	39	155
PHF		0.81	0.61	0.90	0.63	0.77		0.79				0.00	0.58		0.46	0.70	0.82

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

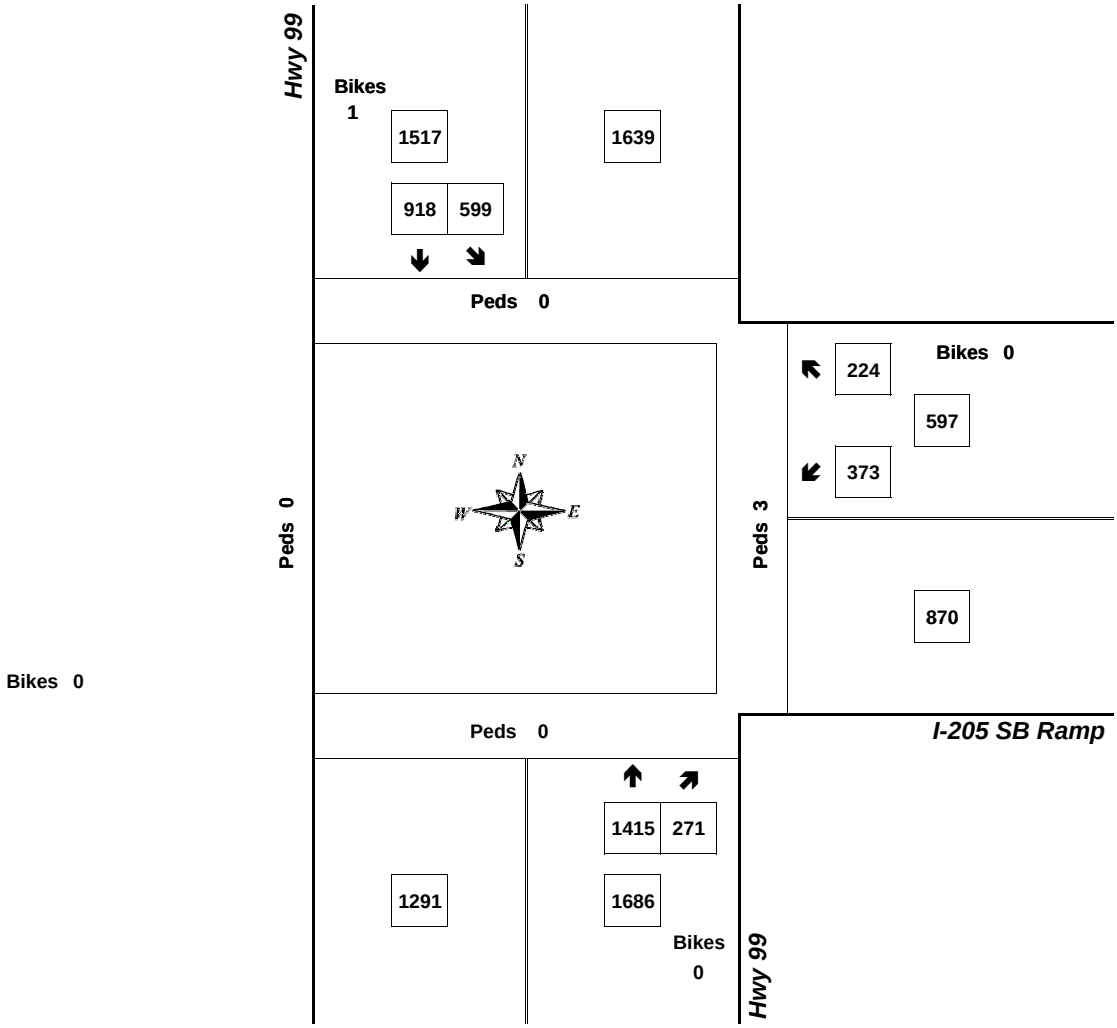
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		49	16	65	10	33		43				0	25		13	38	146
7:15 AM		60	18	78	9	39		48				0	28		11	39	165
7:30 AM		66	19	85	13	44		57				0	32		15	47	189
7:45 AM		62	16	78	13	49		62				0	37		16	53	193
8:00 AM		57	17	74	17	55		72				0	33		16	49	195

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & I-205 SB Ramp

7:10 AM to 8:10 AM
Thursday, January 26, 2017

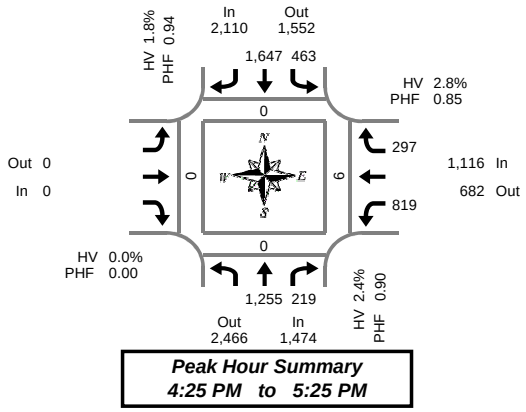


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.86	6.5%	597
NB	0.92	4.3%	1,686
SB	0.93	2.9%	1,517
Intersection	0.92	4.1%	3,800

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
4:25 PM to 5:25 PM

Hwy 99 & I-205 SB Ramp

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	74	20	0		46	123		0				0	74		33	0	370	0	0	0	0
4:05 PM	117	17	0		39	137		0				0	47		27	0	384	0	0	1	0
4:10 PM	117	16	0		40	137		0				0	82		21	0	413	0	0	1	0
4:15 PM	95	19	0		44	117		0				0	86		16	0	377	0	0	0	0
4:20 PM	85	15	0		38	119		0				0	73		28	0	358	0	0	0	0
4:25 PM	110	17	0		42	162		0				0	76		32	0	439	0	0	1	0
4:30 PM	97	22	0		37	135		0				0	74		23	0	388	0	0	0	0
4:35 PM	76	19	0		41	123		0				0	88		36	0	383	0	0	0	0
4:40 PM	110	17	0		38	169		0				0	53		22	0	409	0	0	0	0
4:45 PM	101	18	0		44	147		0				0	60		21	0	391	0	0	0	0
4:50 PM	107	16	0		23	121		0				0	71		16	0	354	0	0	0	0
4:55 PM	82	8	1		38	112		0				0	81		24	0	345	0	0	0	0
5:00 PM	122	16	0		45	141		0				0	54		26	0	404	0	0	1	0
5:05 PM	109	16	0		35	142		0				0	73		25	0	400	0	0	0	0
5:10 PM	113	26	0		35	116		0				0	66		22	0	378	0	0	1	0
5:15 PM	101	21	0		44	140		0				0	69		25	0	400	0	0	1	0
5:20 PM	127	23	0		41	139		0				0	54		25	0	409	0	0	2	0
5:25 PM	113	25	0		29	121		0				0	61		20	0	369	0	0	1	0
5:30 PM	73	23	0		42	98		0				0	81		26	0	343	0	0	0	0
5:35 PM	108	16	0		48	147		0				0	52		19	0	390	0	0	0	0
5:40 PM	104	15	0		30	133		0				0	63		18	0	363	0	0	0	0
5:45 PM	105	20	0		35	112		0				0	77		23	0	372	0	0	1	0
5:50 PM	87	13	0		46	102		0				0	70		24	0	342	0	0	0	0
5:55 PM	106	10	0		39	117		0				0	64		18	0	354	0	0	1	0
Total Survey	2,439	428	1		939	3,110		0				0	1,649		570	0	9,135	0	0	11	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	308	53	0		125	397		0				0	203		81	0	1,167	0	0	2	0
4:15 PM	290	51	0		124	398		0				0	235		76	0	1,174	0	0	1	0
4:30 PM	283	58	0		116	427		0				0	215		81	0	1,180	0	0	0	0
4:45 PM	290	42	1		105	380		0				0	212		61	0	1,090	0	0	0	0
5:00 PM	344	58	0		115	399		0				0	193		73	0	1,182	0	0	2	0
5:15 PM	341	69	0		114	400		0				0	184		70	0	1,178	0	0	4	0
5:30 PM	285	54	0		120	378		0				0	196		63	0	1,096	0	0	0	0
5:45 PM	298	43	0		120	331		0				0	211		65	0	1,068	0	0	2	0
Total Survey	2,439	428	1		939	3,110		0				0	1,649		570	0	9,135	0	0	11	0

Peak Hour Summary
4:25 PM to 5:25 PM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,474	2,466	3,940	1	2,110	1,552	3,662	0	0	0	0	0	1,116	682	1,798	0	4,700	0	0	6	0
%HV	2.4%				1.8%				0.0%				2.8%				2.3%				
PHF	0.90				0.94				0.00				0.85				0.97				

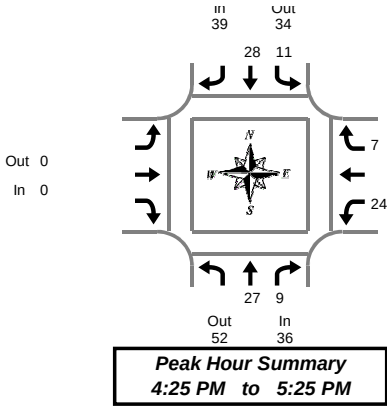
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,255	219	1,474		463	1,647		2,110				0	819		297	1,116	4,700
%HV	NA	2.2%	4.1%	2.4%	2.4%	1.7%	NA	1.8%	NA	NA	NA	0.0%	2.9%	NA	2.4%	2.8%	2.3%
PHF		0.91	0.78	0.90	0.94	0.94		0.94				0.00	0.86		0.82	0.85	0.97

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	1,171	204	1		470	1,602		0				0	865		299	0	4,611	0	0	3	0
4:15 PM	1,207	209	1		460	1,604		0				0	855		291	0	4,626	0	0	3	0
4:30 PM	1,258	227	1		450	1,606		0				0	804		285	0	4,630	0	0	6	0
4:45 PM	1,260	223	1		454	1,557		0				0	785		267	0	4,546	0	0	6	0
5:00 PM	1,268	224	0		469	1,508		0				0	784		271	0	4,524	0	0	8	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 SB Ramp

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:25 PM to 5:25 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		1	0	1	0	3		3				0	4		1	5	9
4:05 PM		2	1	3	2	4		6				0	3		0	3	12
4:10 PM		2	2	4	3	4		7				0	0		0	0	11
4:15 PM		4	2	6	0	2		2				0	1		2	3	11
4:20 PM		0	2	2	1	4		5				0	3		1	4	11
4:25 PM		6	1	7	3	2		5				0	2		1	3	15
4:30 PM		5	1	6	1	4		5				0	1		1	2	13
4:35 PM		1	0	1	2	1		3				0	3		0	3	7
4:40 PM		2	0	2	2	1		3				0	2		1	3	8
4:45 PM		1	2	3	0	2		2				0	3		1	4	9
4:50 PM		1	0	1	0	3		3				0	1		0	1	5
4:55 PM		1	0	1	1	3		4				0	0		0	0	5
5:00 PM		1	1	2	1	3		4				0	1		0	1	7
5:05 PM		1	0	1	0	4		4				0	2		0	2	7
5:10 PM		2	0	2	0	1		1				0	4		0	4	7
5:15 PM		3	1	4	0	1		1				0	3		3	6	11
5:20 PM		3	3	6	1	3		4				0	2		0	2	12
5:25 PM		3	0	3	0	3		3				0	3		0	3	9
5:30 PM		1	1	2	0	2		2				0	1		0	1	5
5:35 PM		1	0	1	0	3		3				0	1		1	2	6
5:40 PM		3	0	3	1	2		3				0	1		0	1	7
5:45 PM		2	0	2	0	2		2				0	1		1	2	6
5:50 PM		0	1	1	1	0		1				0	2		1	3	5
5:55 PM		2	0	2	2	2		4				0	0		0	0	6
Total Survey		48	18	66	21	59		80				0	44		14	58	204

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		5	3	8	5	11		16				0	7		1	8	32
4:15 PM		10	5	15	4	8		12				0	6		4	10	37
4:30 PM		8	1	9	5	6		11				0	6		2	8	28
4:45 PM		3	2	5	1	8		9				0	4		1	5	19
5:00 PM		4	1	5	1	8		9				0	7		0	7	21
5:15 PM		9	4	13	1	7		8				0	8		3	11	32
5:30 PM		5	1	6	1	7		8				0	3		1	4	18
5:45 PM		4	1	5	3	4		7				0	3		2	5	17
Total Survey		48	18	66	21	59		80				0	44		14	58	204

Heavy Vehicle Peak Hour Summary
4:25 PM to 5:25 PM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound I-205 SB Ramp			Westbound I-205 SB Ramp			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	36	52	88	39	34	73	0	0	0	31	20	51	106
PHF	0.64			0.75			0.00			0.65			0.76

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		27	9	36	11	28		39				0	24		7	31	106
PHF		0.56	0.56	0.64	0.46	0.70		0.75				0.00	0.67		0.58	0.65	0.76

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

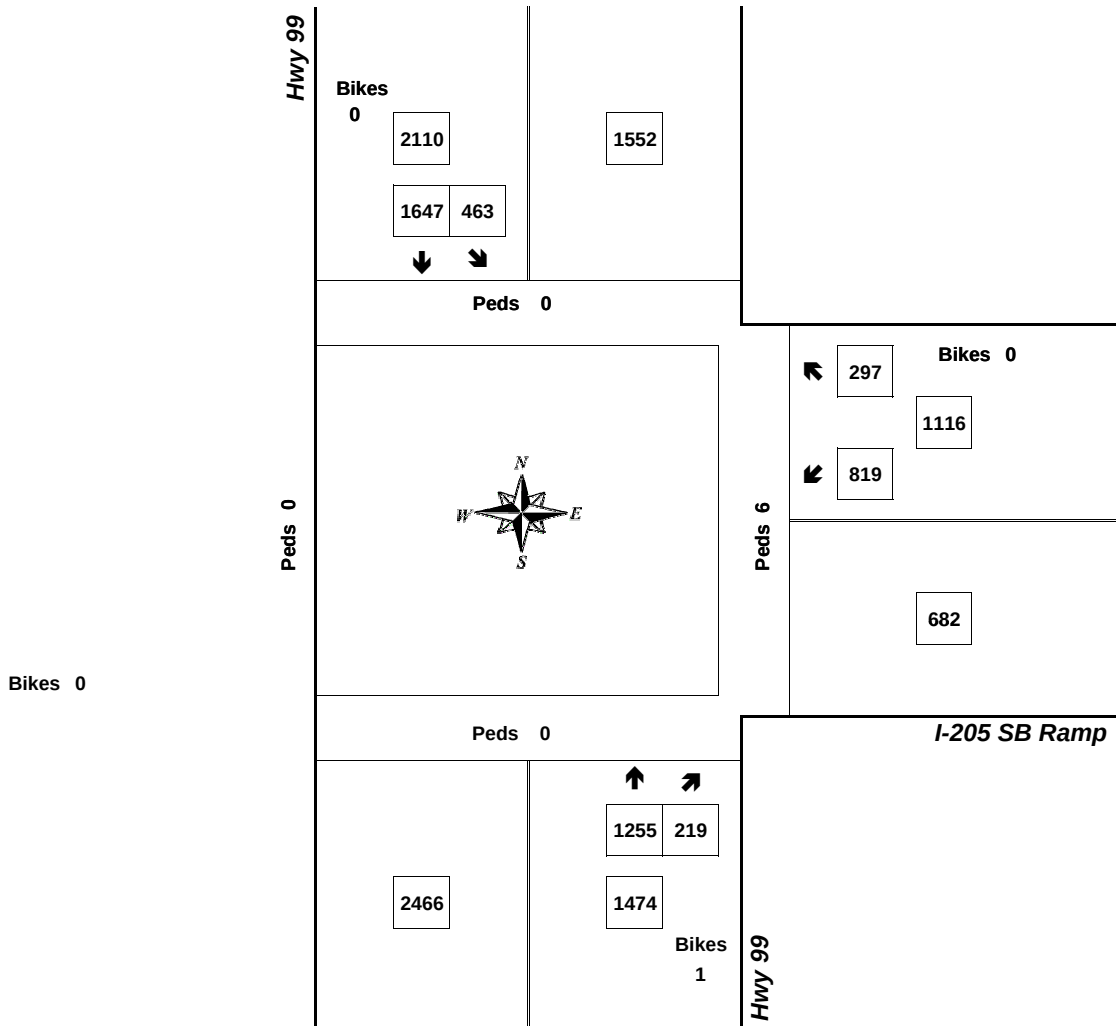
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		26	11	37	15	33		48				0	23		8	31	116
4:15 PM		25	9	34	11	30		41				0	23		7	30	105
4:30 PM		24	8	32	8	29		37				0	25		6	31	100
4:45 PM		21	8	29	4	30		34				0	22		5	27	90
5:00 PM		22	7	29	6	26		32				0	21		6	27	88

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & I-205 SB Ramp

4:25 PM to 5:25 PM
Wednesday, January 25, 2017

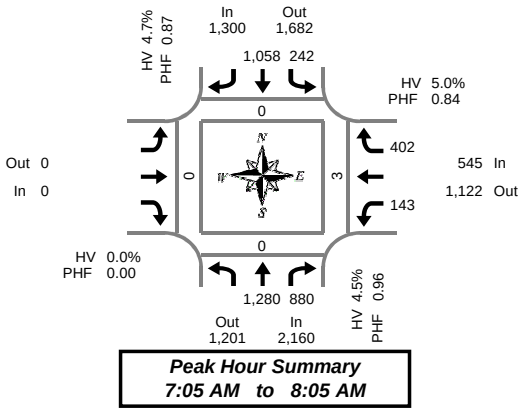


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.85	2.8%	1,116
NB	0.90	2.4%	1,474
SB	0.94	1.8%	2,110
Intersection	0.97	2.3%	4,700

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:05 AM to 8:05 AM

Hwy 99 & I-205 NB Ramp

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	105	69	0		15	61		0				0	9		27	0	286	0	0	0	0
7:05 AM	103	87	0		26	70		0				0	8		26	0	320	0	0	0	0
7:10 AM	92	73	0		31	83		0				0	4		24	0	307	0	0	1	0
7:15 AM	102	77	0		13	80		1				0	11		25	0	308	0	0	0	0
7:20 AM	102	78	0		18	76		0				0	7		32	0	313	0	0	0	0
7:25 AM	92	81	0		17	88		0				0	11		32	0	321	0	0	0	0
7:30 AM	113	72	0		18	72		0				0	11		42	0	328	0	0	0	0
7:35 AM	121	81	0		15	80		0				0	11		42	0	350	0	0	0	0
7:40 AM	104	69	0		22	97		0				0	13		38	0	343	0	0	2	0
7:45 AM	128	56	0		16	103		0				0	19		39	0	361	0	0	0	0
7:50 AM	117	68	0		25	85		0				0	20		31	0	346	0	0	0	0
7:55 AM	104	71	0		18	115		0				0	13		31	0	352	0	0	0	0
8:00 AM	102	67	0		23	109		0				0	15		40	0	356	0	0	0	0
8:05 AM	101	60	0		15	100		0				0	12		31	0	319	0	0	0	0
8:10 AM	88	62	0		25	80		0				0	18		28	0	301	0	0	0	0
8:15 AM	90	56	0		13	93		0				0	5		31	0	288	0	0	0	0
8:20 AM	78	76	0		19	77		0				0	12		38	0	300	0	0	0	0
8:25 AM	66	51	0		23	98		0				0	22		37	0	297	0	0	0	0
8:30 AM	73	66	0		23	98		0				0	13		27	0	300	0	0	1	0
8:35 AM	66	53	0		15	100		0				0	9		30	0	273	0	0	0	0
8:40 AM	63	36	0		20	78		0				0	10		40	0	247	0	0	0	0
8:45 AM	87	53	0		31	91		0				0	23		31	0	316	0	0	0	0
8:50 AM	77	54	0		20	93		0				0	12		35	0	291	0	0	1	0
8:55 AM	60	46	0		16	75		0				0	12		39	0	248	0	0	0	0
Total Survey	2,234	1,562	0		477	2,102		1				0	300		796	0	7,471	0	0	5	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	300	229	0		72	214		0				0	21		77	0	913	0	0	1	0
7:15 AM	296	236	0		48	244		1				0	29		89	0	942	0	0	0	0
7:30 AM	338	222	0		55	249		0				0	35		122	0	1,021	0	0	2	0
7:45 AM	349	195	0		59	303		0				0	52		101	0	1,059	0	0	0	0
8:00 AM	291	189	0		63	289		0				0	45		99	0	976	0	0	0	0
8:15 AM	234	183	0		55	268		0				0	39		106	0	885	0	0	0	0
8:30 AM	202	155	0		58	276		0				0	32		97	0	820	0	0	1	0
8:45 AM	224	153	0		67	259		0				0	47		105	0	855	0	0	1	0
Total Survey	2,234	1,562	0		477	2,102		1				0	300		796	0	7,471	0	0	5	0

Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	2,160	1,201	3,361	0	1,300	1,682	2,982	1	0	0	0	0	545	1,122	1,667	0	4,005	0	0	3	0
%HV	4.5%				4.7%				0.0%				5.0%				4.6%				
PHF	0.96				0.87				0.00				0.84				0.95				

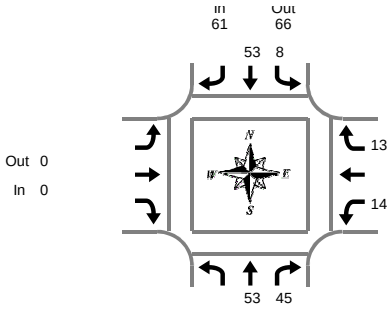
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,280	880	2,160		242	1,058		1,300				0	143		402	545	4,005
%HV	NA	4.1%	5.1%	4.5%	3.3%	5.0%	NA	4.7%	NA	NA	NA	0.0%	9.8%	NA	3.2%	5.0%	4.6%
PHF		0.91	0.93	0.96	0.86	0.86		0.87				0.00	0.69		0.82	0.84	0.95

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	1,283	882	0		234	1,010		1				0	137		389	0	3,935	0	0	3	0
7:15 AM	1,274	842	0		225	1,085		1				0	161		411	0	3,998	0	0	2	0
7:30 AM	1,212	789	0		232	1,109		0				0	171		428	0	3,941	0	0	2	0
7:45 AM	1,076	722	0		235	1,136		0				0	168		403	0	3,740	0	0	1	0
8:00 AM	951	680	0		243	1,092		0				0	163		407	0	3,536	0	0	2	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 NB Ramp

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:05 AM to 8:05 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		3	3	6	1	3		4				0	0		1	1	11
7:05 AM		2	1	3	1	3		4				0	1		1	2	9
7:10 AM		3	1	4	0	4		4				0	0		0	0	8
7:15 AM		3	5	8	1	3		4				0	2		1	3	15
7:20 AM		6	3	9	0	10		10				0	0		1	1	20
7:25 AM		1	4	5	1	3		4				0	1		3	4	13
7:30 AM		9	1	10	0	4		4				0	1		0	1	15
7:35 AM		5	3	8	0	2		2				0	1		1	2	12
7:40 AM		4	5	9	2	3		5				0	1		2	3	17
7:45 AM		4	3	7	0	3		3				0	3		0	3	13
7:50 AM		7	4	11	2	2		4				0	1		2	3	18
7:55 AM		3	8	11	1	10		11				0	2		0	2	24
8:00 AM		6	7	13	0	6		6				0	1		2	3	22
8:05 AM		7	8	15	3	3		6				0	2		1	3	24
8:10 AM		7	1	8	3	7		10				0	2		3	5	23
8:15 AM		8	3	11	0	7		7				0	0		3	3	21
8:20 AM		5	4	9	1	4		5				0	1		4	5	19
8:25 AM		2	5	7	1	9		10				0	3		5	8	25
8:30 AM		3	5	8	1	7		8				0	1		1	2	18
8:35 AM		2	5	7	1	5		6				0	2		1	3	16
8:40 AM		1	2	3	0	8		8				0	0		2	2	13
8:45 AM		5	4	9	0	5		5				0	3		1	4	18
8:50 AM		3	6	9	0	9		9				0	1		1	2	20
8:55 AM		2	6	8	1	4		5				0	1		2	3	16
Total Survey		101	97	198	20	124		144				0	30		38	68	410

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		8	5	13	2	10		12				0	1		2	3	28
7:15 AM		10	12	22	2	16		18				0	3		5	8	48
7:30 AM		18	9	27	2	9		11				0	3		3	6	44
7:45 AM		14	15	29	3	15		18				0	6		2	8	55
8:00 AM		20	16	36	6	16		22				0	5		6	11	69
8:15 AM		15	12	27	2	20		22				0	4		12	16	65
8:30 AM		6	12	18	2	20		22				0	3		4	7	47
8:45 AM		10	16	26	1	18		19				0	5		4	9	54
Total Survey		101	97	198	20	124		144				0	30		38	68	410

Heavy Vehicle Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound I-205 NB Ramp			Westbound I-205 NB Ramp			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	98	67	165	61	66	127	0	0	0	27	53	80	186
PHF	0.70			0.73			0.00			0.75			0.73

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		53	45	98	8	53		61				0	14		13	27	186
PHF		0.74	0.59	0.70	0.50	0.74		0.73				0.00	0.58		0.65	0.75	0.73

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

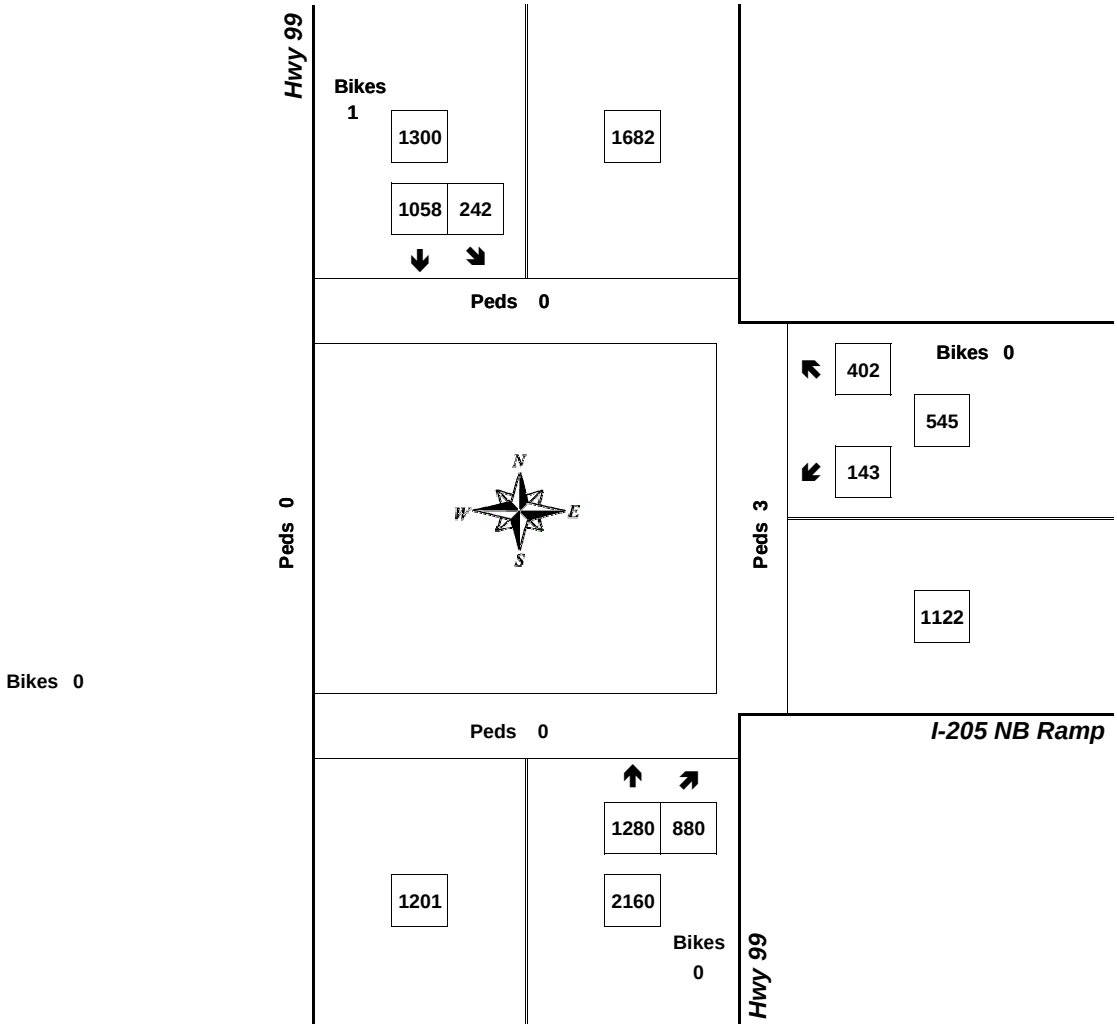
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		50	41	91	9	50		59				0	13		12	25	175
7:15 AM		62	52	114	13	56		69				0	17		16	33	216
7:30 AM		67	52	119	13	60		73				0	18		23	41	233
7:45 AM		55	55	110	13	71		84				0	18		24	42	236
8:00 AM		51	56	107	11	74		85				0	17		26	43	235

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & I-205 NB Ramp

7:05 AM to 8:05 AM
Thursday, January 26, 2017

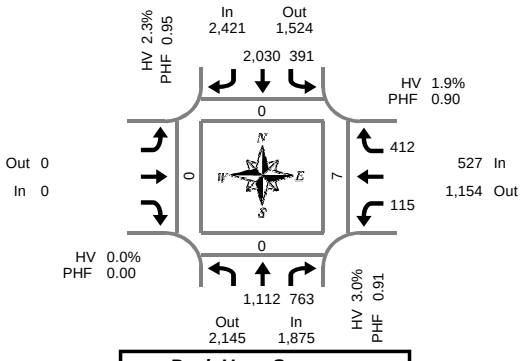


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.84	5.0%	545
NB	0.96	4.5%	2,160
SB	0.87	4.7%	1,300
Intersection	0.95	4.6%	4,005

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:30 PM to 5:30 PM

Hwy 99 & I-205 NB Ramp

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	73	59	0		33	175		0				0	12		38	0	390	0	0	1	0
4:05 PM	89	64	0		30	150		0				0	9		47	0	389	0	0	1	0
4:10 PM	89	67	0		21	171		0				0	6		36	0	390	0	0	0	0
4:15 PM	97	56	0		57	168		0				0	8		35	0	421	0	0	0	0
4:20 PM	60	75	0		31	175		0				0	15		44	0	400	0	0	0	0
4:25 PM	89	61	0		28	185		0				0	6		36	0	405	0	0	1	0
4:30 PM	106	60	0		25	163		0				0	15		31	0	400	0	0	0	0
4:35 PM	87	68	0		42	172		0				0	9		35	0	413	0	0	0	0
4:40 PM	85	57	0		48	185		0				0	6		39	0	420	0	0	0	0
4:45 PM	78	69	0		28	153		0				0	15		40	0	383	0	0	1	0
4:50 PM	96	53	0		21	155		0				0	10		29	0	364	0	0	0	0
4:55 PM	62	62	0		47	167		0				0	16		35	0	389	0	0	1	0
5:00 PM	97	57	0		33	181		0				0	11		45	0	424	0	0	0	0
5:05 PM	94	76	0		20	161		0				0	10		28	0	389	0	0	1	0
5:10 PM	98	57	0		38	164		0				0	6		45	0	408	0	0	1	0
5:15 PM	94	59	0		35	182		0				0	10		30	0	410	0	0	0	0
5:20 PM	108	76	0		23	177		0				0	2		27	0	413	0	0	0	0
5:25 PM	107	69	0		31	170		0				0	5		28	0	410	0	0	3	0
5:30 PM	80	61	0		35	162		0				0	4		39	0	381	0	0	0	0
5:35 PM	81	68	0		32	175		0				0	8		30	0	394	0	0	0	0
5:40 PM	95	70	0		16	174		0				0	4		36	0	395	0	0	1	0
5:45 PM	86	47	0		45	155		0				0	10		28	0	371	0	0	0	0
5:50 PM	67	48	0		45	156		0				0	8		33	0	357	0	0	0	0
5:55 PM	70	50	0		32	159		0				0	2		32	0	345	0	0	0	0
Total Survey	2,088	1,489	0		796	4,035		0				0	207		846	0	9,461	0	0	11	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	251	190	0		84	496		0				0	27		121	0	1,169	0	0	2	0
4:15 PM	246	192	0		116	528		0				0	29		115	0	1,226	0	0	1	0
4:30 PM	278	185	0		115	520		0				0	30		105	0	1,233	0	0	0	0
4:45 PM	236	184	0		96	475		0				0	41		104	0	1,136	0	0	2	0
5:00 PM	289	190	0		91	506		0				0	27		118	0	1,221	0	0	2	0
5:15 PM	309	204	0		89	529		0				0	17		85	0	1,233	0	0	3	0
5:30 PM	256	199	0		83	511		0				0	16		105	0	1,170	0	0	1	0
5:45 PM	223	145	0		122	470		0				0	20		93	0	1,073	0	0	0	0
Total Survey	2,088	1,489	0		796	4,035		0				0	207		846	0	9,461	0	0	11	0

Peak Hour Summary
4:30 PM to 5:30 PM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,875	2,145	4,020	0	2,421	1,524	3,945	0	0	0	0	0	527	1,154	1,681	0	4,823	0	0	7	0
%HV	3.0%				2.3%				0.0%				1.9%				2.6%				
PHF	0.91				0.95				0.00				0.90				0.98				

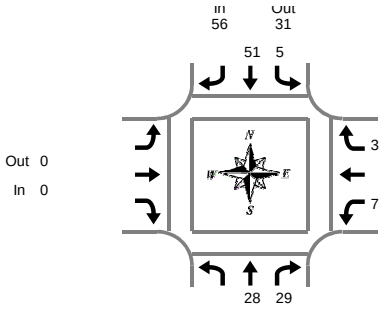
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,112	763	1,875		391	2,030		2,421				0	115		412	527	4,823
%HV	NA	2.5%	3.8%	3.0%	1.3%	2.5%	NA	2.3%	NA	NA	NA	0.0%	6.1%	NA	0.7%	1.9%	2.6%
PHF		0.90	0.94	0.91	0.83	0.96		0.95				0.00	0.70		0.87	0.90	0.98

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	1,011	751	0		411	2,019		0				0	127		445	0	4,764	0	0	5	0
4:15 PM	1,049	751	0		418	2,029		0				0	127		442	0	4,816	0	0	5	0
4:30 PM	1,112	763	0		391	2,030		0				0	115		412	0	4,823	0	0	7	0
4:45 PM	1,090	777	0		359	2,021		0				0	101		412	0	4,760	0	0	8	0
5:00 PM	1,077	738	0		385	2,016		0				0	80		401	0	4,697	0	0	6	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & I-205 NB Ramp

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:30 PM to 5:30 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		1	3	4	1	7		8				0	2		0	2	14
4:05 PM		3	4	7	2	7		9				0	1		0	1	17
4:10 PM		4	2	6	1	1		2				0	0		0	0	8
4:15 PM		4	3	7	1	4		5				0	1		0	1	13
4:20 PM		2	2	4	0	5		5				0	2		1	3	12
4:25 PM		5	4	9	2	5		7				0	0		1	1	17
4:30 PM		4	1	5	0	4		4				0	2		1	3	12
4:35 PM		3	5	8	1	5		6				0	1		0	1	15
4:40 PM		1	2	3	1	2		3				0	0		0	0	6
4:45 PM		3	1	4	0	4		4				0	1		0	1	9
4:50 PM		1	1	2	0	3		3				0	0		0	0	5
4:55 PM		1	4	5	1	4		5				0	1		0	1	11
5:00 PM		1	3	4	0	5		5				0	0		0	0	9
5:05 PM		2	2	4	0	6		6				0	0		0	0	10
5:10 PM		1	1	2	0	4		4				0	0		1	1	7
5:15 PM		4	3	7	0	2		2				0	1		0	1	10
5:20 PM		5	3	8	1	5		6				0	1		0	1	15
5:25 PM		2	3	5	1	7		8				0	0		1	1	14
5:30 PM		2	2	4	0	3		3				0	0		0	0	7
5:35 PM		1	2	3	0	4		4				0	0		0	0	7
5:40 PM		4	1	5	0	3		3				0	0		0	0	8
5:45 PM		1	2	3	0	2		2				0	2		0	2	7
5:50 PM		2	2	4	0	3		3				0	0		1	1	8
5:55 PM		0	1	1	0	3		3				0	0		0	0	4
Total Survey		57	57	114	12	98		110				0	15		6	21	245

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		8	9	17	4	15		19				0	3		0	3	39
4:15 PM		11	9	20	3	14		17				0	3		2	5	42
4:30 PM		8	8	16	2	11		13				0	3		1	4	33
4:45 PM		5	6	11	1	11		12				0	2		0	2	25
5:00 PM		4	6	10	0	15		15				0	0		1	1	26
5:15 PM		11	9	20	2	14		16				0	2		1	3	39
5:30 PM		7	5	12	0	10		10				0	0		0	0	22
5:45 PM		3	5	8	0	8		8				0	2		1	3	19
Total Survey		57	57	114	12	98		110				0	15		6	21	245

Heavy Vehicle Peak Hour Summary
4:30 PM to 5:30 PM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound I-205 NB Ramp			Westbound I-205 NB Ramp			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	57	58	115	56	31	87	0	0	0	10	34	44	123
PHF	0.71			0.88			0.00			0.63			0.79

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		28	29	57	5	51		56				0	7		3	10	123
PHF		0.64	0.81	0.71	0.63	0.85		0.88				0.00	0.58		0.75	0.63	0.79

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

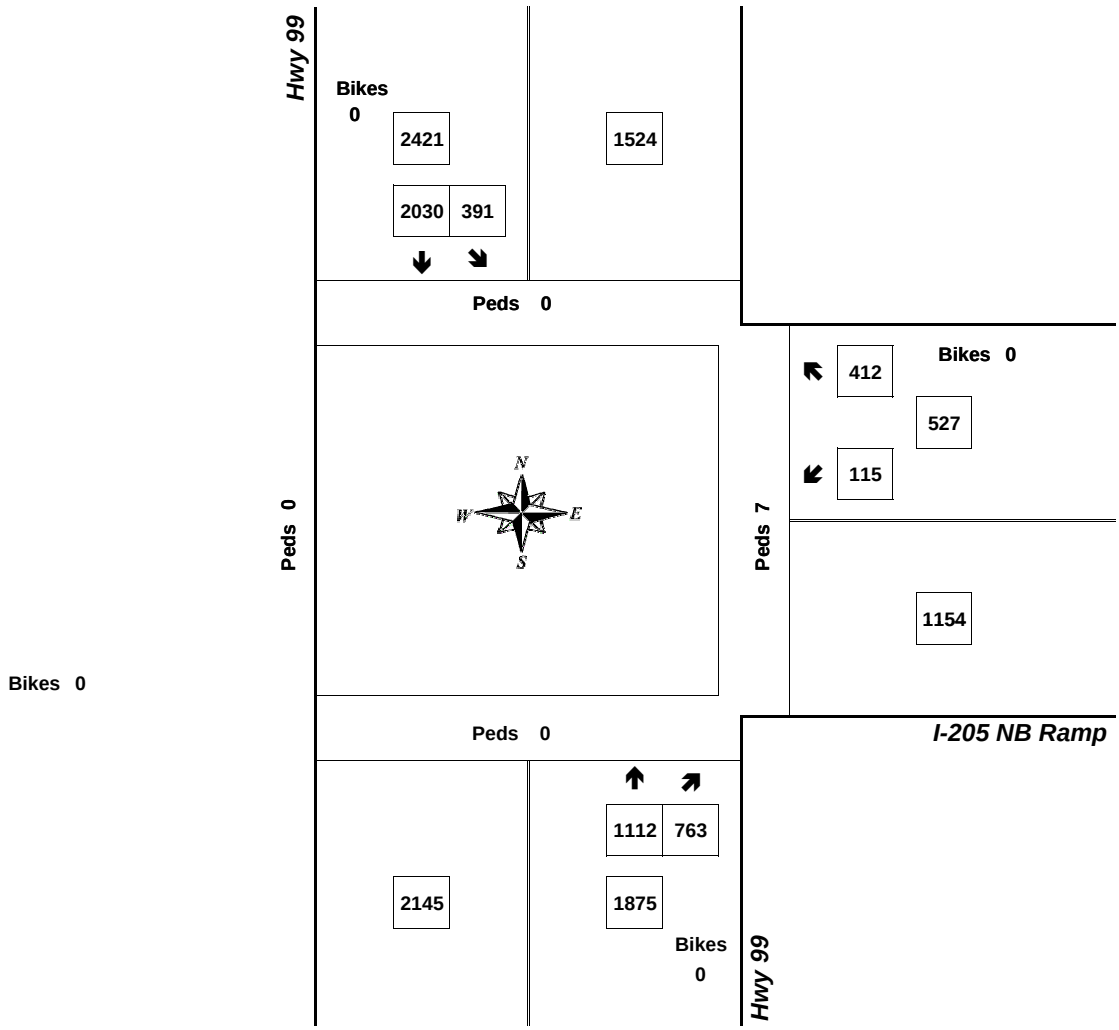
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound I-205 NB Ramp				Westbound I-205 NB Ramp				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		32	32	64	10	51		61				0	11		3	14	139
4:15 PM		28	29	57	6	51		57				0	8		4	12	126
4:30 PM		28	29	57	5	51		56				0	7		3	10	123
4:45 PM		27	26	53	3	50		53				0	4		2	6	112
5:00 PM		25	25	50	2	47		49				0	4		3	7	106

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & I-205 NB Ramp

4:30 PM to 5:30 PM
Wednesday, January 25, 2017

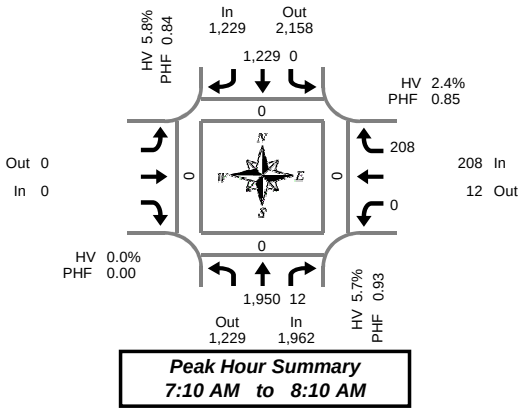


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.90	1.9%	527
NB	0.91	3.0%	1,875
SB	0.95	2.3%	2,421
Intersection	0.98	2.6%	4,823

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:10 AM to 8:10 AM

Hwy 99 & 15th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T	Bikes				Bikes		L	R	Bikes			North	South	East	West
7:00 AM	153	1	0		0	69	0				0		0	17	0		240	0	0	0	0
7:05 AM	165	0	0		0	80	0				0		0	18	0		263	0	0	0	0
7:10 AM	149	1	0		0	89	0				0		0	22	0		261	0	0	0	0
7:15 AM	166	2	0		0	91	1				0		0	14	0		273	0	0	0	0
7:20 AM	161	1	0		0	81	0				0		0	12	0		255	0	0	0	0
7:25 AM	164	2	0		0	99	0				0		0	13	0		278	0	0	0	0
7:30 AM	173	1	0		0	82	0				0		0	14	0		270	0	0	0	0
7:35 AM	185	0	0		0	89	0				0		0	14	0		288	0	0	0	0
7:40 AM	159	0	0		0	110	0				0		0	23	0		292	0	0	0	0
7:45 AM	164	1	0		0	118	0				0		0	20	0		303	0	0	0	0
7:50 AM	165	1	0		0	103	0				0		0	18	0		287	0	0	0	0
7:55 AM	162	2	0		0	134	0				0		0	21	0		319	0	0	0	0
8:00 AM	160	0	0		0	120	0				0		0	20	0		300	0	0	0	0
8:05 AM	142	1	0		0	113	0				0		0	17	0		273	0	0	0	0
8:10 AM	131	1	0		0	99	0				0		0	21	0		252	0	0	0	0
8:15 AM	124	1	0		0	100	0				0		0	20	0		245	0	0	0	0
8:20 AM	127	0	0		0	89	0				0		0	20	0		236	0	0	0	0
8:25 AM	97	3	0		0	121	0				0		0	27	0		248	0	0	0	0
8:30 AM	122	0	0		0	115	0				0		0	21	0		258	0	0	0	0
8:35 AM	96	2	0		0	105	0				0		0	17	0		220	0	0	0	0
8:40 AM	75	2	0		0	92	0				0		0	25	0		194	0	0	0	0
8:45 AM	135	2	0		0	113	0				0		0	19	0		269	0	0	0	0
8:50 AM	97	1	0		0	104	0				0		0	22	0		224	0	0	0	0
8:55 AM	93	2	0		0	90	0				0		0	19	0		204	0	0	0	0
Total Survey	3,365	27	0		0	2,406	1				0		0	454	0		6,252	0	0	0	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T	Bikes				Bikes		L	R	Bikes			North	South	East	West
7:00 AM	467	2	0		0	238	0				0		0	57	0		764	0	0	0	0
7:15 AM	491	5	0		0	271	1				0		0	39	0		806	0	0	0	0
7:30 AM	517	1	0		0	281	0				0		0	51	0		850	0	0	0	0
7:45 AM	491	4	0		0	355	0				0		0	59	0		909	0	0	0	0
8:00 AM	433	2	0		0	332	0				0		0	58	0		825	0	0	0	0
8:15 AM	348	4	0		0	310	0				0		0	67	0		729	0	0	0	0
8:30 AM	293	4	0		0	312	0				0		0	63	0		672	0	0	0	0
8:45 AM	325	5	0		0	307	0				0		0	60	0		697	0	0	0	0
Total Survey	3,365	27	0		0	2,406	1				0		0	454	0		6,252	0	0	0	0

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,962	1,229	3,191	0	1,229	2,158	3,387	1	0	0	0	0	208	12	220	0	3,399	0	0	0	0
%HV	5.7%				5.8%				0.0%				2.4%				5.5%				
PHF	0.93				0.84				0.00				0.85				0.93				

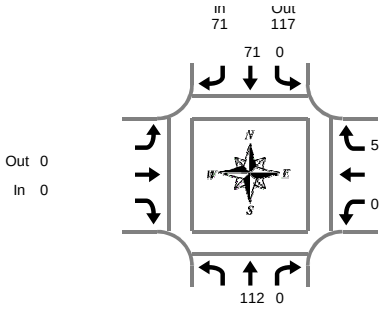
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,950	12	1,962		0	1,229		1,229				0	0		208	208	3,399
%HV	NA	5.7%	0.0%	5.7%	0.0%	5.8%	NA	5.8%	NA	NA	NA	0.0%	0.0%	NA	2.4%	2.4%	5.5%
PHF		0.93	0.60	0.93	0.00	0.84		0.84				0.00	0.00		0.85	0.85	0.93

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T	Bikes				Bikes		L	R	Bikes			North	South	East	West
7:00 AM	1,966	12	0		0	1,145	1				0		0	206	0		3,329	0	0	0	0
7:15 AM	1,932	12	0		0	1,239	1				0		0	207	0		3,390	0	0	0	0
7:30 AM	1,789	11	0		0	1,278	0				0		0	235	0		3,313	0	0	0	0
7:45 AM	1,565	14	0		0	1,309	0				0		0	247	0		3,135	0	0	0	0
8:00 AM	1,399	15	0		0	1,261	0				0		0	248	0		2,923	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & 15th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		6	0	6	0	3		3				0	0		1	1	10
7:05 AM		4	0	4	0	5		5				0	0		0	0	9
7:10 AM		3	0	3	0	3		3				0	0		0	0	6
7:15 AM		8	0	8	0	5		5				0	0		1	1	14
7:20 AM		10	0	10	0	9		9				0	0		0	0	19
7:25 AM		5	0	5	0	5		5				0	0		0	0	10
7:30 AM		10	0	10	0	6		6				0	0		1	1	17
7:35 AM		9	0	9	0	3		3				0	0		0	0	12
7:40 AM		8	0	8	0	5		5				0	0		1	1	14
7:45 AM		8	0	8	0	6		6				0	0		0	0	14
7:50 AM		15	0	15	0	3		3				0	0		0	0	18
7:55 AM		9	0	9	0	14		14				0	0		0	0	23
8:00 AM		13	0	13	0	7		7				0	0		1	1	21
8:05 AM		14	0	14	0	5		5				0	0		1	1	20
8:10 AM		8	0	8	0	9		9				0	0		0	0	17
8:15 AM		7	0	7	0	7		7				0	0		3	3	17
8:20 AM		6	0	6	0	4		4				0	0		3	3	13
8:25 AM		5	1	6	0	14		14				0	0		0	0	20
8:30 AM		8	0	8	0	8		8				0	0		0	0	16
8:35 AM		7	0	7	0	7		7				0	0		0	0	14
8:40 AM		1	0	1	0	8		8				0	0		2	2	11
8:45 AM		8	0	8	0	8		8				0	0		1	1	17
8:50 AM		6	0	6	0	10		10				0	0		3	3	19
8:55 AM		7	0	7	0	4		4				0	0		0	0	11
Total Survey		185	1	186	0	158		158				0	0		18	18	362

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		13	0	13	0	11		11				0	0		1	1	25
7:15 AM		23	0	23	0	19		19				0	0		1	1	43
7:30 AM		27	0	27	0	14		14				0	0		2	2	43
7:45 AM		32	0	32	0	23		23				0	0		0	0	55
8:00 AM		35	0	35	0	21		21				0	0		2	2	58
8:15 AM		18	1	19	0	25		25				0	0		6	6	50
8:30 AM		16	0	16	0	23		23				0	0		2	2	41
8:45 AM		21	0	21	0	22		22				0	0		4	4	47
Total Survey		185	1	186	0	158		158				0	0		18	18	362

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound			Westbound 15th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	112	71	183	71	117	188	0	0	0	5	0	5	188
PHF	0.76			0.68			0.00			0.63			0.73

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		112	0	112	0	71		71				0	0		5	5	188
PHF		0.76	0.00	0.76	0.00	0.68		0.68				0.00	0.00		0.63	0.63	0.73

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

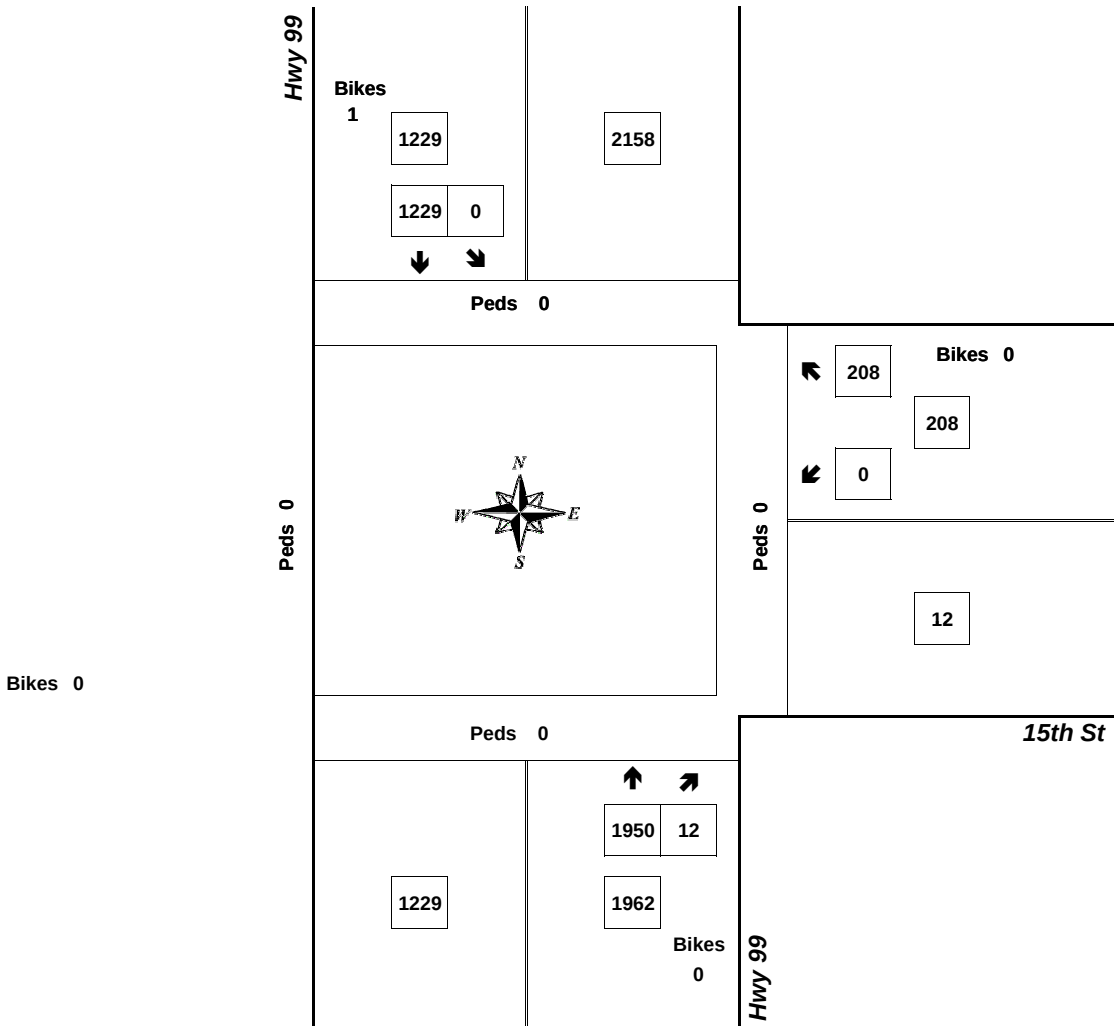
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		95	0	95	0	67		67				0	0		4	4	166
7:15 AM		117	0	117	0	77		77				0	0		5	5	199
7:30 AM		112	1	113	0	83		83				0	0		10	10	206
7:45 AM		101	1	102	0	92		92				0	0		10	10	204
8:00 AM		90	1	91	0	91		91				0	0		14	14	196

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & 15th St

7:10 AM to 8:10 AM
Thursday, January 26, 2017



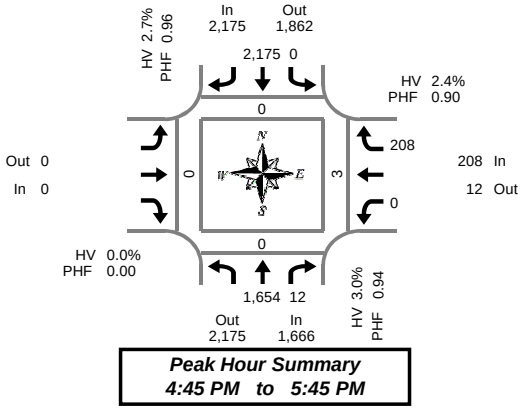
Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.85	2.4%	208
NB	0.93	5.7%	1,962
SB	0.84	5.8%	1,229
Intersection	0.93	5.5%	3,399

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



Hwy 99 & 15th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	121	2	0		0	188		0				0	0		18	0	329	0	0	0	0
4:05 PM	122	2	0		0	154		0				0	0		21	0	299	0	0	1	0
4:10 PM	133	3	0		0	166		0				0	0		15	0	317	0	0	0	0
4:15 PM	143	0	0		0	173		0				0	0		20	0	336	0	0	0	0
4:20 PM	134	2	0		0	186		0				0	0		15	0	337	0	0	0	0
4:25 PM	116	2	0		0	188		0				0	0		21	0	327	0	0	1	0
4:30 PM	144	0	0		0	172		0				0	0		16	0	332	0	0	0	0
4:35 PM	140	0	0		0	185		0				0	0		18	0	343	0	0	0	0
4:40 PM	116	0	0		0	186		0				0	0		27	0	329	0	0	1	0
4:45 PM	125	0	0		0	168		0				0	0		18	0	311	0	0	0	0
4:50 PM	127	1	0		0	146		0				0	0		21	0	295	0	0	1	0
4:55 PM	125	1	0		0	182		0				0	0		19	0	327	0	0	0	0
5:00 PM	136	2	0		0	191		0				0	0		16	0	345	0	0	0	0
5:05 PM	153	1	0		0	180		0				0	0		15	0	349	0	0	1	0
5:10 PM	132	0	0		0	180		0				0	0		18	0	330	0	0	0	0
5:15 PM	133	2	0		0	197		0				0	0		17	0	349	0	0	0	0
5:20 PM	165	0	0		0	189		0				0	0		12	0	366	0	0	0	0
5:25 PM	143	1	0		0	180		0				0	0		21	0	345	0	0	0	0
5:30 PM	133	1	0		0	186		0				0	0		18	0	338	0	0	0	0
5:35 PM	134	2	0		0	188		0				0	0		19	0	343	0	0	0	0
5:40 PM	148	1	0		0	188		0				0	0		14	0	351	0	0	1	0
5:45 PM	117	1	0		0	165		0				0	0		13	0	296	0	0	0	0
5:50 PM	109	1	0		0	182		0				0	0		15	0	307	0	0	0	0
5:55 PM	90	4	0		0	165		0				0	0		15	0	274	0	0	0	0
Total Survey	3,139	29	0		0	4,285		0				0	0		422	0	7,875	0	0	6	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	376	7	0		0	508		0				0	0		54	0	945	0	0	1	0
4:15 PM	393	4	0		0	547		0				0	0		56	0	1,000	0	0	1	0
4:30 PM	400	0	0		0	543		0				0	0		61	0	1,004	0	0	1	0
4:45 PM	377	2	0		0	496		0				0	0		58	0	933	0	0	1	0
5:00 PM	421	3	0		0	551		0				0	0		49	0	1,024	0	0	1	0
5:15 PM	441	3	0		0	566		0				0	0		50	0	1,060	0	0	0	0
5:30 PM	415	4	0		0	562		0				0	0		51	0	1,032	0	0	1	0
5:45 PM	316	6	0		0	512		0				0	0		43	0	877	0	0	0	0
Total Survey	3,139	29	0		0	4,285		0				0	0		422	0	7,875	0	0	6	0

Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,666	2,175	3,841	0	2,175	1,862	4,037	0	0	0	0	0	208	12	220	0	4,049	0	0	3	0
%HV	3.0%				2.7%				0.0%				2.4%				2.8%				
PHF	0.94				0.96				0.00				0.90				0.95				

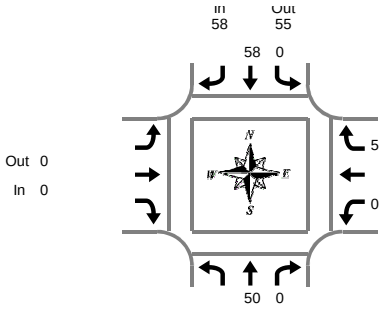
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,654	12	1,666		0	2,175		2,175				0	0		208	208	4,049
%HV	NA	3.0%	0.0%	3.0%	0.0%	2.7%	NA	2.7%	NA	NA	NA	0.0%	0.0%	NA	2.4%	2.4%	2.8%
PHF		0.94	0.75	0.94	0.00	0.96		0.96				0.00	0.00		0.90	0.90	0.95

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	1,546	13	0		0	2,094		0				0	0		229	0	3,882	0	0	4	0
4:15 PM	1,591	9	0		0	2,137		0				0	0		224	0	3,961	0	0	4	0
4:30 PM	1,639	8	0		0	2,156		0				0	0		218	0	4,021	0	0	3	0
4:45 PM	1,654	12	0		0	2,175		0				0	0		208	0	4,049	0	0	3	0
5:00 PM	1,593	16	0		0	2,191		0				0	0		193	0	3,993	0	0	2	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & 15th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:45 PM to 5:45 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		4	0	4	0	10		10				0	0		0	0	14
4:05 PM		7	1	8	0	8		8				0	0		0	0	16
4:10 PM		6	0	6	0	1		1				0	0		0	0	7
4:15 PM		8	0	8	0	4		4				0	0		1	1	13
4:20 PM		3	0	3	0	7		7				0	0		2	2	12
4:25 PM		8	0	8	0	5		5				0	0		1	1	14
4:30 PM		5	0	5	0	6		6				0	0		0	0	11
4:35 PM		7	0	7	0	6		6				0	0		1	1	14
4:40 PM		3	0	3	0	2		2				0	0		0	0	5
4:45 PM		3	0	3	0	7		7				0	0		1	1	11
4:50 PM		2	0	2	0	3		3				0	0		1	1	6
4:55 PM		4	0	4	0	6		6				0	0		1	1	11
5:00 PM		3	0	3	0	5		5				0	0		0	0	8
5:05 PM		5	0	5	0	5		5				0	0		0	0	10
5:10 PM		2	0	2	0	4		4				0	0		0	0	6
5:15 PM		6	0	6	0	3		3				0	0		0	0	9
5:20 PM		9	0	9	0	6		6				0	0		1	1	16
5:25 PM		5	0	5	0	7		7				0	0		0	0	12
5:30 PM		5	0	5	0	4		4				0	0		0	0	9
5:35 PM		2	0	2	0	5		5				0	0		0	0	7
5:40 PM		4	0	4	0	3		3				0	0		1	1	8
5:45 PM		3	0	3	0	4		4				0	0		0	0	7
5:50 PM		4	0	4	0	2		2				0	0		0	0	6
5:55 PM		1	0	1	0	2		2				0	0		0	0	3
Total Survey		109	1	110	0	115		115				0	0		10	10	235

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		17	1	18	0	19		19				0	0		0	0	37
4:15 PM		19	0	19	0	16		16				0	0		4	4	39
4:30 PM		15	0	15	0	14		14				0	0		1	1	30
4:45 PM		9	0	9	0	16		16				0	0		3	3	28
5:00 PM		10	0	10	0	14		14				0	0		0	0	24
5:15 PM		20	0	20	0	16		16				0	0		1	1	37
5:30 PM		11	0	11	0	12		12				0	0		1	1	24
5:45 PM		8	0	8	0	8		8				0	0		0	0	16
Total Survey		109	1	110	0	115		115				0	0		10	10	235

Heavy Vehicle Peak Hour Summary
4:45 PM to 5:45 PM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound			Westbound 15th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	50	58	108	58	55	113	0	0	0	5	0	5	113
PHF	0.63			0.85			0.00			0.42			0.76

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		50	0	50	0	58		58				0	0		5	5	113
PHF		0.63	0.00	0.63	0.00	0.85		0.85				0.00	0.00		0.42	0.42	0.76

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

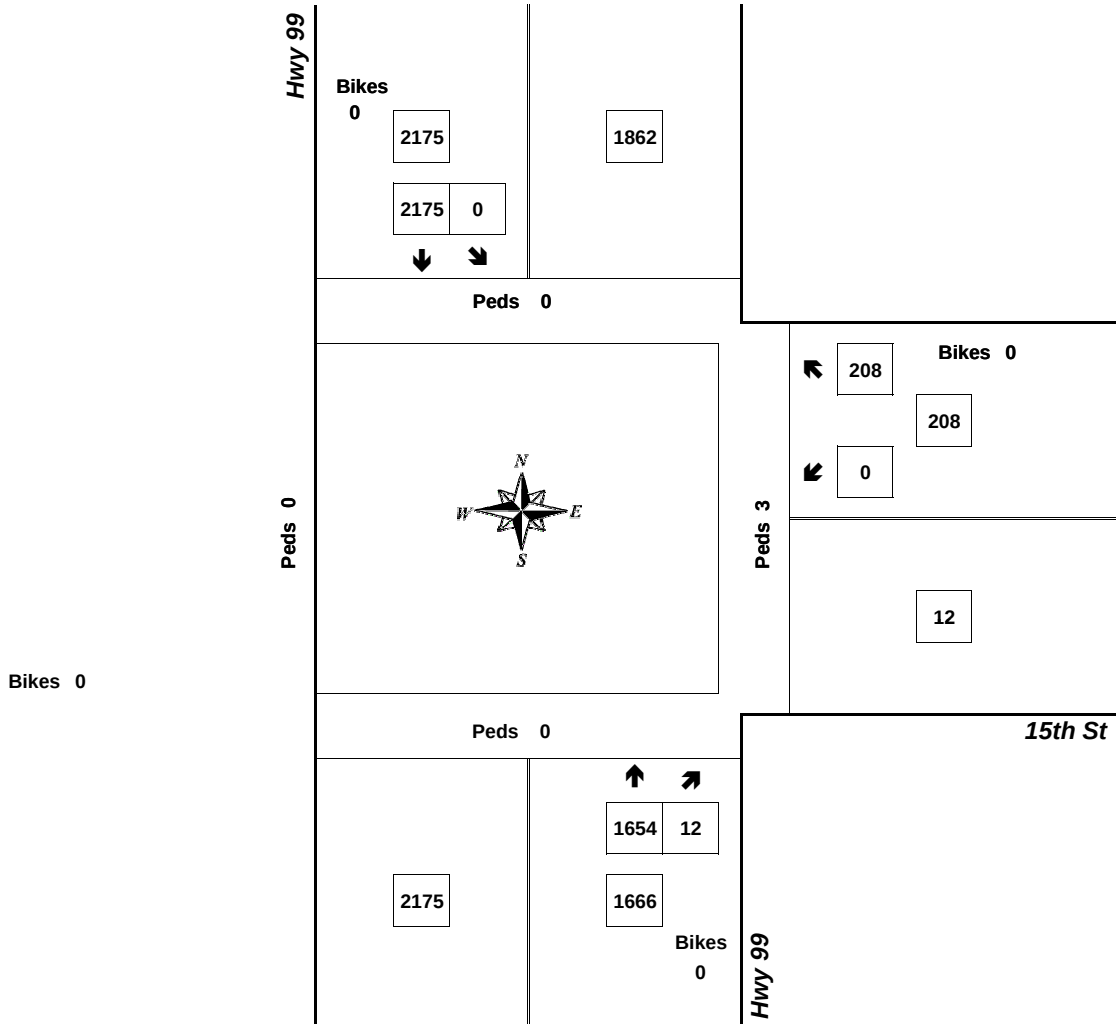
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound				Westbound 15th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		60	1	61	0	65		65				0	0		8	8	134
4:15 PM		53	0	53	0	60		60				0	0		8	8	121
4:30 PM		54	0	54	0	60		60				0	0		5	5	119
4:45 PM		50	0	50	0	58		58				0	0		5	5	113
5:00 PM		49	0	49	0	50		50				0	0		2	2	101

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & 15th St

4:45 PM to 5:45 PM
Wednesday, January 25, 2017

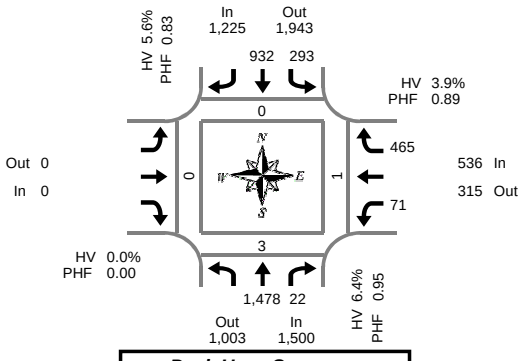


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.90	2.4%	208
NB	0.94	3.0%	1,666
SB	0.96	2.7%	2,175
Intersection	0.95	2.8%	4,049

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:10 AM to 8:10 AM

Hwy 99 & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	121	5	0		17	55		0				0	5		37	0	240	0	0	0	0
7:05 AM	141	1	0		19	58		0				0	2		25	0	246	0	0	0	0
7:10 AM	115	0	0		23	58		0				0	10		33	0	239	0	0	0	0
7:15 AM	123	3	0		19	79		0				0	6		39	0	269	0	0	0	0
7:20 AM	126	6	0		24	58		0				0	2		38	0	254	0	0	0	0
7:25 AM	116	1	0		25	72		0				0	8		50	0	272	0	0	0	0
7:30 AM	128	2	0		14	70		0				0	6		41	0	261	0	0	0	0
7:35 AM	146	1	0		21	67		0				0	3		41	0	279	0	0	0	0
7:40 AM	111	2	0		27	73		0				0	11		49	0	273	0	0	0	0
7:45 AM	127	1	0		29	95		0				0	6		38	0	296	0	2	0	0
7:50 AM	130	0	0		22	81		0				0	6		31	0	270	0	0	0	0
7:55 AM	115	2	0		42	93		0				0	5		44	0	301	0	0	0	0
8:00 AM	133	4	0		20	106		0				0	5		27	0	295	0	0	0	0
8:05 AM	108	0	0		27	80		0				0	3		34	0	252	0	1	1	0
8:10 AM	103	2	0		34	67		0				0	2		31	0	239	0	0	0	0
8:15 AM	96	9	0		25	74		0				0	5		25	0	234	0	1	0	0
8:20 AM	110	5	0		26	63		0				0	6		18	0	228	0	0	0	0
8:25 AM	73	1	0		38	87		0				0	6		26	0	231	0	0	0	0
8:30 AM	97	7	0		25	85		0				0	3		20	0	237	0	0	0	0
8:35 AM	83	4	0		27	78		0				0	7		18	0	217	0	0	0	0
8:40 AM	65	3	0		32	68		0				0	10		14	0	192	0	0	0	0
8:45 AM	111	7	0		24	94		0				0	4		26	0	266	0	0	0	0
8:50 AM	82	5	0		26	71		0				0	1		21	0	206	0	0	0	0
8:55 AM	73	3	0		34	64		0				0	6		21	0	201	0	0	0	0
Total Survey	2,633	74	0		620	1,796		0				0	128		747	0	5,998	0	4	1	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	377	6	0		59	171		0				0	17		95	0	725	0	0	0	0
7:15 AM	365	10	0		68	209		0				0	16		127	0	795	0	0	0	0
7:30 AM	385	5	0		62	210		0				0	20		131	0	813	0	0	0	0
7:45 AM	372	3	0		93	269		0				0	17		113	0	867	0	2	0	0
8:00 AM	344	6	0		81	253		0				0	10		92	0	786	0	1	1	0
8:15 AM	279	15	0		89	224		0				0	17		69	0	693	0	1	0	0
8:30 AM	245	14	0		84	231		0				0	20		52	0	646	0	0	0	0
8:45 AM	266	15	0		84	229		0				0	11		68	0	673	0	0	0	0
Total Survey	2,633	74	0		620	1,796		0				0	128		747	0	5,998	0	4	1	0

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,500	1,003	2,503	0	1,225	1,943	3,168	0	0	0	0	0	536	315	851	0	3,261	0	3	1	0
%HV	6.4%				5.6%				0.0%				3.9%				5.7%				
PHF	0.95				0.83				0.00				0.89				0.94				

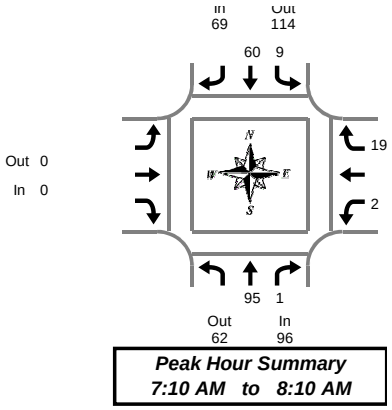
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,478	22	1,500		293	932		1,225				0	71		465	536	3,261
%HV	NA	6.4%	4.5%	6.4%	3.1%	6.4%	NA	5.6%	NA	NA	NA	0.0%	2.8%	NA	4.1%	3.9%	5.7%
PHF		0.95	0.55	0.95	0.79	0.83		0.83				0.00	0.77		0.88	0.89	0.94

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
7:00 AM	1,499	24	0		282	859		0				0	70		466	0	3,200	0	2	0	0
7:15 AM	1,466	24	0		304	941		0				0	63		463	0	3,261	0	3	1	0
7:30 AM	1,380	29	0		325	956		0				0	64		405	0	3,159	0	4	1	0
7:45 AM	1,240	38	0		347	977		0				0	64		326	0	2,992	0	4	1	0
8:00 AM	1,134	50	0		338	937		0				0	58		281	0	2,798	0	2	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 99 & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		7	2	9	1	4		5				0	0		0	0	14
7:05 AM		3	0	3	0	5		5				0	0		0	0	8
7:10 AM		2	0	2	0	2		2				0	0		1	1	5
7:15 AM		8	0	8	0	6		6				0	0		0	0	14
7:20 AM		8	1	9	3	5		8				0	0		2	2	19
7:25 AM		2	0	2	1	5		6				0	1		3	4	12
7:30 AM		9	0	9	0	5		5				0	0		2	2	16
7:35 AM		6	0	6	0	3		3				0	0		2	2	11
7:40 AM		8	0	8	0	3		3				0	0		2	2	13
7:45 AM		7	0	7	2	6		8				0	0		1	1	16
7:50 AM		13	0	13	1	2		3				0	0		2	2	18
7:55 AM		10	0	10	0	12		12				0	1		1	2	24
8:00 AM		10	0	10	2	5		7				0	0		1	1	18
8:05 AM		12	0	12	0	6		6				0	0		2	2	20
8:10 AM		7	0	7	4	5		9				0	0		1	1	17
8:15 AM		7	0	7	1	4		5				0	0		0	0	12
8:20 AM		4	2	6	3	3		6				0	0		0	0	12
8:25 AM		6	0	6	3	10		13				0	0		0	0	19
8:30 AM		5	0	5	3	6		9				0	0		1	1	15
8:35 AM		6	0	6	0	6		6				0	1		1	2	14
8:40 AM		1	0	1	3	6		9				0	0		0	0	10
8:45 AM		4	0	4	1	7		8				0	0		3	3	15
8:50 AM		7	0	7	1	8		9				0	0		1	1	17
8:55 AM		6	0	6	2	4		6				0	1		0	1	13
Total Survey		158	5	163	31	128		159				0	4		26	30	352

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		12	2	14	1	11		12				0	0		1	1	27
7:15 AM		18	1	19	4	16		20				0	1		5	6	45
7:30 AM		23	0	23	0	11		11				0	0		6	6	40
7:45 AM		30	0	30	3	20		23				0	1		4	5	58
8:00 AM		29	0	29	6	16		22				0	0		4	4	55
8:15 AM		17	2	19	7	17		24				0	0		0	0	43
8:30 AM		12	0	12	6	18		24				0	1		2	3	39
8:45 AM		17	0	17	4	19		23				0	1		4	5	45
Total Survey		158	5	163	31	128		159				0	4		26	30	352

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	96	62	158	69	114	183	0	0	0	21	10	31	186
PHF	0.73			0.69			0.00			0.66			0.75

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		95	1	96	9	60		69				0	2		19	21	186
PHF		0.72	0.25	0.73	0.56	0.65		0.69				0.00	0.50		0.68	0.66	0.75

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

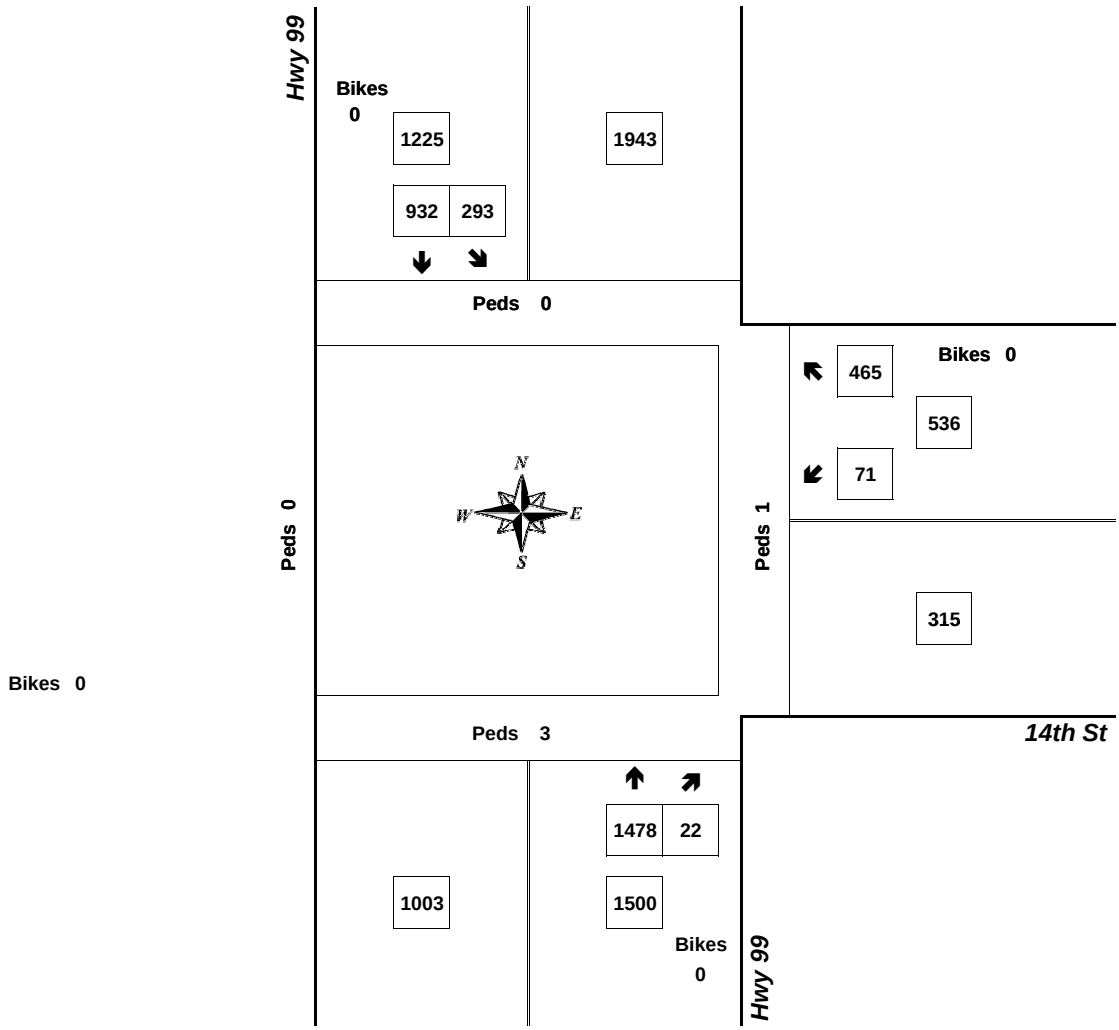
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
7:00 AM		83	3	86	8	58		66				0	2		16	18	170
7:15 AM		100	1	101	13	63		76				0	2		19	21	198
7:30 AM		99	2	101	16	64		80				0	1		14	15	196
7:45 AM		88	2	90	22	71		93				0	2		10	12	195
8:00 AM		75	2	77	23	70		93				0	2		10	12	182

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & 14th St

7:10 AM to 8:10 AM
Thursday, January 26, 2017

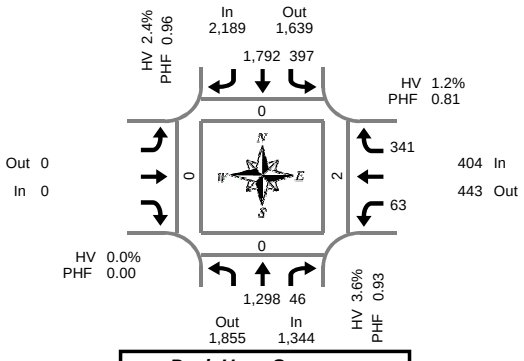


Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.89	3.9%	536
NB	0.95	6.4%	1,500
SB	0.83	5.6%	1,225
Intersection	0.94	5.7%	3,261

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:40 PM to 5:40 PM

Hwy 99 & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	95	2	0		40	156		0				0	4		25	0	322	0	0	0	0
4:05 PM	95	4	0		34	131		0				0	5		33	0	302	0	0	1	0
4:10 PM	117	5	0		21	128		0				0	7		21	0	299	1	0	0	0
4:15 PM	106	3	0		35	154		0				0	7		32	0	337	0	0	0	0
4:20 PM	111	5	0		39	164		0				0	3		26	0	348	0	0	0	0
4:25 PM	103	3	0		32	143		0				0	5		17	0	303	0	0	0	0
4:30 PM	118	4	0		31	149		0				0	5		27	0	334	0	0	0	0
4:35 PM	99	1	0		36	153		0				0	5		37	0	331	0	0	0	0
4:40 PM	92	7	0		39	153		0				0	7		26	0	324	0	0	0	0
4:45 PM	104	2	0		32	144		0				0	5		23	0	310	0	0	0	0
4:50 PM	109	6	0		25	130		0				0	3		17	0	290	0	0	1	0
4:55 PM	96	5	0		38	154		0				0	8		31	0	332	0	0	0	0
5:00 PM	105	4	0		33	155		0				0	1		33	0	331	0	0	0	0
5:05 PM	126	5	0		22	149		0				0	6		31	0	339	0	0	1	0
5:10 PM	90	3	0		37	154		0				0	3		38	0	325	0	0	0	0
5:15 PM	107	3	0		30	160		0				0	7		32	0	339	0	0	0	0
5:20 PM	120	2	0		29	135		0				0	5		39	0	330	0	0	0	0
5:25 PM	120	4	0		33	153		0				0	2		27	0	339	0	0	0	0
5:30 PM	113	4	0		40	147		0				0	9		19	0	332	0	0	0	0
5:35 PM	116	1	0		39	158		0				0	7		25	0	346	0	0	0	0
5:40 PM	126	5	0		27	137		0				0	5		21	0	321	0	0	1	0
5:45 PM	98	3	0		38	139		0				0	2		21	0	301	0	0	0	0
5:50 PM	92	2	0		33	135		0				0	5		21	0	288	0	0	0	0
5:55 PM	75	6	0		37	125		0				0	5		16	0	264	0	0	0	0
Total Survey	2,533	89	0		800	3,506		0				0	121		638	0	7,687	1	0	4	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	307	11	0		95	415		0				0	16		79	0	923	1	0	1	0
4:15 PM	320	11	0		106	461		0				0	15		75	0	988	0	0	0	0
4:30 PM	309	12	0		106	455		0				0	17		90	0	989	0	0	0	0
4:45 PM	309	13	0		95	428		0				0	16		71	0	932	0	0	1	0
5:00 PM	321	12	0		92	458		0				0	10		102	0	995	0	0	1	0
5:15 PM	347	9	0		92	448		0				0	14		98	0	1,008	0	0	0	0
5:30 PM	355	10	0		106	442		0				0	21		65	0	999	0	0	1	0
5:45 PM	265	11	0		108	399		0				0	12		58	0	853	0	0	0	0
Total Survey	2,533	89	0		800	3,506		0				0	121		638	0	7,687	1	0	4	0

Peak Hour Summary
4:40 PM to 5:40 PM

By Approach	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,344	1,855	3,199	0	2,189	1,639	3,828	0	0	0	0	0	404	443	847	0	3,937	0	0	2	0
%HV		3.6%				2.4%				0.0%				1.2%			2.7%				
PHF		0.93				0.96				0.00				0.81			0.97				

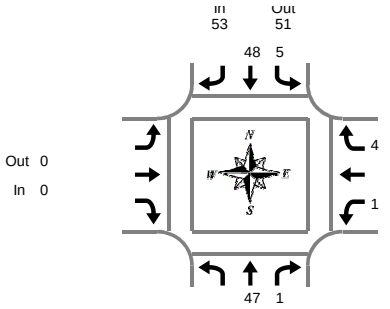
By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total
	T	R	Total		L	T		Total				Total	L		R	Total	
Volume	1,298	46	1,344		397	1,792		2,189				0	63		341	404	3,937
%HV	NA	3.6%	2.2%	3.6%	1.3%	2.7%	NA	2.4%	NA	NA	NA	0.0%	1.6%	NA	1.2%	1.2%	2.7%
PHF		0.92	0.77	0.93	0.89	0.97		0.96				0.00	0.88		0.78	0.81	0.97

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	T	R	Bikes		L	T		Bikes				Bikes	L		R	Bikes		North	South	East	West
4:00 PM	1,245	47	0		402	1,759		0				0	64		315	0	3,832	1	0	2	0
4:15 PM	1,259	48	0		399	1,802		0				0	58		338	0	3,904	0	0	2	0
4:30 PM	1,286	46	0		385	1,789		0				0	57		361	0	3,924	0	0	2	0
4:45 PM	1,332	44	0		385	1,776		0				0	61		336	0	3,934	0	0	3	0
5:00 PM	1,288	42	0		398	1,747		0				0	57		323	0	3,855	0	0	2	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
4:40 PM to 5:40 PM

Hwy 99 & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		4	0	4	1	8		9				0	0		0	0	13
4:05 PM		8	0	8	0	8		8				0	1		0	1	17
4:10 PM		6	0	6	0	3		3				0	1		0	1	10
4:15 PM		7	0	7	3	2		5				0	0		0	0	12
4:20 PM		3	0	3	0	6		6				0	0		0	0	9
4:25 PM		7	0	7	1	3		4				0	0		1	1	12
4:30 PM		3	0	3	1	7		8				0	0		2	2	13
4:35 PM		7	0	7	1	6		7				0	0		0	0	14
4:40 PM		3	0	3	0	2		2				0	0		0	0	5
4:45 PM		4	0	4	0	4		4				0	0		0	0	8
4:50 PM		2	0	2	1	4		5				0	0		0	0	7
4:55 PM		3	1	4	1	3		4				0	1		0	1	9
5:00 PM		4	0	4	1	5		6				0	0		0	0	10
5:05 PM		4	0	4	0	5		5				0	0		0	0	9
5:10 PM		2	0	2	0	4		4				0	0		0	0	6
5:15 PM		7	0	7	0	3		3				0	0		0	0	10
5:20 PM		5	0	5	1	4		5				0	0		4	4	14
5:25 PM		5	0	5	1	4		5				0	0		0	0	10
5:30 PM		5	0	5	0	5		5				0	0		0	0	10
5:35 PM		3	0	3	0	5		5				0	0		0	0	8
5:40 PM		4	0	4	1	2		3				0	0		0	0	7
5:45 PM		3	0	3	0	4		4				0	0		0	0	7
5:50 PM		3	0	3	0	2		2				0	0		1	1	6
5:55 PM		1	0	1	0	1		1				0	1		0	1	3
Total Survey		103	1	104	13	100		113				0	4		8	12	229

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		18	0	18	1	19		20				0	2		0	2	40
4:15 PM		17	0	17	4	11		15				0	0		1	1	33
4:30 PM		13	0	13	2	15		17				0	0		2	2	32
4:45 PM		9	1	10	2	11		13				0	1		0	1	24
5:00 PM		10	0	10	1	14		15				0	0		0	0	25
5:15 PM		17	0	17	2	11		13				0	0		4	4	34
5:30 PM		12	0	12	1	12		13				0	0		0	0	25
5:45 PM		7	0	7	0	7		7				0	1		1	2	16
Total Survey		103	1	104	13	100		113				0	4		8	12	229

Heavy Vehicle Peak Hour Summary
4:40 PM to 5:40 PM

By Approach	Northbound Hwy 99			Southbound Hwy 99			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	48	49	97	53	51	104	0	0	0	5	6	11	106
PHF	0.71			0.88			0.00			0.31			0.78

By Movement	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Total
		T	R	Total	L	T		Total				Total	L		R	Total	
Volume		47	1	48	5	48		53				0	1		4	5	106
PHF		0.69	0.25	0.71	0.42	0.86		0.88				0.00	0.25		0.25	0.31	0.78

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

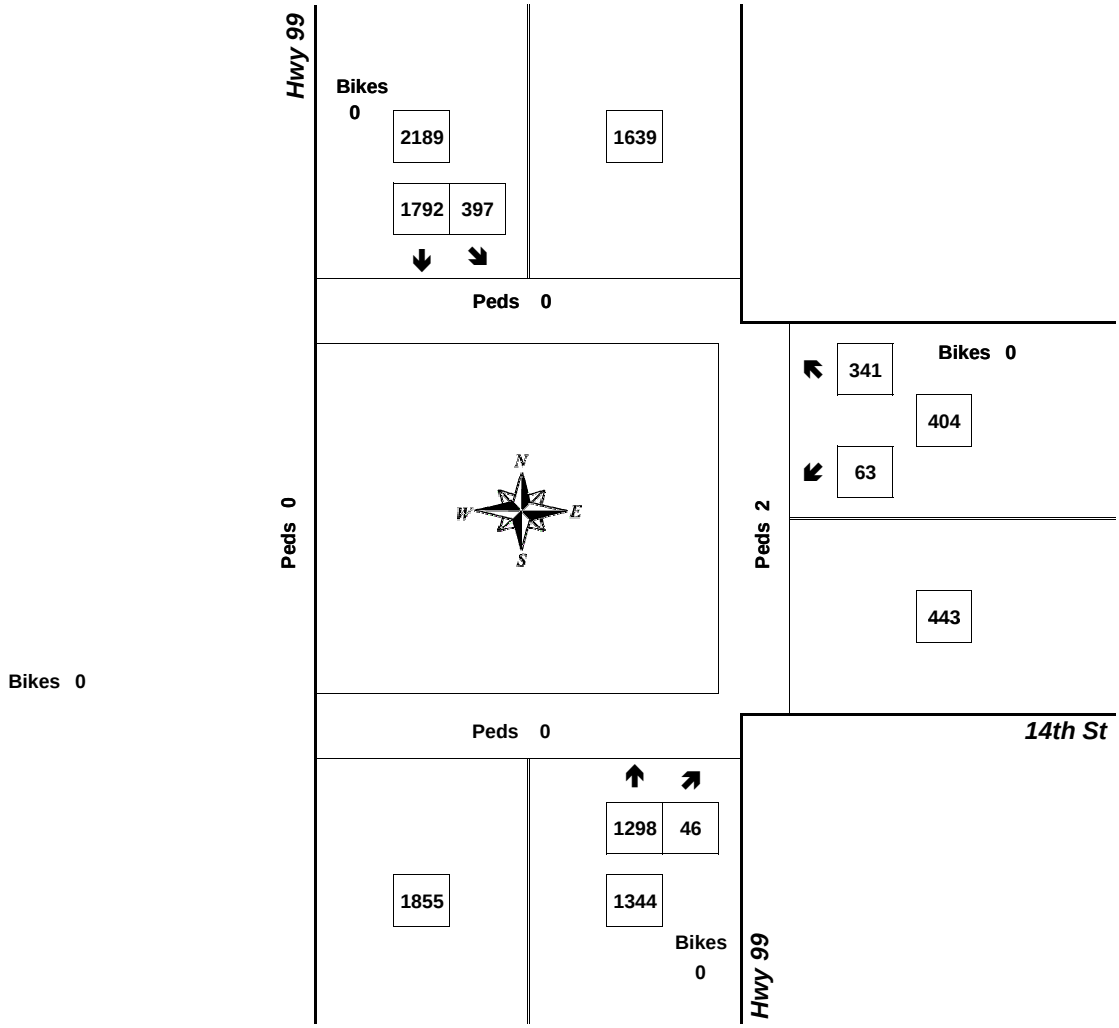
Interval Start Time	Northbound Hwy 99				Southbound Hwy 99				Eastbound 14th St				Westbound 14th St				Interval Total
		T	R	Total	L	T		Total				Total	L		R	Total	
4:00 PM		57	1	58	9	56		65				0	3		3	6	129
4:15 PM		49	1	50	9	51		60				0	1		3	4	114
4:30 PM		49	1	50	7	51		58				0	1		6	7	115
4:45 PM		48	1	49	6	48		54				0	1		4	5	108
5:00 PM		46	0	46	4	44		48				0	1		5	6	100

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 99 & 14th St

4:40 PM to 5:40 PM
Wednesday, January 25, 2017



Approach	PHF	HV%	Volume
EB	0.00	0.0%	0
WB	0.81	1.2%	404
NB	0.93	3.6%	1,344
SB	0.96	2.4%	2,189
Intersection	0.97	2.7%	3,937

Count Period: 4:00 PM to 6:00 PM

Type of peak hour being reported: System Peak

Method for determining peak hour: Total Entering Volume

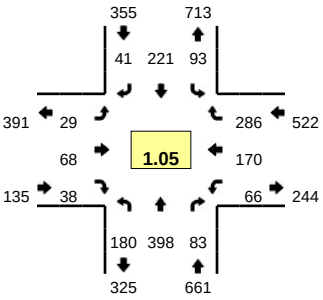
LOCATION: S Redland Rd -- S Holcomb Blvd/Abernethy Rd

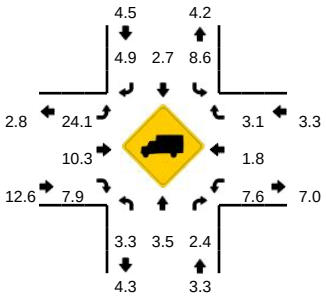
QC JOB #: 13332119

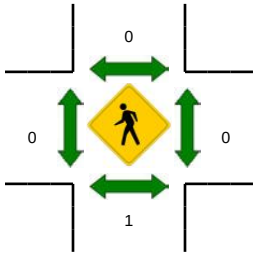
CITY/STATE: Oregon City, OR

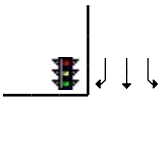
DATE: Tue, Mar 17 2015

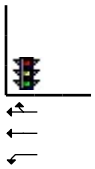
Peak-Hour: 7:05 AM -- 8:05 AM
Peak 15-Min: 7:15 AM -- 7:30 AM

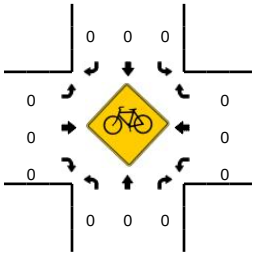


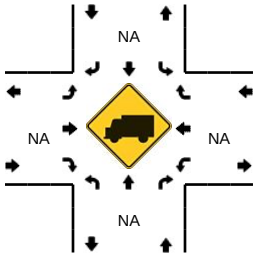


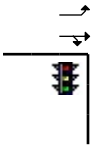




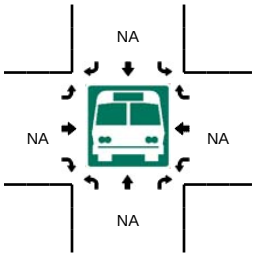












5-Min Count Period Beginning At	S Redland Rd (Northbound)				S Redland Rd (Southbound)				S Holcomb Blvd/Abernethy Rd (Eastbound)				S Holcomb Blvd/Abernethy Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	10	29	3	0	6	11	9	0	0	4	1	0	3	10	25	0	111	
7:05 AM	23	34	4	0	6	11	0	0	1	2	0	0	5	16	20	0	122	
7:10 AM	15	39	4	0	3	16	3	0	1	5	2	0	3	12	19	0	122	
7:15 AM	10	40	5	0	8	18	2	0	0	6	3	0	2	12	34	0	140	
7:20 AM	17	30	2	0	6	29	1	0	2	3	1	0	2	8	19	0	120	
7:25 AM	14	29	1	0	11	12	5	0	2	8	7	0	3	15	32	0	139	
7:30 AM	11	35	10	0	10	21	3	0	2	2	2	0	5	12	21	0	134	
7:35 AM	17	35	7	0	3	14	6	0	4	4	2	0	3	16	23	0	134	
7:40 AM	18	37	13	0	9	23	4	0	6	4	4	0	2	13	20	0	153	
7:45 AM	14	32	13	0	11	10	3	0	2	9	6	0	8	20	20	0	148	
7:50 AM	17	31	10	0	12	24	3	0	3	8	4	0	10	14	19	0	155	
7:55 AM	11	35	8	0	12	21	3	0	4	11	4	0	9	16	28	0	162	1640
8:00 AM	13	21	6	0	2	22	8	0	2	6	3	0	14	16	31	0	144	1673
8:05 AM	8	30	10	0	10	13	2	0	1	5	2	0	10	9	21	0	121	1672
8:10 AM	12	26	4	0	11	16	6	0	3	5	7	0	5	6	13	0	114	1664
8:15 AM	11	34	2	0	9	19	4	0	1	5	7	0	5	5	13	0	115	1639
8:20 AM	11	19	8	0	8	14	3	0	0	6	6	0	13	14	12	0	114	1633
8:25 AM	8	29	6	0	8	29	2	0	0	9	7	0	7	1	13	0	119	1613
8:30 AM	12	36	2	0	11	18	6	0	2	0	4	0	9	10	9	0	119	1598
8:35 AM	16	33	6	0	9	24	1	0	0	4	3	0	4	7	13	0	120	1584
8:40 AM	9	25	0	0	7	19	1	1	5	6	4	0	15	14	14	0	120	1551
8:45 AM	18	30	12	0	4	17	4	0	2	4	5	0	7	7	15	0	125	1528
8:50 AM	10	22	12	0	7	19	3	0	3	6	3	0	6	6	12	0	109	1482
8:55 AM	14	17	7	0	14	17	5	0	2	5	1	0	6	6	15	0	109	1429

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	164	396	32	0	100	236	32	0	16	68	44	0	28	140	340	0	1596
Heavy Trucks	4	20	4		8	8	0		4	4	4		0	0	4		60
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 3/25/2015 5:11 PM

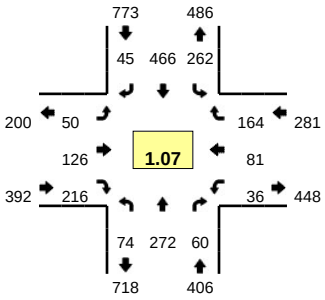
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

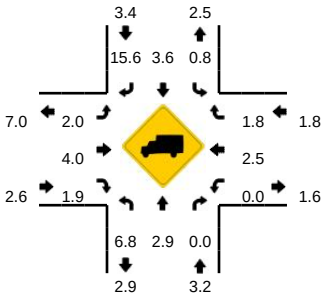
Type of peak hour being reported: System Peak | Method for determining peak hour: Total Entering Volume

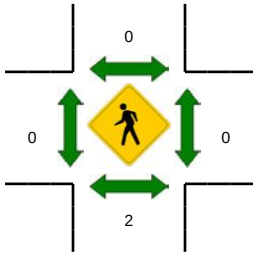
LOCATION: S Redland Rd -- S Holcomb Blvd/Abernethy Rd | **QC JOB #:** 13332120

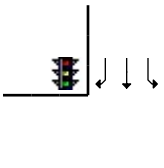
CITY/STATE: Oregon City, OR | **DATE:** Tue, Mar 17 2015

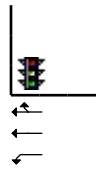
Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

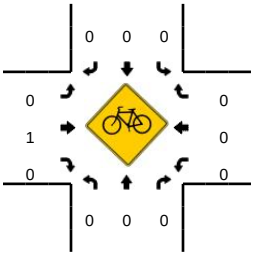


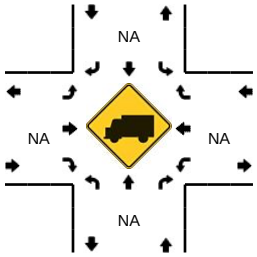


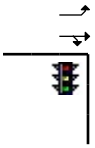




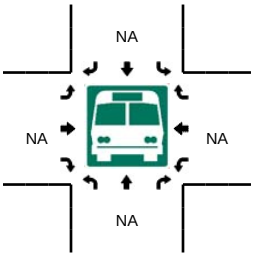












5-Min Count Period Beginning At	S Redland Rd (Northbound)				S Redland Rd (Southbound)				S Holcomb Blvd/Abernethy Rd (Eastbound)				S Holcomb Blvd/Abernethy Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	24	1	0	19	40	5	0	2	14	14	0	11	8	17	0	160	
4:05 PM	6	23	5	0	24	33	2	0	4	11	17	0	9	4	21	0	159	
4:10 PM	6	23	4	0	14	34	6	0	4	10	11	0	1	6	10	0	129	
4:15 PM	6	17	5	0	23	42	6	0	2	12	21	0	1	5	10	0	150	
4:20 PM	4	27	8	0	16	24	3	0	5	15	15	0	5	8	14	0	144	
4:25 PM	9	15	1	0	15	37	6	0	5	16	14	0	6	5	10	0	139	
4:30 PM	11	24	2	0	20	42	3	0	4	9	13	0	3	9	23	0	163	
4:35 PM	4	31	8	0	18	47	5	0	4	17	17	0	3	11	15	0	180	
4:40 PM	4	18	4	0	18	24	7	0	5	19	23	0	3	13	23	0	161	
4:45 PM	2	31	7	0	21	34	4	0	3	9	19	0	6	1	13	0	150	
4:50 PM	8	24	11	0	20	34	6	0	7	13	12	0	2	5	9	0	151	
4:55 PM	7	16	3	0	23	36	3	0	1	11	22	0	5	6	18	0	151	1837
5:00 PM	3	18	6	0	24	42	6	0	7	8	18	0	3	8	12	0	155	1832
5:05 PM	8	22	3	0	29	43	3	0	3	6	18	0	6	7	13	0	161	1834
5:10 PM	11	24	5	0	13	36	1	0	5	8	19	0	2	6	13	0	143	1848
5:15 PM	4	20	2	0	14	39	3	0	2	13	14	0	3	12	11	0	137	1835
5:20 PM	5	25	3	0	21	41	4	0	2	12	13	0	2	8	18	0	154	1845
5:25 PM	7	36	6	0	30	47	2	0	1	6	18	0	2	5	9	0	169	1875
5:30 PM	9	18	4	0	27	43	3	0	8	10	24	0	0	5	12	0	163	1875
5:35 PM	6	20	6	0	22	47	3	0	6	11	16	0	2	5	13	0	157	1852
5:40 PM	12	14	4	0	12	40	1	0	6	7	18	0	6	4	14	0	138	1829
5:45 PM	6	23	6	0	20	33	2	0	2	15	14	0	5	8	13	0	147	1826
5:50 PM	5	20	2	0	14	38	5	0	6	12	14	0	6	10	23	0	155	1830
5:55 PM	13	17	5	0	23	38	3	0	3	9	16	0	8	7	12	0	154	1833

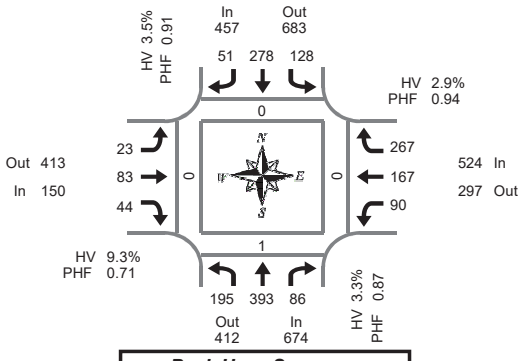
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	80	276	40	0	192	464	32	0	36	132	184	0	28	104	168	0	1736
Heavy Trucks	0	12	0		4	12	12		0	0	4		0	0	4		48
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 3/25/2015 5:12 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Total Vehicle Summary

Clay Carney
(503) 833-2740



Redland Rd & Holcomb Blvd

Wednesday, January 25, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:20 AM to 8:20 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	12	29	1	0	6	13	4	0	0	6	0	0	4	11	27	0	113	0	0	0	0
7:05 AM	15	37	3	0	8	15	4	0	0	2	2	0	4	5	20	0	115	0	0	0	0
7:10 AM	12	38	0	0	6	13	4	0	2	3	1	0	4	15	34	0	132	0	0	0	0
7:15 AM	16	29	1	0	14	17	3	0	2	3	7	0	1	10	30	0	133	0	0	0	0
7:20 AM	22	28	2	0	12	20	7	0	1	6	3	0	6	11	21	0	139	0	0	0	0
7:25 AM	16	37	6	0	6	28	3	0	1	7	5	0	8	16	26	0	159	0	0	0	0
7:30 AM	18	42	4	0	11	28	2	0	4	3	4	0	7	12	25	0	160	0	0	0	0
7:35 AM	22	35	10	0	11	24	5	0	0	9	2	0	2	14	23	0	157	0	0	0	0
7:40 AM	16	32	15	0	9	28	5	0	3	12	5	0	4	17	23	0	169	0	0	0	0
7:45 AM	9	30	13	0	9	25	9	0	7	7	4	0	10	17	19	0	159	0	0	0	0
7:50 AM	18	26	10	0	17	19	1	0	0	12	3	0	8	17	17	0	148	0	0	0	0
7:55 AM	12	27	7	0	8	28	2	0	0	10	2	0	8	17	22	0	143	0	0	0	0
8:00 AM	13	27	2	0	18	14	4	0	1	5	1	0	5	7	23	0	120	0	0	0	0
8:05 AM	12	28	5	0	12	22	4	0	1	5	5	0	7	17	25	0	143	0	0	0	0
8:10 AM	18	34	6	0	8	22	5	0	1	4	6	0	16	9	24	0	153	0	1	0	0
8:15 AM	19	47	6	0	7	20	4	0	4	3	4	0	9	13	19	0	155	0	0	0	0
8:20 AM	8	25	5	0	8	21	8	0	3	7	4	0	5	8	22	0	124	0	1	0	0
8:25 AM	21	22	8	0	10	24	1	0	4	4	3	0	7	4	15	0	123	0	0	0	0
8:30 AM	15	34	2	0	11	18	5	0	3	4	7	0	10	6	27	0	142	0	0	0	0
8:35 AM	14	27	1	0	8	22	3	0	1	8	3	0	6	6	13	0	112	0	0	0	0
8:40 AM	14	39	9	0	12	17	5	0	0	5	9	0	6	5	21	0	142	0	0	0	0
8:45 AM	14	37	6	0	17	14	3	0	0	8	3	0	3	12	20	0	137	0	0	0	0
8:50 AM	16	34	6	0	13	15	6	0	1	8	4	0	2	13	11	0	129	0	0	0	0
8:55 AM	5	27	4	0	7	12	10	0	3	9	8	0	8	8	25	0	126	0	0	0	0
Total Survey	357	771	132	0	248	479	107	0	42	150	95	0	150	270	532	0	3,333	0	2	0	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	39	104	4	0	20	41	12	0	2	11	3	0	12	31	81	0	360	0	0	0	0
7:15 AM	54	94	9	0	32	65	13	0	4	16	15	0	15	37	77	0	431	0	0	0	0
7:30 AM	56	109	29	0	31	80	12	0	7	24	11	0	13	43	71	0	486	0	0	0	0
7:45 AM	39	83	30	0	34	72	12	0	7	29	9	0	26	51	58	0	450	0	0	0	0
8:00 AM	43	89	13	0	38	58	13	0	3	14	12	0	28	33	72	0	416	0	1	0	0
8:15 AM	48	94	19	0	25	65	13	0	11	14	11	0	21	25	56	0	402	0	1	0	0
8:30 AM	43	100	12	0	31	57	13	0	4	17	19	0	22	17	61	0	396	0	0	0	0
8:45 AM	35	98	16	0	37	41	19	0	4	25	15	0	13	33	56	0	392	0	0	0	0
Total Survey	357	771	132	0	248	479	107	0	42	150	95	0	150	270	532	0	3,333	0	2	0	0

Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	674	412	1,086	0	457	683	1,140	0	150	413	563	0	524	297	821	0	1,805	0	1	0	0
%HV	3.3%				3.5%				9.3%				2.9%				3.7%				
PHF	0.87				0.91				0.71				0.94				0.93				

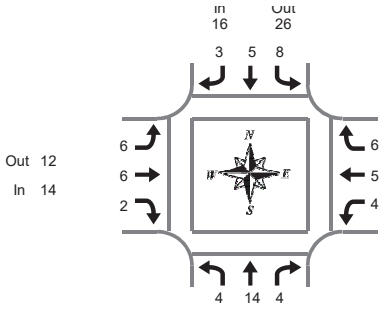
By Movement	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	195	393	86	674	128	278	51	457	23	83	44	150	90	167	267	524	1,805
%HV	2.1%	3.6%	4.7%	3.3%	6.3%	1.8%	5.9%	3.5%	26.1%	7.2%	4.5%	9.3%	4.4%	3.0%	2.2%	2.9%	3.7%
PHF	0.87	0.86	0.57	0.87	0.74	0.87	0.67	0.91	0.58	0.67	0.73	0.71	0.70	0.82	0.90	0.94	0.93

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	188	390	72	0	117	258	49	0	20	80	38	0	66	162	287	0	1,727	0	0	0	0
7:15 AM	192	375	81	0	135	275	50	0	21	83	47	0	82	164	278	0	1,783	0	1	0	0
7:30 AM	186	375	91	0	128	275	50	0	28	81	43	0	88	152	257	0	1,754	0	2	0	0
7:45 AM	173	366	74	0	128	252	51	0	25	74	51	0	97	126	247	0	1,664	0	2	0	0
8:00 AM	169	381	60	0	131	221	58	0	22	70	57	0	84	108	245	0	1,606	0	2	0	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Redland Rd & Holcomb Blvd

Wednesday, January 25, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:20 AM to 8:20 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
7:05 AM	0	2	0	2	1	1	0	2	0	1	0	1	1	0	3	4	9
7:10 AM	0	2	0	2	1	0	0	1	1	0	0	1	1	1	1	3	7
7:15 AM	1	4	0	5	2	1	0	3	0	0	0	0	0	1	1	2	10
7:20 AM	0	2	0	2	0	0	2	2	0	0	0	0	0	0	0	0	4
7:25 AM	0	5	0	5	0	0	0	0	0	1	0	1	0	0	0	0	6
7:30 AM	0	0	0	0	0	0	0	0	2	1	0	3	0	0	1	1	4
7:35 AM	0	1	0	1	1	0	0	1	0	2	0	2	0	0	0	0	4
7:40 AM	0	2	1	3	1	0	0	1	0	0	0	0	0	0	0	0	4
7:45 AM	0	0	1	1	2	1	0	3	4	1	0	5	1	0	1	2	11
7:50 AM	2	1	0	3	1	0	0	1	0	0	0	0	0	0	0	0	4
7:55 AM	2	1	0	3	0	2	0	2	0	0	0	0	0	2	2	4	9
8:00 AM	0	1	0	1	2	0	0	2	0	1	0	1	0	1	1	2	6
8:05 AM	0	0	2	2	0	0	0	0	0	0	1	1	1	2	0	3	6
8:10 AM	0	1	0	1	0	2	0	2	0	0	1	1	2	0	0	2	6
8:15 AM	0	0	0	0	1	0	1	2	0	0	0	0	0	0	1	1	3
8:20 AM	0	1	0	1	2	0	0	2	2	0	1	3	1	0	1	2	8
8:25 AM	0	3	0	3	1	0	0	1	1	0	1	2	0	0	0	0	6
8:30 AM	0	3	1	4	2	2	0	4	0	0	2	2	1	0	2	3	13
8:35 AM	0	0	0	0	0	4	2	6	0	1	1	2	0	1	0	1	9
8:40 AM	0	0	0	0	0	1	0	1	0	1	1	2	0	2	1	3	6
8:45 AM	0	2	0	2	1	1	0	2	0	0	2	2	0	0	0	0	6
8:50 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
8:55 AM	0	1	0	1	0	2	2	4	0	0	2	2	0	1	0	1	8
Total Survey	5	33	5	43	19	18	7	44	10	9	12	31	8	13	15	36	154

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	5	0	5	3	1	0	4	1	1	0	2	2	1	4	7	18
7:15 AM	1	11	0	12	2	1	2	5	0	1	0	1	0	1	1	2	20
7:30 AM	0	3	1	4	2	0	0	2	2	3	0	5	0	0	1	1	12
7:45 AM	4	2	1	7	3	3	0	6	4	1	0	5	1	2	3	6	24
8:00 AM	0	2	2	4	2	2	0	4	0	1	2	3	3	3	1	7	18
8:15 AM	0	4	0	4	4	0	1	5	3	0	2	5	1	0	2	3	17
8:30 AM	0	3	1	4	2	7	2	11	0	2	4	6	1	3	3	7	28
8:45 AM	0	3	0	3	1	4	2	7	0	0	4	4	0	3	0	3	17
Total Survey	5	33	5	43	19	18	7	44	10	9	12	31	8	13	15	36	154

Heavy Vehicle Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Redland Rd			Southbound Redland Rd			Eastbound Holcomb Blvd			Westbound Holcomb Blvd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	22	11	33	16	26	42	14	12	26	15	18	33	67
PHF	0.79			0.67			0.50			0.42			0.70

By Movement	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	4	14	4	22	8	5	3	16	6	6	2	14	4	5	6	15	67
PHF	0.25	0.50	0.50	0.79	0.50	0.42	0.38	0.67	0.38	0.38	0.25	0.50	0.33	0.25	0.50	0.42	0.70

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

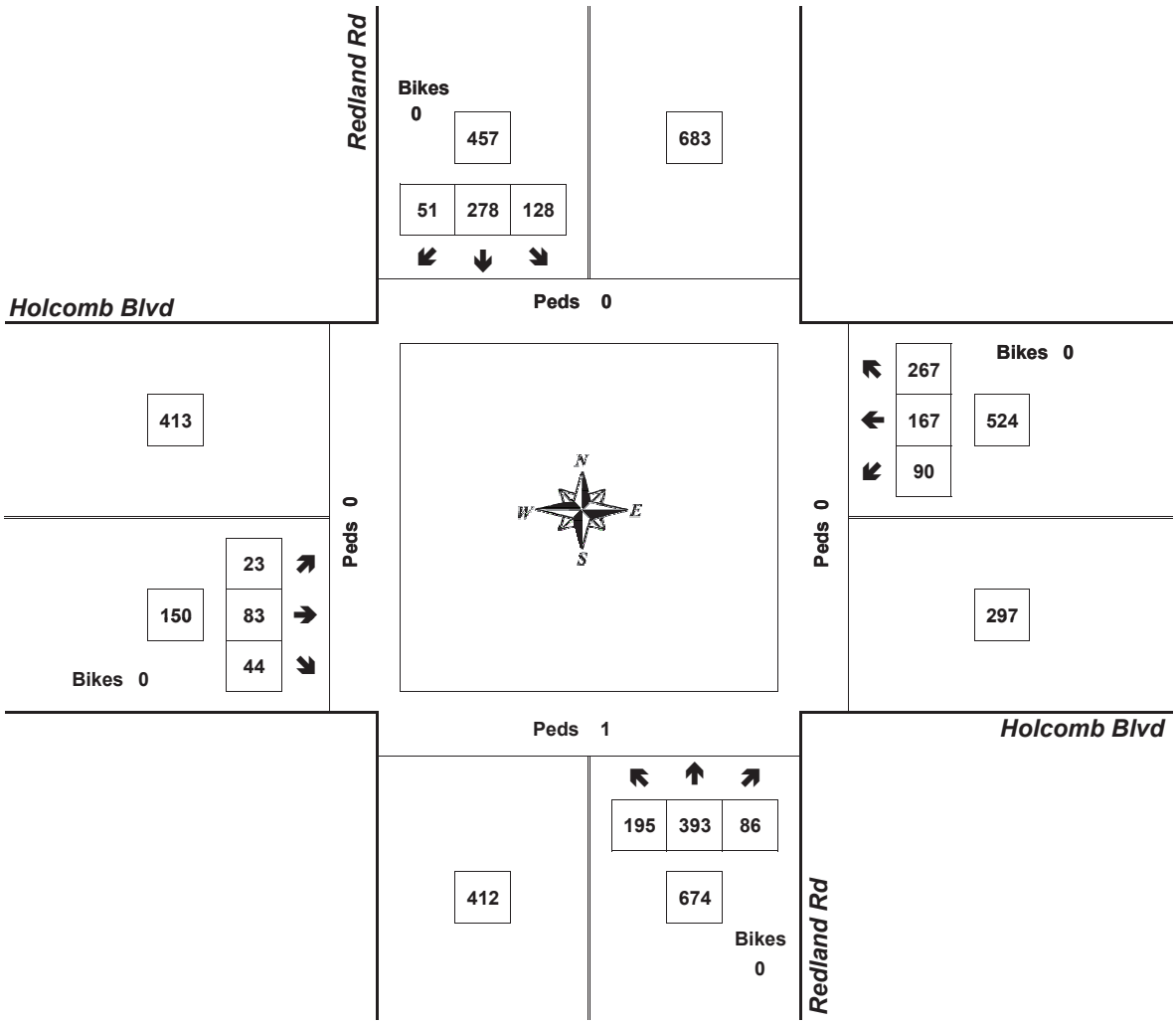
Interval Start Time	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	5	21	2	28	10	5	2	17	7	6	0	13	3	4	9	16	74
7:15 AM	5	18	4	27	9	6	2	17	6	6	2	14	4	6	6	16	74
7:30 AM	4	11	4	19	11	5	1	17	9	5	4	18	5	5	7	17	71
7:45 AM	4	11	4	19	11	12	3	26	7	4	8	19	6	8	9	23	87
8:00 AM	0	12	3	15	9	13	5	27	3	3	12	18	5	9	6	20	80

Peak Hour Summary

Clay Carney
(503) 833-2740

Redland Rd & Holcomb Blvd

7:20 AM to 8:20 AM
Wednesday, January 25, 2017

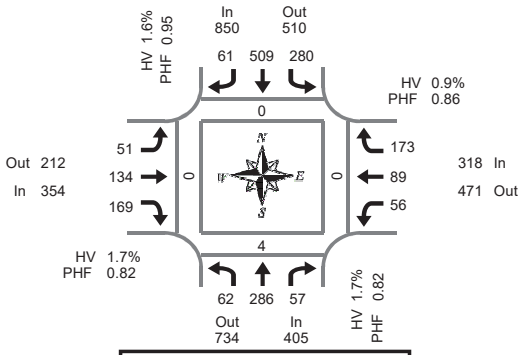


Approach	PHF	HV%	Volume
EB	0.71	9.3%	150
WB	0.94	2.9%	524
NB	0.87	3.3%	674
SB	0.91	3.5%	457
Intersection	0.93	3.7%	1,805

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:40 PM to 5:40 PM

Redland Rd & Holcomb Blvd

Tuesday, January 24, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	4	24	7	0	28	38	4	0	5	10	3	0	8	6	18	0	155	0	0	0	0
4:05 PM	4	20	7	0	23	34	3	0	5	13	9	0	1	9	17	0	145	0	0	0	0
4:10 PM	3	29	4	0	26	40	5	0	1	10	7	0	6	11	21	0	163	0	0	0	0
4:15 PM	6	19	2	0	27	43	7	0	2	14	10	0	0	10	18	0	158	0	0	0	0
4:20 PM	9	24	4	0	23	39	4	0	2	10	11	0	4	10	20	0	160	0	0	0	0
4:25 PM	8	25	2	0	28	40	6	0	0	7	9	0	0	11	11	0	147	0	0	0	0
4:30 PM	5	22	5	0	15	49	3	0	2	16	14	0	1	9	20	0	161	0	0	0	0
4:35 PM	4	25	4	0	26	43	7	0	3	11	4	0	5	6	21	0	159	0	0	0	0
4:40 PM	4	27	2	0	16	39	6	0	5	11	11	0	7	8	18	0	154	0	0	0	0
4:45 PM	8	27	5	0	30	47	4	0	3	7	11	0	1	5	15	0	163	0	1	0	0
4:50 PM	2	22	3	0	21	46	5	0	6	11	9	0	2	8	13	0	148	0	0	0	0
4:55 PM	8	21	4	0	18	45	6	0	1	9	14	0	8	7	18	0	159	0	0	0	0
5:00 PM	4	25	4	0	29	44	10	0	6	10	9	0	5	5	14	0	165	0	0	0	0
5:05 PM	9	32	5	0	23	43	0	0	8	12	8	0	4	9	22	0	175	0	1	0	0
5:10 PM	5	28	7	0	20	42	2	0	5	18	18	0	5	9	17	0	176	0	0	0	0
5:15 PM	6	26	5	0	22	34	8	0	2	9	21	0	5	9	7	0	154	0	0	0	0
5:20 PM	4	23	4	0	30	39	6	0	0	6	16	0	4	6	11	0	149	0	0	0	0
5:25 PM	3	19	8	0	20	44	2	0	3	11	21	0	3	9	9	0	152	0	0	0	0
5:30 PM	7	17	5	0	19	43	8	0	8	10	18	1	8	9	18	0	170	0	2	0	0
5:35 PM	2	19	5	0	32	43	4	0	4	20	13	0	4	5	11	0	162	0	0	0	0
5:40 PM	5	17	5	0	22	54	1	0	3	11	16	0	1	7	8	0	150	0	0	0	0
5:45 PM	5	25	3	0	27	34	3	0	3	14	18	0	3	5	8	0	148	0	0	0	0
5:50 PM	7	15	2	0	26	45	5	0	2	4	14	0	2	4	8	0	134	0	0	0	0
5:55 PM	5	18	2	0	21	32	1	0	2	18	16	0	2	8	10	0	135	0	0	0	0
Total Survey	127	549	104	0	572	1,000	110	0	81	272	300	1	89	185	353	0	3,742	0	4	0	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	11	73	18	0	77	112	12	0	11	33	19	0	15	26	56	0	463	0	0	0	0
4:15 PM	23	68	8	0	78	122	17	0	4	31	30	0	4	31	49	0	465	0	0	0	0
4:30 PM	13	74	11	0	57	131	16	0	10	38	29	0	13	23	59	0	474	0	0	0	0
4:45 PM	18	70	12	0	69	138	15	0	10	27	34	0	11	20	46	0	470	0	1	0	0
5:00 PM	18	85	16	0	72	129	12	0	19	40	35	0	14	23	53	0	516	0	1	0	0
5:15 PM	13	68	17	0	72	117	16	0	5	26	58	0	12	24	27	0	455	0	0	0	0
5:30 PM	14	53	15	0	73	140	13	0	15	41	47	1	13	21	37	0	482	0	2	0	0
5:45 PM	17	58	7	0	74	111	9	0	7	36	48	0	7	17	26	0	417	0	0	0	0
Total Survey	127	549	104	0	572	1,000	110	0	81	272	300	1	89	185	353	0	3,742	0	4	0	0

Peak Hour Summary
4:40 PM to 5:40 PM

By Approach	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	405	734	1,139	0	850	510	1,360	0	354	212	566	1	318	471	789	0	1,927	0	4	0	0
%HV	1.7%				1.6%				1.7%				0.9%				1.6%				
PHF	0.82				0.95				0.82				0.86				0.93				

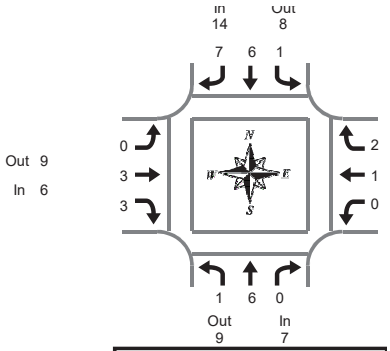
By Movement	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	62	286	57	405	280	509	61	850	51	134	169	354	56	89	173	318	1,927
%HV	1.6%	2.1%	0.0%	1.7%	0.4%	1.2%	11.5%	1.6%	0.0%	2.2%	1.8%	1.7%	0.0%	1.1%	1.2%	0.9%	1.6%
PHF	0.74	0.83	0.79	0.82	0.97	0.92	0.73	0.95	0.67	0.82	0.73	0.82	0.82	0.82	0.80	0.86	0.93

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	65	285	49	0	281	503	60	0	35	129	112	0	43	100	210	0	1,872	0	1	0	0
4:15 PM	72	297	47	0	276	520	60	0	43	136	128	0	42	97	207	0	1,925	0	2	0	0
4:30 PM	62	297	56	0	270	515	59	0	44	131	156	0	50	90	185	0	1,915	0	2	0	0
4:45 PM	63	276	60	0	286	524	56	0	49	134	174	1	50	88	163	0	1,923	0	4	0	0
5:00 PM	62	264	55	0	291	497	50	0	46	143	188	1	46	85	143	0	1,870	0	3	0	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Redland Rd & Holcomb Blvd

Tuesday, January 24, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:40 PM to 5:40 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	0	1	0	2	0	2	0	0	0	0	1	1	1	3	6
4:05 PM	0	0	0	0	0	0	1	1	3	0	1	4	0	1	2	3	8
4:10 PM	1	1	0	2	1	0	0	1	0	0	0	0	1	0	1	2	5
4:15 PM	0	0	0	0	0	1	0	1	0	1	2	3	0	1	0	1	5
4:20 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:25 PM	0	1	0	1	2	1	0	3	0	0	1	1	0	0	0	0	5
4:30 PM	0	1	0	1	0	1	0	1	0	2	1	3	0	0	0	0	5
4:35 PM	0	1	0	1	0	1	0	1	0	0	0	0	1	0	1	2	4
4:40 PM	0	1	0	1	0	0	2	2	0	0	0	0	0	0	1	1	4
4:45 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
4:50 PM	0	0	0	0	0	3	1	4	0	0	0	0	0	0	0	0	4
4:55 PM	0	0	0	0	0	0	1	1	0	1	1	2	0	0	0	0	3
5:00 PM	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0	2
5:05 PM	1	1	0	2	0	0	0	0	0	1	0	1	0	1	1	2	5
5:10 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:25 PM	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	2	2	0	0	1	1	0	0	0	0	3
5:35 PM	0	1	0	1	1	0	0	1	0	0	1	1	0	0	0	0	3
5:40 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:45 PM	0	1	0	1	1	1	0	2	0	0	0	0	0	0	0	0	3
5:50 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	2	3
5:55 PM	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0	2
Total Survey	2	12	0	14	5	16	9	30	3	7	8	18	3	4	9	16	78

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	2	0	3	1	2	1	4	3	0	1	4	2	2	4	8	19
4:15 PM	0	1	0	1	2	3	0	5	0	1	3	4	0	1	0	1	11
4:30 PM	0	3	0	3	0	2	2	4	0	2	1	3	1	0	2	3	13
4:45 PM	0	1	0	1	0	4	2	6	0	1	1	2	0	0	0	0	9
5:00 PM	1	1	0	2	0	2	0	2	0	2	0	2	0	1	1	2	8
5:15 PM	0	2	0	2	0	0	1	1	0	0	0	0	0	0	0	0	3
5:30 PM	0	1	0	1	1	1	2	4	0	0	2	2	0	0	0	0	7
5:45 PM	0	1	0	1	1	2	1	4	0	1	0	1	0	0	2	2	8
Total Survey	2	12	0	14	5	16	9	30	3	7	8	18	3	4	9	16	78

Heavy Vehicle Peak Hour Summary
4:40 PM to 5:40 PM

By Approach	Northbound Redland Rd			Southbound Redland Rd			Eastbound Holcomb Blvd			Westbound Holcomb Blvd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	7	9	16	14	8	22	6	9	15	3	4	7	30
PHF	0.88			0.50			0.38			0.38			0.75

By Movement	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	6	0	7	1	6	7	14	0	3	3	6	0	1	2	3	30
PHF	0.25	0.75	0.00	0.88	0.25	0.38	0.58	0.50	0.00	0.25	0.38	0.38	0.00	0.25	0.50	0.38	0.75

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

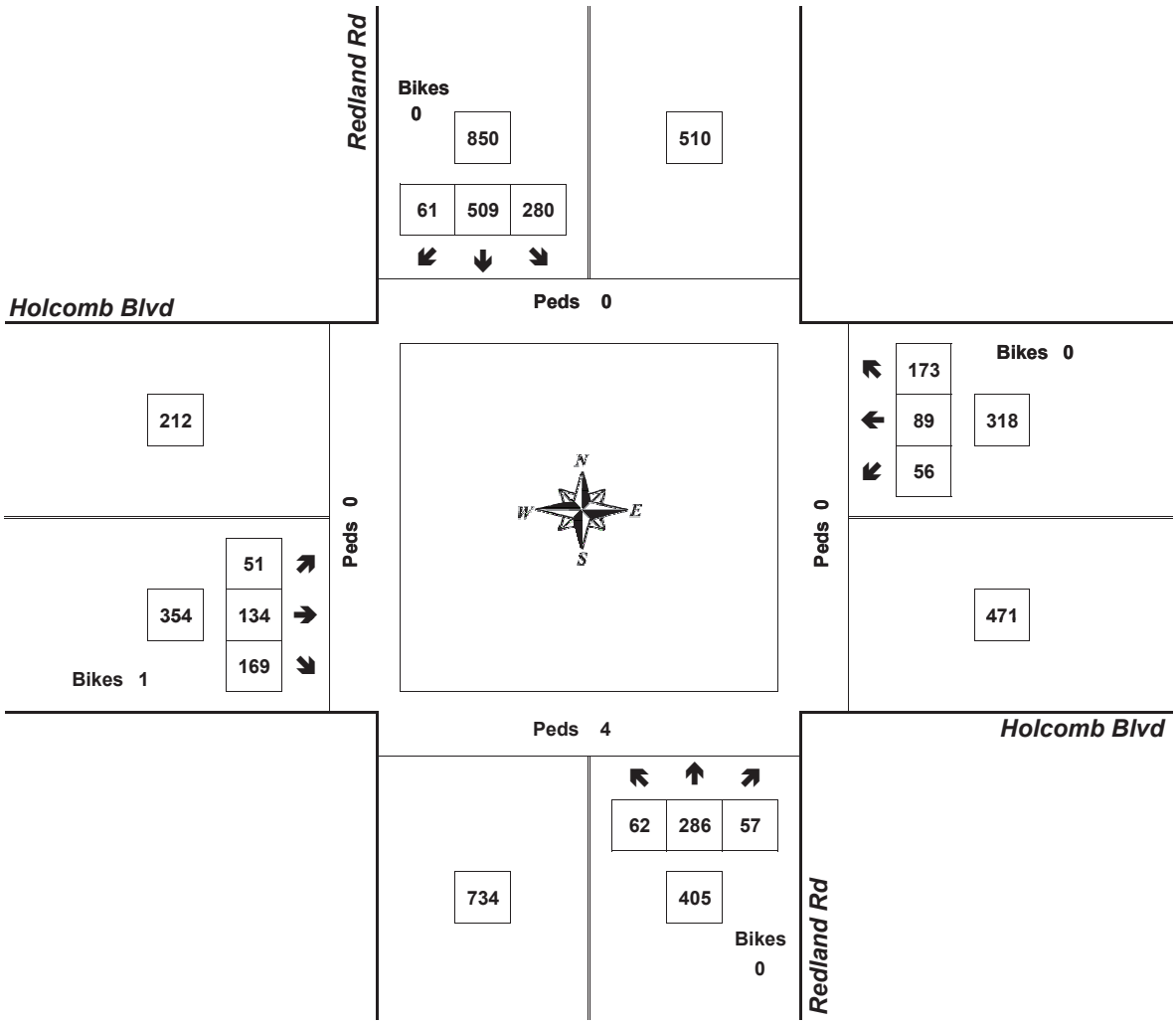
Interval Start Time	Northbound Redland Rd				Southbound Redland Rd				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	7	0	8	3	11	5	19	3	4	6	13	3	3	6	12	52
4:15 PM	1	6	0	7	2	11	4	17	0	6	5	11	1	2	3	6	41
4:30 PM	1	7	0	8	0	8	5	13	0	5	2	7	1	1	3	5	33
4:45 PM	1	5	0	6	1	7	5	13	0	3	3	6	0	1	1	2	27
5:00 PM	1	5	0	6	2	5	4	11	0	3	2	5	0	1	3	4	26

Peak Hour Summary

Clay Carney
(503) 833-2740

Redland Rd & Holcomb Blvd

4:40 PM to 5:40 PM
Tuesday, January 24, 2017

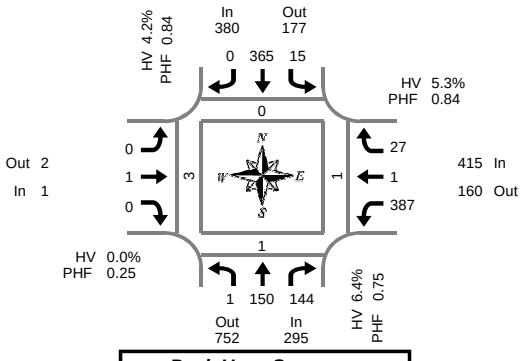


Approach	PHF	HV%	Volume
EB	0.82	1.7%	354
WB	0.86	0.9%	318
NB	0.82	1.7%	405
SB	0.95	1.6%	850
Intersection	0.93	1.6%	1,927

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:20 AM to 8:20 AM

Washington St & Abernathy Rd

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	9	6	0	0	28	0	0	0	0	0	0	18	0	4	0	65	0	0	0	0
7:05 AM	0	8	6	0	1	19	0	0	0	0	0	0	37	0	4	0	75	0	0	0	0
7:10 AM	0	9	11	1	2	29	0	0	0	0	0	0	30	0	3	1	84	0	0	0	0
7:15 AM	0	9	10	0	1	26	0	0	0	0	0	0	28	0	1	0	75	0	0	0	0
7:20 AM	1	19	7	0	1	26	0	0	0	0	0	0	29	0	1	0	84	0	0	0	0
7:25 AM	0	6	14	0	2	28	0	0	0	0	0	0	30	0	2	0	82	0	0	0	2
7:30 AM	0	8	11	0	1	34	0	0	0	0	0	0	34	0	2	0	90	0	1	0	0
7:35 AM	0	12	9	0	2	26	0	0	0	0	0	0	32	0	0	0	81	0	0	0	0
7:40 AM	0	13	8	0	0	47	0	0	0	0	0	0	34	0	4	0	106	0	0	1	0
7:45 AM	0	16	13	0	2	36	0	0	0	0	0	0	35	0	2	0	104	0	0	0	1
7:50 AM	0	19	16	0	1	24	0	0	0	0	0	0	47	0	1	0	108	0	0	0	0
7:55 AM	0	17	17	0	2	30	0	0	0	0	0	0	33	0	5	0	104	0	0	0	0
8:00 AM	0	8	9	0	3	43	0	0	0	0	0	0	25	0	1	0	89	0	0	0	0
8:05 AM	0	11	13	0	0	23	0	0	0	0	0	0	27	0	2	0	76	0	0	0	0
8:10 AM	0	10	17	0	1	22	0	0	0	1	0	0	22	0	3	0	76	0	0	0	0
8:15 AM	0	11	10	0	0	26	0	0	0	0	0	0	39	1	4	0	91	0	0	0	0
8:20 AM	0	15	10	0	0	31	0	0	0	0	0	0	19	0	4	0	79	0	0	0	0
8:25 AM	0	12	11	0	3	29	0	1	0	0	0	0	25	1	5	0	86	0	1	0	0
8:30 AM	0	10	16	0	1	21	0	0	0	0	0	0	20	0	4	0	72	0	0	0	0
8:35 AM	0	10	11	0	2	33	0	0	0	0	0	0	24	0	2	0	82	0	0	0	0
8:40 AM	2	13	7	0	3	33	0	0	0	0	1	0	35	0	4	0	98	0	0	0	0
8:45 AM	1	20	9	0	0	30	0	0	0	0	0	0	19	0	1	0	80	0	0	0	0
8:50 AM	0	14	9	0	3	16	0	0	0	0	0	0	24	0	3	0	69	0	0	1	0
8:55 AM	0	12	8	0	3	34	0	0	0	0	0	0	23	0	3	0	83	0	0	0	0
Total Survey	4	291	258	1	34	694	0	1	0	1	1	0	689	2	65	1	2,039	0	2	2	3

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	26	23	1	3	76	0	0	0	0	0	0	85	0	11	1	224	0	0	0	0
7:15 AM	1	34	31	0	4	80	0	0	0	0	0	0	87	0	4	0	241	0	0	0	2
7:30 AM	0	33	28	0	3	107	0	0	0	0	0	0	100	0	6	0	277	0	1	1	0
7:45 AM	0	52	46	0	5	90	0	0	0	0	0	0	115	0	8	0	316	0	0	0	1
8:00 AM	0	29	39	0	4	88	0	0	0	1	0	0	74	0	6	0	241	0	0	0	0
8:15 AM	0	38	31	0	3	86	0	1	0	0	0	0	83	2	13	0	256	0	1	0	0
8:30 AM	2	33	34	0	6	87	0	0	0	0	1	0	79	0	10	0	252	0	0	0	0
8:45 AM	1	46	26	0	6	80	0	0	0	0	0	0	66	0	7	0	232	0	0	1	0
Total Survey	4	291	258	1	34	694	0	1	0	1	1	0	689	2	65	1	2,039	0	2	2	3

Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	295	752	1,047	0	380	177	557	0	1	2	3	0	415	160	575	0	1,091	0	1	1	3
%HV	6.4%				4.2%				0.0%				5.3%				5.2%				
PHF	0.75				0.84				0.25				0.84				0.86				

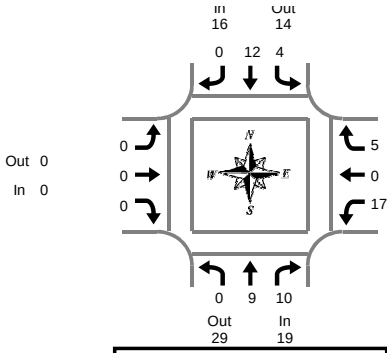
By Movement	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	150	144	295	15	365	0	380	0	1	0	1	387	1	27	415	1,091
%HV	0.0%	6.0%	6.9%	6.4%	26.7%	3.3%	0.0%	4.2%	0.0%	0.0%	0.0%	0.0%	4.4%	0.0%	18.5%	5.3%	5.2%
PHF	0.25	0.72	0.78	0.75	0.63	0.84	0.00	0.84	0.00	0.25	0.00	0.25	0.83	0.25	0.75	0.84	0.86

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	1	145	128	1	15	353	0	0	0	0	0	0	387	0	29	1	1,058	0	1	1	3
7:15 AM	1	148	144	0	16	365	0	0	0	1	0	0	376	0	24	0	1,075	0	1	1	3
7:30 AM	0	152	144	0	15	371	0	1	0	1	0	0	372	2	33	0	1,090	0	2	1	1
7:45 AM	2	152	150	0	18	351	0	1	0	1	1	0	351	2	37	0	1,065	0	1	0	1
8:00 AM	3	146	130	0	19	341	0	1	0	1	1	0	302	2	36	0	981	0	1	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & Abernathy Rd

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:20 AM to 8:20 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
7:05 AM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	2	3	4
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
7:20 AM	0	2	1	3	1	1	0	2	0	0	0	0	2	0	0	2	7
7:25 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
7:30 AM	0	0	3	3	1	2	0	3	0	0	0	0	0	0	1	1	7
7:35 AM	0	1	0	1	1	2	0	3	0	0	0	0	0	0	0	0	4
7:40 AM	0	0	1	1	0	0	0	0	0	0	0	0	3	0	0	3	4
7:45 AM	0	1	1	2	1	0	0	1	0	0	0	0	1	0	0	1	4
7:50 AM	0	0	1	1	0	2	0	2	0	0	0	0	0	0	0	0	3
7:55 AM	0	0	0	0	0	1	0	1	0	0	0	0	3	0	0	3	4
8:00 AM	0	1	0	1	0	1	0	1	0	0	0	0	3	0	0	3	5
8:05 AM	0	0	2	2	0	0	0	0	0	0	0	0	1	0	0	1	3
8:10 AM	0	2	1	3	0	2	0	2	0	0	0	0	3	0	2	5	10
8:15 AM	0	1	0	1	0	1	0	1	0	0	0	0	1	0	1	2	4
8:20 AM	0	0	3	3	0	2	0	2	0	0	0	0	0	0	0	0	5
8:25 AM	0	1	4	5	0	1	0	1	0	0	0	0	0	0	0	0	6
8:30 AM	0	1	2	3	0	2	0	2	0	0	0	0	0	0	0	0	5
8:35 AM	0	0	0	0	0	2	0	2	0	0	0	0	3	0	0	3	5
8:40 AM	0	1	1	2	0	2	0	2	0	0	0	0	1	0	0	1	5
8:45 AM	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	4
8:50 AM	0	2	0	2	0	1	0	1	0	0	0	0	1	0	0	1	4
8:55 AM	0	1	1	2	0	2	0	2	0	0	0	0	1	0	0	1	5
Total Survey	0	18	22	40	4	29	0	33	0	0	0	0	25	0	7	32	105

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	1	1	2	0	1	0	1	0	0	0	0	2	0	2	4	7
7:15 AM	0	3	1	4	1	3	0	4	0	0	0	0	2	0	1	3	11
7:30 AM	0	1	4	5	2	4	0	6	0	0	0	0	3	0	1	4	15
7:45 AM	0	1	2	3	1	3	0	4	0	0	0	0	4	0	0	4	11
8:00 AM	0	3	3	6	0	3	0	3	0	0	0	0	7	0	2	9	18
8:15 AM	0	2	7	9	0	4	0	4	0	0	0	0	1	0	1	2	15
8:30 AM	0	2	3	5	0	6	0	6	0	0	0	0	4	0	0	4	15
8:45 AM	0	5	1	6	0	5	0	5	0	0	0	0	2	0	0	2	13
Total Survey	0	18	22	40	4	29	0	33	0	0	0	0	25	0	7	32	105

Heavy Vehicle Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound Abernathy Rd			Westbound Abernathy Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	19	29	48	16	14	30	0	0	0	22	14	36	57
PHF	0.68			0.67			0.00			0.61			0.79

By Movement	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	9	10	19	4	12	0	16	0	0	0	0	17	0	5	22	57
PHF	0.00	0.75	0.63	0.68	0.50	0.75	0.00	0.67	0.00	0.00	0.00	0.00	0.61	0.00	0.42	0.61	0.79

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

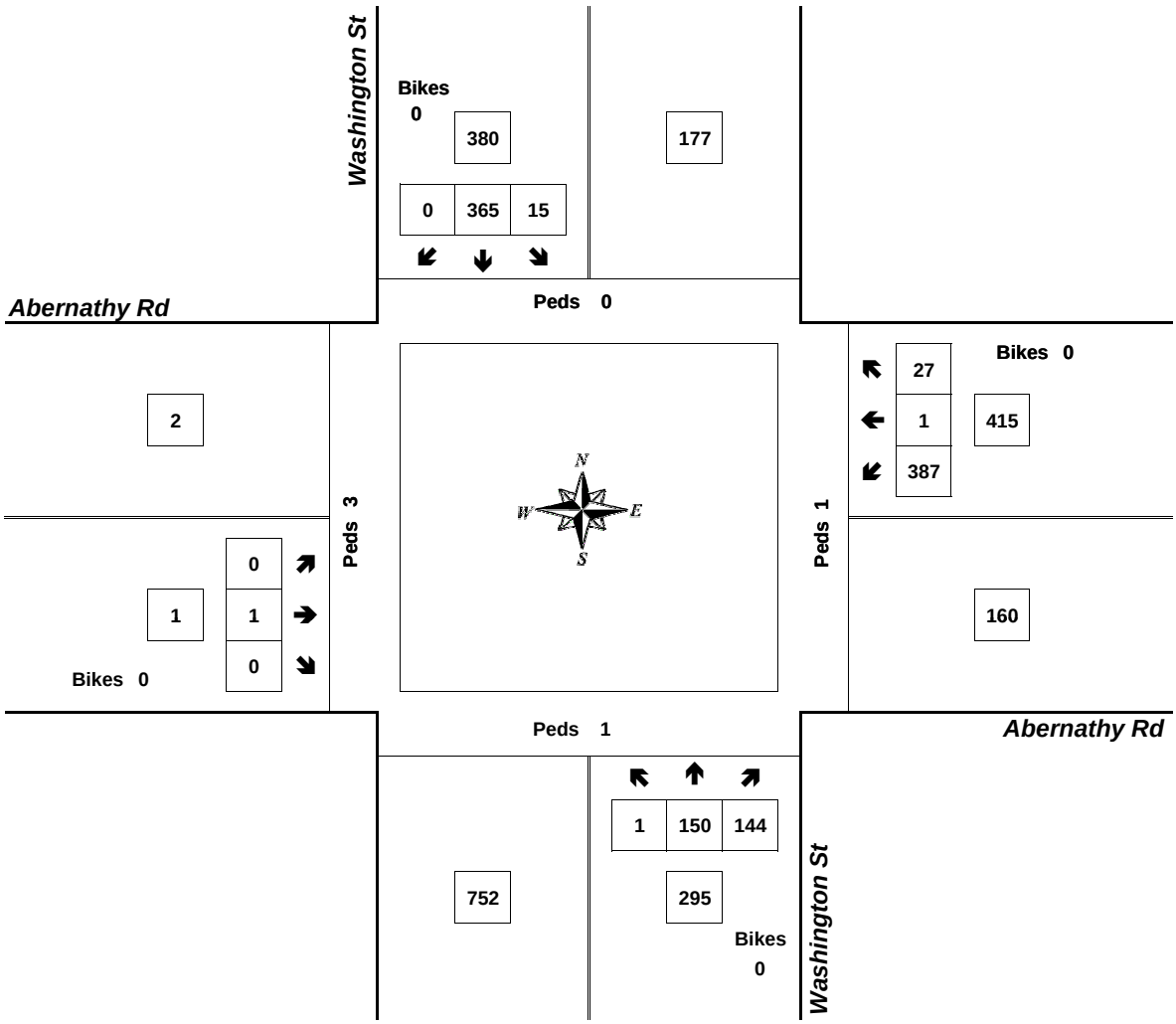
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	6	8	14	4	11	0	15	0	0	0	0	11	0	4	15	44
7:15 AM	0	8	10	18	4	13	0	17	0	0	0	0	16	0	4	20	55
7:30 AM	0	7	16	23	3	14	0	17	0	0	0	0	15	0	4	19	59
7:45 AM	0	8	15	23	1	16	0	17	0	0	0	0	16	0	3	19	59
8:00 AM	0	12	14	26	0	18	0	18	0	0	0	0	14	0	3	17	61

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & Abernathy Rd

7:20 AM to 8:20 AM
Thursday, January 26, 2017

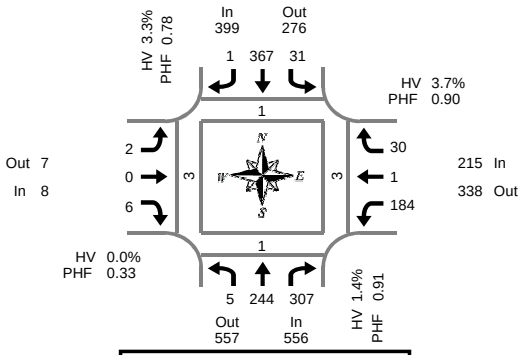


Approach	PHF	HV%	Volume
EB	0.25	0.0%	1
WB	0.84	5.3%	415
NB	0.75	6.4%	295
SB	0.84	4.2%	380
Intersection	0.86	5.2%	1,091

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:05 PM to 5:05 PM

Washington St & Abernathy Rd

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	19	20	0	6	27	0	0	0	0	0	0	20	0	0	0	92	0	0	1	0
4:05 PM	0	26	29	0	2	26	1	0	0	0	0	0	16	0	2	0	102	0	0	1	0
4:10 PM	0	15	16	0	2	40	0	0	0	0	0	0	14	0	1	0	88	0	0	0	0
4:15 PM	0	22	21	0	2	25	0	0	0	0	1	0	11	0	0	0	82	0	0	1	0
4:20 PM	2	18	40	0	2	16	0	0	0	0	0	0	17	0	3	0	98	0	0	0	0
4:25 PM	2	22	18	0	4	31	0	0	0	0	1	0	15	0	5	0	98	0	0	0	0
4:30 PM	0	25	26	0	1	39	0	0	0	0	2	0	11	1	1	0	106	1	0	0	1
4:35 PM	0	20	23	0	6	43	0	0	2	0	1	0	22	0	5	0	122	0	0	0	1
4:40 PM	0	17	21	0	6	33	0	0	0	0	1	0	14	0	3	0	95	0	0	0	0
4:45 PM	0	21	35	0	0	27	0	0	0	0	0	0	13	0	3	0	99	0	1	1	1
4:50 PM	0	15	28	0	1	35	0	0	0	0	0	0	17	0	2	0	98	0	0	0	0
4:55 PM	1	22	24	0	3	23	0	0	0	0	0	0	18	0	4	0	95	0	0	0	0
5:00 PM	0	21	26	0	2	29	0	0	0	0	0	0	16	0	1	0	95	0	0	0	0
5:05 PM	0	14	14	0	1	22	0	0	0	0	0	0	17	0	0	0	68	0	0	0	0
5:10 PM	0	21	30	0	3	36	0	0	0	0	0	0	16	0	2	0	108	0	0	0	0
5:15 PM	0	17	26	0	4	28	0	0	0	0	0	0	11	0	3	0	89	0	0	0	0
5:20 PM	0	8	26	0	2	20	0	0	0	0	0	0	14	0	4	0	74	0	0	0	1
5:25 PM	0	13	31	0	4	29	0	0	0	0	0	0	14	0	5	0	96	0	0	0	0
5:30 PM	0	14	31	0	3	30	0	0	0	0	0	0	19	0	1	0	98	0	0	0	1
5:35 PM	0	16	21	0	1	27	1	0	0	0	0	0	19	0	1	0	86	0	0	0	0
5:40 PM	0	11	23	0	3	18	0	0	0	0	0	0	19	0	4	0	78	0	0	0	0
5:45 PM	0	15	31	0	5	28	0	0	0	0	0	0	9	0	2	0	90	0	0	0	1
5:50 PM	0	17	30	0	2	30	0	0	0	0	0	0	20	0	0	0	99	0	1	0	1
5:55 PM	0	14	25	0	2	15	0	0	0	0	0	0	15	0	0	0	71	0	0	0	0
Total Survey	5	423	615	0	67	677	2	0	2	0	6	0	377	1	52	0	2,227	1	2	4	7

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	60	65	0	10	93	1	0	0	0	0	0	50	0	3	0	282	0	0	2	0
4:15 PM	4	62	79	0	8	72	0	0	0	0	2	0	43	0	8	0	278	0	0	1	0
4:30 PM	0	62	70	0	13	115	0	0	2	0	4	0	47	1	9	0	323	1	0	0	2
4:45 PM	1	58	87	0	4	85	0	0	0	0	0	0	48	0	9	0	292	0	1	1	1
5:00 PM	0	56	70	0	6	87	0	0	0	0	0	0	49	0	3	0	271	0	0	0	0
5:15 PM	0	38	83	0	10	77	0	0	0	0	0	0	39	0	12	0	259	0	0	0	1
5:30 PM	0	41	75	0	7	75	1	0	0	0	0	0	57	0	6	0	262	0	0	0	1
5:45 PM	0	46	86	0	9	73	0	0	0	0	0	0	44	0	2	0	260	0	1	0	2
Total Survey	5	423	615	0	67	677	2	0	2	0	6	0	377	1	52	0	2,227	1	2	4	7

Peak Hour Summary
4:05 PM to 5:05 PM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	556	557	1,113	0	399	276	675	0	8	7	15	0	215	338	553	0	1,178	1	1	3	3
%HV	1.4%				3.3%				0.0%				3.7%				2.5%				
PHF	0.91				0.78				0.33				0.90				0.90				

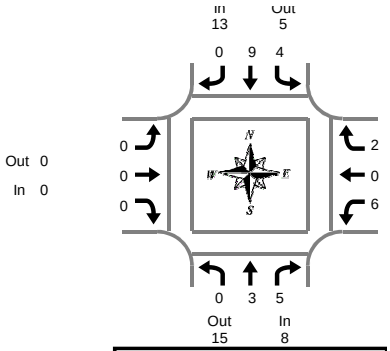
By Movement	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	5	244	307	556	31	367	1	399	2	0	6	8	184	1	30	215	1,178
%HV	0.0%	1.2%	1.6%	1.4%	12.9%	2.5%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%	3.3%	0.0%	6.7%	3.7%	2.5%
PHF	0.31	0.91	0.88	0.91	0.60	0.80	0.25	0.78	0.25	0.00	0.38	0.33	0.90	0.25	0.68	0.90	0.90

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	5	242	301	0	35	365	1	0	2	0	6	0	188	1	29	0	1,175	1	1	4	3
4:15 PM	5	238	306	0	31	359	0	0	2	0	6	0	187	1	29	0	1,164	1	1	2	3
4:30 PM	1	214	310	0	33	364	0	0	2	0	4	0	183	1	33	0	1,145	1	1	1	4
4:45 PM	1	193	315	0	27	324	1	0	0	0	0	0	193	0	30	0	1,084	0	1	1	3
5:00 PM	0	181	314	0	32	312	1	0	0	0	0	0	189	0	23	0	1,052	0	1	0	4

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & Abernathy Rd

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:05 PM to 5:05 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	1	1	0	2	0	2	0	0	0	0	2	0	0	2	5
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	3	3
4:10 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:20 PM	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	2
4:25 PM	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	2
4:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	2
4:35 PM	0	1	1	2	0	3	0	3	0	0	0	0	0	0	0	0	5
4:40 PM	0	0	0	0	1	1	0	2	0	0	0	0	2	0	0	2	4
4:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
4:50 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
4:55 PM	0	1	1	2	1	0	0	1	0	0	0	0	0	0	1	1	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	2
5:10 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:25 PM	0	0	2	2	1	1	0	2	0	0	0	0	0	0	0	0	4
5:30 PM	0	2	0	2	1	0	0	1	0	0	0	0	0	0	0	0	3
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Survey	0	5	11	16	8	12	0	20	0	0	0	0	11	0	2	13	49

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	1	1	0	4	0	4	0	0	0	0	4	0	1	5	10
4:15 PM	0	0	2	2	2	0	0	2	0	0	0	0	1	0	0	1	5
4:30 PM	0	1	2	3	1	4	0	5	0	0	0	0	3	0	0	3	11
4:45 PM	0	2	1	3	1	3	0	4	0	0	0	0	0	0	1	1	8
5:00 PM	0	0	1	1	1	0	0	1	0	0	0	0	1	0	0	1	3
5:15 PM	0	0	2	2	2	1	0	3	0	0	0	0	1	0	0	1	6
5:30 PM	0	2	0	2	1	0	0	1	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	2	2	0	0	0	0	0	0	0	0	1	0	0	1	3
Total Survey	0	5	11	16	8	12	0	20	0	0	0	0	11	0	2	13	49

Heavy Vehicle Peak Hour Summary
4:05 PM to 5:05 PM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound Abernathy Rd			Westbound Abernathy Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	8	15	23	13	5	18	0	0	0	8	9	17	29
PHF	0.67			0.46			0.00			0.67			0.66

By Movement	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	3	5	8	4	9	0	13	0	0	0	0	6	0	2	8	29
PHF	0.00	0.38	0.63	0.67	0.50	0.38	0.00	0.46	0.00	0.00	0.00	0.00	0.50	0.00	0.50	0.67	0.66

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

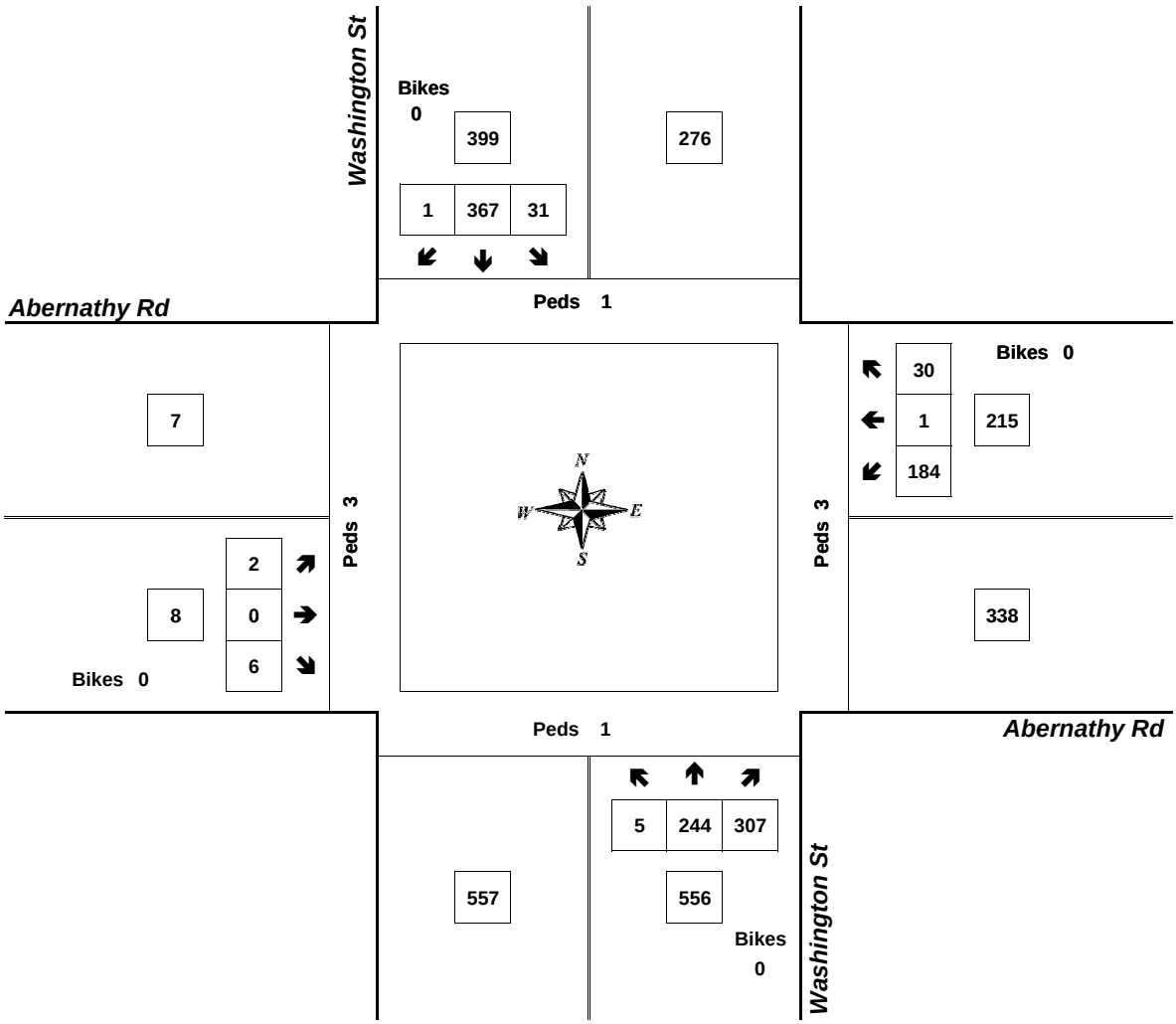
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound Abernathy Rd				Westbound Abernathy Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	3	6	9	4	11	0	15	0	0	0	0	8	0	2	10	34
4:15 PM	0	3	6	9	5	7	0	12	0	0	0	0	5	0	1	6	27
4:30 PM	0	3	6	9	5	8	0	13	0	0	0	0	5	0	1	6	28
4:45 PM	0	4	4	8	5	4	0	9	0	0	0	0	2	0	1	3	20
5:00 PM	0	2	5	7	4	1	0	5	0	0	0	0	3	0	0	3	15

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & Abernathy Rd

4:05 PM to 5:05 PM
Wednesday, January 25, 2017

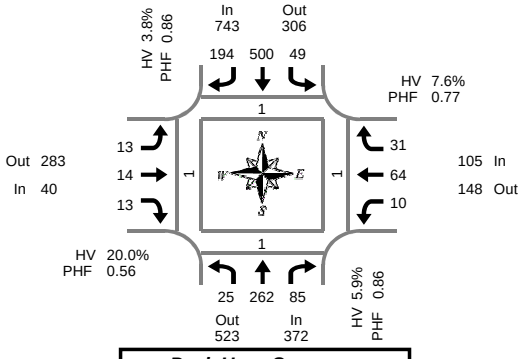


Approach	PHF	HV%	Volume
EB	0.33	0.0%	8
WB	0.90	3.7%	215
NB	0.91	1.4%	556
SB	0.78	3.3%	399
Intersection	0.90	2.5%	1,178

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:30 AM to 8:30 AM

Washington St & 15th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	1	15	4	0	2	24	11	0	1	0	0	0	0	5	1	0	64	0	0	0	0
7:05 AM	5	15	2	0	4	28	18	0	0	0	0	0	0	6	0	0	78	0	0	1	1
7:10 AM	7	23	6	1	2	38	18	0	2	1	0	0	2	6	1	0	106	1	0	0	0
7:15 AM	4	22	4	0	2	39	9	0	1	1	1	1	1	6	0	0	90	0	0	0	0
7:20 AM	5	25	2	0	2	31	19	0	0	0	0	0	1	5	2	0	92	0	0	0	0
7:25 AM	4	20	3	0	1	43	7	0	1	2	3	0	3	11	0	0	98	0	0	0	0
7:30 AM	1	17	1	0	2	52	10	0	1	1	0	0	0	6	2	1	93	1	0	0	0
7:35 AM	2	17	8	0	6	42	15	0	1	1	1	0	1	7	2	0	103	0	1	0	1
7:40 AM	2	20	9	0	2	64	14	0	0	0	1	0	0	3	3	0	118	0	0	0	0
7:45 AM	1	19	6	0	3	50	19	0	2	2	1	0	0	2	7	0	112	0	0	0	0
7:50 AM	3	32	3	0	5	42	17	0	0	1	1	0	0	8	3	0	115	0	0	1	0
7:55 AM	2	32	10	0	6	43	20	0	1	2	2	0	3	4	3	0	128	0	0	0	0
8:00 AM	1	15	9	0	8	38	20	0	1	0	0	0	2	4	0	0	98	0	0	0	0
8:05 AM	4	22	5	0	5	33	8	0	0	0	1	0	2	7	4	0	91	0	0	0	0
8:10 AM	1	24	11	0	2	29	16	0	2	0	2	0	0	5	5	0	97	0	0	0	0
8:15 AM	1	22	9	0	2	42	16	0	1	2	2	0	1	9	1	0	108	0	0	0	0
8:20 AM	3	17	6	0	5	32	17	0	3	4	2	0	1	5	1	0	96	0	0	0	0
8:25 AM	4	25	8	0	3	33	22	0	1	1	0	0	0	4	0	0	101	0	0	0	0
8:30 AM	4	23	7	0	2	24	12	0	2	1	1	0	1	6	0	0	83	0	0	0	0
8:35 AM	1	19	6	0	4	34	17	0	0	2	1	0	2	5	3	0	94	0	0	0	0
8:40 AM	4	21	6	0	3	35	21	0	8	3	0	0	2	7	0	0	110	0	1	1	0
8:45 AM	2	27	13	0	5	37	19	0	1	3	2	0	1	4	1	0	115	2	0	0	0
8:50 AM	4	22	6	0	3	31	9	0	1	1	1	0	3	5	1	0	87	0	0	0	0
8:55 AM	2	20	8	0	5	34	19	0	1	2	0	0	1	9	1	0	102	2	0	1	0
Total Survey	68	514	152	1	84	898	373	0	31	30	22	1	27	139	41	1	2,379	6	2	4	2

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	13	53	12	1	8	90	47	0	3	1	0	0	2	17	2	0	248	1	0	1	1
7:15 AM	13	67	9	0	5	113	35	0	2	3	4	1	5	22	2	0	280	0	0	0	0
7:30 AM	5	54	18	0	10	158	39	0	2	2	2	0	1	16	7	1	314	1	1	0	1
7:45 AM	6	83	19	0	14	135	56	0	3	5	4	0	3	14	13	0	355	0	0	1	0
8:00 AM	6	61	25	0	15	100	44	0	3	0	3	0	4	16	9	0	286	0	0	0	0
8:15 AM	8	64	23	0	10	107	55	0	5	7	4	0	2	18	2	0	305	0	0	0	0
8:30 AM	9	63	19	0	9	93	50	0	10	6	2	0	5	18	3	0	287	0	1	1	0
8:45 AM	8	69	27	0	13	102	47	0	3	6	3	0	5	18	3	0	304	4	0	1	0
Total Survey	68	514	152	1	84	898	373	0	31	30	22	1	27	139	41	1	2,379	6	2	4	2

Peak Hour Summary
7:30 AM to 8:30 AM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	372	523	895	0	743	306	1,049	0	40	283	323	0	105	148	253	1	1,260	1	1	1	1
%HV	5.9%				3.8%				20.0%				7.6%				5.2%				
PHF	0.86				0.86				0.56				0.77				0.89				

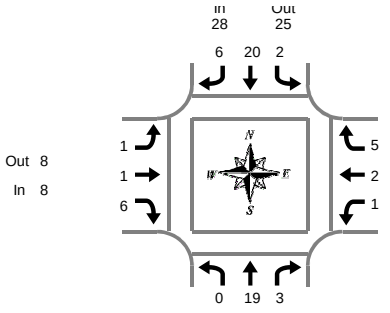
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	25	262	85	372	49	500	194	743	13	14	13	40	10	64	31	105	1,260
%HV	0.0%	7.3%	3.5%	5.9%	4.1%	4.0%	3.1%	3.8%	7.7%	7.1%	46.2%	20.0%	10.0%	3.1%	16.1%	7.6%	5.2%
PHF	0.78	0.79	0.82	0.86	0.64	0.79	0.85	0.86	0.54	0.50	0.54	0.56	0.36	0.76	0.60	0.77	0.89

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	37	257	58	1	37	496	177	0	10	11	10	1	11	69	24	1	1,197	2	1	2	2
7:15 AM	30	265	71	0	44	506	174	0	10	10	13	1	13	68	31	1	1,235	1	1	1	1
7:30 AM	25	262	85	0	49	500	194	0	13	14	13	0	10	64	31	1	1,260	1	1	1	1
7:45 AM	29	271	86	0	48	435	205	0	21	18	13	0	14	66	27	0	1,233	0	1	2	0
8:00 AM	31	257	94	0	47	402	196	0	21	19	12	0	16	70	17	0	1,182	4	1	2	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & 15th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:30 AM to 8:30 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	2	0	2	0	0	1	1	0	0	0	0	0	0	0	0	3
7:05 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
7:10 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
7:20 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	1	1	4
7:25 AM	0	2	0	2	0	0	1	1	0	0	2	2	0	0	0	0	5
7:30 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	1	1	4
7:35 AM	0	2	0	2	0	1	2	3	0	0	1	1	0	0	0	0	6
7:40 AM	0	1	0	1	0	3	0	3	0	0	0	0	0	0	0	0	4
7:45 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	1	1	3
7:50 AM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	1	1	3
7:55 AM	0	1	0	1	0	3	1	4	0	0	1	1	0	0	0	0	6
8:00 AM	0	1	0	1	1	4	0	5	0	0	0	0	0	0	0	0	6
8:05 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	1	2	3
8:10 AM	0	3	1	4	0	3	1	4	0	0	1	1	0	0	0	0	9
8:15 AM	0	0	0	0	0	3	0	3	1	0	1	2	0	1	0	1	6
8:20 AM	0	2	1	3	0	0	2	2	0	1	1	2	0	1	1	2	9
8:25 AM	0	5	1	6	0	1	0	1	0	0	0	0	0	0	0	0	7
8:30 AM	0	2	0	2	0	1	1	2	1	1	1	3	0	0	0	0	7
8:35 AM	0	0	0	0	0	4	1	5	0	0	0	0	0	0	0	0	5
8:40 AM	1	1	0	2	0	1	1	2	0	0	0	0	0	1	0	1	5
8:45 AM	0	2	1	3	0	3	0	3	0	0	0	0	0	0	0	0	6
8:50 AM	1	2	0	3	0	1	1	2	0	0	1	1	0	0	0	0	6
8:55 AM	0	2	0	2	0	2	0	2	0	0	0	0	0	0	0	0	4
Total Survey	2	34	4	40	3	35	12	50	2	2	10	14	1	4	6	11	115

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	2	0	2	1	1	1	3	0	0	0	0	0	0	0	0	5
7:15 AM	0	4	0	4	0	2	1	3	0	0	2	2	0	1	1	2	11
7:30 AM	0	5	0	5	0	5	2	7	0	0	1	1	0	0	1	1	14
7:45 AM	0	2	0	2	1	4	1	6	0	0	2	2	0	0	2	2	12
8:00 AM	0	5	1	6	1	7	1	9	0	0	1	1	1	0	1	2	18
8:15 AM	0	7	2	9	0	4	2	6	1	1	2	4	0	2	1	3	22
8:30 AM	1	3	0	4	0	6	3	9	1	1	1	3	0	1	0	1	17
8:45 AM	1	6	1	8	0	6	1	7	0	0	1	1	0	0	0	0	16
Total Survey	2	34	4	40	3	35	12	50	2	2	10	14	1	4	6	11	115

Heavy Vehicle Peak Hour Summary
7:30 AM to 8:30 AM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 15th St			Westbound 15th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	22	27	49	28	25	53	8	8	16	8	6	14	66
PHF	0.61			0.70			0.40			0.67			0.69

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	19	3	22	2	20	6	28	1	1	6	8	1	2	5	8	66
PHF	0.00	0.68	0.38	0.61	0.25	0.71	0.50	0.70	0.25	0.25	0.50	0.40	0.25	0.25	0.63	0.67	0.69

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

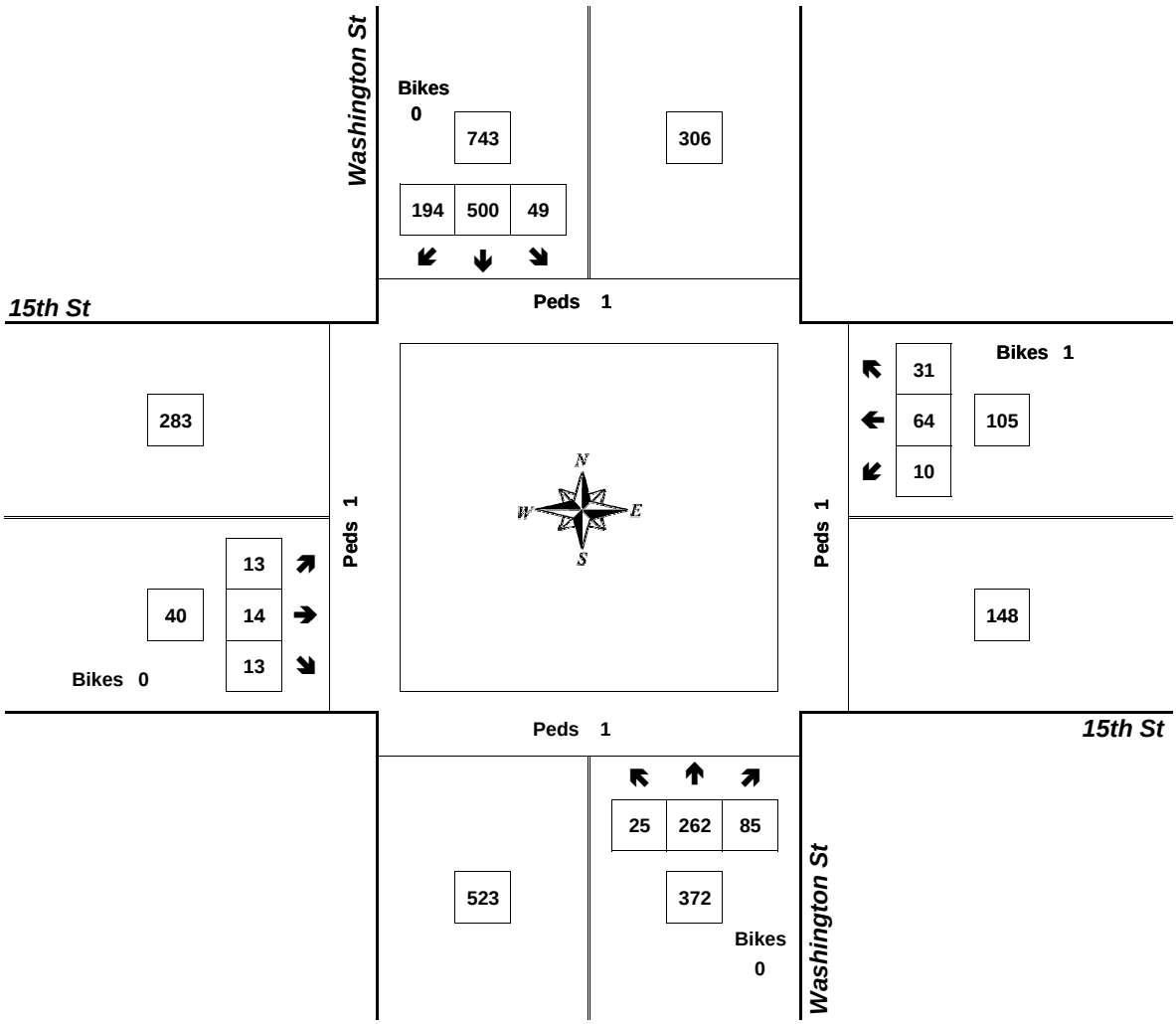
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	13	0	13	2	12	5	19	0	0	5	5	0	1	4	5	42
7:15 AM	0	16	1	17	2	18	5	25	0	0	6	6	1	1	5	7	55
7:30 AM	0	19	3	22	2	20	6	28	1	1	6	8	1	2	5	8	66
7:45 AM	1	17	3	21	2	21	7	30	2	2	6	10	1	3	4	8	69
8:00 AM	2	21	4	27	1	23	7	31	2	2	5	9	1	3	2	6	73

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & 15th St

7:30 AM to 8:30 AM
Thursday, January 26, 2017

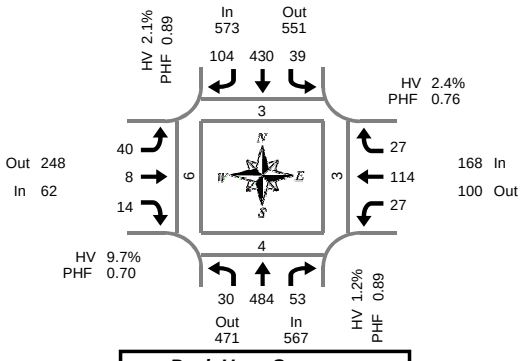


Approach	PHF	HV%	Volume
EB	0.56	20.0%	40
WB	0.77	7.6%	105
NB	0.86	5.9%	372
SB	0.86	3.8%	743
Intersection	0.89	5.2%	1,260

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:20 PM to 5:20 PM

Washington St & 15th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	3	32	4	0	3	34	8	0	4	2	5	0	3	8	5	0	111	0	0	1	1
4:05 PM	0	46	1	0	4	29	9	0	2	1	2	0	2	7	2	0	105	0	2	2	0
4:10 PM	2	26	5	0	5	40	4	0	3	3	1	0	1	12	2	0	104	1	0	0	0
4:15 PM	2	39	1	0	4	34	5	0	1	1	3	0	1	7	3	0	101	0	0	0	1
4:20 PM	1	51	5	0	2	23	8	0	6	1	1	0	2	7	1	0	108	0	0	0	0
4:25 PM	0	44	5	0	1	40	10	0	5	0	1	0	2	9	0	0	117	0	1	1	1
4:30 PM	5	43	6	0	6	37	6	0	2	0	1	0	1	8	5	0	120	0	1	0	1
4:35 PM	4	32	7	0	1	42	13	0	8	1	4	0	2	14	0	0	128	1	0	0	0
4:40 PM	6	37	3	0	3	44	8	0	4	1	1	0	1	7	1	0	116	0	0	0	0
4:45 PM	2	48	4	0	3	39	8	0	3	0	0	0	1	10	3	0	121	1	0	0	1
4:50 PM	2	38	1	0	5	35	8	0	2	1	1	0	2	10	0	0	105	0	0	1	0
4:55 PM	1	49	3	0	2	42	7	0	0	1	1	0	2	8	4	0	120	0	0	1	0
5:00 PM	3	36	6	0	3	33	9	0	4	1	0	0	1	12	3	0	111	0	0	0	1
5:05 PM	0	20	7	0	5	25	8	0	2	0	1	0	8	8	6	0	90	0	2	0	0
5:10 PM	1	51	1	0	5	37	10	0	0	0	1	0	2	11	4	0	123	1	0	0	1
5:15 PM	5	35	5	0	3	33	9	0	4	2	2	0	3	10	0	0	111	0	0	0	1
5:20 PM	2	27	1	0	2	29	2	0	2	1	1	0	6	8	5	0	86	0	1	0	0
5:25 PM	0	40	1	0	1	34	8	0	1	2	1	0	3	6	4	0	101	2	0	0	0
5:30 PM	7	36	7	0	1	42	9	0	1	1	1	0	1	9	2	0	117	0	0	0	1
5:35 PM	1	36	3	0	1	33	11	0	1	2	0	0	1	11	1	0	101	0	0	0	0
5:40 PM	0	35	4	0	4	24	11	0	2	1	0	0	2	4	3	0	90	0	0	0	0
5:45 PM	2	41	2	0	2	33	3	0	0	2	1	0	1	8	0	0	95	0	2	2	1
5:50 PM	4	43	5	0	2	39	8	0	4	1	1	0	0	8	2	0	117	0	0	0	0
5:55 PM	2	35	5	0	2	29	4	0	3	2	0	0	0	3	4	0	89	0	1	0	2
Total Survey	55	920	92	0	70	830	186	0	64	27	30	0	48	205	60	0	2,587	6	10	8	12

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	5	104	10	0	12	103	21	0	9	6	8	0	6	27	9	0	320	1	2	3	1
4:15 PM	3	134	11	0	7	97	23	0	12	2	5	0	5	23	4	0	326	0	1	1	2
4:30 PM	15	112	16	0	10	123	27	0	14	2	6	0	4	29	6	0	364	1	1	0	1
4:45 PM	5	135	8	0	10	116	23	0	5	2	2	0	5	28	7	0	346	1	0	2	1
5:00 PM	4	107	14	0	13	95	27	0	6	1	2	0	11	31	13	0	324	1	2	0	2
5:15 PM	7	102	7	0	6	96	19	0	7	5	4	0	12	24	9	0	298	2	1	0	1
5:30 PM	8	107	14	0	6	99	31	0	4	4	1	0	4	24	6	0	308	0	0	0	1
5:45 PM	8	119	12	0	6	101	15	0	7	5	2	0	1	19	6	0	301	0	3	2	3
Total Survey	55	920	92	0	70	830	186	0	64	27	30	0	48	205	60	0	2,587	6	10	8	12

Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	567	471	1,038	0	573	551	1,124	0	62	248	310	0	168	100	268	0	1,370	3	4	3	6
%HV	1.2%				2.1%				9.7%				2.4%				2.1%				
PHF	0.89				0.89				0.70				0.76				0.94				

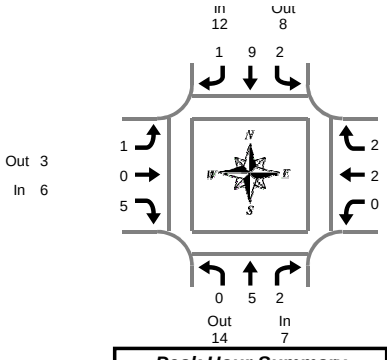
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	30	484	53	567	39	430	104	573	40	8	14	62	27	114	27	168	1,370
%HV	0.0%	1.0%	3.8%	1.2%	5.1%	2.1%	1.0%	2.1%	2.5%	0.0%	35.7%	9.7%	0.0%	1.8%	7.4%	2.4%	2.1%
PHF	0.50	0.88	0.74	0.89	0.75	0.86	0.90	0.89	0.67	0.67	0.58	0.70	0.52	0.92	0.52	0.76	0.94

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	28	485	45	0	39	439	94	0	40	12	21	0	20	107	26	0	1,356	3	4	6	5
4:15 PM	27	488	49	0	40	431	100	0	37	7	15	0	25	111	30	0	1,360	3	4	3	6
4:30 PM	31	456	45	0	39	430	96	0	32	10	14	0	32	112	35	0	1,332	5	4	2	5
4:45 PM	24	451	43	0	35	406	100	0	22	12	9	0	32	107	35	0	1,276	4	3	2	5
5:00 PM	27	435	47	0	31	391	92	0	24	15	9	0	28	98	34	0	1,231	3	6	2	7

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & 15th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:20 PM to 5:20 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	0	1	0	3	0	3	0	0	1	1	0	0	0	0	5
4:05 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
4:10 PM	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	3
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:20 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	2	3
4:25 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:35 PM	0	1	1	2	0	2	1	3	0	0	2	2	0	0	0	0	7
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	5	0	5	1	0	0	1	0	0	0	0	6
4:50 PM	0	1	0	1	2	0	0	2	0	0	1	1	0	0	0	0	4
4:55 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
5:10 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	2
5:20 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:25 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	2	0	2	0	1	0	1	0	0	1	1	0	0	0	0	4
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
5:50 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
5:55 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Survey	0	14	2	16	2	18	2	22	2	0	9	11	0	2	2	4	53

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	0	1	0	6	1	7	1	0	1	2	0	0	0	0	10
4:15 PM	0	2	1	3	0	0	0	0	0	0	0	0	0	1	1	2	5
4:30 PM	0	1	1	2	0	3	1	4	0	0	2	2	0	0	0	0	8
4:45 PM	0	2	0	2	2	5	0	7	1	0	1	2	0	0	1	1	12
5:00 PM	0	1	0	1	0	1	0	1	0	0	1	1	0	0	0	0	3
5:15 PM	0	2	0	2	0	1	0	1	0	0	1	1	0	1	0	1	5
5:30 PM	0	4	0	4	0	1	0	1	0	0	1	1	0	0	0	0	6
5:45 PM	0	1	0	1	0	1	0	1	0	0	2	2	0	0	0	0	4
Total Survey	0	14	2	16	2	18	2	22	2	0	9	11	0	2	2	4	53

Heavy Vehicle Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 15th St			Westbound 15th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	7	14	21	12	8	20	6	3	9	4	4	8	29
PHF	0.58			0.38			0.50			0.50			0.56

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	5	2	7	2	9	1	12	1	0	5	6	0	2	2	4	29
PHF	0.00	0.63	0.50	0.58	0.25	0.32	0.25	0.38	0.25	0.00	0.63	0.50	0.00	0.50	0.50	0.50	0.56

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

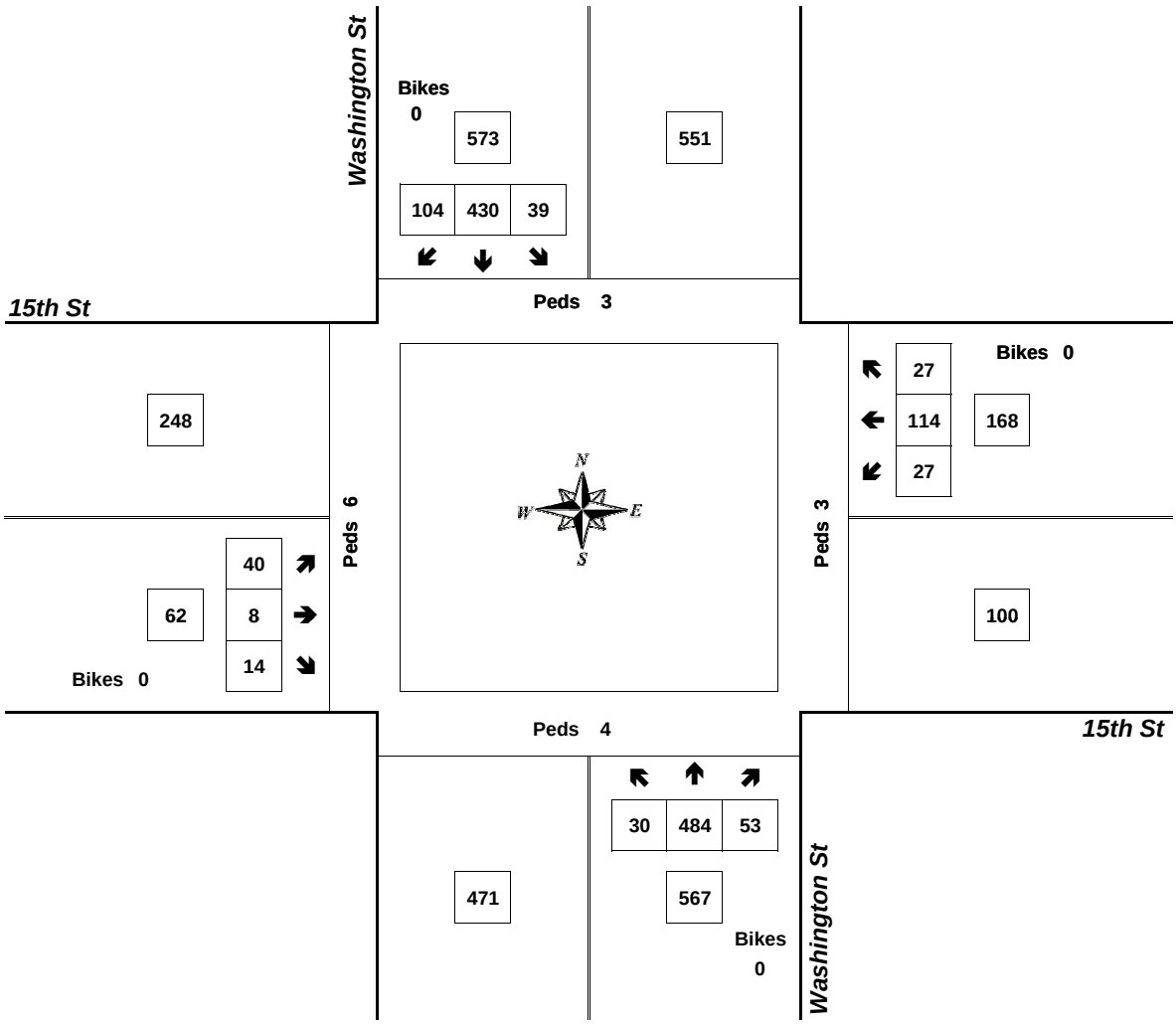
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 15th St				Westbound 15th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	6	2	8	2	14	2	18	2	0	4	6	0	1	2	3	35
4:15 PM	0	6	2	8	2	9	1	12	1	0	4	5	0	1	2	3	28
4:30 PM	0	6	1	7	2	10	1	13	1	0	5	6	0	1	1	2	28
4:45 PM	0	9	0	9	2	8	0	10	1	0	4	5	0	1	1	2	26
5:00 PM	0	8	0	8	0	4	0	4	0	0	5	5	0	1	0	1	18

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & 15th St

4:20 PM to 5:20 PM
Wednesday, January 25, 2017

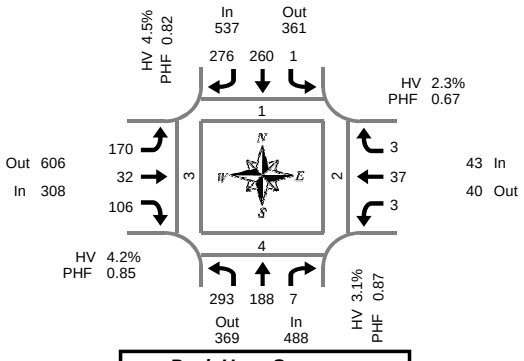


Approach	PHF	HV%	Volume
EB	0.70	9.7%	62
WB	0.76	2.4%	168
NB	0.89	1.2%	567
SB	0.89	2.1%	573
Intersection	0.94	2.1%	1,370

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

Washington St & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	23	6	0	0	0	12	25	0	12	4	9	0	0	5	0	0	96	0	0	0	0
7:05 AM	20	7	0	0	0	8	15	0	10	0	6	0	0	1	0	0	67	0	0	0	0
7:10 AM	16	21	1	1	1	8	25	0	16	1	6	0	0	3	0	0	98	0	0	1	0
7:15 AM	28	11	0	0	0	14	28	1	15	1	4	0	0	5	0	0	106	1	0	1	0
7:20 AM	24	15	0	0	0	17	20	0	17	3	7	0	0	5	1	0	109	0	0	0	0
7:25 AM	35	18	0	0	0	12	25	0	15	3	9	0	0	2	0	0	119	0	0	0	0
7:30 AM	27	5	0	0	0	29	26	0	9	4	10	0	1	6	1	0	118	0	0	0	0
7:35 AM	27	19	0	0	0	15	28	0	14	0	9	0	0	2	0	0	114	0	1	0	0
7:40 AM	25	14	0	0	1	31	27	0	5	5	5	0	1	4	0	0	118	0	2	0	1
7:45 AM	20	14	2	0	0	32	24	0	18	2	11	0	0	3	0	0	126	0	0	0	0
7:50 AM	21	32	1	0	0	25	24	0	9	1	12	0	1	4	0	0	130	0	0	1	1
7:55 AM	25	24	2	0	0	23	21	0	19	5	14	0	0	1	0	0	134	0	0	0	0
8:00 AM	20	8	0	0	0	20	17	0	16	2	10	0	0	3	0	0	96	0	0	0	0
8:05 AM	22	15	0	0	0	20	21	0	11	4	7	0	0	1	1	0	102	0	1	0	1
8:10 AM	19	13	2	0	0	22	15	0	22	2	8	0	0	1	0	0	104	0	0	0	0
8:15 AM	20	11	1	0	0	20	18	0	21	1	11	0	0	1	0	0	104	0	0	0	0
8:20 AM	15	10	2	0	0	19	20	0	19	2	8	0	0	1	1	0	97	0	1	0	0
8:25 AM	18	18	0	0	0	18	18	0	15	3	9	0	0	0	0	0	99	0	0	0	0
8:30 AM	22	17	0	0	0	8	11	0	23	2	11	0	0	0	0	0	94	0	0	0	0
8:35 AM	13	9	0	0	0	24	16	0	14	3	7	0	1	3	1	0	91	0	0	0	0
8:40 AM	10	10	0	0	0	20	20	0	12	4	8	0	1	1	0	0	86	0	0	0	0
8:45 AM	15	22	2	0	0	20	17	0	24	4	8	0	1	1	1	0	115	0	0	0	0
8:50 AM	17	14	3	0	0	22	11	0	20	4	8	0	0	0	0	0	99	0	1	1	1
8:55 AM	16	11	4	0	0	20	14	0	18	4	9	0	1	3	0	0	100	0	0	1	0
Total Survey	498	344	20	1	2	459	486	1	374	64	206	0	7	56	6	0	2,522	1	6	5	4

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	59	34	1	1	1	28	65	0	38	5	21	0	0	9	0	0	261	0	0	1	0
7:15 AM	87	44	0	0	0	43	73	1	47	7	20	0	0	12	1	0	334	1	0	1	0
7:30 AM	79	38	0	0	1	75	81	0	28	9	24	0	2	12	1	0	350	0	3	0	1
7:45 AM	66	70	5	0	0	80	69	0	46	8	37	0	1	8	0	0	390	0	0	1	1
8:00 AM	61	36	2	0	0	62	53	0	49	8	25	0	0	5	1	0	302	0	1	0	1
8:15 AM	53	39	3	0	0	57	56	0	55	6	28	0	0	2	1	0	300	0	1	0	0
8:30 AM	45	36	0	0	0	52	47	0	49	9	26	0	2	4	1	0	271	0	0	0	0
8:45 AM	48	47	9	0	0	62	42	0	62	12	25	0	2	4	1	0	314	0	1	2	1
Total Survey	498	344	20	1	2	459	486	1	374	64	206	0	7	56	6	0	2,522	1	6	5	4

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	488	369	857	0	537	361	898	1	308	606	914	0	43	40	83	0	1,376	1	4	2	3
%HV	3.1%				4.5%				4.2%				2.3%				3.9%				
PHF	0.87				0.82				0.85				0.67				0.88				

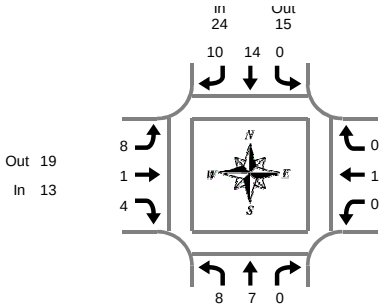
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	293	188	7	488	1	260	276	537	170	32	106	308	3	37	3	43	1,376
%HV	2.7%	3.7%	0.0%	3.1%	0.0%	5.4%	3.6%	4.5%	4.7%	3.1%	3.8%	4.2%	0.0%	2.7%	0.0%	2.3%	3.9%
PHF	0.82	0.67	0.35	0.87	0.25	0.74	0.85	0.82	0.87	0.73	0.72	0.85	0.38	0.71	0.38	0.67	0.88

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	291	186	6	1	2	226	288	1	159	29	102	0	3	41	2	0	1,335	1	3	3	2
7:15 AM	293	188	7	0	1	260	276	1	170	32	106	0	3	37	3	0	1,376	1	4	2	3
7:30 AM	259	183	10	0	1	274	259	0	178	31	114	0	3	27	3	0	1,342	0	5	1	3
7:45 AM	225	181	10	0	0	251	225	0	199	31	116	0	3	19	3	0	1,263	0	2	1	2
8:00 AM	207	158	14	0	0	233	198	0	215	35	104	0	4	15	4	0	1,187	0	3	2	2

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:15 AM to 8:15 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2
7:05 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
7:10 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
7:20 AM	1	0	0	1	0	1	1	2	2	0	0	2	0	0	0	0	5
7:25 AM	2	0	0	2	0	1	0	1	1	0	2	3	0	0	0	0	6
7:30 AM	2	1	0	3	0	1	1	2	2	0	0	2	0	0	0	0	7
7:35 AM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
7:40 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	2
7:45 AM	1	1	0	2	0	2	1	3	1	0	0	1	0	0	0	0	6
7:50 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
7:55 AM	0	1	0	1	0	1	2	3	0	0	0	0	0	0	0	0	4
8:00 AM	1	0	0	1	0	3	1	4	1	0	0	1	0	0	0	0	6
8:05 AM	1	1	0	2	0	3	0	3	0	1	0	1	0	0	0	0	6
8:10 AM	0	3	0	3	0	2	0	2	1	0	1	2	0	0	0	0	7
8:15 AM	0	0	0	0	0	3	2	5	1	0	1	2	0	0	0	0	7
8:20 AM	0	0	0	0	0	1	0	1	3	0	2	5	0	0	0	0	6
8:25 AM	0	3	0	3	0	2	1	3	1	0	1	2	0	0	0	0	8
8:30 AM	1	3	0	4	0	0	0	0	2	0	2	4	0	0	0	0	8
8:35 AM	1	0	0	1	0	2	2	4	0	0	0	0	0	0	0	0	5
8:40 AM	0	1	0	1	0	3	0	3	0	1	0	1	0	0	0	0	5
8:45 AM	1	2	1	4	0	2	0	2	2	0	0	2	1	0	0	1	9
8:50 AM	3	3	0	6	0	0	1	1	0	0	0	0	0	0	0	0	7
8:55 AM	0	0	0	0	0	3	1	4	2	0	0	2	0	0	0	0	6
Total Survey	14	19	1	34	0	31	17	48	21	2	11	34	1	1	0	2	118

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	1	0	1	2	0	1	3	0	0	0	0	4
7:15 AM	3	0	0	3	0	2	2	4	3	0	2	5	0	0	0	0	12
7:30 AM	2	1	0	3	0	1	4	5	2	0	0	2	0	1	0	1	11
7:45 AM	1	2	0	3	0	3	3	6	1	0	1	2	0	0	0	0	11
8:00 AM	2	4	0	6	0	8	1	9	2	1	1	4	0	0	0	0	19
8:15 AM	0	3	0	3	0	6	3	9	5	0	4	9	0	0	0	0	21
8:30 AM	2	4	0	6	0	5	2	7	2	1	2	5	0	0	0	0	18
8:45 AM	4	5	1	10	0	5	2	7	4	0	0	4	1	0	0	1	22
Total Survey	14	19	1	34	0	31	17	48	21	2	11	34	1	1	0	2	118

Heavy Vehicle Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	15	18	33	24	15	39	13	19	32	1	1	2	53
PHF	0.63			0.60			0.46			0.25			0.70

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	8	7	0	15	0	14	10	24	8	1	4	13	0	1	0	1	53
PHF	0.40	0.44	0.00	0.63	0.00	0.44	0.63	0.60	0.40	0.25	0.50	0.46	0.00	0.25	0.00	0.25	0.70

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

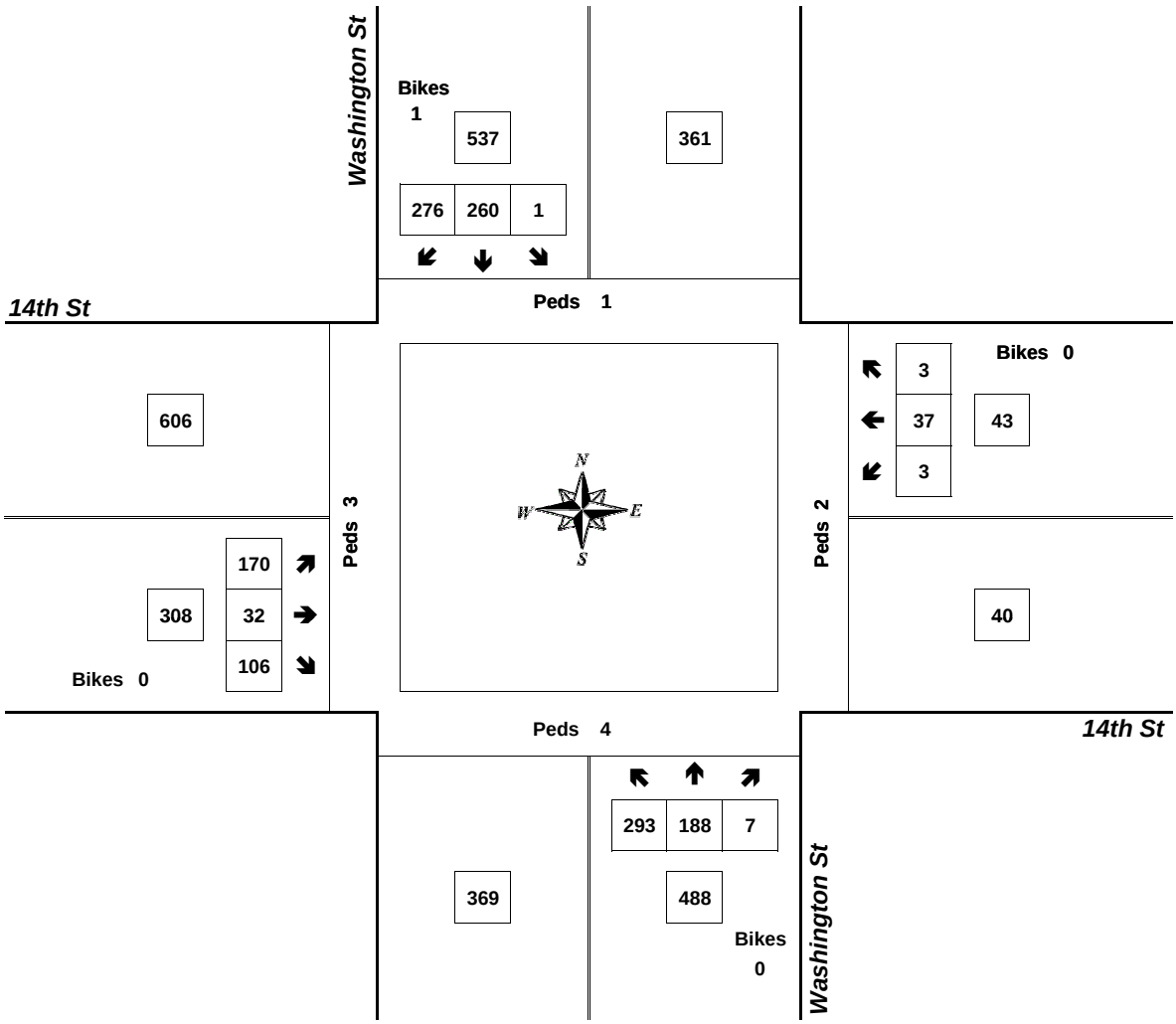
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	6	3	0	9	0	7	9	16	8	0	4	12	0	1	0	1	38
7:15 AM	8	7	0	15	0	14	10	24	8	1	4	13	0	1	0	1	53
7:30 AM	5	10	0	15	0	18	11	29	10	1	6	17	0	1	0	1	62
7:45 AM	5	13	0	18	0	22	9	31	10	2	8	20	0	0	0	0	69
8:00 AM	8	16	1	25	0	24	8	32	13	2	7	22	1	0	0	1	80

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & 14th St

7:15 AM to 8:15 AM
Thursday, January 26, 2017

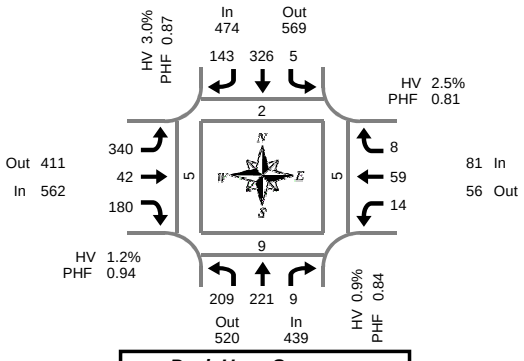


Approach	PHF	HV%	Volume
EB	0.85	4.2%	308
WB	0.67	2.3%	43
NB	0.87	3.1%	488
SB	0.82	4.5%	537
Intersection	0.88	3.9%	1,376

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:20 PM to 5:20 PM

Washington St & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	11	18	0	0	1	22	13	0	19	2	19	0	0	3	1	0	109	0	0	0	0
4:05 PM	19	18	2	0	0	31	12	0	35	5	14	0	0	4	2	0	142	0	0	0	0
4:10 PM	24	14	0	0	0	30	10	0	19	5	19	0	0	1	0	0	122	0	0	0	1
4:15 PM	19	19	0	0	0	26	13	0	19	5	11	0	0	3	1	0	116	0	0	0	0
4:20 PM	11	19	0	0	2	23	6	0	33	6	16	0	3	2	3	0	124	0	0	0	1
4:25 PM	13	18	2	0	0	29	6	0	29	1	15	0	0	2	0	0	115	0	0	0	0
4:30 PM	26	17	4	0	0	18	16	0	31	3	16	0	2	3	1	0	137	2	1	1	0
4:35 PM	17	21	0	0	0	34	10	0	28	5	15	0	1	6	2	0	139	0	1	3	0
4:40 PM	24	22	0	0	1	38	13	0	27	1	14	0	2	3	0	0	145	0	0	0	0
4:45 PM	13	22	1	0	1	26	13	0	30	4	19	0	0	7	0	0	136	0	2	0	0
4:50 PM	12	17	0	0	0	31	6	0	33	6	12	0	1	4	0	0	122	0	2	0	0
4:55 PM	18	18	1	0	1	27	21	0	21	3	14	0	2	3	0	0	129	0	0	1	0
5:00 PM	18	13	0	0	0	31	8	0	28	2	13	0	2	6	1	0	122	0	0	0	0
5:05 PM	22	13	1	0	0	22	11	0	30	4	8	0	0	6	0	0	117	0	1	0	0
5:10 PM	20	17	0	0	0	20	18	0	33	4	17	0	0	6	1	0	136	0	1	0	3
5:15 PM	15	24	0	0	0	27	15	0	17	3	21	0	1	11	0	0	134	0	1	0	1
5:20 PM	21	8	0	0	0	23	11	0	31	4	11	0	0	4	1	0	114	0	0	0	0
5:25 PM	17	17	0	0	0	30	7	0	19	1	15	0	0	3	0	0	109	0	0	0	0
5:30 PM	9	17	0	0	1	30	13	0	28	3	20	0	1	6	2	0	130	0	0	0	0
5:35 PM	14	16	0	0	0	22	13	0	31	4	21	0	0	2	0	0	123	0	3	0	1
5:40 PM	19	11	0	0	0	22	8	0	23	3	13	0	3	2	1	0	105	0	0	0	0
5:45 PM	18	14	1	0	2	18	12	0	32	1	15	0	0	2	1	0	116	0	1	0	0
5:50 PM	10	15	2	0	0	23	12	0	37	1	18	0	0	4	0	0	122	0	1	0	0
5:55 PM	13	20	1	0	0	27	14	0	21	2	11	0	0	2	0	0	111	0	0	0	2
Total Survey	403	408	15	0	9	630	281	0	654	78	367	0	18	95	17	0	2,975	2	14	5	9

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	54	50	2	0	1	83	35	0	73	12	52	0	0	8	3	0	373	0	0	0	1
4:15 PM	43	56	2	0	2	78	25	0	81	12	42	0	3	7	4	0	355	0	0	0	1
4:30 PM	67	60	4	0	1	90	39	0	86	9	45	0	5	12	3	0	421	2	2	4	0
4:45 PM	43	57	2	0	2	84	40	0	84	13	45	0	3	14	0	0	387	0	4	1	0
5:00 PM	60	43	1	0	0	73	37	0	91	10	38	0	2	18	2	0	375	0	2	0	3
5:15 PM	53	49	0	0	0	80	33	0	67	8	47	0	1	18	1	0	357	0	1	0	1
5:30 PM	42	44	0	0	1	74	34	0	82	10	54	0	4	10	3	0	358	0	3	0	1
5:45 PM	41	49	4	0	2	68	38	0	90	4	44	0	0	8	1	0	349	0	2	0	2
Total Survey	403	408	15	0	9	630	281	0	654	78	367	0	18	95	17	0	2,975	2	14	5	9

Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	439	520	959	0	474	569	1,043	0	562	411	973	0	81	56	137	0	1,556	2	9	5	5
%HV	0.9%				3.0%				1.2%				2.5%				1.7%				
PHF	0.84				0.87				0.94				0.81				0.92				

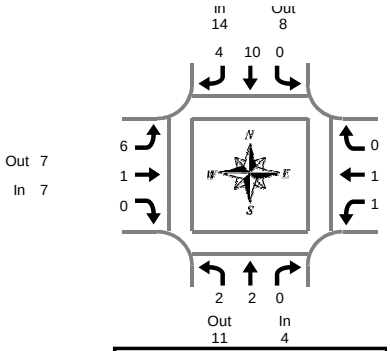
By Movement	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	209	221	9	439	5	326	143	474	340	42	180	562	14	59	8	81	1,556
%HV	1.0%	0.9%	0.0%	0.9%	0.0%	3.1%	2.8%	3.0%	1.8%	2.4%	0.0%	1.2%	7.1%	1.7%	0.0%	2.5%	1.7%
PHF	0.78	0.85	0.38	0.84	0.63	0.83	0.81	0.87	0.91	0.81	0.94	0.94	0.70	0.64	0.50	0.81	0.92

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	207	223	10	0	6	335	139	0	324	46	184	0	11	41	10	0	1,536	2	6	5	2
4:15 PM	213	216	9	0	5	325	141	0	342	44	170	0	13	51	9	0	1,538	2	8	5	4
4:30 PM	223	209	7	0	3	327	149	0	328	40	175	0	11	62	6	0	1,540	2	9	5	4
4:45 PM	198	193	3	0	3	311	144	0	324	41	184	0	10	60	6	0	1,477	0	10	1	5
5:00 PM	196	185	5	0	3	295	142	0	330	32	183	0	7	54	7	0	1,439	0	8	0	7

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Washington St & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:20 PM to 5:20 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	2	2	1	0	0	1	0	0	0	0	3
4:05 PM	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	3
4:10 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2
4:20 PM	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	1	3
4:25 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	1	0	0	1	0	0	1	1	1	0	0	1	0	0	0	0	3
4:35 PM	0	0	0	0	0	2	1	3	2	0	0	2	0	1	0	1	6
4:40 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	4	1	5	0	0	0	0	0	0	0	0	5
4:50 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
4:55 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
5:10 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
5:20 PM	2	0	0	2	0	1	1	2	0	0	0	0	0	0	0	0	4
5:25 PM	1	2	0	3	0	0	0	0	0	0	1	1	0	0	0	0	4
5:30 PM	0	1	0	1	0	2	0	2	1	0	0	1	0	0	0	0	4
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
5:50 PM	1	0	0	1	0	2	0	2	1	0	0	1	0	0	0	0	4
5:55 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
Total Survey	6	5	0	11	0	18	10	28	11	1	2	14	1	1	0	2	55

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	3	4	7	1	0	0	1	0	0	0	0	8
4:15 PM	1	0	0	1	0	0	0	0	2	1	1	4	1	0	0	1	6
4:30 PM	1	1	0	2	0	3	2	5	3	0	0	3	0	1	0	1	11
4:45 PM	0	1	0	1	0	5	1	6	1	0	0	1	0	0	0	0	8
5:00 PM	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	2
5:15 PM	3	2	0	5	0	3	1	4	0	0	1	1	0	0	0	0	10
5:30 PM	0	1	0	1	0	2	0	2	1	0	0	1	0	0	0	0	4
5:45 PM	1	0	0	1	0	2	1	3	2	0	0	2	0	0	0	0	6
Total Survey	6	5	0	11	0	18	10	28	11	1	2	14	1	1	0	2	55

Heavy Vehicle Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound Washington St			Southbound Washington St			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	4	11	15	14	8	22	7	7	14	2	1	3	27
PHF	0.50			0.39			0.58			0.50			0.52

By Movement	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	2	0	4	0	10	4	14	6	1	0	7	1	1	0	2	27
PHF	0.25	0.25	0.00	0.50	0.00	0.36	0.50	0.39	0.50	0.25	0.00	0.58	0.25	0.25	0.00	0.50	0.52

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

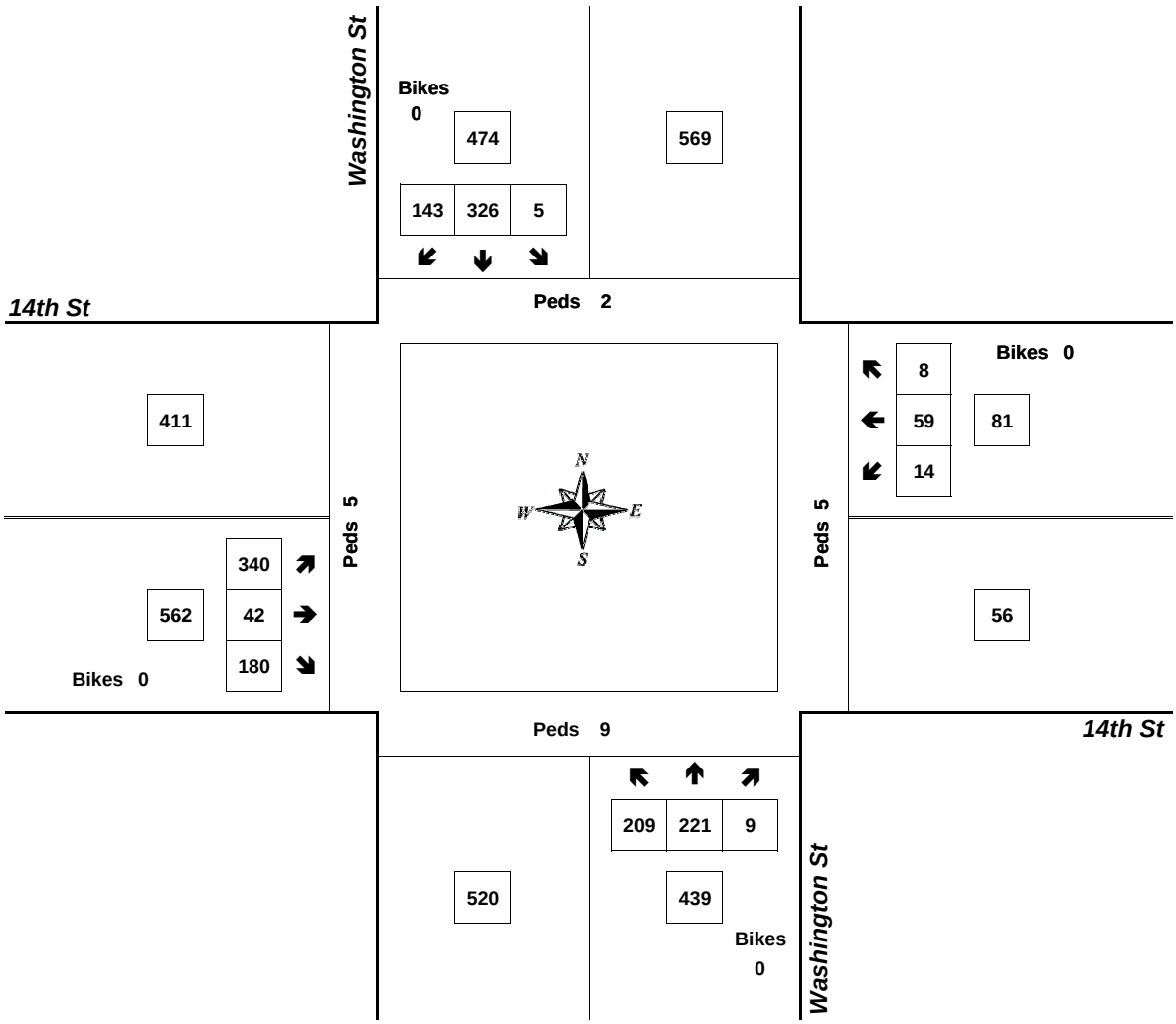
Interval Start Time	Northbound Washington St				Southbound Washington St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	2	2	0	4	0	11	7	18	7	1	1	9	1	1	0	2	33
4:15 PM	2	2	0	4	0	8	4	12	7	1	1	9	1	1	0	2	27
4:30 PM	4	4	0	8	0	11	5	16	5	0	1	6	0	1	0	1	31
4:45 PM	3	4	0	7	0	10	3	13	3	0	1	4	0	0	0	0	24
5:00 PM	4	3	0	7	0	7	3	10	4	0	1	5	0	0	0	0	22

Peak Hour Summary

Clay Carney
(503) 833-2740

Washington St & 14th St

4:20 PM to 5:20 PM
Wednesday, January 25, 2017

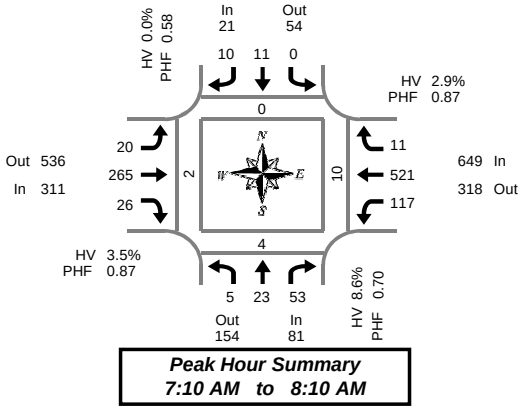


Approach	PHF	HV%	Volume
EB	0.94	1.2%	562
WB	0.81	2.5%	81
NB	0.84	0.9%	439
SB	0.87	3.0%	474
Intersection	0.92	1.7%	1,556

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:10 AM to 8:10 AM

Main St & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	1	4	0	0	0	2	0	0	19	3	0	9	42	0	0	80	0	1	1	0
7:05 AM	1	0	4	0	0	1	0	0	3	17	0	0	9	29	1	0	65	0	1	1	0
7:10 AM	2	4	6	0	0	1	0	0	3	17	4	0	6	40	0	1	83	0	1	1	1
7:15 AM	0	0	2	0	0	1	0	0	1	21	1	0	14	44	0	0	84	0	0	0	0
7:20 AM	0	1	4	0	0	0	0	0	1	26	2	0	5	43	0	0	82	0	0	1	0
7:25 AM	0	3	2	0	0	1	1	0	2	20	2	0	11	57	1	0	100	0	0	0	0
7:30 AM	0	1	5	0	0	0	0	0	1	18	1	0	11	47	2	0	86	0	0	0	0
7:35 AM	0	0	3	0	0	1	1	0	1	21	0	0	12	44	1	0	84	0	2	1	0
7:40 AM	0	4	2	0	0	1	0	0	3	24	2	0	7	54	0	0	97	0	0	2	1
7:45 AM	0	1	7	0	0	2	1	0	1	23	6	0	6	42	1	0	90	0	0	0	0
7:50 AM	1	3	6	0	0	2	1	0	3	17	1	0	9	42	0	0	85	0	0	2	0
7:55 AM	0	4	7	0	0	1	2	0	1	32	5	0	11	43	3	0	109	0	0	1	0
8:00 AM	0	2	6	0	0	1	2	0	3	22	0	0	10	33	1	0	80	0	1	2	0
8:05 AM	2	0	3	0	0	0	2	0	0	24	2	0	15	32	2	0	82	0	0	0	0
8:10 AM	2	1	8	0	0	4	0	0	5	27	4	0	6	24	1	0	82	0	1	2	0
8:15 AM	0	0	2	0	0	0	1	0	3	30	2	0	6	33	0	0	77	0	1	1	0
8:20 AM	0	3	2	0	0	1	1	0	3	27	1	0	11	22	1	0	72	0	0	0	0
8:25 AM	1	1	3	0	0	2	0	1	9	29	1	0	6	30	1	0	83	0	0	0	0
8:30 AM	0	4	5	0	0	5	1	0	2	26	2	0	9	26	2	0	82	0	0	0	0
8:35 AM	1	3	5	0	0	3	1	0	5	21	4	0	9	22	2	0	76	0	0	0	1
8:40 AM	0	1	4	0	0	2	2	0	4	25	2	0	7	19	2	0	68	0	0	0	0
8:45 AM	4	1	7	0	1	1	0	0	0	28	3	0	13	28	3	0	89	1	0	1	1
8:50 AM	0	1	6	0	0	1	2	0	0	28	2	0	5	21	0	0	66	0	1	1	0
8:55 AM	0	1	3	0	0	1	2	1	7	26	5	0	9	25	0	0	79	2	0	0	0
Total Survey	14	40	106	0	1	32	22	2	61	568	55	0	216	842	24	1	1,981	3	9	17	4

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	3	5	14	0	0	2	2	0	6	53	7	0	24	111	1	1	228	0	3	3	1
7:15 AM	0	4	8	0	0	2	1	0	4	67	5	0	30	144	1	0	266	0	0	1	0
7:30 AM	0	5	10	0	0	2	1	0	5	63	3	0	30	145	3	0	267	0	2	3	1
7:45 AM	1	8	20	0	0	5	4	0	5	72	12	0	26	127	4	0	284	0	0	3	0
8:00 AM	4	3	17	0	0	5	4	0	8	73	6	0	31	89	4	0	244	0	2	4	0
8:15 AM	1	4	7	0	0	3	2	1	15	86	4	0	23	85	2	0	232	0	1	1	0
8:30 AM	1	8	14	0	0	10	4	0	11	72	8	0	25	67	6	0	226	0	0	0	1
8:45 AM	4	3	16	0	1	3	4	1	7	82	10	0	27	74	3	0	234	3	1	2	1
Total Survey	14	40	106	0	1	32	22	2	61	568	55	0	216	842	24	1	1,981	3	9	17	4

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	81	154	235	0	21	54	75	0	311	536	847	0	649	318	967	1	1,062	0	4	10	2
%HV	8.6%				0.0%				3.5%				2.9%				3.5%				
PHF	0.70				0.58				0.87				0.87				0.93				

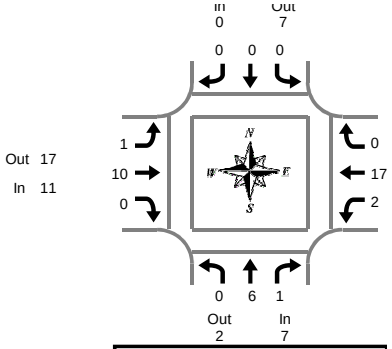
By Movement	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	5	23	53	81	0	11	10	21	20	265	26	311	117	521	11	649	1,062
%HV	0.0%	26.1%	1.9%	8.6%	0.0%	0.0%	0.0%	0.0%	5.0%	3.8%	0.0%	3.5%	1.7%	3.3%	0.0%	2.9%	3.5%
PHF	0.63	0.64	0.66	0.70	0.00	0.55	0.42	0.58	0.71	0.85	0.54	0.87	0.81	0.88	0.46	0.87	0.93

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	4	22	52	0	0	11	8	0	20	255	27	0	110	527	9	1	1,045	0	5	10	2
7:15 AM	5	20	55	0	0	14	10	0	22	275	26	0	117	505	12	0	1,061	0	4	11	1
7:30 AM	6	20	54	0	0	15	11	1	33	294	25	0	110	446	13	0	1,027	0	5	11	1
7:45 AM	7	23	58	0	0	23	14	1	39	303	30	0	105	368	16	0	986	0	3	8	1
8:00 AM	10	18	54	0	1	21	14	2	41	313	28	0	106	315	15	0	936	3	4	7	2

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Main St & 14th St

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
7:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:20 AM	0	1	0	1	0	0	0	0	0	4	0	4	0	2	0	2	7
7:25 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	1	0	1	3
7:30 AM	0	0	1	1	0	0	0	0	0	1	0	1	1	2	0	3	5
7:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
7:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3
7:50 AM	0	2	0	2	0	0	0	0	1	0	0	1	0	2	0	2	5
7:55 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	1	0	2	3
8:00 AM	0	1	0	1	0	0	0	0	0	2	0	2	0	1	0	1	4
8:05 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:10 AM	0	1	1	2	0	0	0	0	1	3	0	4	0	1	0	1	7
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	2
8:20 AM	0	1	0	1	0	0	0	0	1	5	0	6	0	0	0	0	7
8:25 AM	0	0	0	0	0	0	0	0	1	2	0	3	0	1	0	1	4
8:30 AM	0	1	1	2	0	0	0	0	1	1	0	2	0	1	0	1	5
8:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3
8:40 AM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	1	3	0	4	6
8:50 AM	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	4
8:55 AM	0	0	0	0	0	0	1	1	0	1	1	2	1	0	0	1	4
Total Survey	0	10	3	13	0	1	1	2	6	29	1	36	6	27	0	33	84

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	2	0	2	4
7:15 AM	0	2	0	2	0	0	0	0	0	5	0	5	0	4	0	4	11
7:30 AM	0	0	1	1	0	0	0	0	0	1	0	1	1	6	0	7	9
7:45 AM	0	3	0	3	0	0	0	0	1	2	0	3	1	4	0	5	11
8:00 AM	0	2	1	3	0	0	0	0	1	5	0	6	0	3	0	3	12
8:15 AM	0	1	0	1	0	0	0	0	2	8	0	10	1	1	0	2	13
8:30 AM	0	1	1	2	0	0	0	0	2	2	0	4	1	3	0	4	10
8:45 AM	0	1	0	1	0	1	1	2	0	4	1	5	2	4	0	6	14
Total Survey	0	10	3	13	0	1	1	2	6	29	1	36	6	27	0	33	84

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Main St			Southbound Main St			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	7	2	9	0	7	7	11	17	28	19	11	30	37
PHF	0.44			0.00			0.46			0.68			0.62

By Movement	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	6	1	7	0	0	0	0	1	10	0	11	2	17	0	19	37
PHF	0.00	0.38	0.25	0.44	0.00	0.00	0.00	0.00	0.25	0.42	0.00	0.46	0.50	0.71	0.00	0.68	0.62

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

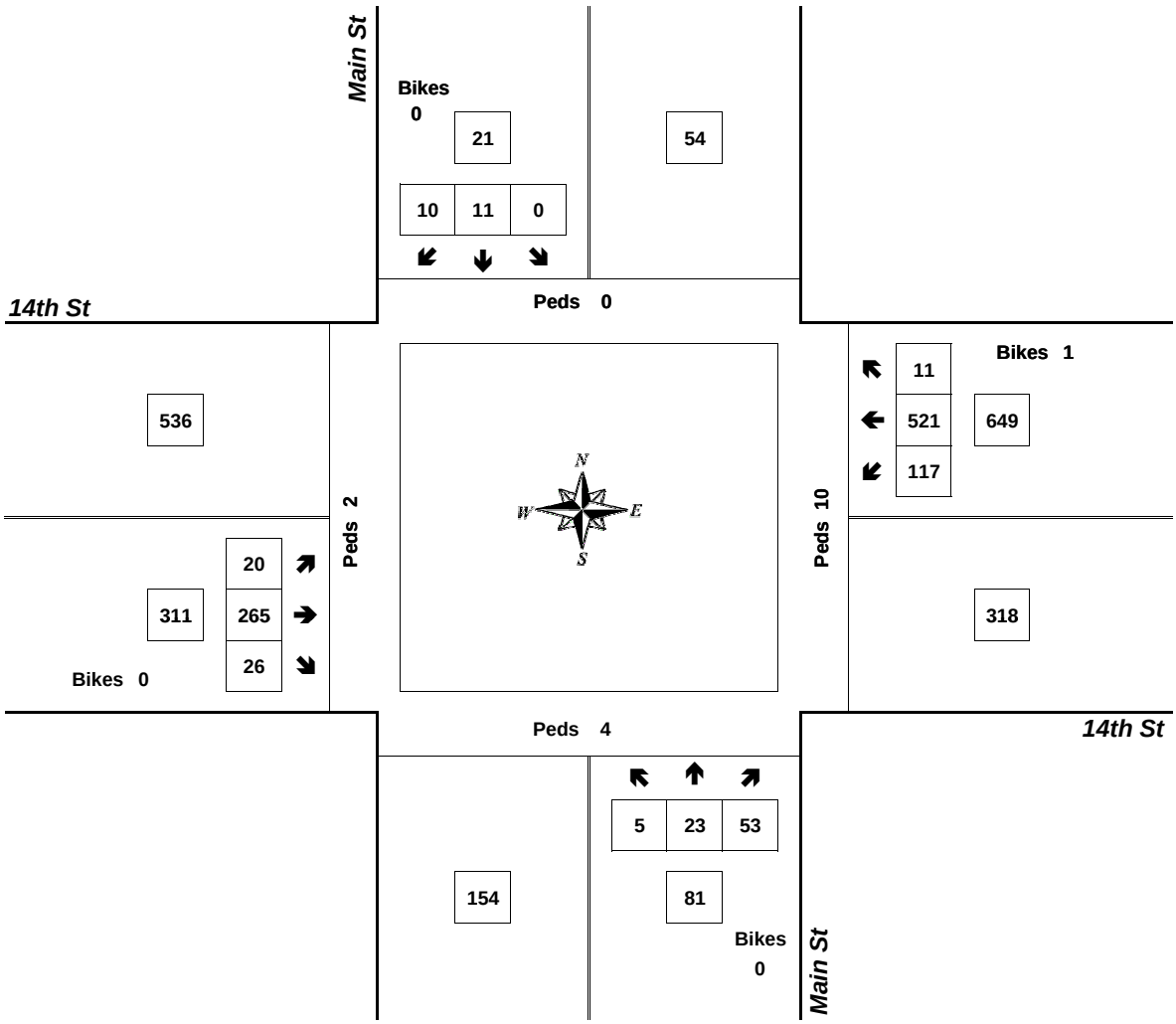
Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	5	1	6	0	0	0	0	1	10	0	11	2	16	0	18	35
7:15 AM	0	7	2	9	0	0	0	0	2	13	0	15	2	17	0	19	43
7:30 AM	0	6	2	8	0	0	0	0	4	16	0	20	3	14	0	17	45
7:45 AM	0	7	2	9	0	0	0	0	6	17	0	23	3	11	0	14	46
8:00 AM	0	5	2	7	0	1	1	2	5	19	1	25	4	11	0	15	49

Peak Hour Summary

Clay Carney
(503) 833-2740

Main St & 14th St

7:10 AM to 8:10 AM
Thursday, January 26, 2017

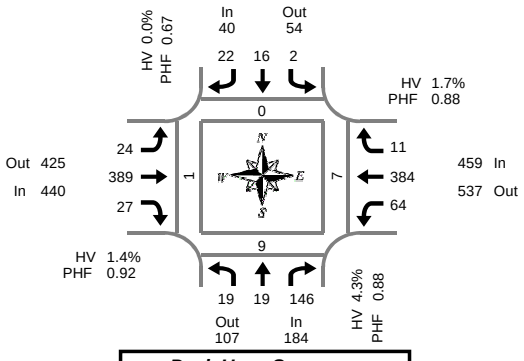


Approach	PHF	HV%	Volume
EB	0.87	3.5%	311
WB	0.87	2.9%	649
NB	0.70	8.6%	81
SB	0.58	0.0%	21
Intersection	0.93	3.5%	1,062

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:35 PM to 5:35 PM

Main St & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	5	2	8	0	1	3	1	0	1	37	3	0	8	23	4	0	96	0	0	1	1
4:05 PM	2	2	13	0	0	4	2	0	3	35	0	0	7	32	3	0	103	0	0	0	0
4:10 PM	2	1	10	0	0	1	1	0	2	25	0	0	4	28	2	0	76	0	1	1	1
4:15 PM	2	3	10	0	0	0	2	0	4	34	0	0	4	36	0	0	95	0	1	2	0
4:20 PM	4	1	9	0	1	1	1	0	3	40	2	0	1	19	3	0	85	0	0	2	0
4:25 PM	1	2	16	0	0	3	3	0	2	32	0	0	3	17	0	0	79	0	0	0	2
4:30 PM	0	3	18	0	0	1	3	0	2	28	2	0	5	34	0	0	96	1	0	1	0
4:35 PM	1	3	10	0	0	1	2	0	1	36	2	0	5	36	2	0	99	0	0	0	0
4:40 PM	0	0	10	0	0	2	2	0	1	42	3	0	4	30	3	0	97	0	1	2	0
4:45 PM	2	2	14	0	2	1	0	0	5	28	1	0	5	26	1	0	87	0	2	1	0
4:50 PM	2	3	9	0	0	3	1	0	1	26	2	0	4	24	1	1	76	0	1	0	0
4:55 PM	2	0	11	0	0	0	0	0	3	39	1	0	9	32	2	0	99	0	0	0	0
5:00 PM	2	1	14	0	0	1	0	0	2	30	6	2	2	35	0	0	93	0	0	0	0
5:05 PM	2	1	12	0	0	1	4	0	1	24	2	0	7	33	1	0	88	0	3	0	0
5:10 PM	3	2	15	0	0	2	3	0	0	36	3	0	6	36	1	0	107	0	2	2	1
5:15 PM	1	1	13	0	0	4	1	0	1	30	1	0	6	39	0	0	97	0	0	0	0
5:20 PM	1	2	13	0	0	1	4	0	3	26	1	0	7	36	0	0	94	0	0	0	0
5:25 PM	2	1	10	0	0	0	5	0	4	32	2	0	4	26	0	0	86	0	0	2	0
5:30 PM	1	3	15	0	0	0	0	0	2	40	3	0	5	31	0	0	100	0	0	0	0
5:35 PM	0	1	9	0	1	3	4	0	3	35	2	0	2	22	0	0	82	0	0	0	1
5:40 PM	2	1	9	0	0	2	2	0	1	30	1	0	6	20	0	0	74	0	0	0	0
5:45 PM	1	1	11	0	1	2	1	0	2	39	0	0	8	23	0	0	89	0	0	0	0
5:50 PM	1	2	16	0	0	2	0	0	3	35	2	0	9	24	1	0	95	0	0	1	1
5:55 PM	1	1	8	0	0	0	0	0	3	35	2	0	7	17	0	0	74	0	1	1	3
Total Survey	40	39	283	0	6	38	42	0	53	794	41	2	128	679	24	1	2,167	1	12	16	10

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	9	5	31	0	1	8	4	0	6	97	3	0	19	83	9	0	275	0	1	2	2
4:15 PM	7	6	35	0	1	4	6	0	9	106	2	0	8	72	3	0	259	0	1	4	2
4:30 PM	1	6	38	0	0	4	7	0	4	106	7	0	14	100	5	0	292	1	1	3	0
4:45 PM	6	5	34	0	2	4	1	0	9	93	4	0	18	82	4	1	262	0	3	1	0
5:00 PM	7	4	41	0	0	4	7	0	3	90	11	2	15	104	2	0	288	0	5	2	1
5:15 PM	4	4	36	0	0	5	10	0	8	88	4	0	17	101	0	0	277	0	0	2	0
5:30 PM	3	5	33	0	1	5	6	0	6	105	6	0	13	73	0	0	256	0	0	0	1
5:45 PM	3	4	35	0	1	4	1	0	8	109	4	0	24	64	1	0	258	0	1	2	4
Total Survey	40	39	283	0	6	38	42	0	53	794	41	2	128	679	24	1	2,167	1	12	16	10

Peak Hour Summary
4:35 PM to 5:35 PM

By Approach	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	184	107	291	0	40	54	94	0	440	425	865	2	459	537	996	1	1,123	0	9	7	1
%HV	4.3%				0.0%				1.4%				1.7%				2.0%				
PHF	0.88				0.67				0.92				0.88				0.94				

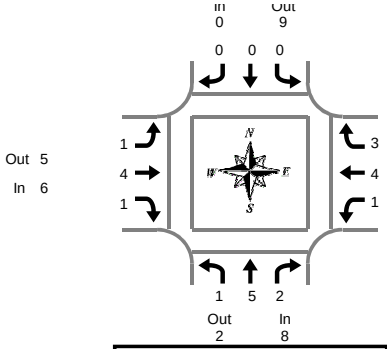
By Movement	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	19	19	146	184	2	16	22	40	24	389	27	440	64	384	11	459	1,123
%HV	5.3%	26.3%	1.4%	4.3%	0.0%	0.0%	0.0%	0.0%	4.2%	1.0%	3.7%	1.4%	1.6%	1.0%	27.3%	1.7%	2.0%
PHF	0.68	0.79	0.89	0.88	0.25	0.57	0.55	0.67	0.67	0.92	0.61	0.92	0.84	0.86	0.46	0.88	0.94

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	23	22	138	0	4	20	18	0	28	402	16	0	59	337	21	1	1,088	1	6	10	4
4:15 PM	21	21	148	0	3	16	21	0	25	395	24	2	55	358	14	1	1,101	1	10	10	3
4:30 PM	18	19	149	0	2	17	25	0	24	377	26	2	64	387	11	1	1,119	1	9	8	1
4:45 PM	20	18	144	0	3	18	24	0	26	376	25	2	63	360	6	1	1,083	0	8	5	2
5:00 PM	17	17	145	0	2	18	24	0	25	392	25	2	69	342	3	0	1,079	0	6	6	6

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
4:35 PM to 5:35 PM

Main St & 14th St

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	1	2	0	0	0	0	0	1	0	1	2	0	0	2	5
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:15 PM	0	0	1	1	0	0	0	0	1	2	0	3	0	0	0	0	4
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
4:30 PM	0	2	0	2	0	0	0	0	1	0	0	1	0	2	0	2	5
4:35 PM	0	0	1	1	0	0	0	0	0	1	0	1	0	0	2	2	4
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
4:50 PM	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
4:55 PM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:10 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
5:20 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	3	0	3	4
5:25 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
5:30 PM	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
5:45 PM	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:50 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Survey	1	10	5	16	0	0	0	0	3	9	1	13	3	11	3	17	46

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	1	2	0	0	0	0	0	1	0	1	2	2	0	4	7
4:15 PM	0	0	1	1	0	0	0	0	1	3	0	4	0	1	0	1	6
4:30 PM	0	2	1	3	0	0	0	0	1	1	0	2	0	2	2	4	9
4:45 PM	1	1	0	2	0	0	0	0	1	1	0	2	0	0	1	1	5
5:00 PM	0	1	0	1	0	0	0	0	0	1	0	1	1	0	0	1	3
5:15 PM	0	1	0	1	0	0	0	0	0	1	1	2	0	4	0	4	7
5:30 PM	0	2	1	3	0	0	0	0	0	1	0	1	0	0	0	0	4
5:45 PM	0	2	1	3	0	0	0	0	0	0	0	0	0	2	0	2	5
Total Survey	1	10	5	16	0	0	0	0	3	9	1	13	3	11	3	17	46

Heavy Vehicle Peak Hour Summary
4:35 PM to 5:35 PM

By Approach	Northbound Main St			Southbound Main St			Eastbound 14th St			Westbound 14th St			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	8	2	10	0	9	9	6	5	11	8	6	14	22
PHF	0.67			0.00			0.50			0.50			0.69

By Movement	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	5	2	8	0	0	0	0	1	4	1	6	1	4	3	8	22
PHF	0.25	0.63	0.50	0.67	0.00	0.00	0.00	0.00	0.25	0.50	0.25	0.50	0.25	0.25	0.25	0.50	0.69

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

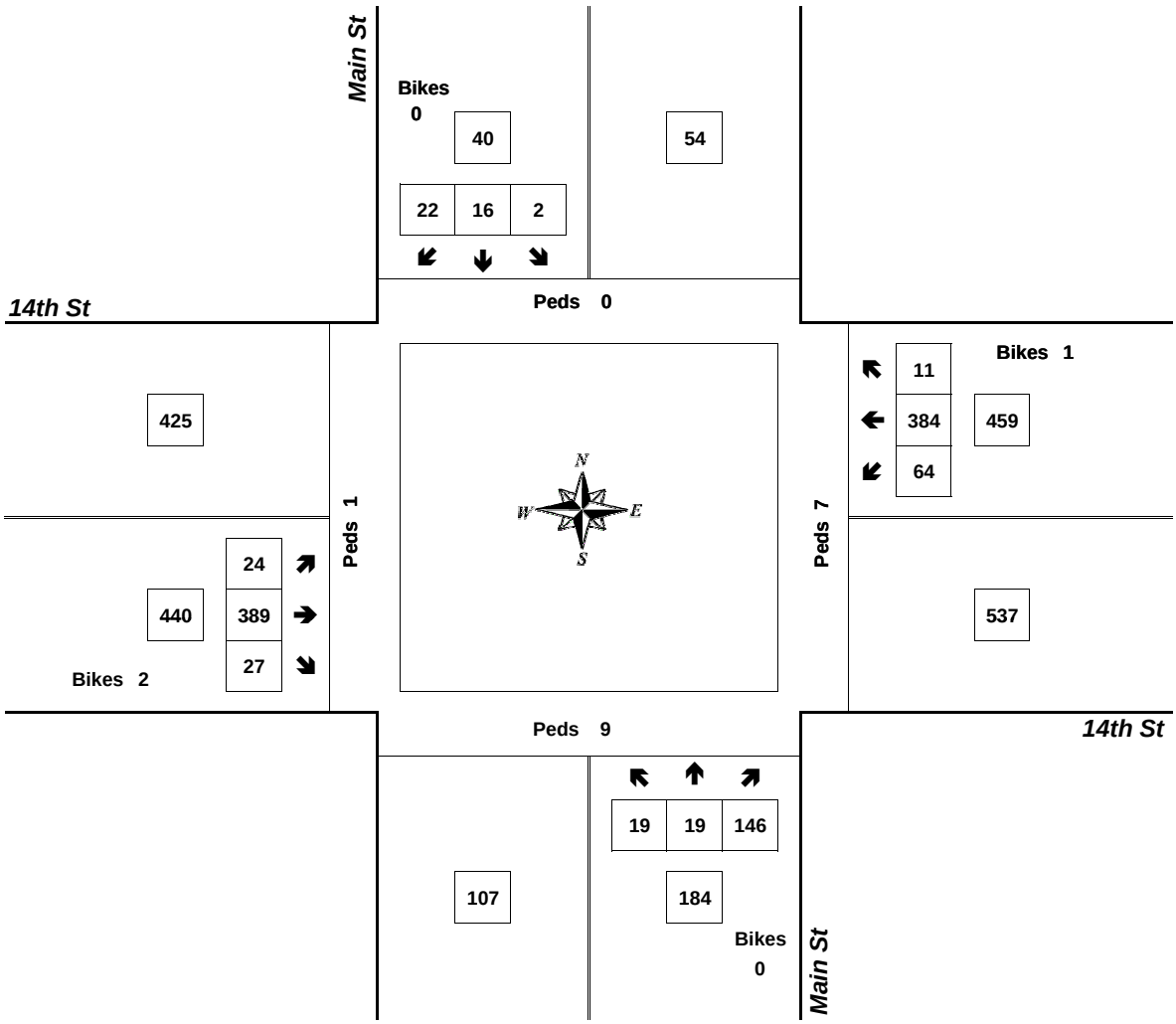
Interval Start Time	Northbound Main St				Southbound Main St				Eastbound 14th St				Westbound 14th St				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	4	3	8	0	0	0	0	3	6	0	9	2	5	3	10	27
4:15 PM	1	4	2	7	0	0	0	0	3	6	0	9	1	3	3	7	23
4:30 PM	1	5	1	7	0	0	0	0	2	4	1	7	1	6	3	10	24
4:45 PM	1	5	1	7	0	0	0	0	1	4	1	6	1	4	1	6	19
5:00 PM	0	6	2	8	0	0	0	0	0	3	1	4	1	6	0	7	19

Peak Hour Summary

Clay Carney
(503) 833-2740

Main St & 14th St

4:35 PM to 5:35 PM
Wednesday, January 25, 2017

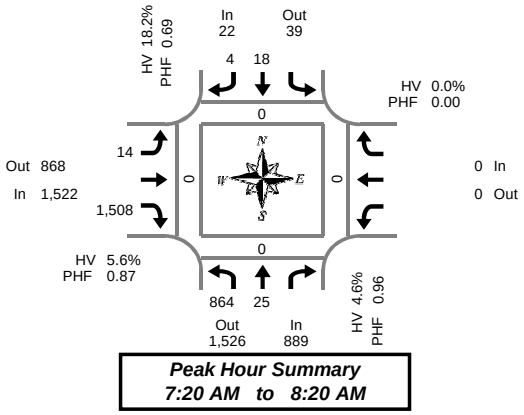


Approach	PHF	HV%	Volume
EB	0.92	1.4%	440
WB	0.88	1.7%	459
NB	0.88	4.3%	184
SB	0.67	0.0%	40
Intersection	0.94	2.0%	1,123

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:20 AM to 8:20 AM

Hwy 213 & I-205 SB Ramp

Wednesday, May 03, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes		L	R	Bikes					Bikes		North	South	East	West
7:00 AM	75	1		0	2	0	0		0	93	0					0	171	0	0	0	0
7:05 AM	58	3		0	2	0	0		0	117	0					0	180	0	0	0	0
7:10 AM	77	0		1	0	0	0		0	110	0					0	187	0	0	0	0
7:15 AM	58	2		1	2	0	0		1	99	0					0	162	0	0	0	0
7:20 AM	68	0		0	2	0	0		2	102	0					0	174	0	0	0	0
7:25 AM	75	2		0	1	0	0		0	116	0					0	194	0	0	0	0
7:30 AM	73	0		2	0	2	0		0	121	0					0	196	0	0	0	0
7:35 AM	73	3		0	1	1	0		1	106	0					0	185	0	0	0	0
7:40 AM	64	0		0	0	1	0		0	120	0					0	185	0	0	0	0
7:45 AM	71	2		0	2	0	0		1	146	0					0	222	0	0	0	0
7:50 AM	77	1		0	2	0	0		0	134	0					0	214	0	0	0	0
7:55 AM	69	2		0	1	0	0		2	142	0					0	216	0	0	0	0
8:00 AM	73	5		0	1	0	0		0	158	0					0	237	0	0	0	0
8:05 AM	72	1		1	2	0	0		4	109	0					0	188	0	0	0	0
8:10 AM	69	6		0	3	0	0		3	134	0					0	215	0	0	0	0
8:15 AM	80	3		0	3	0	0		1	120	0					0	207	0	0	0	0
8:20 AM	55	2		0	3	1	1		4	103	0					0	168	0	0	0	0
8:25 AM	40	3		0	1	0	0		0	115	0					0	159	0	0	0	0
8:30 AM	65	2		0	2	0	0		2	145	0					0	216	0	0	0	0
8:35 AM	54	5		0	4	0	0		3	118	0					0	184	0	0	0	0
8:40 AM	57	0		0	2	0	0		1	108	0					0	168	0	0	0	0
8:45 AM	55	2		0	0	0	0		1	144	0					0	202	0	0	0	0
8:50 AM	54	3		0	1	0	0		0	127	0					0	185	0	0	0	0
8:55 AM	59	6		0	4	1	0		1	128	0					0	199	0	0	0	0
Total Survey	1,571	54		5	41	6	1		27	2,915	0					0	4,614	0	0	0	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes		L	R	Bikes					Bikes		North	South	East	West
7:00 AM	210	4		1	4	0	0		0	320	0					0	538	0	0	0	0
7:15 AM	201	4		1	5	0	0		3	317	0					0	530	0	0	0	0
7:30 AM	210	3		2	1	4	0		1	347	0					0	566	0	0	0	0
7:45 AM	217	5		0	5	0	0		3	422	0					0	652	0	0	0	0
8:00 AM	214	12		1	6	0	0		7	401	0					0	640	0	0	0	0
8:15 AM	175	8		0	7	1	1		5	338	0					0	534	0	0	0	0
8:30 AM	176	7		0	8	0	0		6	371	0					0	568	0	0	0	0
8:45 AM	168	11		0	5	1	0		2	399	0					0	586	0	0	0	0
Total Survey	1,571	54		5	41	6	1		27	2,915	0					0	4,614	0	0	0	0

Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	889	1,526	2,415	3	22	39	61	0	1,522	868	2,390	0	0	0	0	0	2,433	0	0	0	0
%HV	4.6%				18.2%				5.6%				0.0%				5.3%				
PHF	0.96				0.69				0.87				0.00				0.91				

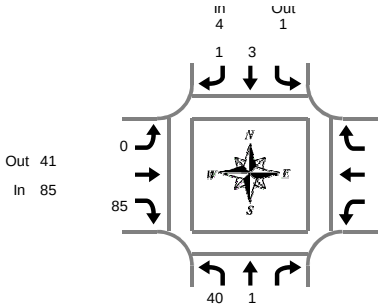
By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
	L	T		Total	T	R	Total		L	R	Total					Total	
Volume	864	25		889	18	4	22		14	1,508	1,522					0	2,433
%HV	4.6%	4.0%	NA	4.6%	16.7%	25.0%	18.2%		0.0%	5.6%	5.6%		NA	NA	NA	0.0%	5.3%
PHF	0.98	0.52		0.96	0.56	0.25	0.69		0.44	0.87	0.87					0.00	0.91

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes		L	R	Bikes					Bikes		North	South	East	West
7:00 AM	838	16		4	15	4	0		7	1,406	0					0	2,286	0	0	0	0
7:15 AM	842	24		4	17	4	0		14	1,487	0					0	2,388	0	0	0	0
7:30 AM	816	28		3	19	5	1		16	1,508	0					0	2,392	0	0	0	0
7:45 AM	782	32		1	26	1	1		21	1,532	0					0	2,394	0	0	0	0
8:00 AM	733	38		1	26	2	1		20	1,509	0					0	2,328	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
7:20 AM to 8:20 AM

Hwy 213 & I-205 SB Ramp

Wednesday, May 03, 2017
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
	L	T		Total	T	R	Total		L		R	Total				Total	
7:00 AM	2	0		2	1	0	1		0		5	5				0	8
7:05 AM	2	1		3	0	0	0		0		9	9				0	12
7:10 AM	8	0		8	0	0	0		0		5	5				0	13
7:15 AM	3	0		3	0	0	0		0		6	6				0	9
7:20 AM	7	0		7	2	0	2		0		4	4				0	13
7:25 AM	3	0		3	0	0	0		0		3	3				0	6
7:30 AM	2	0		2	0	0	0		0		6	6				0	8
7:35 AM	2	1		3	0	0	0		0		2	2				0	5
7:40 AM	5	0		5	0	1	1		0		1	1				0	7
7:45 AM	3	0		3	0	0	0		0		8	8				0	11
7:50 AM	1	0		1	1	0	1		0		10	10				0	12
7:55 AM	5	0		5	0	0	0		0		12	12				0	17
8:00 AM	4	0		4	0	0	0		0		3	3				0	7
8:05 AM	4	0		4	0	0	0		0		12	12				0	16
8:10 AM	2	0		2	0	0	0		0		12	12				0	14
8:15 AM	2	0		2	0	0	0		0		12	12				0	14
8:20 AM	6	0		6	0	0	0		0		9	9				0	15
8:25 AM	2	0		2	0	0	0		0		9	9				0	11
8:30 AM	3	0		3	0	0	0		1		14	15				0	18
8:35 AM	2	0		2	0	0	0		0		10	10				0	12
8:40 AM	5	0		5	0	0	0		0		10	10				0	15
8:45 AM	4	0		4	0	0	0		0		9	9				0	13
8:50 AM	4	0		4	0	0	0		0		11	11				0	15
8:55 AM	4	0		4	0	0	0		0		11	11				0	15
Total Survey	85	2		87	4	1	5		1		193	194				0	286

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
	L	T		Total	T	R	Total		L		R	Total				Total	
7:00 AM	12	1		13	1	0	1		0		19	19				0	33
7:15 AM	13	0		13	2	0	2		0		13	13				0	28
7:30 AM	9	1		10	0	1	1		0		9	9				0	20
7:45 AM	9	0		9	1	0	1		0		30	30				0	40
8:00 AM	10	0		10	0	0	0		0		27	27				0	37
8:15 AM	10	0		10	0	0	0		0		30	30				0	40
8:30 AM	10	0		10	0	0	0		1		34	35				0	45
8:45 AM	12	0		12	0	0	0		0		31	31				0	43
Total Survey	85	2		87	4	1	5		1		193	194				0	286

Heavy Vehicle Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound I-205 SB Ramp			Westbound I-205 SB Ramp			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	41	88	129	4	1	5	85	41	126	0	0	0	130
PHF	0.79			0.50			0.59			0.00			0.74

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
	L	T		Total	T	R	Total		L		R	Total				Total	
Volume	40	1		41	3	1	4		0		85	85				0	130
PHF	0.77	0.25		0.79	0.38	0.25	0.50		0.00		0.59	0.59				0.00	0.74

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

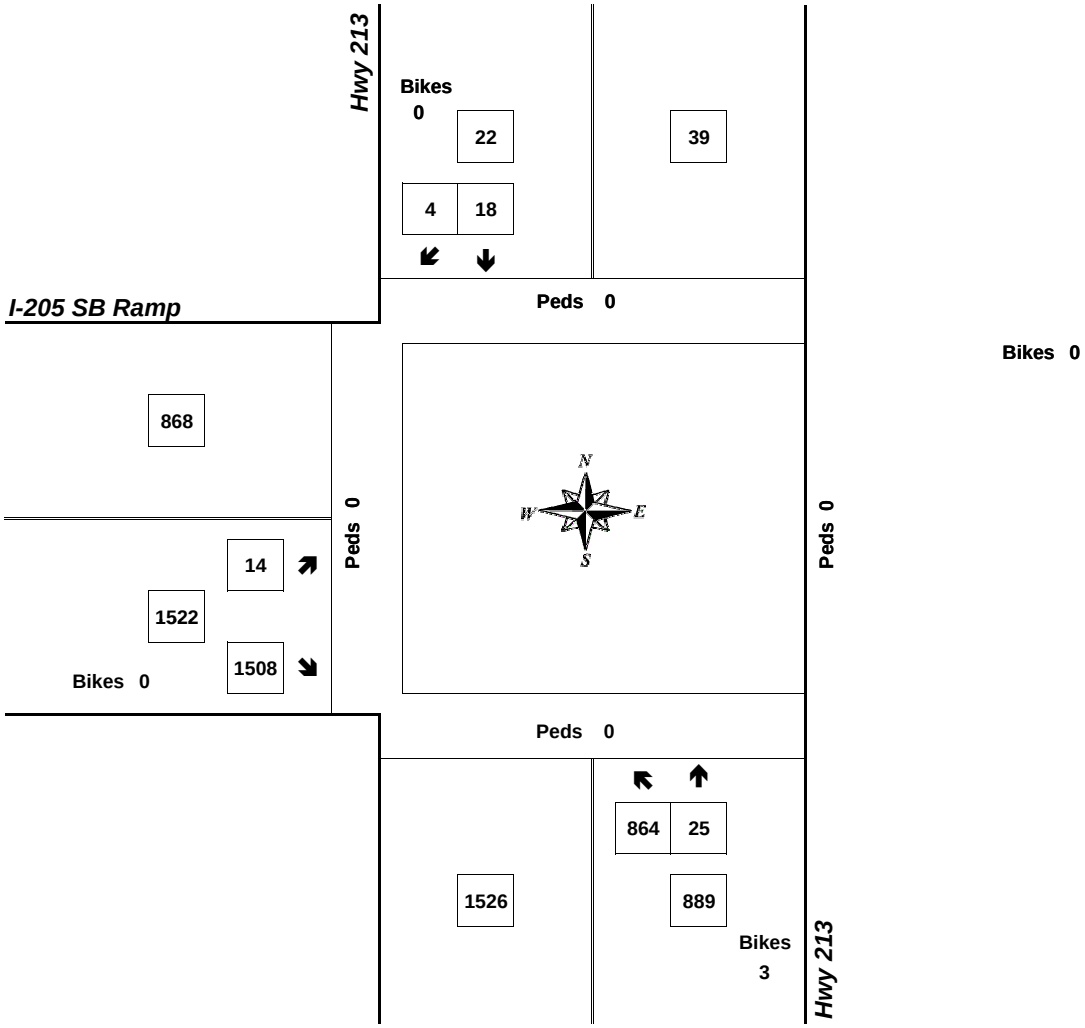
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
	L	T		Total	T	R	Total		L		R	Total				Total	
7:00 AM	43	2		45	4	1	5		0		71	71				0	121
7:15 AM	41	1		42	3	1	4		0		79	79				0	125
7:30 AM	38	1		39	1	1	2		0		96	96				0	137
7:45 AM	39	0		39	1	0	1		1		121	122				0	162
8:00 AM	42	0		42	0	0	0		1		122	123				0	165

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 213 & I-205 SB Ramp

7:20 AM to 8:20 AM
Wednesday, May 03, 2017

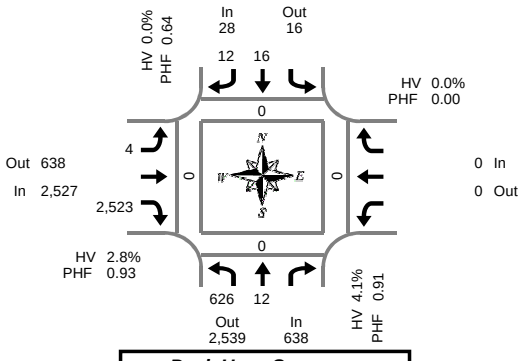


Approach	PHF	HV%	Volume
EB	0.87	5.6%	1,522
WB	0.00	0.0%	0
NB	0.96	4.6%	889
SB	0.69	18.2%	22
Intersection	0.91	5.3%	2,433

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:50 PM to 5:50 PM

Hwy 213 & I-205 SB Ramp

Tuesday, May 02, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes		L	R	Bikes					Bikes		North	South	East	West
4:00 PM	58	1		0	1	1	0		0	180	0					0	241	0	0	0	0
4:05 PM	63	0		0	2	1	0		1	197	0					0	264	0	0	0	0
4:10 PM	58	1		0	0	1	0		0	191	0					0	251	0	0	0	0
4:15 PM	52	1		0	1	0	0		0	178	0					0	232	0	0	0	0
4:20 PM	51	4		0	4	3	0		0	165	0					0	227	0	0	0	0
4:25 PM	55	0		0	2	4	0		1	171	0					0	233	0	0	0	0
4:30 PM	43	0		0	2	1	0		0	173	0					0	219	0	0	0	0
4:35 PM	60	0		0	2	1	0		0	183	0					0	246	0	0	0	0
4:40 PM	52	1		0	2	0	0		0	201	0					0	256	0	0	0	0
4:45 PM	49	3		0	1	0	0		2	172	0					0	227	0	0	0	0
4:50 PM	50	1		0	1	3	0		0	183	0					0	238	0	0	0	0
4:55 PM	62	1		0	1	1	0		0	202	0					0	267	0	0	0	0
5:00 PM	61	1		0	2	3	0		1	208	0					0	276	0	0	0	0
5:05 PM	50	1		0	2	0	0		1	228	0					0	282	0	0	0	0
5:10 PM	58	3		0	3	0	0		0	225	0					0	289	0	0	0	0
5:15 PM	51	2		0	2	1	0		0	216	0					0	272	0	0	0	0
5:20 PM	57	1		0	3	1	0		0	235	0					0	297	0	0	0	0
5:25 PM	51	0		0	1	0	0		0	197	0					0	249	0	0	0	0
5:30 PM	48	1		0	0	1	0		2	206	0					0	258	0	0	0	0
5:35 PM	39	1		0	1	1	0		0	215	0					0	257	0	0	0	0
5:40 PM	48	0		0	0	1	0		0	214	0					0	263	0	0	0	0
5:45 PM	51	0		0	0	0	0		0	194	0					0	245	0	0	0	0
5:50 PM	42	0		0	1	1	0		0	183	0					0	227	0	0	0	0
5:55 PM	39	2		0	2	0	0		0	181	0					0	224	0	0	0	0
Total Survey	1,248	25		0	36	25	0		8	4,698	0					0	6,040	0	0	0	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes		L	R	Bikes					Bikes		North	South	East	West
4:00 PM	179	2		0	3	3	0		1	568	0					0	756	0	0	0	0
4:15 PM	158	5		0	7	7	0		1	514	0					0	692	0	0	0	0
4:30 PM	155	1		0	6	2	0		0	557	0					0	721	0	0	0	0
4:45 PM	161	5		0	3	4	0		2	557	0					0	732	0	0	0	0
5:00 PM	169	5		0	7	3	0		2	661	0					0	847	0	0	0	0
5:15 PM	159	3		0	6	2	0		0	648	0					0	818	0	0	0	0
5:30 PM	135	2		0	1	3	0		2	635	0					0	778	0	0	0	0
5:45 PM	132	2		0	3	1	0		0	558	0					0	696	0	0	0	0
Total Survey	1,248	25		0	36	25	0		8	4,698	0					0	6,040	0	0	0	0

Peak Hour Summary
4:50 PM to 5:50 PM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	638	2,539	3,177	0	28	16	44	0	2,527	638	3,165	0	0	0	0	0	3,193	0	0	0	0
%HV	4.1%				0.0%				2.8%				0.0%				3.0%				
PHF	0.91				0.64				0.93				0.00				0.93				

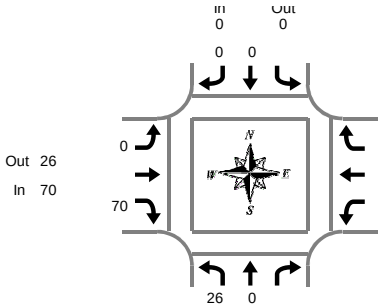
By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
	L	T		Total	T	R	Total		L	R	Total					Total	
Volume	626	12		638	16	12	28		4	2,523	2,527					0	3,193
%HV	4.2%	0.0%	NA	4.1%	NA	0.0%	0.0%	0.0%	0.0%	NA	2.8%	2.8%	NA	NA	NA	0.0%	3.0%
PHF	0.90	0.50		0.91	0.50	0.43	0.64		0.50		0.93	0.93				0.00	0.93

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes		L	R	Bikes					Bikes		North	South	East	West
4:00 PM	653	13		0	19	16	0		4	2,196	0					0	2,901	0	0	0	0
4:15 PM	643	16		0	23	16	0		5	2,289	0					0	2,992	0	0	0	0
4:30 PM	644	14		0	22	11	0		4	2,423	0					0	3,118	0	0	0	0
4:45 PM	624	15		0	17	12	0		6	2,501	0					0	3,175	0	0	0	0
5:00 PM	595	12		0	17	9	0		4	2,502	0					0	3,139	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 213 & I-205 SB Ramp

Tuesday, May 02, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:50 PM to 5:50 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
	L	T		Total	T	R	Total		L		R	Total				Total	
4:00 PM	2	0		2	0	0	0		0		6	6				0	8
4:05 PM	1	0		1	0	0	0		0		7	7				0	8
4:10 PM	1	0		1	0	0	0		0		6	6				0	7
4:15 PM	1	0		1	0	0	0		0		7	7				0	8
4:20 PM	1	1		2	0	0	0		0		1	1				0	3
4:25 PM	2	0		2	1	0	1		0		2	2				0	5
4:30 PM	0	0		0	0	0	0		0		7	7				0	7
4:35 PM	2	0		2	0	0	0		0		6	6				0	8
4:40 PM	2	0		2	0	0	0		0		3	3				0	5
4:45 PM	0	0		0	0	0	0		0		3	3				0	3
4:50 PM	2	0		2	0	0	0		0		5	5				0	7
4:55 PM	3	0		3	0	0	0		0		2	2				0	5
5:00 PM	2	0		2	0	0	0		0		7	7				0	9
5:05 PM	1	0		1	0	0	0		0		5	5				0	6
5:10 PM	2	0		2	0	0	0		0		8	8				0	10
5:15 PM	4	0		4	0	0	0		0		8	8				0	12
5:20 PM	0	0		0	0	0	0		0		7	7				0	7
5:25 PM	2	0		2	0	0	0		0		8	8				0	10
5:30 PM	5	0		5	0	0	0		0		5	5				0	10
5:35 PM	0	0		0	0	0	0		0		4	4				0	4
5:40 PM	2	0		2	0	0	0		0		4	4				0	6
5:45 PM	3	0		3	0	0	0		0		7	7				0	10
5:50 PM	1	0		1	0	0	0		0		6	6				0	7
5:55 PM	0	0		0	0	0	0		0		5	5				0	5
Total Survey	39	1		40	1	0	1		0		129	129				0	170

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
	L	T		Total	T	R	Total		L		R	Total				Total	
4:00 PM	4	0		4	0	0	0		0		19	19				0	23
4:15 PM	4	1		5	1	0	1		0		10	10				0	16
4:30 PM	4	0		4	0	0	0		0		16	16				0	20
4:45 PM	5	0		5	0	0	0		0		10	10				0	15
5:00 PM	5	0		5	0	0	0		0		20	20				0	25
5:15 PM	6	0		6	0	0	0		0		23	23				0	29
5:30 PM	7	0		7	0	0	0		0		13	13				0	20
5:45 PM	4	0		4	0	0	0		0		18	18				0	22
Total Survey	39	1		40	1	0	1		0		129	129				0	170

Heavy Vehicle Peak Hour Summary
4:50 PM to 5:50 PM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound I-205 SB Ramp			Westbound I-205 SB Ramp			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	26	70	96	0	0	0	70	26	96	0	0	0	96
PHF	0.93			0.00			0.76			0.00			0.83

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Total
	L	T		Total	T	R	Total		L		R	Total				Total	
Volume	26	0		26	0	0	0		0		70	70				0	96
PHF	0.93	0.00		0.93	0.00	0.00	0.00		0.00		0.76	0.76				0.00	0.83

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

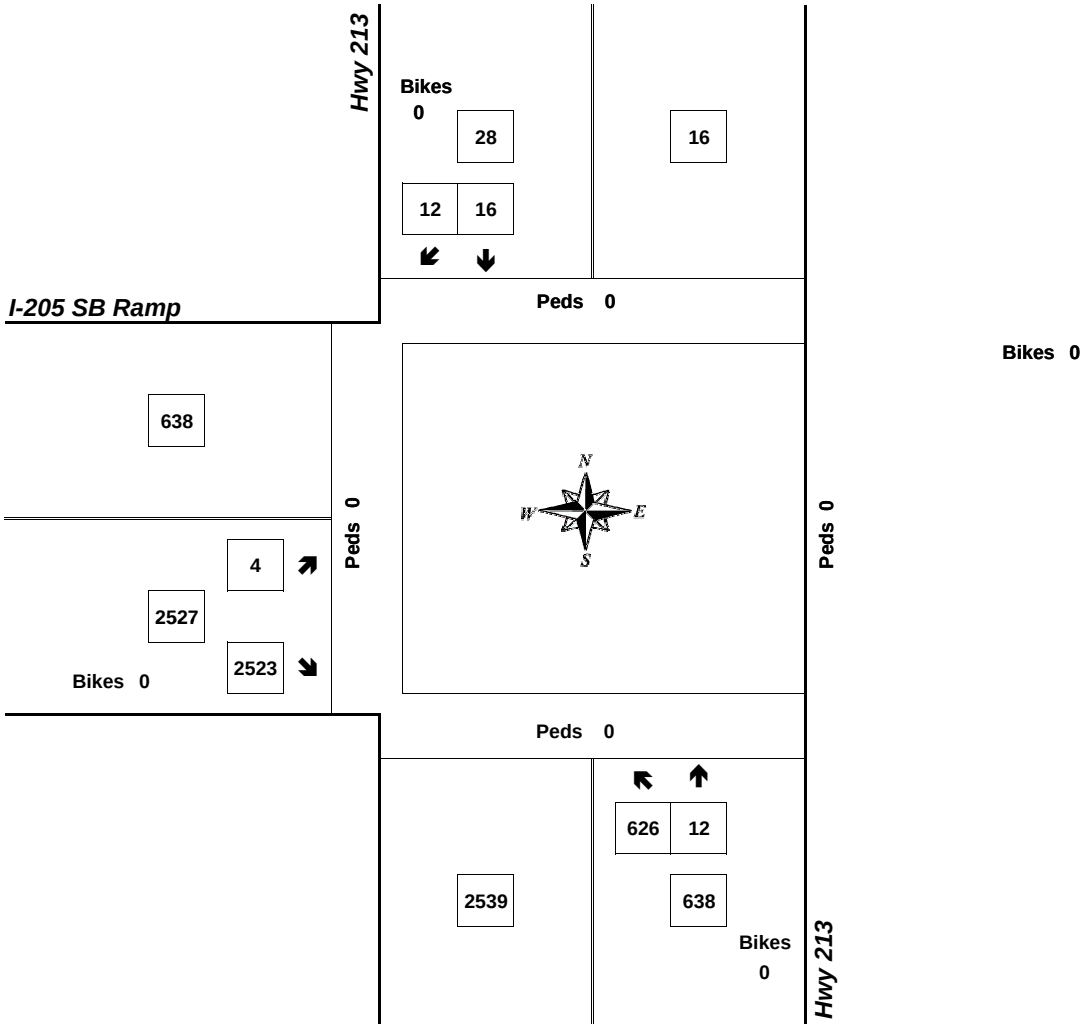
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound I-205 SB Ramp				Westbound I-205 SB Ramp				Interval Total
	L	T		Total	T	R	Total		L		R	Total				Total	
4:00 PM	17	1		18	1	0	1		0		55	55				0	74
4:15 PM	18	1		19	1	0	1		0		56	56				0	76
4:30 PM	20	0		20	0	0	0		0		69	69				0	89
4:45 PM	23	0		23	0	0	0		0		66	66				0	89
5:00 PM	22	0		22	0	0	0		0		74	74				0	96

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 213 & I-205 SB Ramp

4:50 PM to 5:50 PM
Tuesday, May 02, 2017

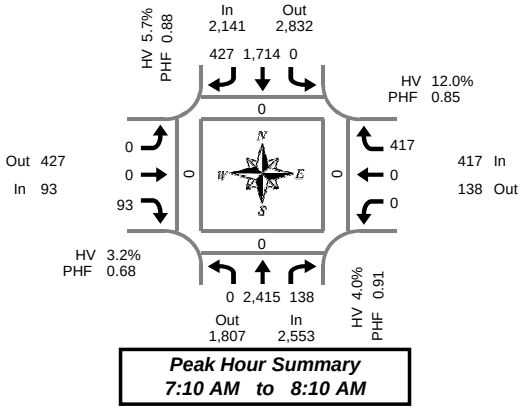


Approach	PHF	HV%	Volume
EB	0.93	2.8%	2,527
WB	0.00	0.0%	0
NB	0.91	4.1%	638
SB	0.64	0.0%	28
Intersection	0.93	3.0%	3,193

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Hwy 213 & Clackamas River Dr

Thursday, January 26, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	215	7	0	0	103	17	0	0	0	5	0	0	0	31	0	378	0	0	0	0
7:05 AM	0	237	8	0	0	95	24	0	0	0	4	0	0	0	33	0	401	0	0	0	0
7:10 AM	0	199	8	0	0	134	21	0	0	0	7	0	0	0	34	0	403	0	0	0	0
7:15 AM	0	239	7	0	0	118	39	0	0	0	6	0	0	0	31	0	440	0	0	0	0
7:20 AM	0	231	12	0	0	147	37	0	0	0	6	0	0	0	36	0	469	0	0	0	0
7:25 AM	0	201	8	1	0	117	40	0	0	0	9	0	0	0	52	0	427	0	0	0	0
7:30 AM	0	220	12	0	0	128	38	0	0	0	9	0	0	0	34	0	441	0	0	0	0
7:35 AM	0	188	13	0	0	146	30	0	0	0	3	0	0	0	32	0	412	0	0	0	0
7:40 AM	0	176	6	0	0	126	35	0	0	0	7	0	0	0	34	0	384	0	0	0	0
7:45 AM	0	158	12	0	0	173	40	0	0	0	10	0	0	0	44	0	437	0	0	0	0
7:50 AM	0	210	12	0	0	159	39	0	0	0	2	0	0	0	22	0	444	0	0	0	0
7:55 AM	0	188	13	0	0	162	38	0	0	0	8	0	0	0	36	0	445	0	0	0	0
8:00 AM	0	195	14	0	0	142	36	0	0	0	14	0	0	0	37	0	438	0	0	0	0
8:05 AM	0	210	21	0	0	162	34	0	0	0	12	0	0	0	25	0	464	0	0	0	0
8:10 AM	0	174	16	0	0	95	26	0	0	0	7	0	0	0	36	0	354	0	0	0	0
8:15 AM	0	150	12	0	0	108	36	1	0	0	11	0	0	0	54	0	371	0	0	0	0
8:20 AM	0	205	11	0	0	126	29	0	0	0	3	0	0	0	27	0	401	0	0	0	0
8:25 AM	0	178	16	0	0	132	37	0	0	0	6	0	0	0	37	0	406	0	0	0	0
8:30 AM	0	152	9	0	0	134	40	0	0	0	12	0	0	0	38	0	385	0	0	0	0
8:35 AM	0	155	13	0	0	173	40	0	0	0	14	0	0	0	37	0	432	0	0	0	0
8:40 AM	0	168	14	0	0	148	34	0	0	0	8	0	0	0	25	0	397	0	0	0	0
8:45 AM	0	145	18	0	0	153	47	0	0	0	3	0	0	0	33	0	399	0	0	1	0
8:50 AM	0	142	13	0	0	138	43	0	0	0	16	0	0	0	45	0	397	0	0	0	0
8:55 AM	0	183	17	0	0	110	37	0	0	0	9	0	0	0	36	0	392	0	0	0	0
Total Survey	0	4,519	292	1	0	3,229	837	1	0	0	191	0	0	0	849	0	9,917	0	0	1	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	651	23	0	0	332	62	0	0	0	16	0	0	0	98	0	1,182	0	0	0	0
7:15 AM	0	671	27	1	0	382	116	0	0	0	21	0	0	0	119	0	1,336	0	0	0	0
7:30 AM	0	584	31	0	0	400	103	0	0	0	19	0	0	0	100	0	1,237	0	0	0	0
7:45 AM	0	556	37	0	0	494	117	0	0	0	20	0	0	0	102	0	1,326	0	0	0	0
8:00 AM	0	579	51	0	0	399	96	0	0	0	33	0	0	0	98	0	1,256	0	0	0	0
8:15 AM	0	533	39	0	0	366	102	1	0	0	20	0	0	0	118	0	1,178	0	0	0	0
8:30 AM	0	475	36	0	0	455	114	0	0	0	34	0	0	0	100	0	1,214	0	0	0	0
8:45 AM	0	470	48	0	0	401	127	0	0	0	28	0	0	0	114	0	1,188	0	0	1	0
Total Survey	0	4,519	292	1	0	3,229	837	1	0	0	191	0	0	0	849	0	9,917	0	0	1	0

Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	2,553	1,807	4,360	1	2,141	2,832	4,973	0	93	427	520	0	417	138	555	0	5,204	0	0	0	0
%HV	4.0%				5.7%				3.2%				12.0%				5.3%				
PHF	0.91				0.88				0.68				0.85				0.97				

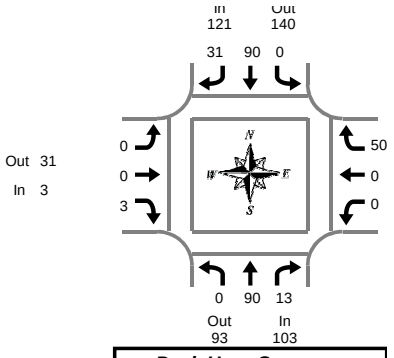
By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	2,415	138	2,553	0	1,714	427	2,141	0	0	93	93	0	0	417	417	5,204
%HV	0.0%	3.7%	9.4%	4.0%	0.0%	5.3%	7.3%	5.7%	0.0%	0.0%	3.2%	3.2%	0.0%	0.0%	12.0%	12.0%	5.3%
PHF	0.00	0.90	0.72	0.91	0.00	0.87	0.91	0.88	0.00	0.00	0.68	0.68	0.00	0.00	0.85	0.85	0.97

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	2,462	118	1	0	1,608	398	0	0	0	76	0	0	0	419	0	5,081	0	0	0	0
7:15 AM	0	2,390	146	1	0	1,675	432	0	0	0	93	0	0	0	419	0	5,155	0	0	0	0
7:30 AM	0	2,252	158	0	0	1,659	418	1	0	0	92	0	0	0	418	0	4,997	0	0	0	0
7:45 AM	0	2,143	163	0	0	1,714	429	1	0	0	107	0	0	0	418	0	4,974	0	0	0	0
8:00 AM	0	2,057	174	0	0	1,621	439	1	0	0	115	0	0	0	430	0	4,836	0	0	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 213 & Clackamas River Dr

Thursday, January 26, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:10 AM to 8:10 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	7	0	7	0	6	2	8	0	0	0	0	0	0	1	1	16
7:05 AM	0	4	1	5	0	7	2	9	0	0	0	0	0	0	3	3	17
7:10 AM	0	5	1	6	0	6	1	7	0	0	0	0	0	0	3	3	16
7:15 AM	0	8	0	8	0	11	4	15	0	0	0	0	0	0	7	7	30
7:20 AM	0	8	3	11	0	7	2	9	0	0	0	0	0	0	4	4	24
7:25 AM	0	13	0	13	0	5	3	8	0	0	1	1	0	0	5	5	27
7:30 AM	0	2	2	4	0	6	4	10	0	0	0	0	0	0	2	2	16
7:35 AM	0	7	0	7	0	4	1	5	0	0	0	0	0	0	6	6	18
7:40 AM	0	5	0	5	0	6	3	9	0	0	0	0	0	0	2	2	16
7:45 AM	0	2	0	2	0	14	6	20	0	0	0	0	0	0	7	7	29
7:50 AM	0	5	1	6	0	2	2	4	0	0	0	0	0	0	2	2	12
7:55 AM	0	8	1	9	0	12	1	13	0	0	1	1	0	0	4	4	27
8:00 AM	0	14	2	16	0	9	1	10	0	0	1	1	0	0	4	4	31
8:05 AM	0	13	3	16	0	8	3	11	0	0	0	0	0	0	4	4	31
8:10 AM	0	9	0	9	0	8	3	11	0	0	0	0	0	0	5	5	25
8:15 AM	0	16	2	18	0	10	7	17	0	0	1	1	0	0	2	2	38
8:20 AM	0	12	1	13	0	7	3	10	0	0	0	0	0	0	4	4	27
8:25 AM	0	14	2	16	0	8	6	14	0	0	2	2	0	0	6	6	38
8:30 AM	0	10	1	11	0	11	5	16	0	0	0	0	0	0	6	6	33
8:35 AM	0	5	2	7	0	7	3	10	0	0	0	0	0	0	7	7	24
8:40 AM	0	6	4	10	0	11	4	15	0	0	0	0	0	0	3	3	28
8:45 AM	0	6	5	11	0	8	6	14	0	0	1	1	0	0	4	4	30
8:50 AM	0	10	0	10	0	13	3	16	0	0	1	1	0	0	8	8	35
8:55 AM	0	17	1	18	0	6	6	12	0	0	1	1	0	0	6	6	37
Total Survey	0	206	32	238	0	192	81	273	0	0	9	9	0	0	105	105	625

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	16	2	18	0	19	5	24	0	0	0	0	0	0	7	7	49
7:15 AM	0	29	3	32	0	23	9	32	0	0	1	1	0	0	16	16	81
7:30 AM	0	14	2	16	0	16	8	24	0	0	0	0	0	0	10	10	50
7:45 AM	0	15	2	17	0	28	9	37	0	0	1	1	0	0	13	13	68
8:00 AM	0	36	5	41	0	25	7	32	0	0	1	1	0	0	13	13	87
8:15 AM	0	42	5	47	0	25	16	41	0	0	3	3	0	0	12	12	103
8:30 AM	0	21	7	28	0	29	12	41	0	0	0	0	0	0	16	16	85
8:45 AM	0	33	6	39	0	27	15	42	0	0	3	3	0	0	18	18	102
Total Survey	0	206	32	238	0	192	81	273	0	0	9	9	0	0	105	105	625

Heavy Vehicle Peak Hour Summary
7:10 AM to 8:10 AM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Clackamas River Dr			Westbound Clackamas River Dr			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	103	93	196	121	140	261	3	31	34	50	13	63	277
PHF	0.63			0.82			0.38			0.78			0.78

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	90	13	103	0	90	31	121	0	0	3	3	0	0	50	50	277
PHF	0.00	0.64	0.54	0.63	0.00	0.78	0.70	0.82	0.00	0.00	0.38	0.38	0.00	0.00	0.78	0.78	0.78

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

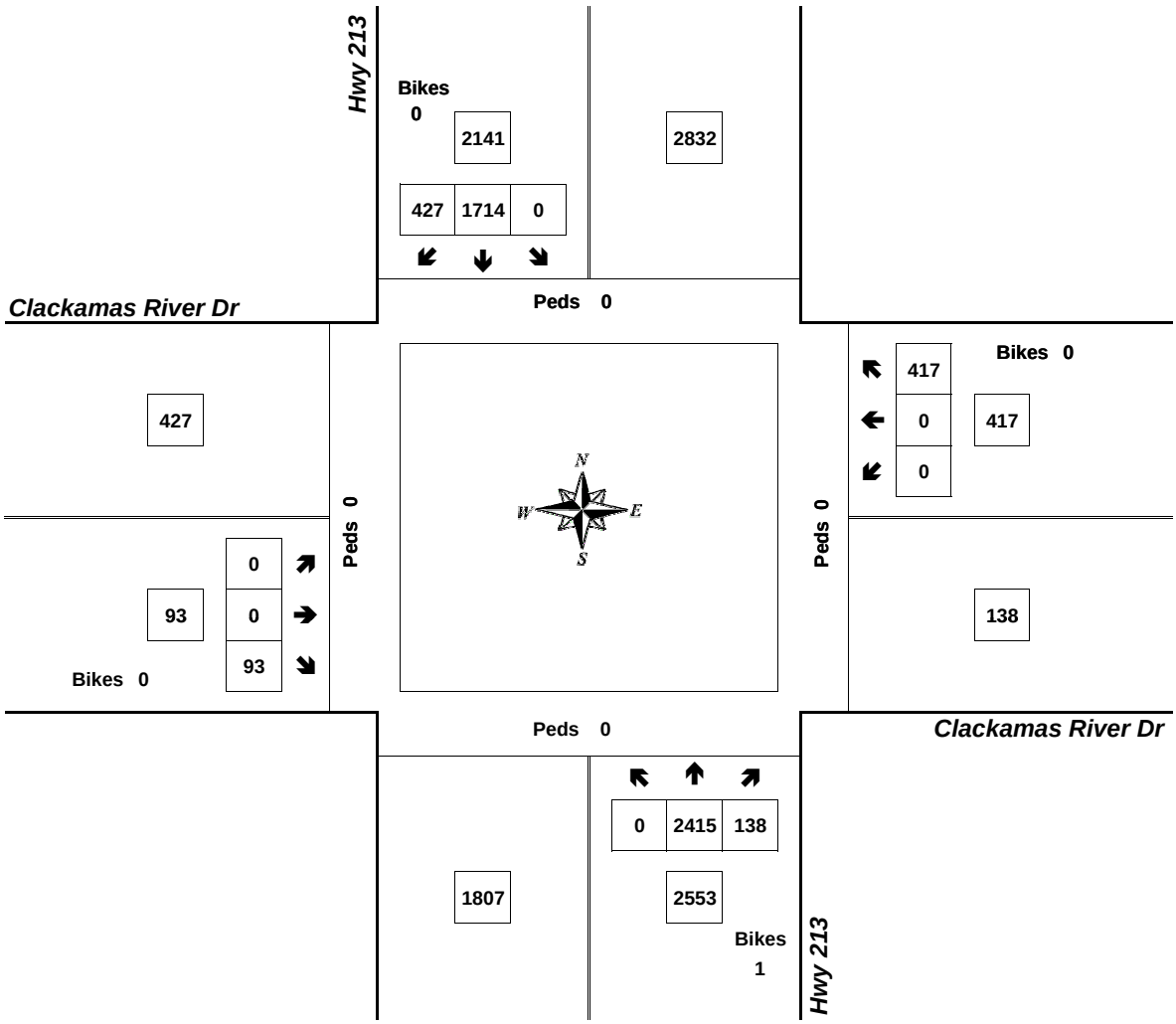
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	74	9	83	0	86	31	117	0	0	2	2	0	0	46	46	248
7:15 AM	0	94	12	106	0	92	33	125	0	0	3	3	0	0	52	52	286
7:30 AM	0	107	14	121	0	94	40	134	0	0	5	5	0	0	48	48	308
7:45 AM	0	114	19	133	0	107	44	151	0	0	5	5	0	0	54	54	343
8:00 AM	0	132	23	155	0	106	50	156	0	0	7	7	0	0	59	59	377

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 213 & Clackamas River Dr

7:10 AM to 8:10 AM
Thursday, January 26, 2017

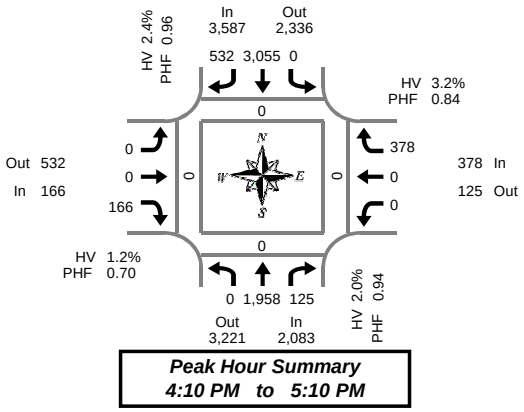


Approach	PHF	HV%	Volume
EB	0.68	3.2%	93
WB	0.85	12.0%	417
NB	0.91	4.0%	2,553
SB	0.88	5.7%	2,141
Intersection	0.97	5.3%	5,204

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:10 PM to 5:10 PM

Hwy 213 & Clackamas River Dr

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	156	13	0	0	249	49	0	0	0	14	0	0	0	24	0	505	0	0	0	0
4:05 PM	0	145	16	0	0	224	54	0	0	0	11	0	0	0	39	0	489	0	0	0	0
4:10 PM	0	194	11	0	0	264	49	0	0	0	11	0	0	0	35	0	564	0	0	0	0
4:15 PM	0	170	14	0	0	283	41	0	0	0	13	0	0	0	24	0	545	0	0	0	0
4:20 PM	0	155	10	0	0	250	46	0	0	0	14	0	0	0	24	0	499	0	0	0	0
4:25 PM	0	141	10	0	0	254	46	0	0	0	11	0	0	0	43	0	505	0	0	0	0
4:30 PM	0	170	12	0	0	241	52	0	0	0	11	0	0	0	35	0	521	0	0	0	0
4:35 PM	0	168	8	0	0	246	52	0	0	0	12	0	0	0	34	0	520	0	0	0	0
4:40 PM	0	139	12	0	0	225	42	0	0	0	34	0	0	0	29	0	481	0	0	0	0
4:45 PM	0	190	7	0	0	277	47	0	0	0	13	0	0	0	33	0	567	0	0	0	0
4:50 PM	0	162	11	0	0	270	36	0	0	0	11	0	0	0	27	0	517	0	0	0	0
4:55 PM	0	128	7	0	0	217	44	0	0	0	21	0	0	0	27	0	444	0	0	0	0
5:00 PM	0	169	9	0	0	271	37	0	0	0	10	0	0	0	31	0	527	0	0	0	0
5:05 PM	0	172	14	0	0	257	40	0	0	0	5	0	0	0	36	0	524	0	0	0	0
5:10 PM	0	172	11	0	0	235	41	0	0	0	16	0	0	0	40	0	515	0	0	0	0
5:15 PM	0	163	14	0	0	261	45	0	0	0	19	0	0	0	33	0	535	0	0	0	0
5:20 PM	0	190	14	0	0	248	37	0	0	0	12	0	0	0	20	0	521	0	0	0	0
5:25 PM	0	148	17	0	0	261	30	0	0	0	8	0	0	0	29	0	493	0	0	0	0
5:30 PM	0	115	10	0	0	238	39	0	0	0	13	0	0	0	27	0	442	0	0	0	0
5:35 PM	0	154	5	0	0	249	36	0	0	0	9	0	0	0	32	0	485	0	0	0	0
5:40 PM	0	167	15	0	0	215	36	0	0	0	10	0	0	0	17	0	460	0	0	0	0
5:45 PM	0	154	9	0	0	214	33	0	0	0	9	0	0	0	21	0	440	0	0	0	0
5:50 PM	0	165	8	0	0	252	36	0	0	0	5	0	0	0	22	0	488	0	0	0	0
5:55 PM	0	114	12	0	0	219	41	0	0	0	14	0	0	0	18	0	418	0	0	0	0
Total Survey	0	3,801	269	0	0	5,920	1,009	0	0	0	306	0	0	0	700	0	12,005	0	0	0	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	495	40	0	0	737	152	0	0	0	36	0	0	0	98	0	1,558	0	0	0	0
4:15 PM	0	466	34	0	0	787	133	0	0	0	38	0	0	0	91	0	1,549	0	0	0	0
4:30 PM	0	477	32	0	0	712	146	0	0	0	57	0	0	0	98	0	1,522	0	0	0	0
4:45 PM	0	480	25	0	0	764	127	0	0	0	45	0	0	0	87	0	1,528	0	0	0	0
5:00 PM	0	513	34	0	0	763	118	0	0	0	31	0	0	0	107	0	1,566	0	0	0	0
5:15 PM	0	501	45	0	0	770	112	0	0	0	39	0	0	0	82	0	1,549	0	0	0	0
5:30 PM	0	436	30	0	0	702	111	0	0	0	32	0	0	0	76	0	1,387	0	0	0	0
5:45 PM	0	433	29	0	0	685	110	0	0	0	28	0	0	0	61	0	1,346	0	0	0	0
Total Survey	0	3,801	269	0	0	5,920	1,009	0	0	0	306	0	0	0	700	0	12,005	0	0	0	0

Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	2,083	3,221	5,304	0	3,587	2,336	5,923	0	166	532	698	0	378	125	503	0	6,214	0	0	0	0
%HV	2.0%				2.4%				1.2%				3.2%				2.3%				
PHF	0.94				0.96				0.70				0.84				0.97				

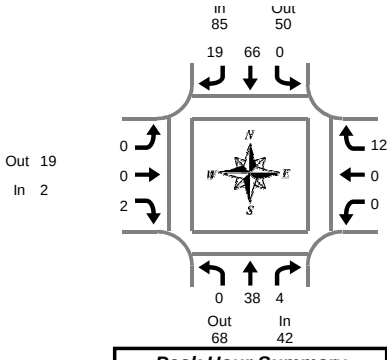
By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	1,958	125	2,083	0	3,055	532	3,587	0	0	166	166	0	0	378	378	6,214
%HV	0.0%	1.9%	3.2%	2.0%	0.0%	2.2%	3.6%	2.4%	0.0%	0.0%	1.2%	1.2%	0.0%	0.0%	3.2%	3.2%	2.3%
PHF	0.00	0.94	0.89	0.94	0.00	0.96	0.89	0.96	0.00	0.00	0.70	0.70	0.00	0.00	0.84	0.84	0.97

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	1,918	131	0	0	3,000	558	0	0	0	176	0	0	0	374	0	6,157	0	0	0	0
4:15 PM	0	1,936	125	0	0	3,026	524	0	0	0	171	0	0	0	383	0	6,165	0	0	0	0
4:30 PM	0	1,971	136	0	0	3,009	503	0	0	0	172	0	0	0	374	0	6,165	0	0	0	0
4:45 PM	0	1,930	134	0	0	2,999	468	0	0	0	147	0	0	0	352	0	6,030	0	0	0	0
5:00 PM	0	1,883	138	0	0	2,920	451	0	0	0	130	0	0	0	326	0	5,848	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 213 & Clackamas River Dr

Wednesday, January 25, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:10 PM to 5:10 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	6	1	7	0	4	2	6	0	0	0	0	0	0	1	1	14
4:05 PM	0	6	1	7	0	9	1	10	0	0	0	0	0	0	5	5	22
4:10 PM	0	7	0	7	0	10	4	14	0	0	1	1	0	0	1	1	23
4:15 PM	0	5	0	5	0	7	1	8	0	0	1	1	0	0	0	0	14
4:20 PM	0	3	0	3	0	5	4	9	0	0	0	0	0	0	1	1	13
4:25 PM	0	1	0	1	0	7	2	9	0	0	0	0	0	0	2	2	12
4:30 PM	0	4	0	4	0	5	1	6	0	0	0	0	0	0	0	0	10
4:35 PM	0	3	0	3	0	7	1	8	0	0	0	0	0	0	1	1	12
4:40 PM	0	3	1	4	0	3	2	5	0	0	0	0	0	0	1	1	10
4:45 PM	0	2	1	3	0	2	1	3	0	0	0	0	0	0	3	3	9
4:50 PM	0	4	1	5	0	3	1	4	0	0	0	0	0	0	0	0	9
4:55 PM	0	1	0	1	0	7	1	8	0	0	0	0	0	0	1	1	10
5:00 PM	0	3	0	3	0	5	0	5	0	0	0	0	0	0	2	2	10
5:05 PM	0	2	1	3	0	5	1	6	0	0	0	0	0	0	0	0	9
5:10 PM	0	5	2	7	0	6	3	9	0	0	0	0	0	0	1	1	17
5:15 PM	0	4	0	4	0	5	1	6	0	0	0	0	0	0	1	1	11
5:20 PM	0	2	0	2	0	8	1	9	0	0	1	1	0	0	0	0	12
5:25 PM	0	2	0	2	0	5	1	6	0	0	0	0	0	0	2	2	10
5:30 PM	0	3	0	3	0	3	1	4	0	0	0	0	0	0	0	0	7
5:35 PM	0	5	0	5	0	4	1	5	0	0	0	0	0	0	1	1	11
5:40 PM	0	1	0	1	0	3	0	3	0	0	0	0	0	0	0	0	4
5:45 PM	0	2	1	3	0	2	2	4	0	0	0	0	0	0	0	0	7
5:50 PM	0	3	0	3	0	5	0	5	0	0	2	2	0	0	1	1	11
5:55 PM	0	1	0	1	0	1	2	3	0	0	1	1	0	0	0	0	5
Total Survey	0	78	9	87	0	121	34	155	0	0	6	6	0	0	24	24	272

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	19	2	21	0	23	7	30	0	0	1	1	0	0	7	7	59
4:15 PM	0	9	0	9	0	19	7	26	0	0	1	1	0	0	3	3	39
4:30 PM	0	10	1	11	0	15	4	19	0	0	0	0	0	0	2	2	32
4:45 PM	0	7	2	9	0	12	3	15	0	0	0	0	0	0	4	4	28
5:00 PM	0	10	3	13	0	16	4	20	0	0	0	0	0	0	3	3	36
5:15 PM	0	8	0	8	0	18	3	21	0	0	1	1	0	0	3	3	33
5:30 PM	0	9	0	9	0	10	2	12	0	0	0	0	0	0	1	1	22
5:45 PM	0	6	1	7	0	8	4	12	0	0	3	3	0	0	1	1	23
Total Survey	0	78	9	87	0	121	34	155	0	0	6	6	0	0	24	24	272

Heavy Vehicle Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Clackamas River Dr			Westbound Clackamas River Dr			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	42	68	110	85	50	135	2	19	21	12	4	16	141
PHF	0.70			0.69			0.25			0.60			0.71

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	38	4	42	0	66	19	85	0	0	2	2	0	0	12	12	141
PHF	0.00	0.63	0.33	0.70	0.00	0.75	0.53	0.69	0.00	0.00	0.25	0.25	0.00	0.00	0.60	0.60	0.71

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

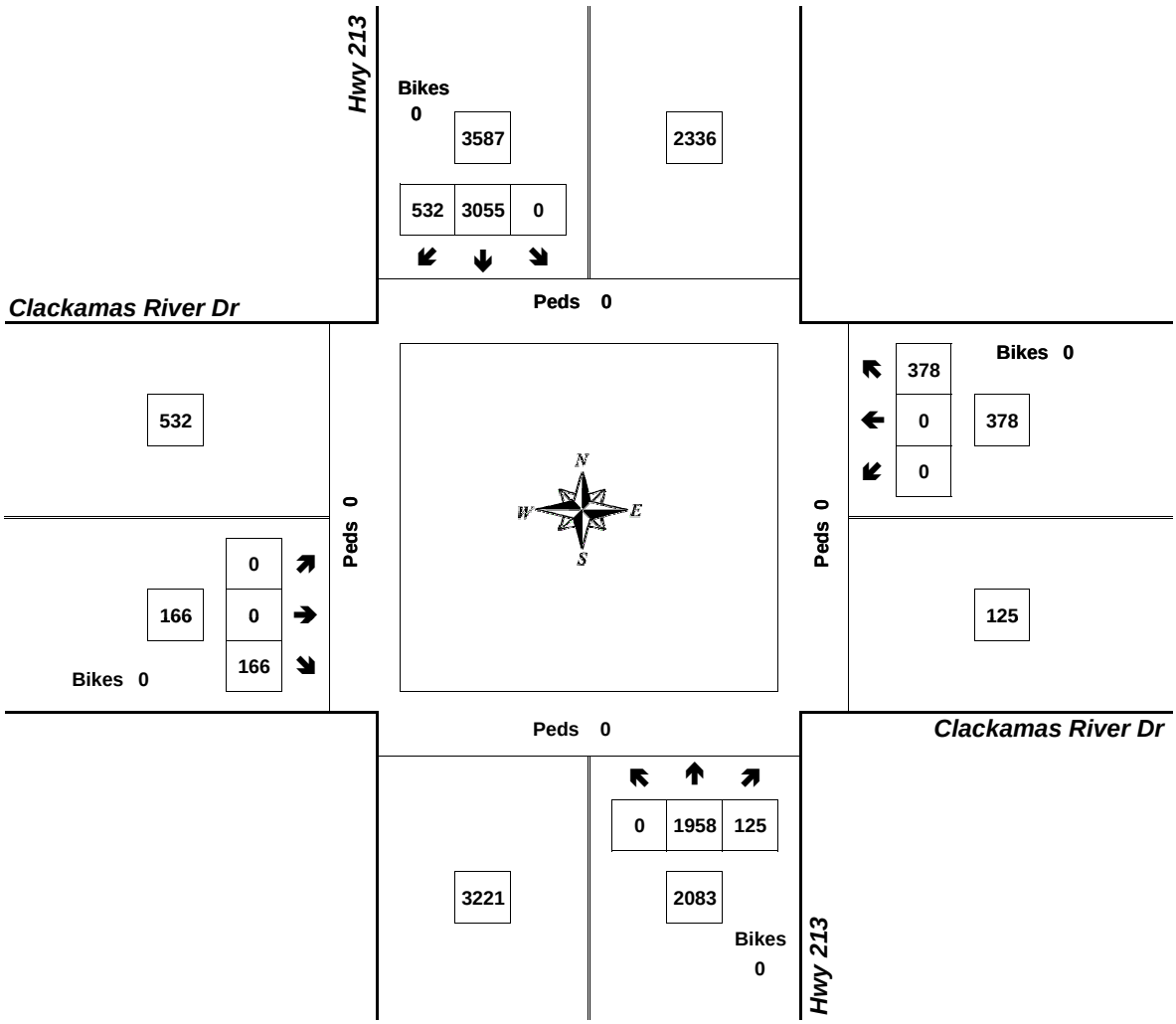
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Clackamas River Dr				Westbound Clackamas River Dr				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	45	5	50	0	69	21	90	0	0	2	2	0	0	16	16	158
4:15 PM	0	36	6	42	0	62	18	80	0	0	1	1	0	0	12	12	135
4:30 PM	0	35	6	41	0	61	14	75	0	0	1	1	0	0	12	12	129
4:45 PM	0	34	5	39	0	56	12	68	0	0	1	1	0	0	11	11	119
5:00 PM	0	33	4	37	0	52	13	65	0	0	4	4	0	0	8	8	114

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 213 & Clackamas River Dr

4:10 PM to 5:10 PM
Wednesday, January 25, 2017

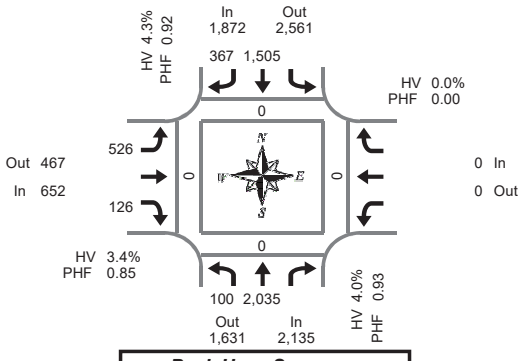


Approach	PHF	HV%	Volume
EB	0.70	1.2%	166
WB	0.84	3.2%	378
NB	0.94	2.0%	2,083
SB	0.96	2.4%	3,587
Intersection	0.97	2.3%	6,214

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:20 AM to 8:20 AM

Hwy 213 & Redland Rd

Wednesday, January 25, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213			Eastbound Redland Rd			Westbound Redland Rd			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
7:00 AM	8	139		0	75	17	0	55	18	0			0	312	0	0	0	0
7:05 AM	7	183		0	100	24	0	49	6	0			0	369	0	0	0	0
7:10 AM	0	164		0	93	16	0	43	17	0			0	333	0	0	0	0
7:15 AM	7	154		0	105	26	0	67	15	0			0	374	0	0	0	0
7:20 AM	10	197		0	125	40	0	34	12	0			0	418	0	0	0	0
7:25 AM	4	189		0	116	35	0	40	18	0			0	402	0	0	0	0
7:30 AM	4	172		0	109	29	0	58	16	0			0	388	0	0	0	0
7:35 AM	14	179		0	112	31	0	48	12	0			0	396	0	0	0	0
7:40 AM	10	178		0	168	35	0	33	9	0			0	433	0	0	0	0
7:45 AM	7	169		0	116	32	0	50	10	0			0	384	0	0	0	0
7:50 AM	13	149		0	132	26	0	45	13	0			0	378	0	0	0	0
7:55 AM	8	160		0	149	25	0	32	4	0			0	378	0	0	0	0
8:00 AM	6	148		0	121	30	0	35	9	0			0	349	0	0	0	0
8:05 AM	7	154		0	90	31	0	62	10	0			0	354	0	0	0	0
8:10 AM	8	181		0	119	31	0	41	4	0			0	384	0	0	0	0
8:15 AM	9	159		0	148	22	0	48	9	0			0	395	0	0	0	0
8:20 AM	6	132		0	89	41	0	58	13	0			0	339	0	0	0	0
8:25 AM	3	137		0	112	25	0	32	4	0			0	313	0	0	0	0
8:30 AM	6	141		0	148	33	0	40	14	0			0	382	0	0	0	0
8:35 AM	5	142		0	106	15	0	40	8	0			0	316	0	0	0	0
8:40 AM	11	154		0	128	33	0	53	9	0			0	388	0	0	0	0
8:45 AM	9	129		0	147	21	0	41	8	0			0	355	0	0	0	0
8:50 AM	4	143		0	118	26	0	43	4	0			0	338	0	0	0	0
8:55 AM	12	123		0	124	18	0	49	11	0			0	337	0	0	0	0
Total Survey	178	3,776		0	2,850	662	0	1,096	253	0			0	8,815	0	0	0	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213			Eastbound Redland Rd			Westbound Redland Rd			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
7:00 AM	15	486		0	268	57	0	147	41	0			0	1,014	0	0	0	0
7:15 AM	21	540		0	346	101	0	141	45	0			0	1,194	0	0	0	0
7:30 AM	28	529		0	389	95	0	139	37	0			0	1,217	0	0	0	0
7:45 AM	28	478		0	397	83	0	127	27	0			0	1,140	0	0	0	0
8:00 AM	21	483		0	330	92	0	138	23	0			0	1,087	0	0	0	0
8:15 AM	18	428		0	349	88	0	138	26	0			0	1,047	0	0	0	0
8:30 AM	22	437		0	382	81	0	133	31	0			0	1,086	0	0	0	0
8:45 AM	25	395		0	389	65	0	133	23	0			0	1,030	0	0	0	0
Total Survey	178	3,776		0	2,850	662	0	1,096	253	0			0	8,815	0	0	0	0

Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Redland Rd				Westbound Redland Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	2,135	1,631	3,766	0	1,872	2,561	4,433	0	652	467	1,119	0	0	0	0	0	4,659	0	0	0	0
%HV	4.0%				4.3%				3.4%				0.0%				4.1%				
PHF	0.93				0.92				0.85				0.00				0.96				

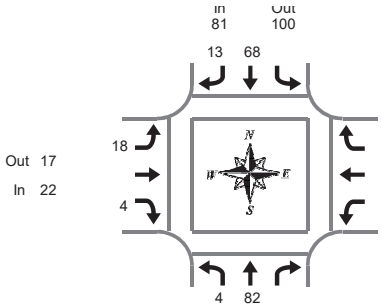
By Movement	Northbound Hwy 213				Southbound Hwy 213			Eastbound Redland Rd			Westbound Redland Rd			Total
	L	T		Total	T	R	Total	L	R	Total				
Volume	100	2,035		2,135	1,505	367	1,872	526	126	652				0	4,659
%HV	4.0%	4.0%	NA	4.0%	4.5%	3.5%	4.3%	3.4%	3.2%	3.4%	NA	NA	NA	0.0%	4.1%
PHF	0.81	0.91		0.93	0.90	0.88	0.92	0.87	0.68	0.85				0.00	0.96

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213			Eastbound Redland Rd			Westbound Redland Rd			Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L	R	Bikes			Bikes		North	South	East	West
7:00 AM	92	2,033		0	1,400	336	0	554	150	0			0	4,565	0	0	0	0
7:15 AM	98	2,030		0	1,462	371	0	545	132	0			0	4,638	0	0	0	0
7:30 AM	95	1,918		0	1,465	358	0	542	113	0			0	4,491	0	0	0	0
7:45 AM	89	1,826		0	1,458	344	0	536	107	0			0	4,360	0	0	0	0
8:00 AM	86	1,743		0	1,450	326	0	542	103	0			0	4,250	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 213 & Redland Rd

Wednesday, January 25, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:20 AM to 8:20 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Redland Rd				Westbound Redland Rd				Interval Total
	L	T		Total	T	R	Total		L		R	Total				Total	
7:00 AM	1	5		6	9	2	11		1		1	2				0	19
7:05 AM	1	5		6	1	0	1		3		2	5				0	12
7:10 AM	0	10		10	3	0	3		4		0	4				0	17
7:15 AM	2	7		9	8	2	10		4		1	5				0	24
7:20 AM	1	6		7	4	0	4		1		0	1				0	12
7:25 AM	0	8		8	10	0	10		3		0	3				0	21
7:30 AM	0	3		3	5	0	5		1		1	2				0	10
7:35 AM	0	5		5	0	2	2		2		0	2				0	9
7:40 AM	0	2		2	8	0	8		2		0	2				0	12
7:45 AM	1	12		13	7	2	9		4		0	4				0	26
7:50 AM	0	9		9	4	2	6		1		0	1				0	16
7:55 AM	0	11		11	3	2	5		1		1	2				0	18
8:00 AM	1	10		11	4	1	5		0		2	2				0	18
8:05 AM	0	3		3	6	0	6		1		0	1				0	10
8:10 AM	0	6		6	8	4	12		1		0	1				0	19
8:15 AM	1	7		8	9	0	9		1		0	1				0	18
8:20 AM	0	5		5	8	2	10		2		2	4				0	19
8:25 AM	0	5		5	12	3	15		5		0	5				0	25
8:30 AM	0	7		7	3	4	7		3		1	4				0	18
8:35 AM	1	13		14	4	4	8		2		0	2				0	24
8:40 AM	0	8		8	9	0	9		2		0	2				0	19
8:45 AM	0	6		6	4	1	5		1		1	2				0	13
8:50 AM	0	7		7	15	2	17		0		0	0				0	24
8:55 AM	0	5		5	9	3	12		1		0	1				0	18
Total Survey	9	165		174	153	36	189		46		12	58				0	421

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Redland Rd				Westbound Redland Rd				Interval Total
	L	T		Total	T	R	Total		L		R	Total				Total	
7:00 AM	2	20		22	13	2	15		8		3	11				0	48
7:15 AM	3	21		24	22	2	24		8		1	9				0	57
7:30 AM	0	10		10	13	2	15		5		1	6				0	31
7:45 AM	1	32		33	14	6	20		6		1	7				0	60
8:00 AM	1	19		20	18	5	23		2		2	4				0	47
8:15 AM	1	17		18	29	5	34		8		2	10				0	62
8:30 AM	1	28		29	16	8	24		7		1	8				0	61
8:45 AM	0	18		18	28	6	34		2		1	3				0	55
Total Survey	9	165		174	153	36	189		46		12	58				0	421

Heavy Vehicle Peak Hour Summary
7:20 AM to 8:20 AM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Redland Rd			Westbound Redland Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	86	72	158	81	100	181	22	17	39	0	0	0	189
PHF	0.65			0.75			0.69			0.00			0.79

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Redland Rd				Westbound Redland Rd				Total
	L	T		Total	T	R	Total		L		R	Total				Total	
Volume	4	82		86	68	13	81		18		4	22				0	189
PHF	1.00	0.64		0.65	0.74	0.54	0.75		0.56		0.33	0.69				0.00	0.79

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

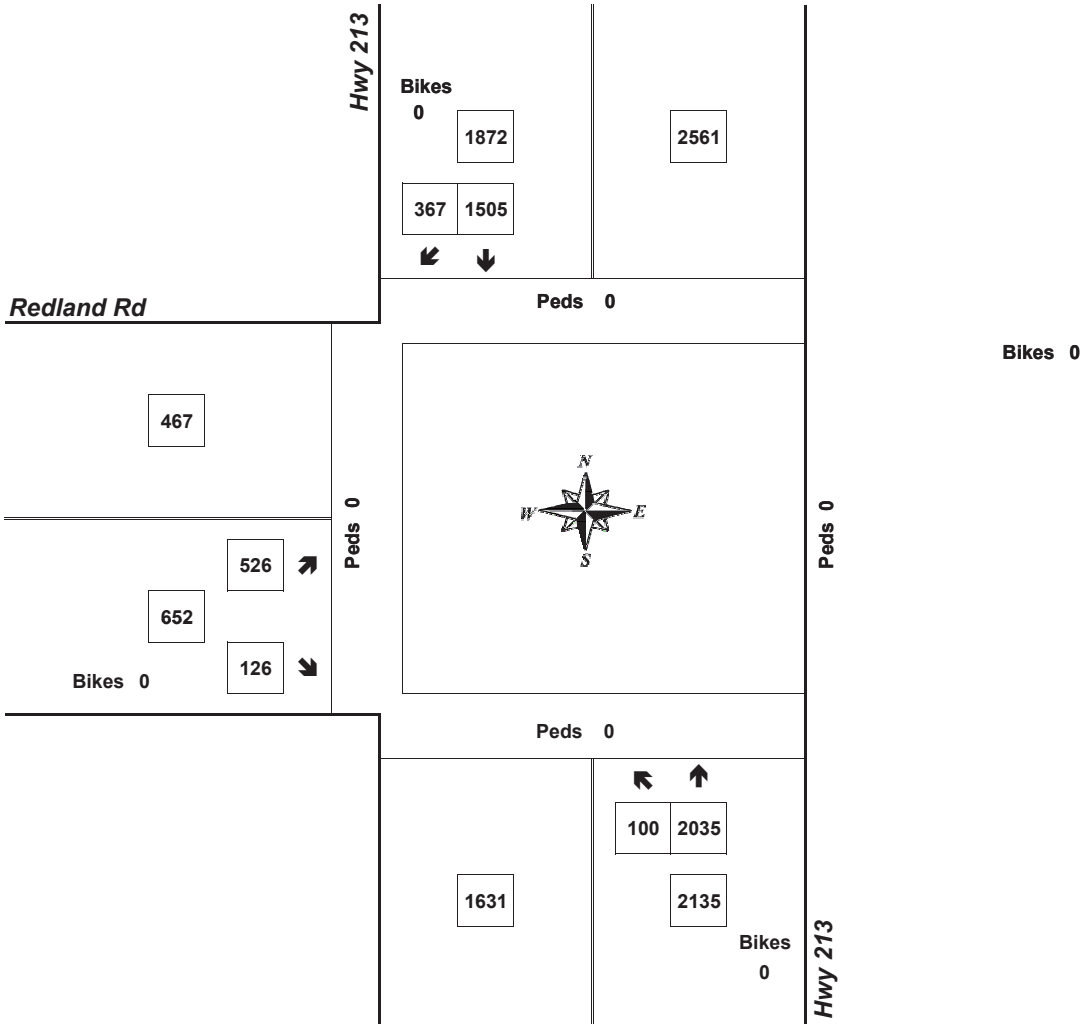
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Redland Rd				Westbound Redland Rd				Interval Total
	L	T		Total	T	R	Total		L		R	Total				Total	
7:00 AM	6	83		89	62	12	74		27		6	33				0	196
7:15 AM	5	82		87	67	15	82		21		5	26				0	195
7:30 AM	3	78		81	74	18	92		21		6	27				0	200
7:45 AM	4	96		100	77	24	101		23		6	29				0	230
8:00 AM	3	82		85	91	24	115		19		6	25				0	225

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 213 & Redland Rd

7:20 AM to 8:20 AM
Wednesday, January 25, 2017

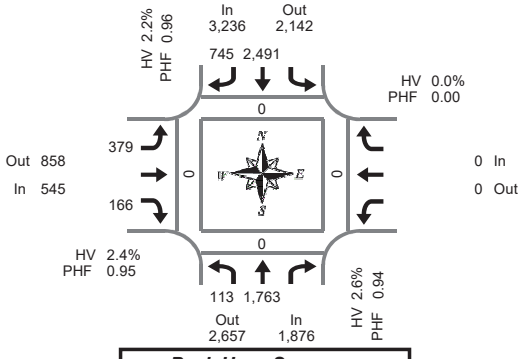


Approach	PHF	HV%	Volume
EB	0.85	3.4%	652
WB	0.00	0.0%	0
NB	0.93	4.0%	2,135
SB	0.92	4.3%	1,872
Intersection	0.96	4.1%	4,659

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 213 & Redland Rd

Tuesday, January 24, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:10 PM to 5:10 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Redland Rd				Westbound Redland Rd				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R		Bikes	L		R	Bikes				Bikes		North	South	East	West
4:00 PM	11	148		0	204	67		0	26		6	0				0	462	0	0	0	0
4:05 PM	7	140		0	216	54		0	28		12	0				0	457	0	0	0	0
4:10 PM	9	160		0	187	58		0	42		15	0				0	471	0	0	0	0
4:15 PM	14	153		0	202	63		0	26		12	0				0	470	0	0	0	0
4:20 PM	11	151		0	207	65		0	32		13	0				0	479	0	0	0	0
4:25 PM	6	113		0	216	57		0	34		10	0				0	436	0	0	0	0
4:30 PM	14	128		0	194	60		0	34		15	0				0	445	0	0	0	0
4:35 PM	8	140		0	232	74		0	29		15	0				0	498	0	0	0	0
4:40 PM	3	157		0	228	51		0	30		9	0				0	478	0	0	0	0
4:45 PM	12	147		1	181	61		0	42		18	0				0	461	0	0	0	0
4:50 PM	8	144		0	221	71		0	24		10	0				0	478	0	0	0	0
4:55 PM	8	169		0	223	68		0	30		10	0				0	508	0	0	0	0
5:00 PM	15	148		0	178	54		0	31		20	0				0	446	0	0	0	0
5:05 PM	5	153		0	222	63		0	25		19	0				0	487	0	0	0	0
5:10 PM	11	144		0	226	46		0	32		11	0				0	470	0	0	0	0
5:15 PM	11	130		0	198	56		0	44		8	0				0	447	0	0	0	0
5:20 PM	17	148		0	194	44		0	28		4	0				0	435	0	0	0	0
5:25 PM	6	127		0	229	69		0	26		6	0				0	463	0	0	0	0
5:30 PM	6	114		0	205	58		0	25		17	0				0	425	0	0	0	0
5:35 PM	14	137		0	177	58		0	32		9	0				0	427	0	0	0	0
5:40 PM	8	134		0	217	63		0	21		4	0				0	447	0	0	0	0
5:45 PM	7	148		0	220	60		0	18		8	0				0	461	0	0	0	0
5:50 PM	8	129		0	177	62		0	32		6	0				0	414	0	0	0	0
5:55 PM	9	115		0	197	40		0	19		9	0				0	389	0	0	0	0
Total Survey	228	3,377		1	4,951	1,422		0	710		266	0				0	10,954	0	0	0	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Redland Rd				Westbound Redland Rd				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R		Bikes	L		R	Bikes				Bikes		North	South	East	West
4:00 PM	27	448		0	607	179		0	96		33	0				0	1,390	0	0	0	0
4:15 PM	31	417		0	625	185		0	92		35	0				0	1,385	0	0	0	0
4:30 PM	25	425		0	654	185		0	93		39	0				0	1,421	0	0	0	0
4:45 PM	28	460		1	625	200		0	96		38	0				0	1,447	0	0	0	0
5:00 PM	31	445		0	626	163		0	88		50	0				0	1,403	0	0	0	0
5:15 PM	34	405		0	621	169		0	98		18	0				0	1,345	0	0	0	0
5:30 PM	28	385		0	599	179		0	78		30	0				0	1,299	0	0	0	0
5:45 PM	24	392		0	594	162		0	69		23	0				0	1,264	0	0	0	0
Total Survey	228	3,377		1	4,951	1,422		0	710		266	0				0	10,954	0	0	0	0

Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Redland Rd				Westbound Redland Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,876	2,657	4,533	1	3,236	2,142	5,378	0	545	858	1,403	0	0	0	0	0	5,657	0	0	0	0
%HV	2.6%				2.2%				2.4%				0.0%				2.4%				
PHF	0.94				0.96				0.95				0.00				0.98				

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Redland Rd				Westbound Redland Rd				Total
	L	T		Total	T	R	Total		L		R	Total				Total	
Volume	113	1,763		1,876	2,491	745	3,236		379		166	545				0	5,657
%HV	0.0%	2.8%	NA	2.6%	NA	2.2%	2.1%	2.2%	2.4%	NA	2.4%	2.4%	NA	NA	NA	0.0%	2.4%
PHF	0.83	0.94		0.94		0.95	0.93	0.96	0.94		0.85	0.95				0.00	0.98

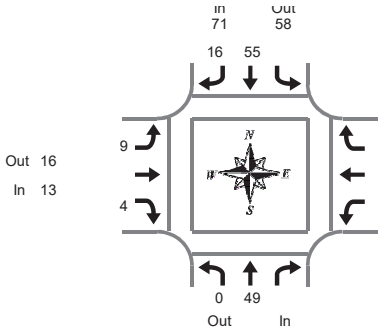
Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Redland Rd				Westbound Redland Rd				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R		Bikes	L		R	Bikes				Bikes		North	South	East	West
4:00 PM	111	1,750		1	2,511	749		0	377		145	0				0	5,643	0	0	0	0
4:15 PM	115	1,747		1	2,530	733		0	369		162	0				0	5,656	0	0	0	0
4:30 PM	118	1,735		1	2,526	717		0	375		145	0				0	5,616	0	0	0	0
4:45 PM	121	1,695		1	2,471	711		0	360		136	0				0	5,494	0	0	0	0
5:00 PM	117	1,627		0	2,440	673		0	333		121	0				0	5,311	0	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Hwy 213 & Redland Rd

Tuesday, January 24, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:10 PM to 5:10 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213			Eastbound Redland Rd			Westbound Redland Rd				Interval Total
	L	T		Total	T	R	Total	L		R	Total			Total	
4:00 PM	0	4		4	4	3	7	1		0	1			0	12
4:05 PM	1	8		9	8	0	8	1		3	4			0	21
4:10 PM	0	7		7	5	0	5	1		1	2			0	14
4:15 PM	0	4		4	9	1	10	1		0	1			0	15
4:20 PM	0	5		5	8	1	9	0		0	0			0	14
4:25 PM	0	4		4	4	3	7	0		0	0			0	11
4:30 PM	0	4		4	2	1	3	2		0	2			0	9
4:35 PM	0	3		3	11	2	13	2		0	2			0	18
4:40 PM	0	6		6	0	1	1	0		1	1			0	8
4:45 PM	0	3		3	4	1	5	0		1	1			0	9
4:50 PM	0	2		2	4	4	8	0		0	0			0	10
4:55 PM	0	3		3	4	1	5	1		0	1			0	9
5:00 PM	0	4		4	2	1	3	1		0	1			0	8
5:05 PM	0	4		4	2	0	2	1		1	2			0	8
5:10 PM	0	4		4	4	1	5	0		0	0			0	9
5:15 PM	0	1		1	6	0	6	1		0	1			0	8
5:20 PM	1	3		4	3	0	3	1		0	1			0	8
5:25 PM	0	2		2	3	1	4	0		1	1			0	7
5:30 PM	0	2		2	3	2	5	1		0	1			0	8
5:35 PM	0	3		3	5	0	5	1		0	1			0	9
5:40 PM	0	3		3	2	1	3	0		0	0			0	6
5:45 PM	0	3		3	6	0	6	0		1	1			0	10
5:50 PM	0	1		1	5	1	6	2		0	2			0	9
5:55 PM	0	2		2	1	2	3	0		0	0			0	5
Total Survey	2	85		87	105	27	132	17		9	26			0	245

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213			Eastbound Redland Rd			Westbound Redland Rd				Interval Total
	L	T		Total	T	R	Total	L		R	Total			Total	
4:00 PM	1	19		20	17	3	20	3		4	7			0	47
4:15 PM	0	13		13	21	5	26	1		0	1			0	40
4:30 PM	0	13		13	13	4	17	4		1	5			0	35
4:45 PM	0	8		8	12	6	18	1		1	2			0	28
5:00 PM	0	12		12	8	2	10	2		1	3			0	25
5:15 PM	1	6		7	12	1	13	2		1	3			0	23
5:30 PM	0	8		8	10	3	13	2		0	2			0	23
5:45 PM	0	6		6	12	3	15	2		1	3			0	24
Total Survey	2	85		87	105	27	132	17		9	26			0	245

Heavy Vehicle Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Redland Rd			Westbound Redland Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	49	59	108	71	58	129	13	16	29	0	0	0	133
PHF	0.77			0.68			0.65			0.00			0.77

By Movement	Northbound Hwy 213				Southbound Hwy 213			Eastbound Redland Rd				Westbound Redland Rd				Total
	L	T		Total	T	R	Total	L		R	Total				Total	
Volume	0	49		49	55	16	71	9		4	13				0	133
PHF	0.00	0.77		0.77	0.63	0.67	0.68	0.56		0.50	0.65				0.00	0.77

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

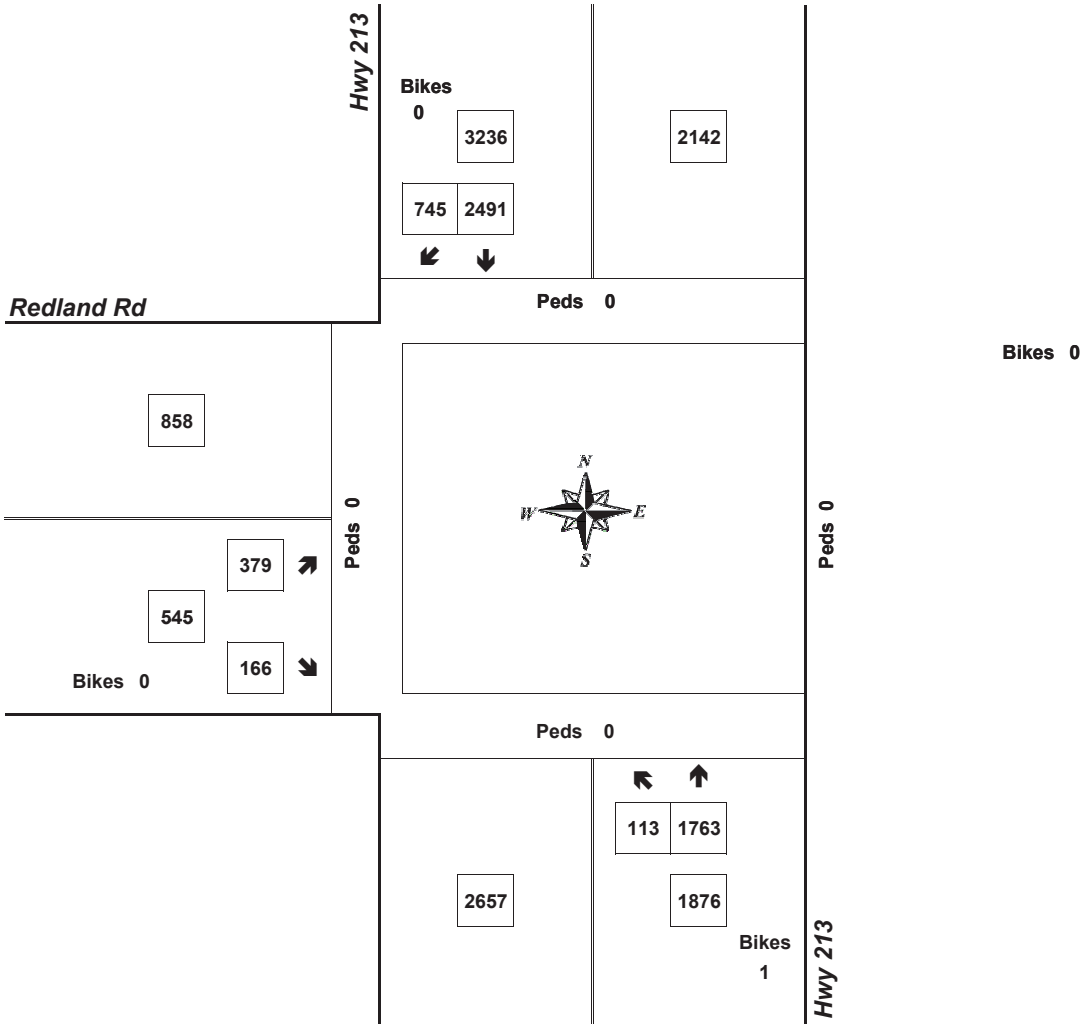
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213			Eastbound Redland Rd				Westbound Redland Rd				Interval Total
	L	T		Total	T	R	Total	L		R	Total				Total	
4:00 PM	1	53		54	63	18	81	9		6	15				0	150
4:15 PM	0	46		46	54	17	71	8		3	11				0	128
4:30 PM	1	39		40	45	13	58	9		4	13				0	111
4:45 PM	1	34		35	42	12	54	7		3	10				0	99
5:00 PM	1	32		33	42	9	51	8		3	11				0	95

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 213 & Redland Rd

4:10 PM to 5:10 PM
Tuesday, January 24, 2017

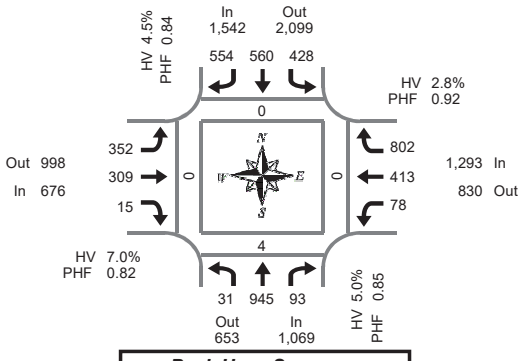


Approach	PHF	HV%	Volume
EB	0.95	2.4%	545
WB	0.00	0.0%	0
NB	0.94	2.6%	1,876
SB	0.96	2.2%	3,236
Intersection	0.98	2.4%	5,657

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:00 AM to 8:00 AM

Hwy 213 & Beavercreek Rd

Wednesday, January 25, 2017
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	4	71	11	0	27	28	50	0	26	20	2	0	6	25	67	0	337	0	0	0	0
7:05 AM	2	64	7	0	28	34	46	0	32	27	2	0	3	35	58	0	338	0	0	0	0
7:10 AM	1	80	9	0	33	32	35	0	29	33	2	0	9	32	66	0	361	0	1	0	0
7:15 AM	3	93	10	0	34	32	36	0	24	35	1	0	5	31	73	0	377	0	0	0	0
7:20 AM	4	91	10	0	44	48	54	0	36	31	1	0	10	37	65	0	431	0	0	0	0
7:25 AM	5	90	8	0	38	49	40	0	25	53	1	0	5	39	71	0	424	0	0	0	0
7:30 AM	1	78	8	0	32	49	39	0	31	28	0	0	10	34	69	0	379	0	0	0	0
7:35 AM	2	81	4	0	31	56	53	0	30	23	2	0	6	44	72	0	404	0	1	0	0
7:40 AM	1	83	8	0	37	57	41	0	32	18	2	0	5	28	71	0	383	0	1	0	0
7:45 AM	3	64	6	0	54	64	51	0	26	13	2	0	7	32	68	0	390	0	0	0	0
7:50 AM	3	71	5	0	38	50	52	0	27	12	0	0	8	32	60	0	358	0	1	0	0
7:55 AM	2	79	7	0	32	61	57	0	34	16	0	0	4	44	62	0	398	0	0	0	0
8:00 AM	4	69	7	0	21	45	55	0	24	13	2	0	11	21	54	0	326	0	0	0	0
8:05 AM	4	75	6	0	34	49	63	0	18	15	0	0	9	18	57	0	348	0	0	0	0
8:10 AM	6	73	7	0	15	38	42	0	25	14	5	0	6	24	66	0	321	0	0	0	0
8:15 AM	3	65	14	0	23	38	47	0	38	19	2	0	7	32	38	0	326	1	0	0	0
8:20 AM	4	54	14	0	40	53	66	0	27	18	0	0	3	27	43	0	349	0	2	0	2
8:25 AM	6	75	10	0	23	45	42	0	25	11	2	0	9	20	30	0	298	0	1	0	0
8:30 AM	2	48	3	0	34	51	53	0	27	13	3	0	6	33	65	0	338	0	0	0	0
8:35 AM	3	70	5	0	25	47	48	0	27	20	2	0	6	27	44	0	324	0	0	0	0
8:40 AM	2	51	8	0	39	72	33	0	34	18	4	0	7	27	44	0	339	0	1	0	0
8:45 AM	1	84	6	0	30	58	40	0	23	10	6	0	14	48	45	0	365	0	0	0	0
8:50 AM	3	60	7	0	40	48	51	0	37	32	1	0	4	36	38	0	357	0	0	0	0
8:55 AM	9	56	7	0	33	57	46	0	14	16	1	0	4	31	39	0	313	0	0	0	0
Total Survey	78	1,725	187	0	785	1,161	1,140	0	671	508	43	0	164	757	1,365	0	8,584	1	8	0	2

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	7	215	27	0	88	94	131	0	87	80	6	0	18	92	191	0	1,036	0	1	0	0
7:15 AM	12	274	28	0	116	129	130	0	85	119	3	0	20	107	209	0	1,232	0	0	0	0
7:30 AM	4	242	20	0	100	162	133	0	93	69	4	0	21	106	212	0	1,166	0	2	0	0
7:45 AM	8	214	18	0	124	175	160	0	87	41	2	0	19	108	190	0	1,146	0	1	0	0
8:00 AM	14	217	20	0	70	132	160	0	67	42	7	0	26	63	177	0	995	0	0	0	0
8:15 AM	13	194	38	0	86	136	155	0	90	48	4	0	19	79	111	0	973	1	3	0	2
8:30 AM	7	169	16	0	98	170	134	0	88	51	9	0	19	87	153	0	1,001	0	1	0	0
8:45 AM	13	200	20	0	103	163	137	0	74	58	8	0	22	115	122	0	1,035	0	0	0	0
Total Survey	78	1,725	187	0	785	1,161	1,140	0	671	508	43	0	164	757	1,365	0	8,584	1	8	0	2

Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	1,069	653	1,722	0	1,542	2,099	3,641	0	676	998	1,674	0	1,293	830	2,123	0	4,580	0	4	0	0
%HV	5.0%				4.5%				7.0%				2.8%				4.5%				
PHF	0.85				0.84				0.82				0.92				0.93				

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	31	945	93	1,069	428	560	554	1,542	352	309	15	676	78	413	802	1,293	4,580
%HV	9.7%	5.1%	2.2%	5.0%	3.0%	7.0%	3.1%	4.5%	8.5%	4.5%	20.0%	7.0%	2.6%	3.9%	2.2%	2.8%	4.5%
PHF	0.65	0.86	0.80	0.85	0.83	0.79	0.87	0.84	0.95	0.65	0.63	0.82	0.78	0.88	0.95	0.92	0.93

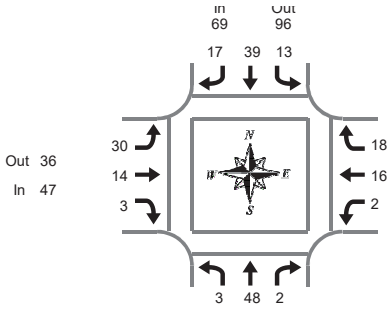
Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	31	945	93	0	428	560	554	0	352	309	15	0	78	413	802	0	4,580	0	4	0	0
7:15 AM	38	947	86	0	410	598	583	0	332	271	16	0	86	384	788	0	4,539	0	3	0	0
7:30 AM	39	867	96	0	380	605	608	0	337	200	17	0	85	356	690	0	4,280	1	6	0	2
7:45 AM	42	794	92	0	378	613	609	0	332	182	22	0	83	337	631	0	4,115	1	5	0	2
8:00 AM	47	780	94	0	357	601	586	0	319	199	28	0	86	344	563	0	4,004	1	4	0	2

Heavy Vehicle Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740



Hwy 213 & Beavercreek Rd

Wednesday, January 25, 2017
7:00 AM to 9:00 AM

Peak Hour Summary
7:00 AM to 8:00 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	1	1	3	2	1	0	3	0	4	0	4	0	1	1	2	12
7:05 AM	0	5	0	5	2	3	4	9	2	2	0	4	0	5	2	7	25
7:10 AM	0	10	0	10	0	2	0	2	3	1	1	5	1	3	2	6	23
7:15 AM	0	3	0	3	0	4	1	5	2	2	0	4	0	2	0	2	14
7:20 AM	1	2	0	3	1	5	4	10	4	0	1	5	1	4	1	6	24
7:25 AM	0	4	0	4	0	6	1	7	1	2	0	3	0	1	2	3	17
7:30 AM	0	5	1	6	3	2	1	6	0	1	0	1	0	0	0	0	13
7:35 AM	1	1	0	2	0	3	2	5	2	0	0	2	0	0	0	0	9
7:40 AM	0	5	0	5	0	2	0	2	4	0	1	5	0	0	2	2	14
7:45 AM	0	3	0	3	2	4	1	7	6	1	0	7	0	0	2	2	19
7:50 AM	0	5	0	5	3	3	3	9	3	1	0	4	0	0	1	1	19
7:55 AM	0	4	0	4	0	4	0	4	3	0	0	3	0	0	5	5	16
8:00 AM	0	1	1	2	0	2	2	4	1	0	0	1	0	0	2	2	9
8:05 AM	1	6	1	8	2	3	1	6	1	1	0	2	0	1	0	1	17
8:10 AM	0	5	2	7	2	4	1	7	2	0	1	3	2	0	3	5	22
8:15 AM	0	4	0	4	1	6	1	8	1	1	0	2	1	1	0	2	16
8:20 AM	0	3	1	4	1	3	5	9	5	0	0	5	1	1	0	2	20
8:25 AM	0	2	1	3	2	8	1	11	1	0	0	1	0	2	0	2	17
8:30 AM	0	8	0	8	2	7	2	11	3	0	1	4	1	1	4	6	29
8:35 AM	1	8	0	9	0	2	0	2	2	1	0	3	0	0	0	0	14
8:40 AM	0	5	0	5	0	6	3	9	1	2	1	4	0	0	1	1	19
8:45 AM	0	4	0	4	0	4	2	6	0	0	0	0	0	0	2	2	12
8:50 AM	0	3	0	3	0	2	3	5	2	0	0	2	0	2	2	4	14
8:55 AM	0	1	0	1	1	13	3	17	0	0	0	0	0	0	0	0	18
Total Survey	5	98	8	111	24	99	41	164	49	19	6	74	7	24	32	63	412

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	16	1	18	4	6	4	14	5	7	1	13	1	9	5	15	60
7:15 AM	1	9	0	10	1	15	6	22	7	4	1	12	1	7	3	11	55
7:30 AM	1	11	1	13	3	7	3	13	6	1	1	8	0	0	2	2	36
7:45 AM	0	12	0	12	5	11	4	20	12	2	0	14	0	0	8	8	54
8:00 AM	1	12	4	17	4	9	4	17	4	1	1	6	2	1	5	8	48
8:15 AM	0	9	2	11	4	17	7	28	7	1	0	8	2	4	0	6	53
8:30 AM	1	21	0	22	2	15	5	22	6	3	2	11	1	1	5	7	62
8:45 AM	0	8	0	8	1	19	8	28	2	0	0	2	0	2	4	6	44
Total Survey	5	98	8	111	24	99	41	164	49	19	6	74	7	24	32	63	412

Heavy Vehicle Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Beavercreek Rd			Westbound Beavercreek Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	53	44	97	69	96	165	47	36	83	36	29	65	205
PHF	0.74			0.75			0.73			0.60			0.83

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	3	48	2	53	13	39	17	69	30	14	3	47	2	16	18	36	205
PHF	0.75	0.67	0.50	0.74	0.65	0.65	0.71	0.75	0.58	0.50	0.38	0.73	0.25	0.40	0.56	0.60	0.83

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

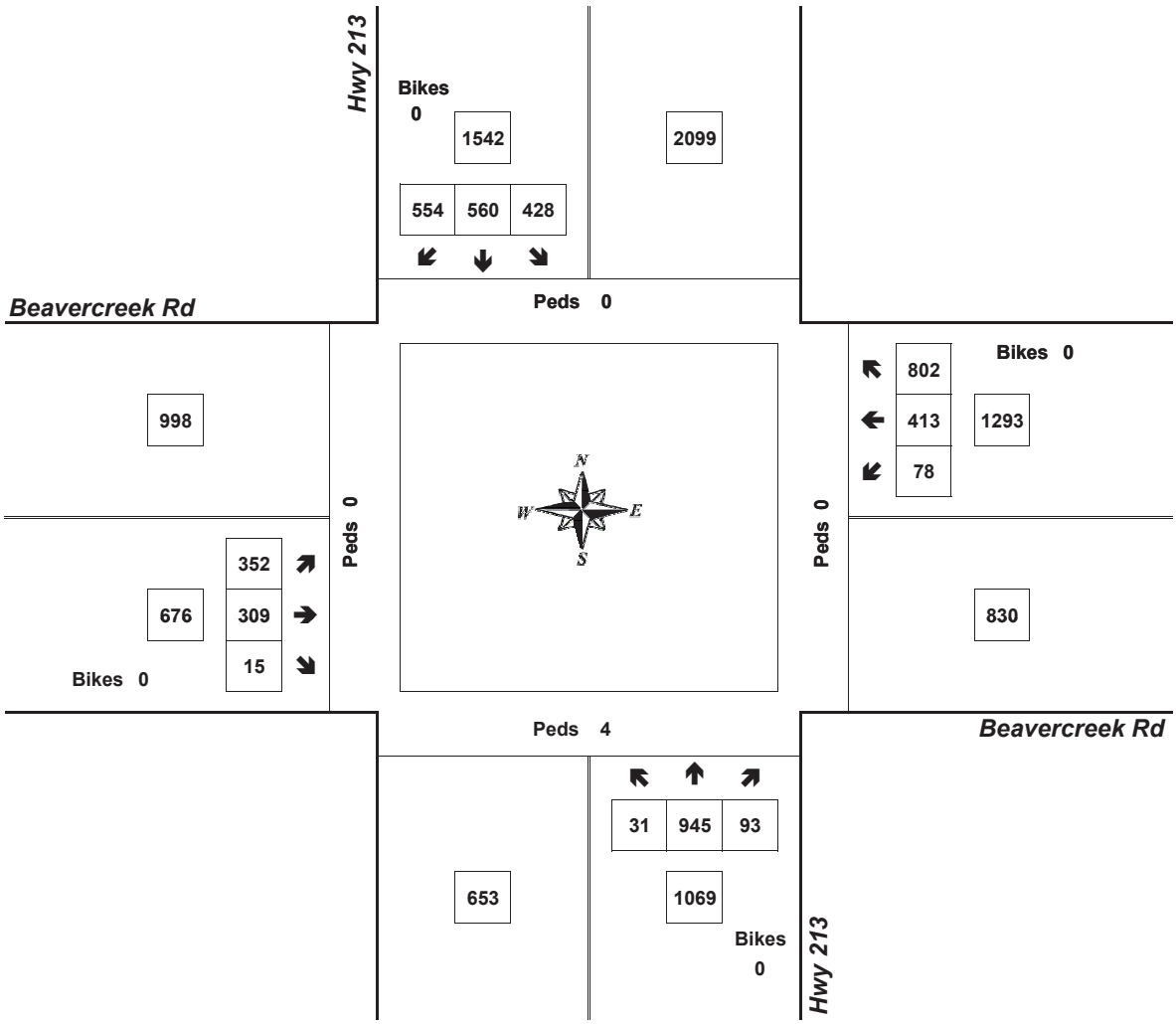
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	3	48	2	53	13	39	17	69	30	14	3	47	2	16	18	36	205
7:15 AM	3	44	5	52	13	42	17	72	29	8	3	40	3	8	18	29	193
7:30 AM	2	44	7	53	16	44	18	78	29	5	2	36	4	5	15	24	191
7:45 AM	2	54	6	62	15	52	20	87	29	7	3	39	5	6	18	29	217
8:00 AM	2	50	6	58	11	60	24	95	19	5	3	27	5	8	14	27	207

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 213 & Beavercreek Rd

7:00 AM to 8:00 AM
Wednesday, January 25, 2017

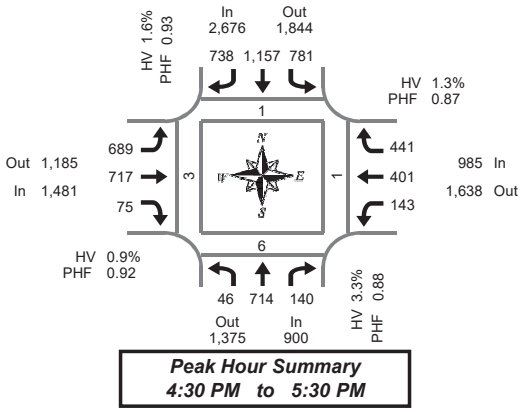


Approach	PHF	HV%	Volume
EB	0.82	7.0%	676
WB	0.92	2.8%	1,293
NB	0.85	5.0%	1,069
SB	0.84	4.5%	1,542
Intersection	0.93	4.5%	4,580

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:30 PM to 5:30 PM

Hwy 213 & Beavercreek Rd

Tuesday, January 24, 2017
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	6	48	10	0	76	94	49	0	57	69	4	0	9	33	29	0	484	0	0	0	0
4:05 PM	2	69	15	0	56	88	54	0	62	54	4	0	11	37	35	0	487	0	0	0	0
4:10 PM	8	67	7	0	47	90	82	0	55	58	8	0	10	39	38	0	509	0	0	0	0
4:15 PM	4	67	8	0	40	91	78	0	48	36	3	0	7	42	45	0	469	0	0	0	0
4:20 PM	0	46	7	0	61	69	66	0	59	62	4	0	9	36	36	0	455	0	2	0	0
4:25 PM	1	51	21	0	53	91	56	0	26	59	8	0	13	45	29	0	453	3	1	0	2
4:30 PM	5	69	9	0	63	115	66	0	59	39	2	0	15	33	29	0	504	0	0	0	0
4:35 PM	2	68	12	0	60	105	72	0	65	67	4	0	6	20	33	0	514	0	0	0	0
4:40 PM	4	45	10	1	72	101	64	0	63	63	7	0	15	42	39	0	525	1	1	1	0
4:45 PM	3	56	10	0	74	102	58	0	61	60	6	0	17	37	40	0	524	0	0	0	2
4:50 PM	2	53	15	0	46	74	56	0	66	65	12	0	8	38	46	0	481	0	1	0	0
4:55 PM	3	75	18	0	46	86	64	0	59	62	5	0	12	36	42	0	508	0	0	0	0
5:00 PM	6	70	9	0	75	94	64	0	51	47	6	0	14	36	39	0	511	0	1	0	0
5:05 PM	5	61	8	0	59	107	61	0	41	55	7	0	19	33	45	0	501	0	1	0	1
5:10 PM	4	66	14	0	74	103	80	0	56	52	9	0	10	20	33	0	521	0	0	0	0
5:15 PM	2	59	10	0	78	97	47	0	66	68	5	0	8	32	29	0	501	0	1	0	0
5:20 PM	5	38	13	0	70	84	60	0	61	72	5	0	8	41	34	0	491	0	0	0	0
5:25 PM	5	54	12	0	64	89	46	0	41	67	7	0	11	33	32	0	461	0	1	0	0
5:30 PM	1	32	12	0	60	88	55	0	71	58	6	0	10	34	35	0	462	0	0	0	0
5:35 PM	7	48	15	0	78	100	58	0	57	66	4	0	10	29	32	0	504	0	0	0	0
5:40 PM	1	63	10	0	54	64	45	0	64	63	7	0	8	37	33	0	449	0	1	0	0
5:45 PM	0	43	16	0	76	101	46	0	66	54	5	0	9	36	32	0	484	0	2	0	1
5:50 PM	4	48	11	0	93	83	55	0	33	61	8	0	6	32	37	0	471	0	0	0	0
5:55 PM	4	52	6	0	53	78	52	0	47	65	4	0	16	36	35	0	448	0	0	0	0
Total Survey	84	1,348	278	1	1,528	2,194	1,434	0	1,334	1,422	140	0	261	837	857	0	11,717	4	12	1	6

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	16	184	32	0	179	272	185	0	174	181	16	0	30	109	102	0	1,480	0	0	0	0
4:15 PM	5	164	36	0	154	251	200	0	133	157	15	0	29	123	110	0	1,377	3	3	0	2
4:30 PM	11	182	31	1	195	321	202	0	187	169	13	0	36	95	101	0	1,543	1	1	1	0
4:45 PM	8	184	43	0	166	262	178	0	186	187	23	0	37	111	128	0	1,513	0	1	0	2
5:00 PM	15	197	31	0	208	304	205	0	148	154	22	0	43	89	117	0	1,533	0	2	0	1
5:15 PM	12	151	35	0	212	270	153	0	168	207	17	0	27	106	95	0	1,453	0	2	0	0
5:30 PM	9	143	37	0	192	252	158	0	192	187	17	0	28	100	100	0	1,415	0	1	0	0
5:45 PM	8	143	33	0	222	262	153	0	146	180	17	0	31	104	104	0	1,403	0	2	0	1
Total Survey	84	1,348	278	1	1,528	2,194	1,434	0	1,334	1,422	140	0	261	837	857	0	11,717	4	12	1	6

Peak Hour Summary
4:30 PM to 5:30 PM

By Approach	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	900	1,375	2,275	1	2,676	1,844	4,520	0	1,481	1,185	2,666	0	985	1,638	2,623	0	6,042	1	6	1	3
%HV	3.3%				1.6%				0.9%				1.3%				1.7%				
PHF	0.88				0.93				0.92				0.87				0.97				

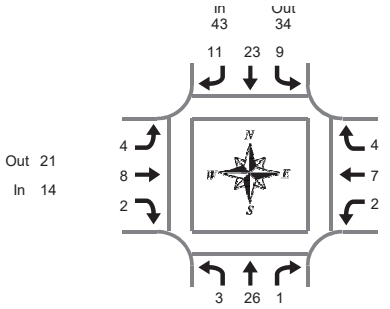
By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	46	714	140	900	781	1,157	738	2,676	689	717	75	1,481	143	401	441	985	6,042
%HV	6.5%	3.6%	0.7%	3.3%	1.2%	2.0%	1.5%	1.6%	0.6%	1.1%	2.7%	0.9%	1.4%	1.7%	0.9%	1.3%	1.7%
PHF	0.77	0.87	0.81	0.88	0.88	0.90	0.90	0.93	0.91	0.87	0.75	0.92	0.79	0.86	0.86	0.87	0.97

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	40	714	142	1	694	1,106	765	0	680	694	67	0	132	438	441	0	5,913	4	5	1	4
4:15 PM	39	727	141	1	723	1,138	785	0	654	667	73	0	145	418	456	0	5,966	4	7	1	5
4:30 PM	46	714	140	1	781	1,157	738	0	689	717	75	0	143	401	441	0	6,042	1	6	1	3
4:45 PM	44	675	146	0	778	1,088	694	0	694	735	79	0	135	406	440	0	5,914	0	6	0	3
5:00 PM	44	634	136	0	834	1,088	669	0	654	728	73	0	129	399	416	0	5,804	0	7	0	2

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 213 & Beavercreek Rd

Tuesday, January 24, 2017
4:00 PM to 6:00 PM

Peak Hour Summary
4:30 PM to 5:30 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	6	0	7	3	6	0	9	3	0	0	3	0	1	0	1	20
4:05 PM	0	4	0	4	1	2	3	6	0	2	1	3	0	1	1	2	15
4:10 PM	0	1	0	1	3	2	5	10	2	2	0	4	0	0	0	0	15
4:15 PM	1	2	0	3	3	2	1	6	1	1	0	2	0	0	1	1	12
4:20 PM	0	3	0	3	1	4	1	6	3	0	0	3	0	1	1	2	14
4:25 PM	0	1	1	2	3	2	1	6	2	2	2	6	0	0	0	0	14
4:30 PM	0	1	0	1	0	0	2	2	0	0	0	0	0	1	1	2	5
4:35 PM	0	6	0	6	1	3	3	7	1	1	0	2	0	0	0	0	15
4:40 PM	0	0	0	0	3	3	0	6	0	0	0	0	0	0	0	0	6
4:45 PM	1	2	0	3	1	2	0	3	2	0	0	2	0	1	0	1	9
4:50 PM	0	2	0	2	1	1	1	3	0	1	1	2	0	1	0	1	8
4:55 PM	0	3	0	3	0	3	0	3	0	0	1	1	0	1	0	1	8
5:00 PM	0	2	0	2	0	3	0	3	0	1	0	1	0	1	1	2	8
5:05 PM	1	3	0	4	2	1	0	3	0	1	0	1	0	0	1	1	9
5:10 PM	0	1	1	2	0	1	0	1	0	0	0	0	0	0	0	0	3
5:15 PM	0	2	0	2	0	1	2	3	0	1	0	1	1	0	0	1	7
5:20 PM	0	3	0	3	1	3	2	6	1	2	0	3	0	1	1	2	14
5:25 PM	1	1	0	2	0	2	1	3	0	1	0	1	1	1	0	2	8
5:30 PM	0	1	0	1	1	1	0	2	0	0	0	0	0	0	1	1	4
5:35 PM	0	0	0	0	1	3	1	5	1	0	1	2	0	0	0	0	7
5:40 PM	0	2	0	2	1	0	0	1	2	0	0	2	0	0	1	1	6
5:45 PM	0	1	0	1	1	2	1	4	1	0	0	1	0	0	0	0	6
5:50 PM	0	0	0	0	3	0	2	5	0	0	0	0	0	1	1	2	7
5:55 PM	1	2	0	3	1	2	1	4	0	0	0	0	0	0	0	0	7
Total Survey	6	49	2	57	31	49	27	107	19	15	6	40	2	11	10	23	227

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	1	11	0	12	7	10	8	25	5	4	1	10	0	2	1	3	50
4:15 PM	1	6	1	8	7	8	3	18	6	3	2	11	0	1	2	3	40
4:30 PM	0	7	0	7	4	6	5	15	1	1	0	2	0	1	1	2	26
4:45 PM	1	7	0	8	2	6	1	9	2	1	2	5	0	3	0	3	25
5:00 PM	1	6	1	8	2	5	0	7	0	2	0	2	0	1	2	3	20
5:15 PM	1	6	0	7	1	6	5	12	1	4	0	5	2	2	1	5	29
5:30 PM	0	3	0	3	3	4	1	8	3	0	1	4	0	0	2	2	17
5:45 PM	1	3	0	4	5	4	4	13	1	0	0	1	0	1	1	2	20
Total Survey	6	49	2	57	31	49	27	107	19	15	6	40	2	11	10	23	227

Heavy Vehicle Peak Hour Summary
4:30 PM to 5:30 PM

By Approach	Northbound Hwy 213			Southbound Hwy 213			Eastbound Beavercreek Rd			Westbound Beavercreek Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	30	27	57	43	34	77	14	21	35	13	18	31	100
PHF	0.83			0.67			0.70			0.65			0.83

By Movement	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	3	26	1	30	9	23	11	43	4	8	2	14	2	7	4	13	100
PHF	0.75	0.81	0.25	0.83	0.45	0.72	0.55	0.67	0.33	0.50	0.25	0.70	0.25	0.58	0.50	0.65	0.83

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

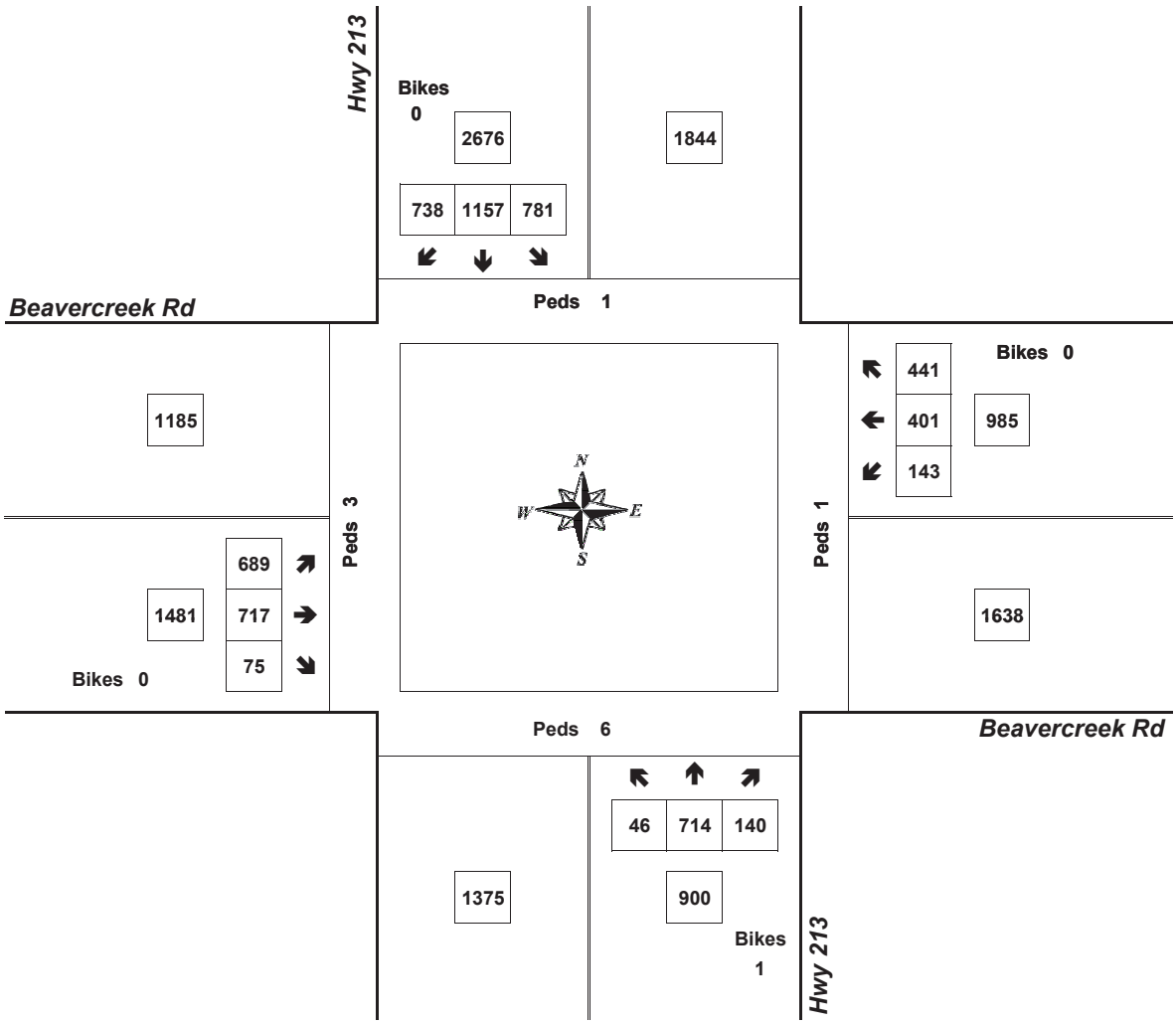
Interval Start Time	Northbound Hwy 213				Southbound Hwy 213				Eastbound Beavercreek Rd				Westbound Beavercreek Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	3	31	1	35	20	30	17	67	14	9	5	28	0	7	4	11	141
4:15 PM	3	26	2	31	15	25	9	49	9	7	4	20	0	6	5	11	111
4:30 PM	3	26	1	30	9	23	11	43	4	8	2	14	2	7	4	13	100
4:45 PM	3	22	1	26	8	21	7	36	6	7	3	16	2	6	5	13	91
5:00 PM	3	18	1	22	11	19	10	40	5	6	1	12	2	4	6	12	86

Peak Hour Summary

Clay Carney
(503) 833-2740

Hwy 213 & Beavercreek Rd

4:30 PM to 5:30 PM
Tuesday, January 24, 2017

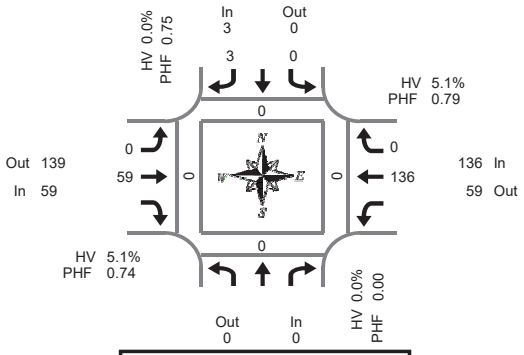


Approach	PHF	HV%	Volume
EB	0.92	0.9%	1,481
WB	0.87	1.3%	985
NB	0.88	3.3%	900
SB	0.93	1.6%	2,676
Intersection	0.97	1.7%	6,042

Count Period: 4:00 PM to 6:00 PM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:40 AM to 8:40 AM

Jada Way & Holcomb Blvd

Tuesday, June 21, 2016
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
7:00 AM				0	0		0	0	0	3		0		12	0	0	15	0	0	0	0
7:05 AM				0	0		0	0	0	2		0		11	0	0	13	0	0	0	0
7:10 AM				0	0		0	0	0	2		0		11	0	0	13	0	0	0	0
7:15 AM				0	0		0	0	0	5		0		9	0	0	14	0	0	0	0
7:20 AM				0	0		0	0	0	4		0		14	1	0	19	0	0	0	0
7:25 AM				0	0		1	0	0	4		0		8	0	0	13	0	0	0	0
7:30 AM				0	0		0	0	0	5		0		10	0	0	15	0	0	0	0
7:35 AM				0	0		0	0	0	3		0		7	0	0	10	0	0	0	0
7:40 AM				0	0		0	0	0	6		0		19	0	0	25	0	0	0	0
7:45 AM				0	0		0	0	0	4		0		16	0	0	20	0	0	0	0
7:50 AM				0	0		1	0	0	6		0		8	0	0	15	0	0	0	0
7:55 AM				0	0		0	0	0	6		0		9	0	0	15	0	0	0	0
8:00 AM				0	0		0	0	0	4		0		10	0	0	14	0	0	0	0
8:05 AM				0	0		0	0	0	5		0		14	0	0	19	0	0	0	0
8:10 AM				0	0		1	0	0	2		0		6	0	0	9	0	0	0	0
8:15 AM				0	0		0	0	0	3		0		14	0	0	17	0	0	0	0
8:20 AM				0	0		0	0	0	3		0		10	0	0	13	0	0	0	0
8:25 AM				0	0		0	0	0	7		0		9	0	0	16	0	0	0	0
8:30 AM				0	0		0	0	0	9		0		12	0	0	21	0	0	0	0
8:35 AM				0	0		1	0	0	4		0		9	0	0	14	0	0	0	0
8:40 AM				0	0		0	0	0	6		0		9	0	0	15	0	0	0	0
8:45 AM				0	0		0	0	0	6		0		17	0	0	23	0	0	0	0
8:50 AM				0	0		0	0	0	7		0		4	0	0	11	0	0	0	0
8:55 AM				0	0		0	0	0	4		0		9	0	0	13	0	0	0	0
Total Survey				0	0		4	0	0	110		0		257	1	0	372	0	0	0	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
7:00 AM				0	0		0	0	0	7		0		34	0	0	41	0	0	0	0
7:15 AM				0	0		1	0	0	13		0		31	1	0	46	0	0	0	0
7:30 AM				0	0		0	0	0	14		0		36	0	0	50	0	0	0	0
7:45 AM				0	0		1	0	0	16		0		33	0	0	50	0	0	0	0
8:00 AM				0	0		1	0	0	11		0		30	0	0	42	0	0	0	0
8:15 AM				0	0		0	0	0	13		0		33	0	0	46	0	0	0	0
8:30 AM				0	0		1	0	0	19		0		30	0	0	50	0	0	0	0
8:45 AM				0	0		0	0	0	17		0		30	0	0	47	0	0	0	0
Total Survey				0	0		4	0	0	110		0		257	1	0	372	0	0	0	0

Peak Hour Summary
7:40 AM to 8:40 AM

By Approach	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	3	0	3	0	59	139	198	0	136	59	195	0	198	0	0	0	0
%HV	0.0%				0.0%				5.1%				5.1%				5.1%				
PHF	0.00				0.75				0.74				0.79				0.83				

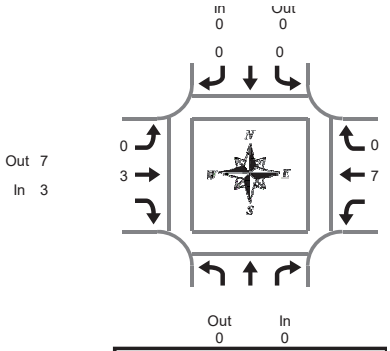
By Movement	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	0		3	3	0	59		59		136	0	136	198
%HV	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	0.0%	5.1%	NA	5.1%	NA	5.1%	0.0%	5.1%	5.1%
PHF				0.00	0.00		0.75	0.75	0.00	0.74		0.74		0.79	0.00	0.79	0.83

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
7:00 AM				0	0		2	0	0	50		0		134	1	0	187	0	0	0	0
7:15 AM				0	0		3	0	0	54		0		130	1	0	188	0	0	0	0
7:30 AM				0	0		2	0	0	54		0		132	0	0	188	0	0	0	0
7:45 AM				0	0		3	0	0	59		0		126	0	0	188	0	0	0	0
8:00 AM				0	0		2	0	0	60		0		123	0	0	185	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Jada Way & Holcomb Blvd

Tuesday, June 21, 2016
7:00 AM to 9:00 AM

Peak Hour Summary
7:40 AM to 8:40 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total
				Total	L		R	Total	L	T		Total		T	R	Total	
7:00 AM				0	0		0	0	0	2		2		1	0	1	3
7:05 AM				0	0		0	0	0	0		0		1	0	1	1
7:10 AM				0	0		0	0	0	0		0		0	0	0	0
7:15 AM				0	0		0	0	0	0		0		0	0	0	0
7:20 AM				0	0		0	0	0	0		0		0	1	1	1
7:25 AM				0	0		1	1	0	0		0		0	0	0	1
7:30 AM				0	0		0	0	0	0		0		0	0	0	0
7:35 AM				0	0		0	0	0	0		0		0	0	0	0
7:40 AM				0	0		0	0	0	0		0		1	0	1	1
7:45 AM				0	0		0	0	0	0		0		1	0	1	1
7:50 AM				0	0		0	0	0	0		0		0	0	0	0
7:55 AM				0	0		0	0	0	0		0		1	0	1	1
8:00 AM				0	0		0	0	0	0		0		0	0	0	0
8:05 AM				0	0		0	0	0	0		0		1	0	1	1
8:10 AM				0	0		0	0	0	0		0		0	0	0	0
8:15 AM				0	0		0	0	0	0		0		0	0	0	0
8:20 AM				0	0		0	0	0	0		0		0	0	0	0
8:25 AM				0	0		0	0	0	1		1		2	0	2	3
8:30 AM				0	0		0	0	0	1		1		0	0	0	1
8:35 AM				0	0		0	0	0	1		1		1	0	1	2
8:40 AM				0	0		0	0	0	1		1		0	0	0	1
8:45 AM				0	0		0	0	0	1		1		1	0	1	2
8:50 AM				0	0		0	0	0	0		0		1	0	1	1
8:55 AM				0	0		0	0	0	0		0		2	0	2	2
Total Survey				0	0		1	1	0	7		7		13	1	14	22

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total
				Total	L		R	Total	L	T		Total		T	R	Total	
7:00 AM				0	0		0	0	0	2		2		2	0	2	4
7:15 AM				0	0		1	1	0	0		0		0	1	1	2
7:30 AM				0	0		0	0	0	0		0		1	0	1	1
7:45 AM				0	0		0	0	0	0		0		2	0	2	2
8:00 AM				0	0		0	0	0	0		0		1	0	1	1
8:15 AM				0	0		0	0	0	1		1		2	0	2	3
8:30 AM				0	0		0	0	0	3		3		1	0	1	4
8:45 AM				0	0		0	0	0	1		1		4	0	4	5
Total Survey				0	0		1	1	0	7		7		13	1	14	22

Heavy Vehicle Peak Hour Summary
7:40 AM to 8:40 AM

By Approach	Northbound Jada Way			Southbound Jada Way			Eastbound Holcomb Blvd			Westbound Holcomb Blvd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	0	0	3	7	10	7	3	10	10
PHF	0.00			0.00			0.25			0.58			0.42

By Movement	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	0		0	0	0	3		3		7	0	7	10
PHF				0.00	0.00		0.00	0.00	0.00	0.25		0.25		0.58	0.00	0.58	0.42

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

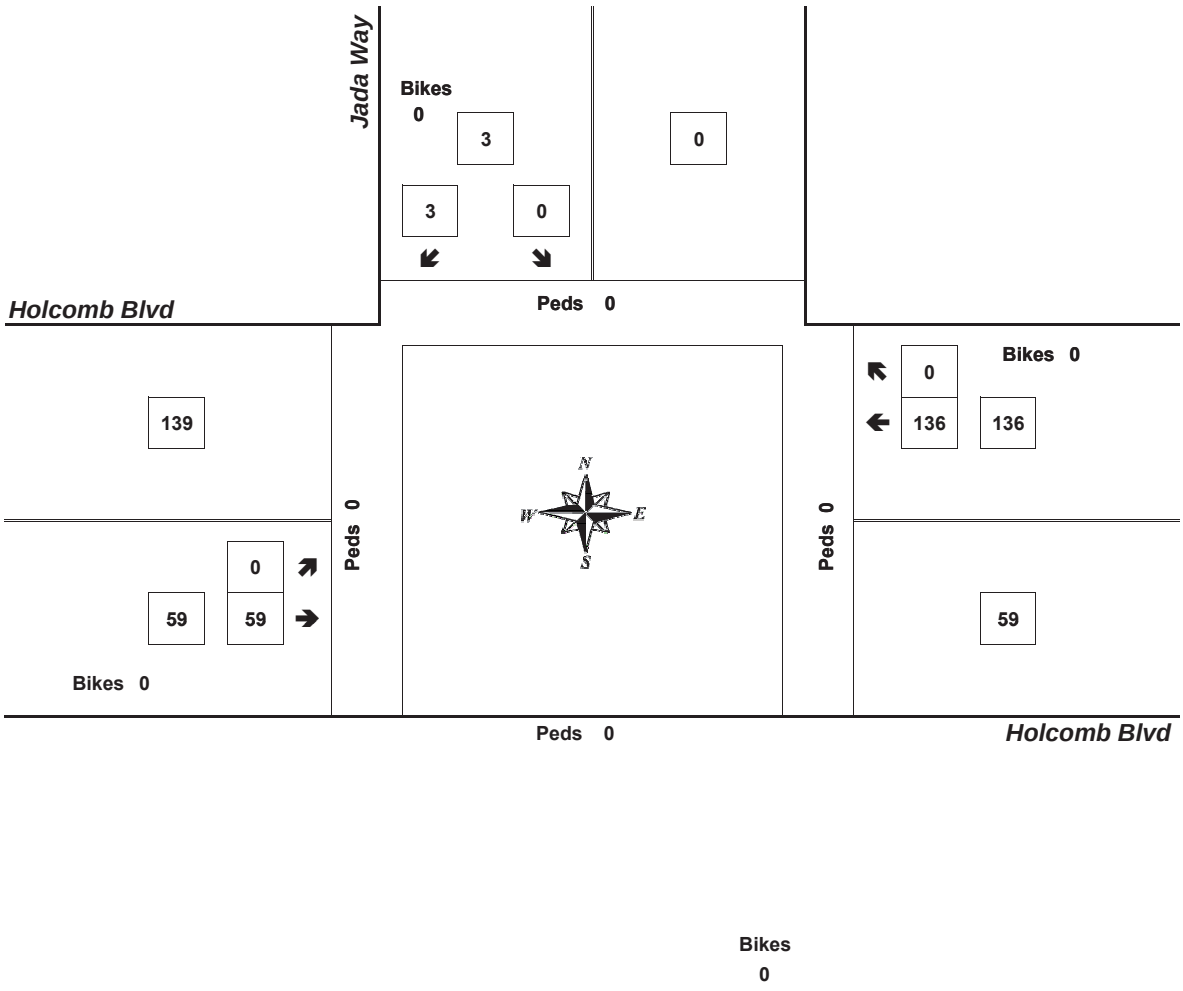
Interval Start Time	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total
				Total	L		R	Total	L	T		Total		T	R	Total	
7:00 AM				0	0		1	1	0	2		2		5	1	6	9
7:15 AM				0	0		1	1	0	0		0		4	1	5	6
7:30 AM				0	0		0	0	0	1		1		6	0	6	7
7:45 AM				0	0		0	0	0	4		4		6	0	6	10
8:00 AM				0	0		0	0	0	5		5		8	0	8	13

Peak Hour Summary

Clay Carney
(503) 833-2740

Jada Way & Holcomb Blvd

7:40 AM to 8:40 AM
Tuesday, June 21, 2016

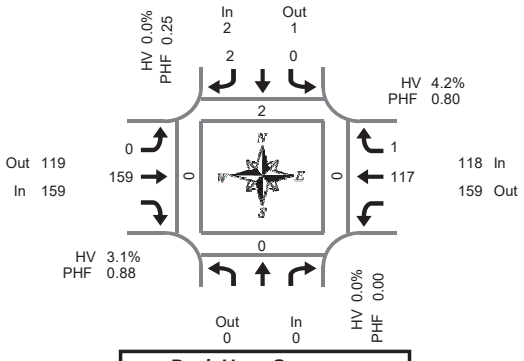


Approach	PHF	HV%	Volume
EB	0.74	5.1%	59
WB	0.79	5.1%	136
NB	0.00	0.0%	0
SB	0.75	0.0%	3
Intersection	0.83	5.1%	198

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:35 PM to 5:35 PM

Jada Way & Holcomb Blvd

Tuesday, June 21, 2016
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
4:00 PM				0	0		0	0	0	15		0		4	0	0	19	0	0	0	0
4:05 PM				0	0		0	0	2	5		0		7	0	0	14	0	0	0	0
4:10 PM				0	0		0	0	0	16		0		8	0	0	24	0	0	0	0
4:15 PM				0	0		0	0	0	18		0		2	0	0	20	0	0	0	0
4:20 PM				0	0		0	0	0	11		0		7	0	0	18	0	0	0	0
4:25 PM				0	0		0	0	0	8		0		14	0	0	22	0	0	0	0
4:30 PM				0	0		1	0	0	11		0		4	0	0	16	0	0	0	0
4:35 PM				0	0		0	0	0	21		0		17	0	0	38	0	0	0	0
4:40 PM				0	0		0	0	0	11		0		7	0	0	18	0	0	0	0
4:45 PM				0	0		0	0	0	9		0		13	0	0	22	0	0	0	0
4:50 PM				0	0		0	0	0	15		0		3	0	0	18	0	0	0	0
4:55 PM				0	0		0	0	0	8		0		14	0	0	22	0	0	0	0
5:00 PM				0	0		0	0	0	8		0		4	0	0	12	0	0	0	0
5:05 PM				0	0		0	0	0	11		0		13	0	0	24	0	0	0	0
5:10 PM				0	0		0	0	0	19		0		11	0	0	30	0	0	0	0
5:15 PM				0	0		2	0	0	12		0		5	1	0	20	2	0	0	0
5:20 PM				0	0		0	0	0	13		0		9	0	0	22	0	0	0	0
5:25 PM				0	0		0	0	0	14		0		8	0	0	22	0	0	0	0
5:30 PM				0	0		0	0	0	18		0		13	0	0	31	0	0	0	0
5:35 PM				0	0		0	0	0	11		0		6	0	0	17	0	0	0	0
5:40 PM				0	0		0	0	1	15		0		5	0	0	21	0	0	0	0
5:45 PM				0	0		0	0	1	11		0		7	0	0	19	0	0	0	0
5:50 PM				0	0		0	0	0	10		0		10	0	0	20	0	0	0	0
5:55 PM				0	0		0	0	0	9		0		7	0	0	16	0	0	1	0
Total Survey				0	0		3	0	4	299		0		198	1	0	505	2	0	1	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
4:00 PM				0	0		0	0	2	36		0		19	0	0	57	0	0	0	0
4:15 PM				0	0		0	0	0	37		0		23	0	0	60	0	0	0	0
4:30 PM				0	0		1	0	0	43		0		28	0	0	72	0	0	0	0
4:45 PM				0	0		0	0	0	32		0		30	0	0	62	0	0	0	0
5:00 PM				0	0		0	0	0	38		0		28	0	0	66	0	0	0	0
5:15 PM				0	0		2	0	0	39		0		22	1	0	64	2	0	0	0
5:30 PM				0	0		0	0	1	44		0		24	0	0	69	0	0	0	0
5:45 PM				0	0		0	0	1	30		0		24	0	0	55	0	0	1	0
Total Survey				0	0		3	0	4	299		0		198	1	0	505	2	0	1	0

Peak Hour Summary
4:35 PM to 5:35 PM

By Approach	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	2	1	3	0	159	119	278	0	118	159	277	0	279	2	0	0	0
%HV	0.0%				0.0%				3.1%				4.2%				3.6%				
PHF	0.00				0.25				0.88				0.80				0.89				

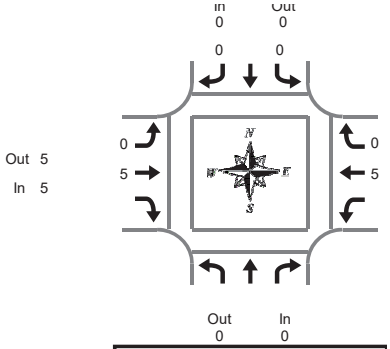
By Movement	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	0		2	2	0	159		159		117	1	118	279
%HV	NA	NA	NA	0.0%	0.0%	NA	0.0%	0.0%	0.0%	3.1%	NA	3.1%	NA	4.3%	0.0%	4.2%	3.6%
PHF				0.00	0.00		0.25	0.25	0.00	0.88		0.88		0.79	0.25	0.80	0.89

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
4:00 PM				0	0		1	0	2	148		0		100	0	0	251	0	0	0	0
4:15 PM				0	0		1	0	0	150		0		109	0	0	260	0	0	0	0
4:30 PM				0	0		3	0	0	152		0		108	1	0	264	2	0	0	0
4:45 PM				0	0		2	0	1	153		0		104	1	0	261	2	0	0	0
5:00 PM				0	0		2	0	2	151		0		98	1	0	254	2	0	1	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Jada Way & Holcomb Blvd

Tuesday, June 21, 2016
4:00 PM to 6:00 PM

Peak Hour Summary
4:35 PM to 5:35 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total
				Total	L		R	Total	L	T		Total		T	R	Total	
4:00 PM				0	0		0	0	0	0		0		0	0	0	0
4:05 PM				0	0		0	0	0	0		0		0	0	0	0
4:10 PM				0	0		0	0	0	1		1		0	0	0	1
4:15 PM				0	0		0	0	0	1		1		0	0	0	1
4:20 PM				0	0		0	0	0	1		1		1	0	1	2
4:25 PM				0	0		0	0	0	1		1		0	0	0	1
4:30 PM				0	0		0	0	0	0		0		0	0	0	0
4:35 PM				0	0		0	0	0	0		0		1	0	1	1
4:40 PM				0	0		0	0	0	0		0		0	0	0	0
4:45 PM				0	0		0	0	0	1		1		1	0	1	2
4:50 PM				0	0		0	0	0	2		2		0	0	0	2
4:55 PM				0	0		0	0	0	0		0		0	0	0	0
5:00 PM				0	0		0	0	0	1		1		0	0	0	1
5:05 PM				0	0		0	0	0	0		0		0	0	0	0
5:10 PM				0	0		0	0	0	0		0		0	0	0	0
5:15 PM				0	0		0	0	0	0		0		0	0	0	0
5:20 PM				0	0		0	0	0	0		0		0	0	0	0
5:25 PM				0	0		0	0	0	0		0		1	0	1	1
5:30 PM				0	0		0	0	0	1		1		2	0	2	3
5:35 PM				0	0		0	0	0	0		0		0	0	0	0
5:40 PM				0	0		0	0	0	1		1		0	0	0	1
5:45 PM				0	0		0	0	0	0		0		0	0	0	0
5:50 PM				0	0		0	0	0	0		0		1	0	1	1
5:55 PM				0	0		0	0	0	0		0		1	0	1	1
Total Survey				0	0		0	0	0	10		10		8	0	8	18

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total
				Total	L		R	Total	L	T		Total		T	R	Total	
4:00 PM				0	0		0	0	0	1		1		0	0	0	1
4:15 PM				0	0		0	0	0	3		3		1	0	1	4
4:30 PM				0	0		0	0	0	0		0		1	0	1	1
4:45 PM				0	0		0	0	0	3		3		1	0	1	4
5:00 PM				0	0		0	0	0	1		1		0	0	0	1
5:15 PM				0	0		0	0	0	0		0		1	0	1	1
5:30 PM				0	0		0	0	0	2		2		2	0	2	4
5:45 PM				0	0		0	0	0	0		0		2	0	2	2
Total Survey				0	0		0	0	0	10		10		8	0	8	18

Heavy Vehicle Peak Hour Summary
4:35 PM to 5:35 PM

By Approach	Northbound Jada Way			Southbound Jada Way			Eastbound Holcomb Blvd			Westbound Holcomb Blvd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	0	0	0	5	5	10	5	5	10	10
PHF	0.00			0.00			0.42			0.42			0.63

By Movement	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	0		0	0	0	5		5		5	0	5	10
PHF				0.00	0.00		0.00	0.00	0.00	0.42		0.42		0.42	0.00	0.42	0.63

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

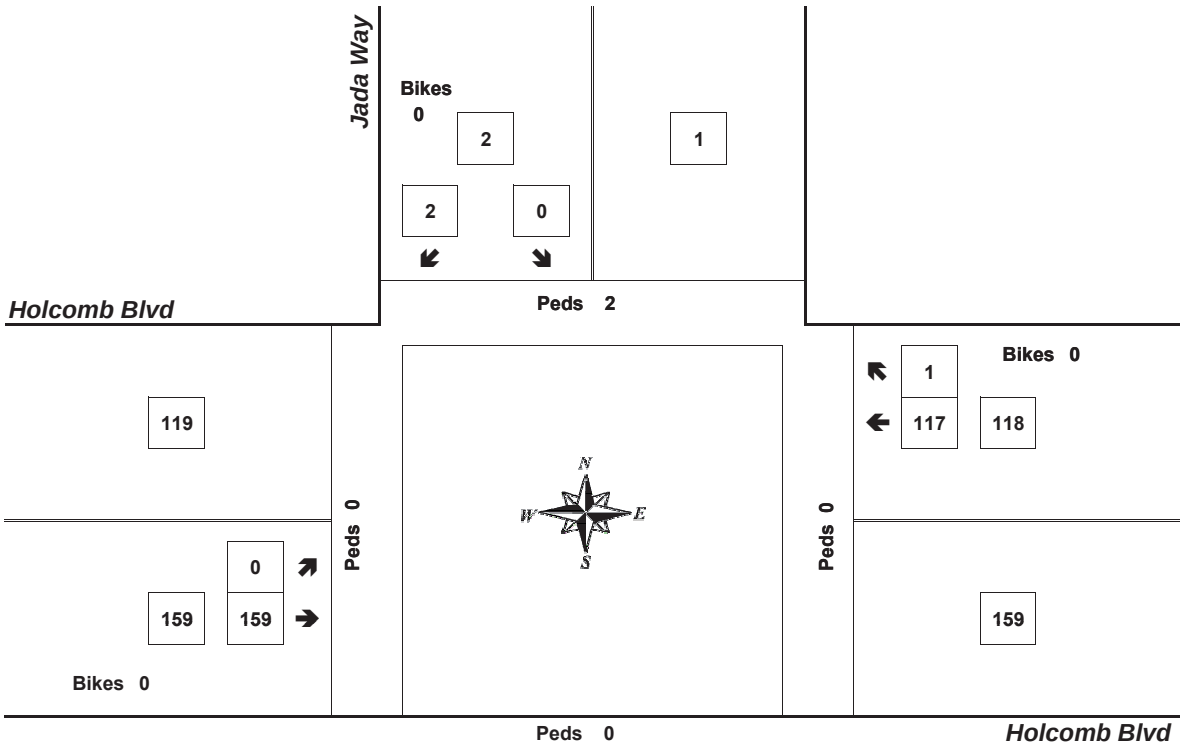
Interval Start Time	Northbound Jada Way				Southbound Jada Way				Eastbound Holcomb Blvd				Westbound Holcomb Blvd				Interval Total
				Total	L		R	Total	L	T		Total		T	R	Total	
4:00 PM				0	0		0	0	0	7		7		3	0	3	10
4:15 PM				0	0		0	0	0	7		7		3	0	3	10
4:30 PM				0	0		0	0	0	4		4		3	0	3	7
4:45 PM				0	0		0	0	0	6		6		4	0	4	10
5:00 PM				0	0		0	0	0	3		3		5	0	5	8

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Jada Way & Holcomb Blvd

4:35 PM to 5:35 PM
Tuesday, June 21, 2016



Bikes
0

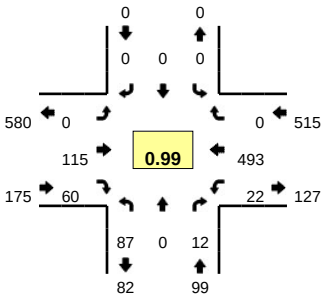
Approach	PHF	HV%	Volume
EB	0.88	3.1%	159
WB	0.80	4.2%	118
NB	0.00	0.0%	0
SB	0.25	0.0%	2
Intersection	0.89	3.6%	279

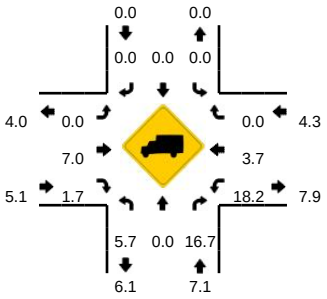
Count Period: 4:00 PM to 6:00 PM

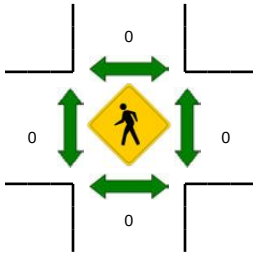
Type of peak hour being reported: System Peak | Method for determining peak hour: Total Entering Volume

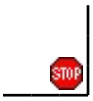
LOCATION: S Holly Ln -- S Redland Rd | **QC JOB #:** 13332115
CITY/STATE: Oregon City, OR | **DATE:** Tue, Mar 17 2015

Peak-Hour: 7:05 AM -- 8:05 AM
Peak 15-Min: 7:15 AM -- 7:30 AM

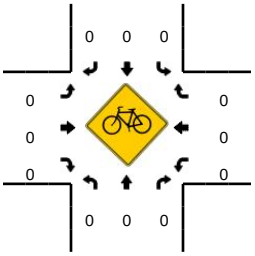


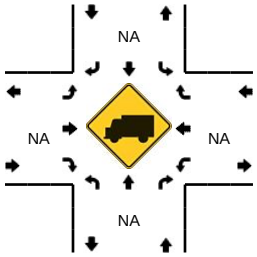


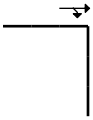


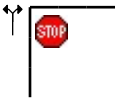


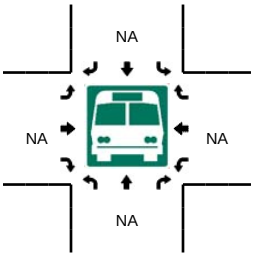












5-Min Count Period Beginning At	S Holly Ln (Northbound)				S Holly Ln (Southbound)				S Redland Rd (Eastbound)				S Redland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	9	0	0	0	0	0	0	0	0	8	2	0	2	42	0	0	63	
7:05 AM	9	0	0	0	0	0	0	0	0	9	0	0	0	40	0	0	58	
7:10 AM	12	0	2	0	0	0	0	0	0	6	3	0	2	40	0	0	65	
7:15 AM	7	0	1	0	0	0	0	0	0	9	3	0	1	40	0	0	61	
7:20 AM	9	0	0	0	0	0	0	0	0	14	9	0	2	40	0	0	74	
7:25 AM	5	0	1	0	0	0	0	0	0	7	6	0	3	43	0	0	65	
7:30 AM	4	0	1	0	0	0	0	0	0	10	6	0	2	39	0	0	62	
7:35 AM	7	0	3	0	0	0	0	0	0	7	6	0	1	50	0	0	74	
7:40 AM	10	0	1	0	0	0	0	0	0	10	6	0	1	43	0	0	71	
7:45 AM	9	0	0	0	0	0	0	0	0	12	4	0	0	48	0	0	73	
7:50 AM	7	0	1	0	0	0	0	0	0	14	7	0	2	39	0	0	70	
7:55 AM	5	0	1	0	0	0	0	0	0	5	6	0	5	39	0	0	61	797
8:00 AM	3	0	1	0	0	0	0	0	0	12	4	0	3	32	0	0	55	789
8:05 AM	11	0	1	0	0	0	0	0	0	8	4	0	1	37	0	0	62	793
8:10 AM	5	0	1	0	0	0	0	0	0	12	7	0	0	30	0	0	55	783
8:15 AM	3	0	0	0	0	0	0	0	0	12	6	0	2	33	0	0	56	778
8:20 AM	9	0	3	0	0	0	0	0	0	10	11	0	8	33	0	0	74	778
8:25 AM	12	0	0	0	0	0	0	0	0	16	6	0	9	26	0	0	69	782
8:30 AM	11	0	7	0	0	0	0	0	0	13	13	0	5	36	0	0	85	805
8:35 AM	12	0	2	0	0	0	0	0	0	9	13	0	8	27	0	0	71	802
8:40 AM	17	0	5	0	0	0	0	0	0	13	12	0	8	25	0	0	80	811
8:45 AM	23	0	5	0	0	0	0	0	0	11	7	0	4	26	0	0	76	814
8:50 AM	7	0	2	0	0	0	0	0	0	15	5	0	1	30	0	0	60	804
8:55 AM	6	0	0	0	0	0	0	0	0	6	3	0	1	17	0	0	33	776

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	84	0	8	0	0	0	0	0	0	120	72	0	24	492	0	0	800
Heavy Trucks	12	0	4		0	0	0		0	12	0		0	12	0		40
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 3/25/2015 5:11 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: System Peak

Method for determining peak hour: Total Entering Volume

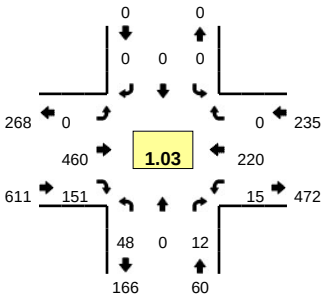
LOCATION: S Holly Ln -- S Redland Rd

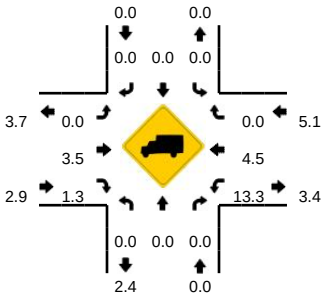
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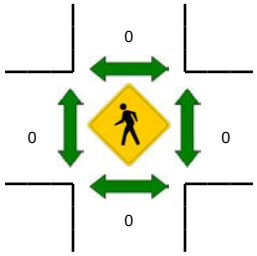
CITY/STATE: Oregon City, OR

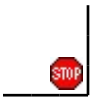
DATE: Tue, Mar 17 2015

Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

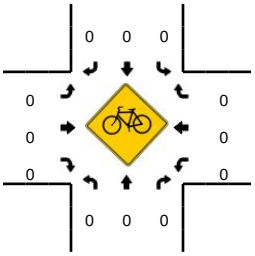


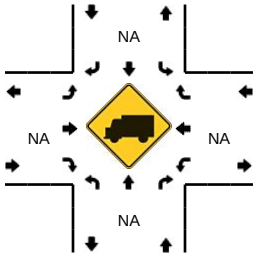


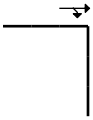


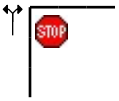


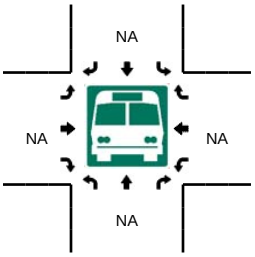












5-Min Count Period Beginning At	S Holly Ln (Northbound)				S Holly Ln (Southbound)				S Redland Rd (Eastbound)				S Redland Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	6	0	2	0	0	0	0	0	0	40	12	0	5	13	0	0	78	
4:05 PM	9	0	1	0	0	0	0	0	0	32	12	0	7	9	0	0	70	
4:10 PM	2	0	2	0	0	0	0	0	0	47	10	0	3	25	0	0	89	
4:15 PM	6	0	1	0	0	0	0	0	0	37	8	0	3	14	0	0	69	
4:20 PM	2	0	2	0	0	0	0	0	0	25	16	0	3	16	0	0	64	
4:25 PM	4	0	2	0	0	0	0	0	0	39	9	0	1	23	0	0	78	
4:30 PM	7	0	2	0	0	0	0	0	0	33	9	0	1	20	0	0	72	
4:35 PM	7	0	1	0	0	0	0	0	0	47	15	0	2	21	0	0	93	
4:40 PM	6	0	1	0	0	0	0	0	0	34	8	0	1	16	0	0	66	
4:45 PM	5	0	3	0	0	0	0	0	0	42	11	0	0	23	0	0	84	
4:50 PM	1	0	2	0	0	0	0	0	0	38	11	0	2	17	0	0	71	
4:55 PM	1	0	1	0	0	0	0	0	0	35	11	0	0	16	0	0	64	898
5:00 PM	2	0	2	0	0	0	0	0	0	37	16	0	1	17	0	0	75	895
5:05 PM	7	0	0	0	0	0	0	0	0	45	13	0	2	17	0	0	84	909
5:10 PM	3	0	1	0	0	0	0	0	0	41	18	0	0	26	0	0	89	909
5:15 PM	2	0	1	0	0	0	0	0	0	30	14	0	1	14	0	0	62	902
5:20 PM	4	0	0	0	0	0	0	0	0	32	9	0	3	20	0	0	68	906
5:25 PM	2	0	0	0	0	0	0	0	0	40	17	0	1	17	0	0	77	905
5:30 PM	8	0	0	0	0	0	0	0	0	40	12	0	2	23	0	0	85	918
5:35 PM	7	0	1	0	0	0	0	0	0	46	11	0	2	14	0	0	81	906
5:40 PM	5	0	0	0	0	0	0	0	0	41	11	0	0	16	0	0	73	913
5:45 PM	1	0	0	0	0	0	0	0	0	39	13	0	0	21	0	0	74	903
5:50 PM	5	0	0	0	0	0	0	0	0	29	13	0	1	24	0	0	72	904
5:55 PM	2	0	2	0	0	0	0	0	0	48	15	0	1	19	0	0	87	927

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	36	0	8	0	0	0	0	0	0	412	164	0	16	240	0	0	876
Heavy Trucks	0	0	0		0	0	0		0	12	0		0	8	0		20
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 3/25/2015 5:12 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

TRIP GENERATION CALCULATIONS

Land Use: Single-Family Detached Housing
Land Use Code: 210
Variable: Dwelling Units
Variable Value: 533

AM PEAK HOUR

Trip Equation: T = 0.70(X) + 9.74

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**96**	**287**	**383**

PM PEAK HOUR

Trip Equation: Ln(T)=0.90Ln(X)+0.51

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**299**	**175**	**474**

WEEKDAY

Trip Equation: Ln(T)=0.92Ln(X)+2.72

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**2,448**	**2,448**	**4,896**

SATURDAY

Trip Equation: Ln(T)=0.93Ln(X)+2.64

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**2,406**	**2,406**	**4,812**

Source: TRIP GENERATION, Ninth Edition

TRIP GENERATION CALCULATIONS

Land Use: Shopping Center
Land Use Code: 820
Variable: 1,000 Sq Ft Gross Leasable Area
Variable Value: 49.0

AM PEAK HOUR

Trip Rate: 0.96

	Enter	Exit	Total
Directional Distribution	62%	38%	
Trip Ends	**29**	**18**	**47**

PM PEAK HOUR

Trip Rate: 3.71

	Enter	Exit	Total
Directional Distribution	48%	52%	
Trip Ends	**87**	**95**	**182**

WEEKDAY

Trip Rate: 42.7

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**1,046**	**1,046**	**2,092**

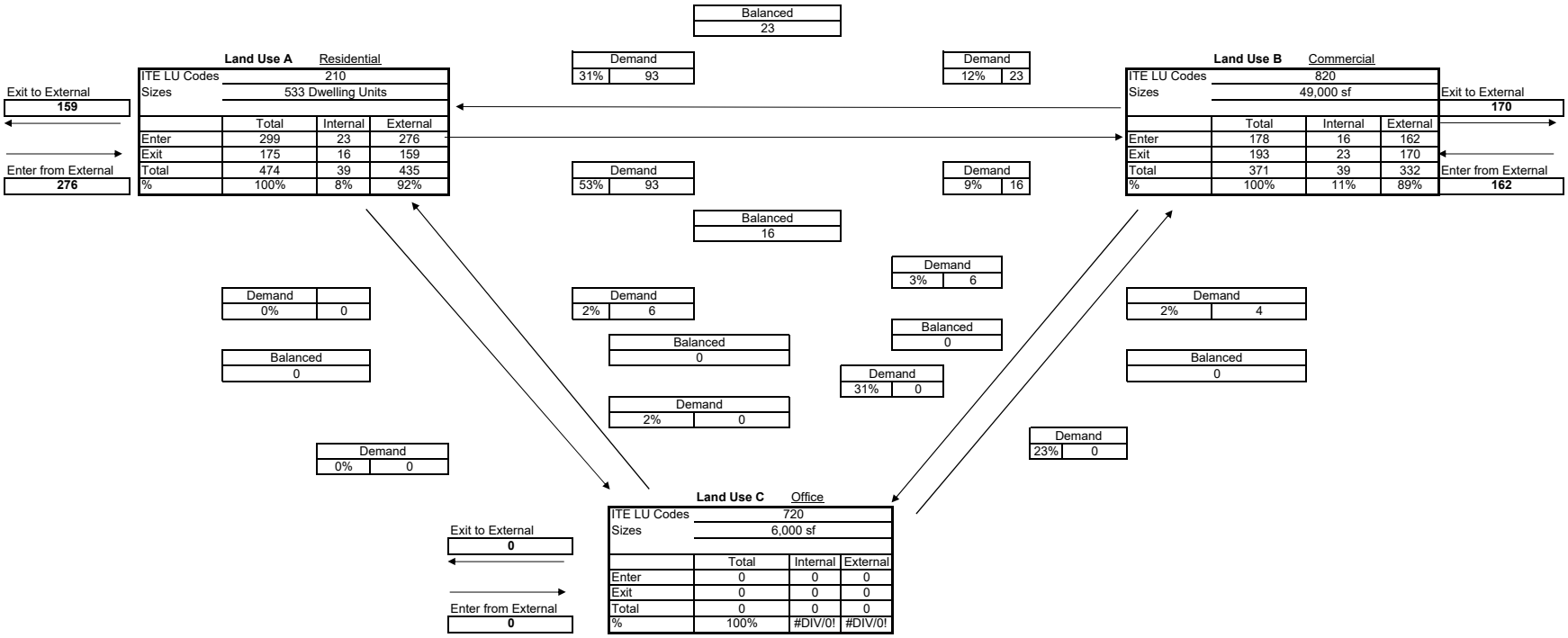
SATURDAY

Trip Rate: 49.97

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**1,224**	**1,224**	**2,448**

Source: TRIP GENERATION, Ninth Edition

Internalization



Net External Trips for Mulit-Use Development					
	Land Use A	Land Use B	Land Use C	Total	
Enter	276	162	0	438	
Exit	159	170	0	329	
Total	435	332	0	767	*INTERNAL CAPTURE*
Single-Use Trip Gen. Est.	474	371	0	845	9%

TRIP GENERATION CALCULATIONS

Land Use: Single-Family Detached Housing
Land Use Code: 210
Variable: Dwelling Units
Variable Value: 11

AM PEAK HOUR

Trip Rate: 0.75

	Enter	Exit	Total
Directional Distribution	25%	75%	
Trip Ends	**2**	**6**	**8**

PM PEAK HOUR

Trip Rate: 1.00

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	**7**	**4**	**11**

WEEKDAY

Trip Rate: 9.52

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**52**	**52**	**104**

SATURDAY

Trip Rate: 9.91

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**55**	**55**	**110**

Source: TRIP GENERATION, Ninth Edition



LEVEL OF SERVICE

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

Level of service A: Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.

Level of service B: Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.

Level of service C: Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.

Level of service D: Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.

Level of service E: Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.

Level of service F: Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.



LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	373	224	1415	271	599	918
Future Volume (vph)	373	224	1415	271	599	918
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3273	1509	4988	1510	1752	5036
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3273	1509	4988	1510	1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	405	243	1538	295	651	998
RTOR Reduction (vph)	0	0	0	207	0	0
Lane Group Flow (vph)	405	243	1538	89	651	998
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	7%	7%	4%	4%	3%	3%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	15.7	49.5	27.0	27.0	33.8	65.3
Effective Green, g (s)	15.7	49.5	27.0	27.0	33.8	65.3
Actuated g/C Ratio	0.17	0.55	0.30	0.30	0.38	0.73
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	570	905	1496	453	657	3653
v/s Ratio Prot	c0.12	0.10	c0.31		c0.37	0.20
v/s Ratio Perm		0.06		0.06		
v/c Ratio	0.71	0.27	1.03	0.20	0.99	0.27
Uniform Delay, d1	35.0	10.7	31.5	23.4	27.9	4.2
Progression Factor	1.00	1.00	0.93	2.14	1.00	1.00
Incremental Delay, d2	4.2	0.2	28.7	0.8	32.7	0.2
Delay (s)	39.2	10.8	57.9	50.9	60.6	4.4
Level of Service	D	B	E	D	E	A
Approach Delay (s)	28.5		56.8			26.6
Approach LOS	C		E			C

Intersection Summary			
HCM 2000 Control Delay	40.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	143	402	1280	880	242	1058
Future Volume (vph)	143	402	1280	880	242	1058
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1719	1538	4940	1496	1719	4940
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1719	1538	4940	1496	1719	4940
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	151	423	1347	926	255	1114
RTOR Reduction (vph)	0	259	0	319	0	0
Lane Group Flow (vph)	151	164	1347	607	255	1114
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	13.9	13.9	46.4	46.4	16.2	67.1
Effective Green, g (s)	13.9	13.9	46.4	46.4	16.2	67.1
Actuated g/C Ratio	0.15	0.15	0.52	0.52	0.18	0.75
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	265	237	2546	771	309	3683
v/s Ratio Prot	0.09		0.27		c0.15	0.23
v/s Ratio Perm		c0.11		c0.41		
v/c Ratio	0.57	0.69	0.53	0.79	0.83	0.30
Uniform Delay, d1	35.3	36.0	14.5	17.8	35.5	3.8
Progression Factor	1.00	1.00	1.00	1.00	0.81	1.38
Incremental Delay, d2	2.8	8.5	0.8	8.0	15.5	0.2
Delay (s)	38.1	44.5	15.3	25.7	44.3	5.4
Level of Service	D	D	B	C	D	A
Approach Delay (s)	42.8		19.6			12.6
Approach LOS	D		B			B

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	1950	12	0	1229	0	208
Future Volume (Veh/h)	1950	12	0	1229	0	208
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	2097	13	0	1322	0	224
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.57		0.61	0.57
vC, conflicting volume			2110		2544	1055
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1448		1582	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			100		100	64
cM capacity (veh/h)			255		60	622

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1398	712	441	441	441	224
Volume Left	0	0	0	0	0	0
Volume Right	0	13	0	0	0	224
cSH	1700	1700	1700	1700	1700	622
Volume to Capacity	0.82	0.42	0.26	0.26	0.26	0.36
Queue Length 95th (ft)	0	0	0	0	0	41
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	14.0
Lane LOS						B
Approach Delay (s)	0.0		0.0			14.0
Approach LOS						B

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	73.8%	ICU Level of Service		D
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	1.5

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	1950	12	0	1229	0	208
Future Vol, veh/h	1950	12	0	1229	0	208
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	6	6	6	6	2	2
Mvmt Flow	2097	13	0	1322	0	224

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1055
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2
Pot Cap-1 Maneuver	-	-	0	-	0	410
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	410
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	23.8
HCM LOS			C

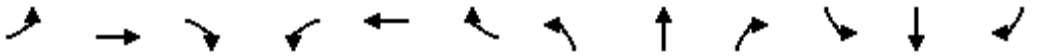
Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	410	-
HCM Lane V/C Ratio	-	-	0.546	-
HCM Control Delay (s)	-	-	23.8	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	3.2	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1478	22	293	932	71	465
Future Volume (vph)	1478	22	293	932	71	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3398		1703	3406	1736	1553
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	3398		125	3406	1736	1553
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1572	23	312	991	76	495
RTOR Reduction (vph)	1	0	0	0	0	10
Lane Group Flow (vph)	1594	0	312	991	76	485
Confl. Peds. (#/hr)		1	1		3	
Heavy Vehicles (%)	6%	6%	6%	6%	4%	4%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	52.9		82.5	82.5	8.5	33.6
Effective Green, g (s)	52.9		82.5	82.5	8.5	33.6
Actuated g/C Ratio	0.53		0.82	0.82	0.08	0.34
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1797		499	2809	147	591
v/s Ratio Prot	c0.47		0.16	0.29	0.04	c0.21
v/s Ratio Perm			0.36			0.11
v/c Ratio	0.89		0.63	0.35	0.52	0.82
Uniform Delay, d1	20.9		25.2	2.2	43.8	30.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	6.9		2.4	0.1	3.1	8.9
Delay (s)	27.8		27.6	2.2	46.8	39.4
Level of Service	C		C	A	D	D
Approach Delay (s)	27.8			8.3	40.4	
Approach LOS	C			A	D	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
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 (vph)	23	83	44	90	167	267	195	393	86	128	278	51
Future Volume (vph)	23	83	44	90	167	267	195	393	86	128	278	51
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	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	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	1.00		1.00	1.00	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1656	1640		1752	1845	1568	1752	1795		1736	1827	1553
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1656	1640		1752	1845	1568	1752	1795		1736	1827	1553
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	25	89	47	97	180	287	210	423	92	138	299	55
RTOR Reduction (vph)	0	27	0	0	0	191	0	11	0	0	0	37
Lane Group Flow (vph)	25	109	0	97	180	96	210	504	0	138	299	18
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	9%	9%	9%	3%	3%	3%	3%	3%	3%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases						8						6
Actuated Green, G (s)	2.9	12.2		4.1	13.4	21.2	11.3	21.4		7.8	17.9	20.8
Effective Green, g (s)	2.9	12.2		4.1	13.4	21.2	11.3	21.4		7.8	17.9	20.8
Actuated g/C Ratio	0.05	0.19		0.06	0.21	0.33	0.18	0.34		0.12	0.28	0.33
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)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	75	315		113	389	634	311	604		213	515	618
v/s Ratio Prot	0.02	0.07		c0.06	c0.10	0.02	c0.12	c0.28		0.08	0.16	0.00
v/s Ratio Perm						0.04						0.01
v/c Ratio	0.33	0.35		0.86	0.46	0.15	0.68	0.84		0.65	0.58	0.03
Uniform Delay, d1	29.4	22.2		29.4	21.9	14.8	24.4	19.4		26.5	19.6	14.5
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	2.6	0.7		43.6	0.9	0.1	5.7	9.7		6.6	1.7	0.0
Delay (s)	32.0	22.9		73.0	22.8	14.9	30.1	29.1		33.2	21.2	14.5
Level of Service	C	C		E	C	B	C	C		C	C	B
Approach Delay (s)		24.3			27.4			29.4			23.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	63.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	1	0	387	1	27	1	150	144	15	365	0
Future Volume (vph)	0	1	0	387	1	27	1	150	144	15	365	0
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	
Lane Util. Factor		1.00		1.00	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	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		1.00		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1900		1717	1547		1700	1792	1491	1734	1827	
Flt Permitted		1.00		0.76	1.00		0.37	1.00	1.00	0.65	1.00	
Satd. Flow (perm)		1900		1369	1547		654	1792	1491	1181	1827	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	0	1	0	450	1	31	1	174	167	17	424	0
RTOR Reduction (vph)	0	0	0	0	17	0	0	0	109	0	0	0
Lane Group Flow (vph)	0	1	0	450	15	0	1	174	58	17	424	0
Confl. Peds. (#/hr)			1	1			3		1	1		3
Heavy Vehicles (%)	0%	0%	0%	5%	5%	5%	6%	6%	6%	4%	4%	4%
Turn Type		NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		20.0		20.0	20.0		15.3	15.3	15.3	15.3	15.3	
Effective Green, g (s)		20.0		20.0	20.0		15.3	15.3	15.3	15.3	15.3	
Actuated g/C Ratio		0.45		0.45	0.45		0.35	0.35	0.35	0.35	0.35	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		857		618	698		225	618	514	407	630	
v/s Ratio Prot		0.00			0.01			0.10			c0.23	
v/s Ratio Perm				c0.33			0.00		0.04	0.01		
v/c Ratio		0.00		0.73	0.02		0.00	0.28	0.11	0.04	0.67	
Uniform Delay, d1		6.7		9.9	6.7		9.5	10.5	9.9	9.6	12.4	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		4.3	0.0		0.0	0.3	0.1	0.0	2.8	
Delay (s)		6.7		14.2	6.7		9.5	10.8	10.0	9.7	15.2	
Level of Service		A		B	A		A	B	A	A	B	
Approach Delay (s)		6.7			13.7			10.4			15.0	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	44.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	13	14	13	10	64	31	25	262	85	49	500	194
Future Volume (vph)	13	14	13	10	64	31	25	262	85	49	500	194
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	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.96		1.00	0.96		1.00	0.96	
Flt Protected		0.98			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1478			1669		1703	1717		1735	1740	
Flt Permitted		0.91			0.97		0.25	1.00		0.48	1.00	
Satd. Flow (perm)		1368			1621		442	1717		874	1740	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	15	16	15	11	72	35	28	294	96	55	562	218
RTOR Reduction (vph)	0	13	0	0	18	0	0	13	0	0	15	0
Lane Group Flow (vph)	0	33	0	0	100	0	28	377	0	55	765	0
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	20%	20%	20%	8%	8%	8%	6%	6%	6%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		7.7			7.7		35.5	34.1		38.3	35.5	
Effective Green, g (s)		7.7			7.7		35.5	34.1		38.3	35.5	
Actuated g/C Ratio		0.13			0.13		0.61	0.59		0.66	0.61	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		181			214		300	1007		617	1063	
v/s Ratio Prot							0.00	0.22		c0.00	c0.44	
v/s Ratio Perm		0.02			c0.06		0.05			0.05		
v/c Ratio		0.18			0.47		0.09	0.37		0.09	0.72	
Uniform Delay, d1		22.4			23.3		5.6	6.4		3.6	7.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			1.6		0.1	0.2		0.1	2.4	
Delay (s)		22.9			24.9		5.8	6.6		3.7	10.2	
Level of Service		C			C		A	A		A	B	
Approach Delay (s)		22.9			24.9			6.5			9.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	58.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	170	32	106	3	37	3	293	188	7	1	260	276
Future Volume (vph)	170	32	106	3	37	3	293	188	7	1	260	276
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	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.97		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.92	
Flt Protected		0.96	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750	1508		1838		1752	1833		1716	1646	
Flt Permitted		0.73	1.00		0.98		0.17	1.00		0.62	1.00	
Satd. Flow (perm)		1324	1508		1810		309	1833		1119	1646	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	193	36	120	3	42	3	333	214	8	1	295	314
RTOR Reduction (vph)	0	0	94	0	2	0	0	1	0	0	43	0
Lane Group Flow (vph)	0	229	26	0	46	0	333	221	0	1	566	0
Confl. Peds. (#/hr)	1		4	4		1	3		2	2		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		17.2	17.2		17.2		54.3	48.9		35.0	34.1	
Effective Green, g (s)		17.2	17.2		17.2		54.3	48.9		35.0	34.1	
Actuated g/C Ratio		0.21	0.21		0.21		0.67	0.61		0.43	0.42	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		282	322		386		489	1113		493	697	
v/s Ratio Prot							c0.13	0.12		0.00	c0.34	
v/s Ratio Perm		c0.17	0.02		0.03		0.33			0.00		
v/c Ratio		0.81	0.08		0.12		0.68	0.20		0.00	0.81	
Uniform Delay, d1		30.1	25.3		25.5		12.4	7.1		12.9	20.4	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		16.1	0.1		0.1		3.9	0.1		0.0	7.1	
Delay (s)		46.2	25.4		25.7		16.2	7.1		12.9	27.5	
Level of Service		D	C		C		B	A		B	C	
Approach Delay (s)		39.1			25.7			12.6			27.5	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	80.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	20	265	26	117	521	11	5	23	53	0	11	10
Future Volume (Veh/h)	20	265	26	117	521	11	5	23	53	0	11	10
Sign Control		Free			Free			Stop			Stop	
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)	22	285	28	126	560	12	5	25	57	0	12	11
Pedestrians		2			10			4				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			0				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.93						0.93	0.93		0.93	0.93	0.93
vC, conflicting volume	572			317			1184	1171	313	1198	1179	568
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	502			317			1160	1146	313	1175	1155	498
tC, single (s)	4.1			4.1			7.2	6.6	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.1	3.4	3.5	4.0	3.3
p0 queue free %	98			90			96	84	92	100	93	98
cM capacity (veh/h)	978			1233			129	157	702	114	161	535

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	22	313	698	87	23
Volume Left	22	0	126	5	0
Volume Right	0	28	12	57	11
cSH	978	1700	1233	442	242
Volume to Capacity	0.02	0.18	0.10	0.20	0.09
Queue Length 95th (ft)	2	0	9	18	8
Control Delay (s)	8.8	0.0	2.5	18.8	21.4
Lane LOS	A		A	C	C
Approach Delay (s)	0.6		2.5	18.8	21.4
Approach LOS				C	C

Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	67.8%	ICU Level of Service	C	
Analysis Period (min)	15			

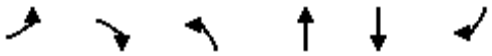
Intersection	
Int Delay, s/veh	3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	20	265	26	117	521	11	5	23	53	0	11	10
Future Vol, veh/h	20	265	26	117	521	11	5	23	53	0	11	10
Conflicting Peds, #/hr	0	0	4	4	0	0	2	0	10	10	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	4	4	4	3	3	3	9	9	9	0	0	0
Mvmt Flow	22	285	28	126	560	12	5	25	57	0	12	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	572	0	0	317	0	0	1177	1170	313	1182	1178	568
Stage 1	-	-	-	-	-	-	346	346	-	818	818	-
Stage 2	-	-	-	-	-	-	831	824	-	364	360	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.19	6.59	6.29	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.581	4.081	3.381	3.5	4	3.3
Pot Cap-1 Maneuver	991	-	-	1237	-	-	163	187	711	168	192	526
Stage 1	-	-	-	-	-	-	655	623	-	373	393	-
Stage 2	-	-	-	-	-	-	354	378	-	659	630	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	989	-	-	1225	-	-	130	155	702	117	159	525
Mov Cap-2 Maneuver	-	-	-	-	-	-	130	155	-	117	159	-
Stage 1	-	-	-	-	-	-	638	607	-	365	334	-
Stage 2	-	-	-	-	-	-	283	321	-	563	614	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.6	1.5	19	21.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	150	702	1225	-	-	989	-	-	238
HCM Lane V/C Ratio	0.201	0.081	0.103	-	-	0.022	-	-	0.095
HCM Control Delay (s)	34.9	10.6	8.3	0	-	8.7	-	-	21.7
HCM Lane LOS	D	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.7	0.3	0.3	-	-	0.1	-	-	0.3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	14	0	864	25	18	4
Future Volume (Veh/h)	14	0	864	25	18	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	15	0	949	27	20	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1945	20	20			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1945	20	20			
tC, single (s)	*6.0	6.3	4.1			
tC, 2 stage (s)						
tF (s)	*2.0	3.4	2.2			
p0 queue free %	67	100	40			
cM capacity (veh/h)	46	1046	1577			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	15	949	27	20	4
Volume Left	15	949	0	0	0
Volume Right	0	0	0	0	4
cSH	46	1577	1700	1700	1700
Volume to Capacity	0.33	0.60	0.02	0.01	0.00
Queue Length 95th (ft)	28	107	0	0	0
Control Delay (s)	117.9	10.7	0.0	0.0	0.0
Lane LOS	F	B			
Approach Delay (s)	117.9	10.4		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	11.7		
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

* User Entered Value

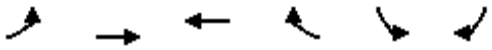
Intersection	
Int Delay, s/veh	11.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	0	864	25	18	4
Future Vol, veh/h	14	0	864	25	18	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	6	5	5	18	18
Mvmt Flow	15	0	949	27	20	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1946	-	20	0	-	0
Stage 1	20	-	-	-	-	-
Stage 2	1926	-	-	-	-	-
Critical Hdwy	6	-	4.15	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	2	-	2.245	-	-	-
Pot Cap-1 Maneuver	115	0	1577	-	-	0
Stage 1	1756	0	-	-	-	0
Stage 2	158	0	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	46	-	1577	-	-	-
Mov Cap-2 Maneuver	46	-	-	-	-	-
Stage 1	1756	-	-	-	-	-
Stage 2	63	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	118.5	10.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	1577	-	46	-
HCM Lane V/C Ratio	0.602	-	0.334	-
HCM Control Delay (s)	10.7	-	118.5	-
HCM Lane LOS	B	-	F	-
HCM 95th %tile Q(veh)	4.3	-	1.2	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1508	0	889	18	0
Future Volume (Veh/h)	0	1508	0	889	18	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	0	1657	0	977	20	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	977				828	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	977				828	0
tC, single (s)	4.2				7.2	7.3
tC, 2 stage (s)						
tF (s)	2.3				3.7	3.5
p0 queue free %	100				93	100
cM capacity (veh/h)	678				279	1034

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	828	828	488	488	20
Volume Left	0	0	0	0	20
Volume Right	0	0	488	488	0
cSH	1700	1700	1700	1700	279
Volume to Capacity	0.49	0.49	0.29	0.29	0.07
Queue Length 95th (ft)	0	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	0.0	18.9
Lane LOS					C
Approach Delay (s)	0.0		0.0		18.9
Approach LOS					C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		

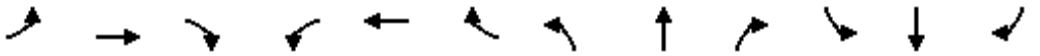
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑		↑↑	↰	
Traffic Vol, veh/h	0	1508	0	889	18	0
Future Vol, veh/h	0	1508	0	889	18	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	6	5	5	18	18
Mvmt Flow	0	1657	0	977	20	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	-	829	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	829	-
Critical Hdwy	-	-	-	-	7.86	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	6.86	-
Follow-up Hdwy	-	-	-	-	3.68	-
Pot Cap-1 Maneuver	0	-	0	-	237	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	299	0
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	-	-	-	-	237	-
Mov Cap-2 Maneuver	-	-	-	-	237	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	299	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21.6
HCM LOS			C

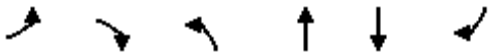
Minor Lane/Major Mvmt	EBT	WBR	SBLn1
Capacity (veh/h)	-	-	237
HCM Lane V/C Ratio	-	-	0.083
HCM Control Delay (s)	-	-	21.6
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	93	0	0	417	0	2415	138	0	1714	427
Future Volume (vph)	0	0	93	0	0	417	0	2415	138	0	1714	427
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
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frpb, ped/bikes			1.00			1.00		1.00	0.98		1.00	1.00
Flpb, ped/bikes			1.00			1.00		1.00	1.00		1.00	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2760			2538		4988	1521		4893	1524
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2760			2538		4988	1521		4893	1524
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)	0	0	96	0	0	430	0	2490	142	0	1767	440
RTOR Reduction (vph)	0	0	24	0	0	20	0	0	57	0	0	114
Lane Group Flow (vph)	0	0	72	0	0	410	0	2490	85	0	1767	326
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	12%	12%	12%	4%	4%	4%	6%	6%	6%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			5			1			2			6
Actuated Green, G (s)			5.8			13.8		34.2	34.2		42.2	42.2
Effective Green, g (s)			5.8			13.8		34.2	34.2		42.2	42.2
Actuated g/C Ratio			0.10			0.24		0.60	0.60		0.74	0.74
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			280			614		2992	912		3622	1128
v/s Ratio Prot								c0.50			0.36	
v/s Ratio Perm			0.03			c0.16			0.06			0.21
v/c Ratio			0.26			0.67		0.83	0.09		0.49	0.29
Uniform Delay, d1			23.6			19.5		9.1	4.8		3.0	2.4
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.5			2.7		2.1	0.0		0.1	0.1
Delay (s)			24.1			22.3		11.2	4.9		3.1	2.6
Level of Service			C			C		B	A		A	A
Approach Delay (s)		24.1			22.3			10.9			3.0	
Approach LOS		C			C			B			A	

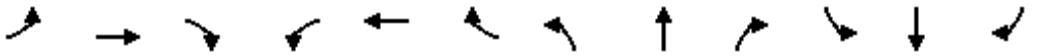
Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	57.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	526	126	100	2035	1505	367
Future Volume (vph)	526	126	100	2035	1505	367
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3400	1568	1736	3471	3471	1553
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3400	1568	1736	3471	3471	1553
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	548	131	104	2120	1568	382
RTOR Reduction (vph)	0	18	0	0	0	61
Lane Group Flow (vph)	548	113	104	2120	1568	321
Heavy Vehicles (%)	3%	3%	4%	4%	4%	4%
Turn Type	Prot	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4				6
Actuated Green, G (s)	23.6	34.7	11.1	87.4	71.8	95.4
Effective Green, g (s)	23.6	34.7	11.1	87.4	71.8	95.4
Actuated g/C Ratio	0.20	0.29	0.09	0.73	0.60	0.80
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	668	512	160	2528	2076	1292
v/s Ratio Prot	c0.16	0.02	0.06	c0.61	0.45	0.05
v/s Ratio Perm		0.05				0.16
v/c Ratio	0.82	0.22	0.65	0.84	0.76	0.25
Uniform Delay, d1	46.2	32.4	52.6	11.4	17.7	3.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.0	0.2	9.1	3.5	2.6	0.1
Delay (s)	54.1	32.6	61.7	14.9	20.3	3.2
Level of Service	D	C	E	B	C	A
Approach Delay (s)	50.0			17.1	16.9	
Approach LOS	D			B	B	

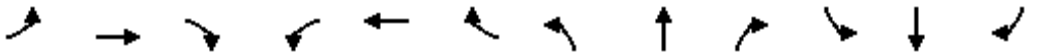
Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	352	309	15	78	413	0	31	945	93	428	560	554
Future Volume (vph)	352	309	15	78	413	0	31	945	93	428	560	554
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	0.97	0.95		0.97	0.95		1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		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	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		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)	3273	3348		3400	3505		1719	3438	1538	3335	3438	1538
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3273	3348		3400	3505		1719	3438	1538	3335	3438	1538
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	378	332	16	84	444	0	33	1016	100	460	602	596
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	62	0	0	235
Lane Group Flow (vph)	378	345	0	84	444	0	33	1016	38	460	602	361
Confl. Peds. (#/hr)			4	4								
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	5%	5%	5%	5%	5%	5%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	17.5	31.2		5.8	19.5		4.0	45.4	45.4	19.6	61.0	61.0
Effective Green, g (s)	17.5	31.2		5.8	19.5		4.0	45.4	45.4	19.6	61.0	61.0
Actuated g/C Ratio	0.15	0.26		0.05	0.16		0.03	0.38	0.38	0.16	0.51	0.51
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)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	477	870		164	569		57	1300	581	544	1747	781
v/s Ratio Prot	c0.12	0.10		0.02	c0.13		0.02	c0.30		c0.14	0.18	
v/s Ratio Perm									0.02			0.24
v/c Ratio	0.79	0.40		0.51	0.78		0.58	0.78	0.07	0.85	0.34	0.46
Uniform Delay, d1	49.5	36.6		55.7	48.2		57.2	32.9	23.8	48.7	17.6	19.0
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	8.8	0.3		2.7	6.9		13.5	4.7	0.2	11.6	0.5	2.0
Delay (s)	58.3	36.9		58.4	55.0		70.6	37.6	24.0	60.3	18.1	20.9
Level of Service	E	D		E	E		E	D	C	E	B	C
Approach Delay (s)		48.0			55.6			37.4			30.8	
Approach LOS		D			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	39.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
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)	0	142	101	58	404	0	124	0	28	0	0	0
Future Volume (Veh/h)	0	142	101	58	404	0	124	0	28	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	0	165	117	67	470	0	144	0	33	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	470			282			828	828	224	860	886	470
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	470			282			828	828	224	860	886	470
tC, single (s)	4.2			4.2			*6.0	6.5	*6.0	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.3			*2.0	4.0	*2.0	3.5	4.0	3.3
p0 queue free %	100			95			73	100	97	100	100	100
cM capacity (veh/h)	1032			1252			542	288	1319	258	268	594

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	282	537	177	0
Volume Left	0	67	144	0
Volume Right	117	0	33	0
cSH	1032	1252	609	1700
Volume to Capacity	0.00	0.05	0.29	0.00
Queue Length 95th (ft)	0	4	30	0
Control Delay (s)	0.0	1.5	13.3	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	1.5	13.3	0.0
Approach LOS			B	A

Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	56.7%	ICU Level of Service	B	
Analysis Period (min)	15			

* User Entered Value

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	142	101	58	404	0	124	0	28	0	0	0
Future Vol, veh/h	0	142	101	58	404	0	124	0	28	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	14	14	14	7	7	7	4	4	4	2	2	2
Mvmt Flow	0	165	117	67	470	0	144	0	33	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	470	0	0	283	0	0	829	829	224	845	888	470
Stage 1	-	-	-	-	-	-	224	224	-	605	605	-
Stage 2	-	-	-	-	-	-	605	605	-	240	283	-
Critical Hdwy	4.24	-	-	4.17	-	-	6	6	6	6	6	6
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.12	5.52	-
Follow-up Hdwy	2.326	-	-	2.263	-	-	2	2	2	2	2	2
Pot Cap-1 Maneuver	1032	-	-	1251	-	-	564	564	1318	552	519	934
Stage 1	-	-	-	-	-	-	1306	1356	-	758	838	-
Stage 2	-	-	-	-	-	-	755	835	-	1279	1260	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1032	-	-	1251	-	-	533	523	1318	509	482	934
Mov Cap-2 Maneuver	-	-	-	-	-	-	533	523	-	509	482	-
Stage 1	-	-	-	-	-	-	1306	1356	-	758	778	-
Stage 2	-	-	-	-	-	-	701	775	-	1247	1260	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1	13.5	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	599	1032	-	-	1251	-	-	-
HCM Lane V/C Ratio	0.295	-	-	-	0.054	-	-	-
HCM Control Delay (s)	13.5	0	-	-	8	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	1.2	0	-	-	0.2	-	-	-



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	819	297	1255	219	463	1647
Future Volume (vph)	819	297	1255	219	463	1647
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3400	1568	5085	1526	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3400	1568	5085	1526	1770	5085
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	844	306	1294	226	477	1698
RTOR Reduction (vph)	0	1	0	159	0	0
Lane Group Flow (vph)	844	305	1294	67	477	1698
Confl. Peds. (#/hr)				6	6	
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	24.1	50.0	26.5	26.5	25.9	56.9
Effective Green, g (s)	24.1	50.0	26.5	26.5	25.9	56.9
Actuated g/C Ratio	0.27	0.56	0.29	0.29	0.29	0.63
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	910	949	1497	449	509	3214
v/s Ratio Prot	c0.25	0.09	c0.25		c0.27	0.33
v/s Ratio Perm		0.10		0.04		
v/c Ratio	0.93	0.32	0.86	0.15	0.94	0.53
Uniform Delay, d1	32.1	10.8	30.0	23.4	31.3	9.1
Progression Factor	1.00	1.00	0.84	1.85	1.00	1.00
Incremental Delay, d2	15.1	0.2	6.0	0.6	24.9	0.6
Delay (s)	47.2	11.0	31.1	44.0	56.2	9.8
Level of Service	D	B	C	D	E	A
Approach Delay (s)	37.6		33.0			19.9
Approach LOS	D		C			B

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	115	412	1112	763	391	2030
Future Volume (vph)	115	412	1112	763	391	2030
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	5036	1510	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	5036	1510	1770	5085
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	117	420	1135	779	399	2071
RTOR Reduction (vph)	0	365	0	305	0	0
Lane Group Flow (vph)	117	55	1135	474	399	2071
Confl. Peds. (#/hr)				7	7	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	11.7	11.7	40.6	40.6	24.2	69.3
Effective Green, g (s)	11.7	11.7	40.6	40.6	24.2	69.3
Actuated g/C Ratio	0.13	0.13	0.45	0.45	0.27	0.77
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	230	205	2271	681	475	3915
v/s Ratio Prot	c0.07		0.23		c0.23	0.41
v/s Ratio Perm		0.03		c0.31		
v/c Ratio	0.51	0.27	0.50	0.70	0.84	0.53
Uniform Delay, d1	36.5	35.3	17.5	19.8	31.1	4.0
Progression Factor	1.00	1.00	1.00	1.00	1.01	0.72
Incremental Delay, d2	1.8	0.7	0.8	5.8	9.6	0.4
Delay (s)	38.2	36.0	18.3	25.6	40.9	3.3
Level of Service	D	D	B	C	D	A
Approach Delay (s)	36.5		21.3			9.4
Approach LOS	D		C			A

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	1654	12	0	2175	0	208
Future Volume (Veh/h)	1654	12	0	2175	0	208
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1741	13	0	2289	0	219
Pedestrians					3	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.69		0.77	0.69
vC, conflicting volume			1757		2514	880
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1204		1096	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	71
cM capacity (veh/h)			393		160	748

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1161	593	763	763	763	219
Volume Left	0	0	0	0	0	0
Volume Right	0	13	0	0	0	219
cSH	1700	1700	1700	1700	1700	748
Volume to Capacity	0.68	0.35	0.45	0.45	0.45	0.29
Queue Length 95th (ft)	0	0	0	0	0	30
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.8
Lane LOS						B
Approach Delay (s)	0.0		0.0			11.8
Approach LOS						B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1.1

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	1654	12	0	2175	0	208
Future Vol, veh/h	1654	12	0	2175	0	208
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1741	13	0	2289	0	219

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	880
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2.5
Pot Cap-1 Maneuver	-	-	0	-	0	444
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	443
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	20.8
HCM LOS			C

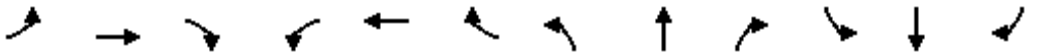
Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	443	-
HCM Lane V/C Ratio	-	-	0.494	-
HCM Control Delay (s)	-	-	20.8	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	2.7	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1298	46	397	1792	63	341
Future Volume (vph)	1298	46	397	1792	63	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3452		1770	3539	1787	1599
Flt Permitted	1.00		0.09	1.00	0.95	1.00
Satd. Flow (perm)	3452		173	3539	1787	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1338	47	409	1847	65	352
RTOR Reduction (vph)	2	0	0	0	0	14
Lane Group Flow (vph)	1383	0	409	1847	65	338
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	4%	4%	2%	2%	1%	1%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	54.6		83.1	83.1	7.9	31.9
Effective Green, g (s)	54.6		83.1	83.1	7.9	31.9
Actuated g/C Ratio	0.55		0.83	0.83	0.08	0.32
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1884		527	2940	141	582
v/s Ratio Prot	0.40		c0.19	0.52	0.04	c0.14
v/s Ratio Perm			c0.46			0.07
v/c Ratio	0.73		0.78	0.63	0.46	0.58
Uniform Delay, d1	17.2		25.0	3.0	44.0	28.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6		7.1	0.4	2.4	1.5
Delay (s)	19.8		32.1	3.4	46.4	30.0
Level of Service	B		C	A	D	C
Approach Delay (s)	19.8			8.6	32.5	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
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 (vph)	51	134	169	56	89	173	62	286	57	280	509	61
Future Volume (vph)	51	134	169	56	89	173	62	286	57	280	509	61
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	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98		1.00	1.00	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	1.00		1.00	1.00	1.00
Frt	1.00	0.92		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1679		1787	1881	1599	1770	1817		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1679		1787	1881	1599	1770	1817		1770	1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	55	144	182	60	96	186	67	308	61	301	547	66
RTOR Reduction (vph)	0	62	0	0	0	109	0	10	0	0	0	35
Lane Group Flow (vph)	55	264	0	60	96	77	67	359	0	301	547	31
Confl. Peds. (#/hr)			4	4								
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases						8						6
Actuated Green, G (s)	3.7	15.3		2.6	14.2	28.3	3.8	18.1		14.1	28.4	32.1
Effective Green, g (s)	3.7	15.3		2.6	14.2	28.3	3.8	18.1		14.1	28.4	32.1
Actuated g/C Ratio	0.05	0.22		0.04	0.21	0.42	0.06	0.27		0.21	0.42	0.47
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)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	96	377		68	392	770	98	482		366	776	850
v/s Ratio Prot	0.03	c0.16		c0.03	0.05	0.02	0.04	0.20		c0.17	c0.29	0.00
v/s Ratio Perm						0.03						0.02
v/c Ratio	0.57	0.70		0.88	0.24	0.10	0.68	0.75		0.82	0.70	0.04
Uniform Delay, d1	31.4	24.3		32.6	22.5	12.1	31.6	22.9		25.8	16.4	9.7
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	8.0	5.8		69.4	0.3	0.1	17.9	6.2		13.8	2.9	0.0
Delay (s)	39.4	30.1		102.0	22.8	12.2	49.5	29.1		39.6	19.3	9.7
Level of Service	D	C		F	C	B	D	C		D	B	A
Approach Delay (s)		31.4			30.9			32.2			25.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	68.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	2	0	6	184	1	30	5	244	307	31	367	1
Future Volume (vph)	2	0	6	184	1	30	5	244	307	31	367	1
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	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.98		1.00	0.98		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.90		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1654		1734	1529		1784	1881	1562	1749	1844	
Flt Permitted		0.95		0.75	1.00		0.50	1.00	1.00	0.59	1.00	
Satd. Flow (perm)		1591		1372	1529		936	1881	1562	1091	1844	
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)	2	0	7	204	1	33	6	271	341	34	408	1
RTOR Reduction (vph)	0	7	0	0	25	0	0	0	170	0	0	0
Lane Group Flow (vph)	0	2	0	204	9	0	6	271	171	34	409	0
Confl. Peds. (#/hr)	1		1	1		1	3		3	3		3
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		9.1		9.1	9.1		18.2	18.2	18.2	18.2	18.2	
Effective Green, g (s)		9.1		9.1	9.1		18.2	18.2	18.2	18.2	18.2	
Actuated g/C Ratio		0.25		0.25	0.25		0.50	0.50	0.50	0.50	0.50	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		398		343	383		469	943	783	547	924	
v/s Ratio Prot					0.01			0.14			c0.22	
v/s Ratio Perm		0.00		c0.15			0.01		0.11	0.03		
v/c Ratio		0.01		0.59	0.02		0.01	0.29	0.22	0.06	0.44	
Uniform Delay, d1		10.2		12.0	10.3		4.5	5.3	5.1	4.7	5.8	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		2.8	0.0		0.0	0.2	0.1	0.0	0.3	
Delay (s)		10.2		14.7	10.3		4.6	5.4	5.2	4.7	6.1	
Level of Service		B		B	B		A	A	A	A	A	
Approach Delay (s)		10.2			14.1			5.3			6.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	36.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	40	8	14	27	114	27	30	484	53	39	430	104
Future Volume (vph)	40	8	14	27	114	27	30	484	53	39	430	104
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	
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	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.99		1.00	0.97	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1611			1799		1786	1849		1769	1798	
Flt Permitted		0.74			0.93		0.33	1.00		0.33	1.00	
Satd. Flow (perm)		1223			1695		619	1849		608	1798	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	9	15	29	121	29	32	515	56	41	457	111
RTOR Reduction (vph)	0	12	0	0	12	0	0	6	0	0	12	0
Lane Group Flow (vph)	0	55	0	0	167	0	32	565	0	41	556	0
Confl. Peds. (#/hr)	3		4	4		3	6		3	3		6
Heavy Vehicles (%)	10%	10%	10%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		8.4			8.4		24.8	23.3		24.8	23.3	
Effective Green, g (s)		8.4			8.4		24.8	23.3		24.8	23.3	
Actuated g/C Ratio		0.18			0.18		0.53	0.50		0.53	0.50	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		219			304		366	922		360	897	
v/s Ratio Prot							0.00	0.31		c0.00	c0.31	
v/s Ratio Perm		0.04			c0.10		0.04			0.06		
v/c Ratio		0.25			0.55		0.09	0.61		0.11	0.62	
Uniform Delay, d1		16.4			17.4		5.7	8.4		5.7	8.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			2.0		0.1	1.2		0.1	1.3	
Delay (s)		17.0			19.4		5.8	9.7		5.9	9.8	
Level of Service		B			B		A	A		A	A	
Approach Delay (s)		17.0			19.4			9.5			9.5	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	46.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	340	42	180	14	59	8	209	221	9	5	326	143
Future Volume (vph)	340	42	180	14	59	8	209	221	9	5	326	143
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	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.96		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.95	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1795	1537		1797		1787	1868		1745	1744	
Flt Permitted		0.73	1.00		0.92		0.20	1.00		0.60	1.00	
Satd. Flow (perm)		1371	1537		1663		375	1868		1109	1744	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	46	196	15	64	9	227	240	10	5	354	155
RTOR Reduction (vph)	0	0	130	0	5	0	0	2	0	0	20	0
Lane Group Flow (vph)	0	416	66	0	83	0	227	248	0	5	489	0
Confl. Peds. (#/hr)	2		9	9		2	5		5	5		5
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		25.6	25.6		25.6		41.1	35.7		28.8	27.9	
Effective Green, g (s)		25.6	25.6		25.6		41.1	35.7		28.8	27.9	
Actuated g/C Ratio		0.34	0.34		0.34		0.54	0.47		0.38	0.37	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		463	519		562		365	880		429	642	
v/s Ratio Prot							c0.07	0.13		0.00	c0.28	
v/s Ratio Perm		c0.30	0.04		0.05		0.27			0.00		
v/c Ratio		0.90	0.13		0.15		0.62	0.28		0.01	0.76	
Uniform Delay, d1		23.8	17.3		17.4		12.2	12.2		14.6	21.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		19.8	0.1		0.1		3.3	0.2		0.0	5.3	
Delay (s)		43.6	17.4		17.6		15.5	12.4		14.6	26.3	
Level of Service		D	B		B		B	B		B	C	
Approach Delay (s)		35.2			17.6			13.8			26.2	
Approach LOS		D			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	75.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	24	389	27	64	384	11	19	19	146	2	16	22
Future Volume (Veh/h)	24	389	27	64	384	11	19	19	146	2	16	22
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	26	414	29	68	409	12	20	20	155	2	17	23
Pedestrians		1			7			9				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			1				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.95						0.95	0.95		0.95	0.95	0.95
vC, conflicting volume	421			452			1073	1046	444	1112	1055	416
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	370			452			1053	1025	444	1093	1034	365
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 %	98			94			88	90	74	98	92	96
cM capacity (veh/h)	1140			1099			161	202	600	117	203	653

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	26	443	489	195	42
Volume Left	26	0	68	20	2
Volume Right	0	29	12	155	23
cSH	1140	1700	1099	755	309
Volume to Capacity	0.02	0.26	0.06	0.26	0.14
Queue Length 95th (ft)	2	0	5	26	12
Control Delay (s)	8.2	0.0	1.8	16.6	18.5
Lane LOS	A		A	C	C
Approach Delay (s)	0.5		1.8	16.6	18.5
Approach LOS				C	C

Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	66.3%	ICU Level of Service		C
Analysis Period (min)	15			

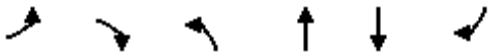
Intersection	
Int Delay, s/veh	4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	24	389	27	64	384	11	19	19	146	2	16	22
Future Vol, veh/h	24	389	27	64	384	11	19	19	146	2	16	22
Conflicting Peds, #/hr	0	0	9	9	0	0	1	0	7	7	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	1	1	2	2	2	4	4	4	0	0	0
Mvmt Flow	26	414	29	68	409	12	20	20	155	2	17	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	420	0	0	452	0	0	1060	1044	444	1047	1054	415
Stage 1	-	-	-	-	-	-	488	488	-	551	551	-
Stage 2	-	-	-	-	-	-	572	556	-	496	503	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.14	6.54	6.24	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.536	4.036	3.336	3.5	4	3.3
Pot Cap-1 Maneuver	1145	-	-	1109	-	-	200	227	610	208	228	642
Stage 1	-	-	-	-	-	-	558	547	-	522	519	-
Stage 2	-	-	-	-	-	-	502	509	-	559	545	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1144	-	-	1102	-	-	165	202	601	131	203	641
Mov Cap-2 Maneuver	-	-	-	-	-	-	165	202	-	131	203	-
Stage 1	-	-	-	-	-	-	541	530	-	510	477	-
Stage 2	-	-	-	-	-	-	428	468	-	387	528	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.4	1.2	16.7	18.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	182	601	1102	-	-	1144	-	-	312
HCM Lane V/C Ratio	0.222	0.258	0.062	-	-	0.022	-	-	0.136
HCM Control Delay (s)	30.3	13.1	8.5	0	-	8.2	-	-	18.4
HCM Lane LOS	D	B	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	1	0.2	-	-	0.1	-	-	0.5



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	0	626	12	16	12
Future Volume (Veh/h)	4	0	626	12	16	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	0	673	13	17	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1376	17	17			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1376	17	17			
tC, single (s)	*6.0	6.2	4.1			
tC, 2 stage (s)						
tF (s)	*2.0	3.3	2.2			
p0 queue free %	97	100	58			
cM capacity (veh/h)	150	1059	1587			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	4	673	13	17	13
Volume Left	4	673	0	0	0
Volume Right	0	0	0	0	13
cSH	150	1587	1700	1700	1700
Volume to Capacity	0.03	0.42	0.01	0.01	0.01
Queue Length 95th (ft)	2	54	0	0	0
Control Delay (s)	29.7	8.9	0.0	0.0	0.0
Lane LOS	D	A			
Approach Delay (s)	29.7	8.8		0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	8.5		
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

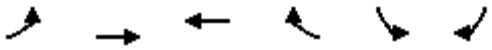
Intersection	
Int Delay, s/veh	8.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	0	626	12	16	12
Future Vol, veh/h	4	0	626	12	16	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	4	4	0	0
Mvmt Flow	4	0	673	13	17	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1376	-	17	0	-	0
Stage 1	17	-	-	-	-	-
Stage 2	1359	-	-	-	-	-
Critical Hdwy	6	-	4.14	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	2	-	2.236	-	-	-
Pot Cap-1 Maneuver	260	0	1587	-	-	0
Stage 1	1763	0	-	-	-	0
Stage 2	330	0	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	150	-	1587	-	-	-
Mov Cap-2 Maneuver	150	-	-	-	-	-
Stage 1	1763	-	-	-	-	-
Stage 2	190	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	29.7	8.8	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	1587	-	150	-
HCM Lane V/C Ratio	0.424	-	0.029	-
HCM Control Delay (s)	8.9	-	29.7	-
HCM Lane LOS	A	-	D	-
HCM 95th %tile Q(veh)	2.2	-	0.1	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	2523	0	638	16	0
Future Volume (Veh/h)	0	2523	0	638	16	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	2713	0	686	17	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	686				1356	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	686				1356	0
tC, single (s)	4.2				*6.5	6.9
tC, 2 stage (s)						
tF (s)	2.2				*2.5	3.3
p0 queue free %	100				91	100
cM capacity (veh/h)	897				192	1091

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	1356	1356	343	343	17
Volume Left	0	0	0	0	17
Volume Right	0	0	343	343	0
cSH	1700	1700	1700	1700	192
Volume to Capacity	0.80	0.80	0.20	0.20	0.09
Queue Length 95th (ft)	0	0	0	0	7
Control Delay (s)	0.0	0.0	0.0	0.0	25.6
Lane LOS					D
Approach Delay (s)	0.0		0.0		25.6
Approach LOS					D

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		

* User Entered Value

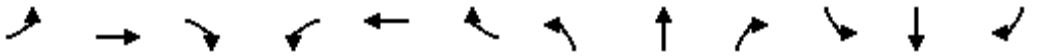
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑		↑↑	↰	
Traffic Vol, veh/h	0	2523	0	638	16	0
Future Vol, veh/h	0	2523	0	638	16	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	3	4	4	0	0
Mvmt Flow	0	2713	0	686	17	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	-	1356	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	1356	-
Critical Hdwy	-	-	-	-	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	-	-	2.5	-
Pot Cap-1 Maneuver	0	-	0	-	192	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	250	0
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	-	-	-	-	192	-
Mov Cap-2 Maneuver	-	-	-	-	192	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	250	-

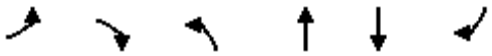
Approach	EB	WB	SB
HCM Control Delay, s	0	0	25.6
HCM LOS			D

Minor Lane/Major Mvmt	EBT	WBR	SBLn1
Capacity (veh/h)	-	-	192
HCM Lane V/C Ratio	-	-	0.09
HCM Control Delay (s)	-	-	25.6
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	0.3



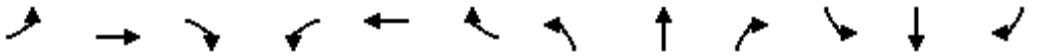
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	166	0	0	378	0	1958	125	0	3055	532
Future Volume (vph)	0	0	166	0	0	378	0	1958	125	0	3055	532
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2814			2760		5085	1583		5085	1583
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2814			2760		5085	1583		5085	1583
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)	0	0	171	0	0	390	0	2019	129	0	3149	548
RTOR Reduction (vph)	0	0	17	0	0	24	0	0	41	0	0	138
Lane Group Flow (vph)	0	0	154	0	0	366	0	2019	88	0	3149	410
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			5			1			2			6
Actuated Green, G (s)			9.3			14.2		49.5	49.5		54.4	54.4
Effective Green, g (s)			9.3			14.2		49.5	49.5		54.4	54.4
Actuated g/C Ratio			0.13			0.20		0.68	0.68		0.75	0.75
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			359			539		3462	1077		3805	1184
v/s Ratio Prot								0.40			c0.62	
v/s Ratio Perm			0.05			c0.13			0.06			0.26
v/c Ratio			0.43			0.68		0.58	0.08		0.83	0.35
Uniform Delay, d1			29.2			27.1		6.1	3.9		6.0	3.1
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.8			3.4		0.3	0.0		1.6	0.2
Delay (s)			30.1			30.5		6.4	4.0		7.6	3.3
Level of Service			C			C		A	A		A	A
Approach Delay (s)		30.1			30.5			6.2			7.0	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	72.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



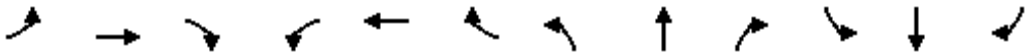
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	379	166	113	1763	2491	745
Future Volume (vph)	379	166	113	1763	2491	745
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583	1752	3505	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583	1752	3505	3539	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	387	169	115	1799	2542	760
RTOR Reduction (vph)	0	4	0	0	0	21
Lane Group Flow (vph)	387	165	115	1799	2542	739
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	Prot	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4				6
Actuated Green, G (s)	17.6	26.6	9.0	93.4	79.9	97.5
Effective Green, g (s)	17.6	26.6	9.0	93.4	79.9	97.5
Actuated g/C Ratio	0.15	0.22	0.08	0.78	0.67	0.81
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	503	410	131	2728	2356	1345
v/s Ratio Prot	c0.11	0.03	c0.07	0.51	c0.72	0.08
v/s Ratio Perm		0.07				0.39
v/c Ratio	0.77	0.40	0.88	0.66	1.08	0.55
Uniform Delay, d1	49.2	39.9	55.0	6.1	20.0	3.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.0	0.6	43.6	1.3	44.0	0.5
Delay (s)	56.2	40.6	98.6	7.3	64.0	4.3
Level of Service	E	D	F	A	E	A
Approach Delay (s)	51.5			12.8	50.3	
Approach LOS	D			B	D	

Intersection Summary			
HCM 2000 Control Delay	38.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
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 (vph)	689	717	75	143	401	441	46	714	140	781	1157	738
Future Volume (vph)	689	717	75	143	401	441	46	714	140	781	1157	738
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	4.5
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.99	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	1.00
Frt	1.00	0.99		1.00	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	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	3516		3467	3574	1577	1752	3505	1545	3433	3539	1555
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	3516		3467	3574	1577	1752	3505	1545	3433	3539	1555
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)	710	739	77	147	413	455	47	736	144	805	1193	761
RTOR Reduction (vph)	0	6	0	0	0	319	0	0	109	0	0	308
Lane Group Flow (vph)	710	810	0	147	413	136	47	736	35	805	1193	453
Confl. Peds. (#/hr)	1		6	6		1	3		1	1		3
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	25.7	35.9		7.7	17.9	17.9	4.7	29.0	29.0	29.4	53.7	53.7
Effective Green, g (s)	25.7	35.9		7.7	17.9	17.9	4.7	29.0	29.0	29.4	53.7	53.7
Actuated g/C Ratio	0.21	0.30		0.06	0.15	0.15	0.04	0.24	0.24	0.24	0.45	0.45
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	742	1051		222	533	235	68	847	373	841	1583	695
v/s Ratio Prot	c0.20	c0.23		0.04	0.12		0.03	c0.21		c0.23	0.34	
v/s Ratio Perm						0.09			0.02			0.29
v/c Ratio	0.96	0.77		0.66	0.77	0.58	0.69	0.87	0.09	0.96	0.75	0.65
Uniform Delay, d1	46.6	38.3		54.9	49.1	47.5	56.9	43.7	35.3	44.7	27.6	25.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	22.8	3.5		7.2	6.9	3.4	26.1	11.7	0.5	21.0	3.4	4.7
Delay (s)	69.4	41.8		62.1	56.1	51.0	83.1	55.4	35.8	65.7	31.0	30.5
Level of Service	E	D		E	E	D	F	E	D	E	C	C
Approach Delay (s)		54.7			54.6			53.8			41.0	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	48.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
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)	0	494	171	15	240	0	51	0	7	0	0	0
Future Volume (Veh/h)	0	494	171	15	240	0	51	0	7	0	0	0
Sign Control		Free			Free			Stop			Stop	
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)	0	531	184	16	258	0	55	0	8	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	258			715			913	913	623	921	1005	258
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	258			715			913	913	623	921	1005	258
tC, single (s)	4.1			4.1			*6.0	6.5	*6.0	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			*2.0	4.0	*2.0	3.5	4.0	3.3
p0 queue free %	100			98			89	100	99	100	100	100
cM capacity (veh/h)	1307			881			494	268	754	245	237	781

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	715	274	63	0
Volume Left	0	16	55	0
Volume Right	184	0	8	0
cSH	1307	881	517	1700
Volume to Capacity	0.00	0.02	0.12	0.00
Queue Length 95th (ft)	0	1	10	0
Control Delay (s)	0.0	0.7	12.9	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	0.7	12.9	0.0
Approach LOS			B	A

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	46.4%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	494	171	15	240	0	51	0	7	0	0	0
Future Vol, veh/h	0	494	171	15	240	0	51	0	7	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	3	3	3	2	2	2	2	2	2
Mvmt Flow	0	531	184	16	258	0	55	0	8	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	258	0	0	715	0	0	913	913	623	917	1005	258
Stage 1	-	-	-	-	-	-	623	623	-	290	290	-
Stage 2	-	-	-	-	-	-	290	290	-	627	715	-
Critical Hdwy	4.12	-	-	4.13	-	-	6	6	6	6	6	6
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.227	-	-	2	2	2	2	2	2
Pot Cap-1 Maneuver	1307	-	-	881	-	-	501	501	754	498	440	1257
Stage 1	-	-	-	-	-	-	738	819	-	1190	1249	-
Stage 2	-	-	-	-	-	-	1190	1249	-	734	729	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1307	-	-	881	-	-	493	490	754	485	431	1257
Mov Cap-2 Maneuver	-	-	-	-	-	-	493	490	-	485	431	-
Stage 1	-	-	-	-	-	-	738	819	-	1190	1223	-
Stage 2	-	-	-	-	-	-	1165	1223	-	727	729	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.5	13	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	514	1307	-	-	881	-	-	-
HCM Lane V/C Ratio	0.121	-	-	-	0.018	-	-	-
HCM Control Delay (s)	13	0	-	-	9.2	0	-	0
HCM Lane LOS	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	-



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	535	321	1599	388	859	1045
Future Volume (vph)	535	321	1599	388	859	1045
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3273	1509	4988	1510	1752	5036
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3273	1509	4988	1510	1752	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	563	338	1683	408	904	1100
RTOR Reduction (vph)	0	0	0	290	0	0
Lane Group Flow (vph)	563	338	1683	118	904	1100
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	7%	7%	4%	4%	3%	3%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	17.6	50.5	26.0	26.0	32.9	63.4
Effective Green, g (s)	17.6	50.5	26.0	26.0	32.9	63.4
Actuated g/C Ratio	0.20	0.56	0.29	0.29	0.37	0.70
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	640	922	1440	436	640	3547
v/s Ratio Prot	c0.17	0.13	c0.34		c0.52	0.22
v/s Ratio Perm		0.09		0.08		
v/c Ratio	0.88	0.37	1.17	0.27	1.41	0.31
Uniform Delay, d1	35.2	10.9	32.0	24.7	28.6	5.0
Progression Factor	1.00	1.00	1.08	2.74	1.00	1.00
Incremental Delay, d2	13.1	0.2	80.9	0.9	194.8	0.2
Delay (s)	48.3	11.2	115.4	68.6	223.4	5.3
Level of Service	D	B	F	E	F	A
Approach Delay (s)	34.4		106.3			103.6
Approach LOS	C		F			F

Intersection Summary			
HCM 2000 Control Delay	92.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	105.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	205	576	1445	1261	347	1205
Future Volume (vph)	205	576	1445	1261	347	1205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1719	1538	4940	1496	1719	4940
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1719	1538	4940	1496	1719	4940
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	216	606	1521	1327	365	1268
RTOR Reduction (vph)	0	226	0	328	0	0
Lane Group Flow (vph)	216	380	1521	999	365	1268
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	18.5	18.5	43.5	43.5	14.5	62.5
Effective Green, g (s)	18.5	18.5	43.5	43.5	14.5	62.5
Actuated g/C Ratio	0.21	0.21	0.48	0.48	0.16	0.69
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	353	316	2387	723	276	3430
v/s Ratio Prot	0.13		0.31		c0.21	0.26
v/s Ratio Perm		c0.25		c0.67		
v/c Ratio	0.61	1.20	0.64	1.38	1.32	0.37
Uniform Delay, d1	32.5	35.8	17.4	23.2	37.8	5.7
Progression Factor	1.00	1.00	1.00	1.00	0.80	1.84
Incremental Delay, d2	3.1	117.9	1.3	180.6	165.7	0.3
Delay (s)	35.6	153.6	18.7	203.9	195.9	10.7
Level of Service	D	F	B	F	F	B
Approach Delay (s)	122.6		105.0			52.1
Approach LOS	F		F			D

Intersection Summary			
HCM 2000 Control Delay	91.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	105.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	2236	16	0	1401	0	275
Future Volume (Veh/h)	2236	16	0	1401	0	275
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2354	17	0	1475	0	289
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.55		0.60	0.55
vC, conflicting volume			2371		2854	1186
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1848		1745	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			100		100	51
cM capacity (veh/h)			168		46	592

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1569	802	492	492	492	289
Volume Left	0	0	0	0	0	0
Volume Right	0	17	0	0	0	289
cSH	1700	1700	1700	1700	1700	592
Volume to Capacity	0.92	0.47	0.29	0.29	0.29	0.49
Queue Length 95th (ft)	0	0	0	0	0	67
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	16.7
Lane LOS						C
Approach Delay (s)	0.0		0.0			16.7
Approach LOS						C

Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	86.0%	ICU Level of Service		E
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	3.8

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	2236	16	0	1401	0	275
Future Vol, veh/h	2236	16	0	1401	0	275
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	6	6	6	6	2	2
Mvmt Flow	2354	17	0	1475	0	289

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1185
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2
Pot Cap-1 Maneuver	-	-	0	-	0	341
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	341
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	53.6
HCM LOS			F

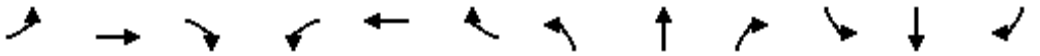
Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	341	-
HCM Lane V/C Ratio	-	-	0.849	-
HCM Control Delay (s)	-	-	53.6	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	7.7	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1694	32	412	1069	99	666
Future Volume (vph)	1694	32	412	1069	99	666
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3395		1703	3406	1736	1553
Flt Permitted	1.00		0.08	1.00	0.95	1.00
Satd. Flow (perm)	3395		142	3406	1736	1553
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1783	34	434	1125	104	701
RTOR Reduction (vph)	2	0	0	0	0	4
Lane Group Flow (vph)	1815	0	434	1125	104	697
Confl. Peds. (#/hr)		1	1		3	
Heavy Vehicles (%)	6%	6%	6%	6%	4%	4%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	46.1		81.1	81.1	9.9	40.4
Effective Green, g (s)	46.1		81.1	81.1	9.9	40.4
Actuated g/C Ratio	0.46		0.81	0.81	0.10	0.40
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1565		591	2762	171	697
v/s Ratio Prot	c0.53		0.22	0.33	0.06	c0.31
v/s Ratio Perm			0.37			0.14
v/c Ratio	1.16		0.73	0.41	0.61	1.00
Uniform Delay, d1	26.9		25.5	2.7	43.2	29.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	79.5		4.7	0.1	6.0	34.2
Delay (s)	106.5		30.2	2.8	49.2	64.0
Level of Service	F		C	A	D	E
Approach Delay (s)	106.5			10.4	62.1	
Approach LOS	F			B	E	

Intersection Summary			
HCM 2000 Control Delay	62.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
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 (vph)	33	119	43	43	242	389	222	463	41	184	363	73
Future Volume (vph)	33	119	43	43	242	389	222	463	41	184	363	73
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	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	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	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1656	1664		1752	1845	1568	1752	1822		1736	1827	1553
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1656	1664		1752	1845	1568	1752	1822		1736	1827	1553
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)	35	125	45	45	255	409	234	487	43	194	382	77
RTOR Reduction (vph)	0	18	0	0	0	143	0	4	0	0	0	50
Lane Group Flow (vph)	35	152	0	45	255	266	234	526	0	194	382	27
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	9%	9%	9%	3%	3%	3%	3%	3%	3%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases						8						6
Actuated Green, G (s)	3.7	16.0		2.7	15.0	24.9	11.4	22.4		9.9	20.9	24.6
Effective Green, g (s)	3.7	16.0		2.7	15.0	24.9	11.4	22.4		9.9	20.9	24.6
Actuated g/C Ratio	0.05	0.23		0.04	0.22	0.36	0.17	0.32		0.14	0.30	0.36
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)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	88	385		68	401	668	289	591		249	553	654
v/s Ratio Prot	0.02	0.09		c0.03	c0.14	0.06	c0.13	c0.29		0.11	0.21	0.00
v/s Ratio Perm						0.11						0.02
v/c Ratio	0.40	0.40		0.66	0.64	0.40	0.81	0.89		0.78	0.69	0.04
Uniform Delay, d1	31.6	22.4		32.7	24.5	16.5	27.8	22.1		28.5	21.2	14.5
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	2.9	0.7		21.6	3.3	0.4	15.3	15.2		14.2	3.7	0.0
Delay (s)	34.5	23.1		54.3	27.8	16.8	43.0	37.3		42.7	24.9	14.5
Level of Service	C	C		D	C	B	D	D		D	C	B
Approach Delay (s)		25.0			23.2			39.1			29.0	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	1	0	484	1	39	1	215	181	21	523	0
Future Volume (vph)	0	1	0	484	1	39	1	215	181	21	523	0
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	
Lane Util. Factor		1.00		1.00	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	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		1.00		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1900		1716	1544		1701	1792	1491	1734	1827	
Flt Permitted		1.00		0.76	1.00		0.20	1.00	1.00	0.59	1.00	
Satd. Flow (perm)		1900		1368	1544		354	1792	1491	1077	1827	
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)	0	1	0	538	1	43	1	239	201	23	581	0
RTOR Reduction (vph)	0	0	0	0	23	0	0	0	126	0	0	0
Lane Group Flow (vph)	0	1	0	538	21	0	1	239	75	23	581	0
Confl. Peds. (#/hr)			1	1			3		1	1		3
Heavy Vehicles (%)	0%	0%	0%	5%	5%	5%	6%	6%	6%	4%	4%	4%
Turn Type		NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		24.7		24.7	24.7		20.2	20.2	20.2	20.2	20.2	
Effective Green, g (s)		24.7		24.7	24.7		20.2	20.2	20.2	20.2	20.2	
Actuated g/C Ratio		0.46		0.46	0.46		0.37	0.37	0.37	0.37	0.37	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		870		626	707		132	671	558	403	684	
v/s Ratio Prot		0.00			0.01			0.13			c0.32	
v/s Ratio Perm				c0.39			0.00		0.05	0.02		
v/c Ratio		0.00		0.86	0.03		0.01	0.36	0.13	0.06	0.85	
Uniform Delay, d1		7.9		13.0	8.0		10.6	12.2	11.1	10.8	15.5	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		11.3	0.0		0.0	0.3	0.1	0.1	9.7	
Delay (s)		7.9		24.4	8.0		10.6	12.5	11.2	10.8	25.1	
Level of Service		A		C	A		B	B	B	B	C	
Approach Delay (s)		7.9			23.1			11.9			24.6	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	53.9	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	18	20	19	14	92	44	36	352	122	70	669	255
Future Volume (vph)	18	20	19	14	92	44	36	352	122	70	669	255
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	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.95			0.96		1.00	0.96		1.00	0.96	
Flt Protected		0.98			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1477			1669		1703	1713		1735	1741	
Flt Permitted		0.85			0.97		0.11	1.00		0.39	1.00	
Satd. Flow (perm)		1274			1624		200	1713		705	1741	
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)	20	22	21	16	102	49	40	391	136	78	743	283
RTOR Reduction (vph)	0	18	0	0	18	0	0	12	0	0	13	0
Lane Group Flow (vph)	0	45	0	0	149	0	40	515	0	78	1013	0
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	20%	20%	20%	8%	8%	8%	6%	6%	6%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		12.5			12.5		54.8	52.0		57.6	53.4	
Effective Green, g (s)		12.5			12.5		54.8	52.0		57.6	53.4	
Actuated g/C Ratio		0.15			0.15		0.67	0.63		0.70	0.65	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		193			246		184	1083		546	1131	
v/s Ratio Prot							c0.01	0.30		0.01	c0.58	
v/s Ratio Perm		0.04			c0.09		0.14			0.09		
v/c Ratio		0.23			0.61		0.22	0.48		0.14	0.90	
Uniform Delay, d1		30.6			32.6		11.5	7.9		4.4	12.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			4.2		0.6	0.3		0.1	9.4	
Delay (s)		31.3			36.7		12.1	8.3		4.6	21.5	
Level of Service		C			D		B	A		A	C	
Approach Delay (s)		31.3			36.7			8.5			20.3	
Approach LOS		C			D			A			C	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	82.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	233	46	152	4	53	4	420	256	10	1	336	385
Future Volume (vph)	233	46	152	4	53	4	420	256	10	1	336	385
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	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.97		1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.92	
Flt Protected		0.96	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750	1506		1838		1752	1832		1716	1639	
Flt Permitted		0.76	1.00		0.98		0.09	1.00		0.59	1.00	
Satd. Flow (perm)		1394	1506		1804		159	1832		1061	1639	
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)	245	48	160	4	56	4	442	269	11	1	354	405
RTOR Reduction (vph)	0	0	127	0	2	0	0	1	0	0	44	0
Lane Group Flow (vph)	0	293	33	0	62	0	442	279	0	1	715	0
Confl. Peds. (#/hr)	1		4	4		1	3		2	2		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		19.5	19.5		19.5		65.1	59.6		42.9	41.9	
Effective Green, g (s)		19.5	19.5		19.5		65.1	59.6		42.9	41.9	
Actuated g/C Ratio		0.21	0.21		0.21		0.70	0.64		0.46	0.45	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		290	313		375		428	1166		493	733	
v/s Ratio Prot							c0.21	0.15		0.00	0.44	
v/s Ratio Perm		c0.21	0.02		0.03		c0.51			0.00		
v/c Ratio		1.01	0.11		0.16		1.03	0.24		0.00	0.98	
Uniform Delay, d1		37.0	30.0		30.4		29.7	7.3		13.7	25.3	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		55.5	0.2		0.2		52.2	0.1		0.0	26.9	
Delay (s)		92.6	30.1		30.6		81.8	7.4		13.7	52.3	
Level of Service		F	C		C		F	A		B	D	
Approach Delay (s)		70.5			30.6			53.0			52.2	
Approach LOS		E			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	55.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	93.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	97.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	29	372	37	160	744	16	7	33	73	0	16	14
Future Volume (Veh/h)	29	372	37	160	744	16	7	33	73	0	16	14
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	31	392	39	168	783	17	7	35	77	0	17	15
Pedestrians		2			10			4				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			0				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.88						0.88	0.88		0.88	0.88	0.88
vC, conflicting volume	800			435			1630	1614	426	1648	1624	794
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	707			435			1648	1629	426	1667	1641	700
tC, single (s)	4.1			4.1			7.2	6.6	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.1	3.4	3.5	4.0	3.3
p0 queue free %	96			85			85	50	87	100	77	96
cM capacity (veh/h)	779			1115			45	70	606	31	73	390

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	31	431	968	119	32
Volume Left	31	0	168	7	0
Volume Right	0	39	17	77	15
cSH	779	1700	1115	188	117
Volume to Capacity	0.04	0.25	0.15	0.63	0.27
Queue Length 95th (ft)	3	0	13	91	26
Control Delay (s)	9.8	0.0	3.6	52.2	46.8
Lane LOS	A		A	F	E
Approach Delay (s)	0.7		3.6	52.2	46.8
Approach LOS				F	E

Intersection Summary				
Average Delay	7.3			
Intersection Capacity Utilization	90.2%	ICU Level of Service		E
Analysis Period (min)	15			

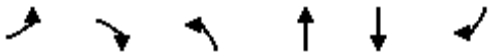
Intersection	
Int Delay, s/veh	6.1

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	29	372	37	160	744	16	7	33	73	0	16	14
Future Vol, veh/h	29	372	37	160	744	16	7	33	73	0	16	14
Conflicting Peds, #/hr	0	0	4	4	0	0	2	0	10	10	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	3	3	3	9	9	9	0	0	0
Mvmt Flow	31	392	39	168	783	17	7	35	77	0	17	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	800	0	0	435	0	0	1622	1613	425	1627	1624	794
Stage 1	-	-	-	-	-	-	476	476	-	1128	1128	-
Stage 2	-	-	-	-	-	-	1146	1137	-	499	496	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.19	6.59	6.29	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.581	4.081	3.381	3.5	4	3.3
Pot Cap-1 Maneuver	814	-	-	1119	-	-	79	100	615	83	104	391
Stage 1	-	-	-	-	-	-	557	545	-	250	282	-
Stage 2	-	-	-	-	-	-	235	269	-	557	549	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	812	-	-	1108	-	-	48	70	607	34	72	390
Mov Cap-2 Maneuver	-	-	-	-	-	-	48	70	-	34	72	-
Stage 1	-	-	-	-	-	-	534	522	-	240	205	-
Stage 2	-	-	-	-	-	-	150	195	-	433	526	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.6	1.5	54	47.3
HCM LOS			F	E

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	65	607	1108	-	-	812	-	-	116
HCM Lane V/C Ratio	0.648	0.127	0.152	-	-	0.038	-	-	0.272
HCM Control Delay (s)	130.9	11.8	8.8	0	-	9.6	-	-	47.3
HCM Lane LOS	F	B	A	A	-	A	-	-	E
HCM 95th %tile Q(veh)	2.8	0.4	0.5	-	-	0.1	-	-	1



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	0	1006	36	26	6
Future Volume (Veh/h)	20	0	1006	36	26	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	0	1059	38	27	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2183	27	27			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2183	27	27			
tC, single (s)	*6.0	6.3	4.1			
tC, 2 stage (s)						
tF (s)	*2.0	3.4	2.2			
p0 queue free %	21	100	32			
cM capacity (veh/h)	27	1037	1568			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	21	1059	38	27	6
Volume Left	21	1059	0	0	0
Volume Right	0	0	0	0	6
cSH	27	1568	1700	1700	1700
Volume to Capacity	0.79	0.68	0.02	0.02	0.00
Queue Length 95th (ft)	62	143	0	0	0
Control Delay (s)	319.1	11.9	0.0	0.0	0.0
Lane LOS	F	B			
Approach Delay (s)	319.1	11.5		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	16.8		
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

* User Entered Value

Intersection	
Int Delay, s/veh	16.7

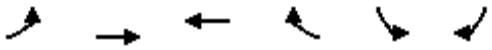
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	0	1006	36	26	6
Future Vol, veh/h	20	0	1006	36	26	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	6	6	5	5	18	18
Mvmt Flow	21	0	1059	38	27	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2183	-	27	0	-	0
Stage 1	27	-	-	-	-	-
Stage 2	2156	-	-	-	-	-
Critical Hdwy	6	-	4.15	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	2	-	2.245	-	-	-
Pot Cap-1 Maneuver	82	0	1568	-	-	0
Stage 1	1741	0	-	-	-	0
Stage 2	117	0	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	27	-	1568	-	-	-
Mov Cap-2 Maneuver	27	-	-	-	-	-
Stage 1	1741	-	-	-	-	-
Stage 2	38	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 310.7	11.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	1568	-	27	-
HCM Lane V/C Ratio	0.675	-	0.78	-
HCM Control Delay (s)	11.9	-	$ 310.7	-
HCM Lane LOS	B	-	F	-
HCM 95th %tile Q(veh)	5.7	-	2.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1805	0	0	26	0
Future Volume (Veh/h)	0	1805	0	0	26	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1900	0	0	27	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				950	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				950	0
tC, single (s)	4.2				7.2	7.3
tC, 2 stage (s)						
tF (s)	2.3				3.7	3.5
p0 queue free %	100				88	100
cM capacity (veh/h)	1593				231	1034

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	950	950	0	0	27
Volume Left	0	0	0	0	27
Volume Right	0	0	0	0	0
cSH	1700	1700	1700	1700	231
Volume to Capacity	0.56	0.56	0.00	0.00	0.12
Queue Length 95th (ft)	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	22.6
Lane LOS					C
Approach Delay (s)	0.0		0.0		22.6
Approach LOS					C

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

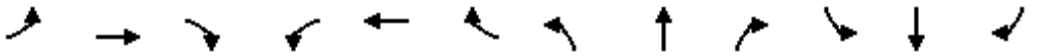
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1805	0	0	26	0
Future Vol, veh/h	0	1805	0	0	26	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	6	6	5	5	18	18
Mvmt Flow	0	1900	0	0	27	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	-	950	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	950	-
Critical Hdwy	-	-	-	-	7.16	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	6.16	-
Follow-up Hdwy	-	-	-	-	3.68	-
Pot Cap-1 Maneuver	0	-	0	-	231	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	301	0
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	-	-	-	-	231	-
Mov Cap-2 Maneuver	-	-	-	-	231	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	301	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	22.7
HCM LOS			C

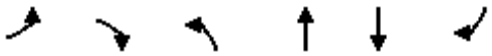
Minor Lane/Major Mvmt	EBT	WBR	SBLn1
Capacity (veh/h)	-	-	231
HCM Lane V/C Ratio	-	-	0.118
HCM Control Delay (s)	-	-	22.7
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	133	0	0	598	0	2618	198	0	1899	612
Future Volume (vph)	0	0	133	0	0	598	0	2618	198	0	1899	612
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
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frpb, ped/bikes			1.00			1.00		1.00	0.98		1.00	1.00
Flpb, ped/bikes			1.00			1.00		1.00	1.00		1.00	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2760			2538		4988	1521		4893	1524
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2760			2538		4988	1521		4893	1524
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)	0	0	137	0	0	616	0	2699	204	0	1958	631
RTOR Reduction (vph)	0	0	67	0	0	13	0	0	76	0	0	120
Lane Group Flow (vph)	0	0	70	0	0	603	0	2699	128	0	1958	511
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	12%	12%	12%	4%	4%	4%	6%	6%	6%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			5			1			2			6
Actuated Green, G (s)			7.7			23.8		54.8	54.8		70.9	70.9
Effective Green, g (s)			7.7			23.8		54.8	54.8		70.9	70.9
Actuated g/C Ratio			0.09			0.27		0.63	0.63		0.81	0.81
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			242			689		3120	951		3960	1233
v/s Ratio Prot								c0.54			0.40	
v/s Ratio Perm			0.03			c0.24			0.08			0.34
v/c Ratio			0.29			0.88		0.87	0.13		0.49	0.41
Uniform Delay, d1			37.4			30.5		13.4	6.7		2.7	2.4
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.7			11.9		2.7	0.1		0.1	0.2
Delay (s)			38.1			42.4		16.1	6.8		2.8	2.6
Level of Service			D			D		B	A		A	A
Approach Delay (s)		38.1			42.4			15.5			2.7	
Approach LOS		D			D			B			A	

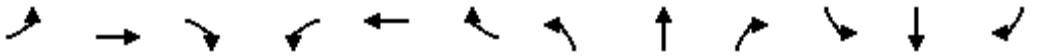
Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	87.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	668	173	140	2303	1703	495
Future Volume (vph)	668	173	140	2303	1703	495
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3400	1568	1736	3471	3471	1553
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3400	1568	1736	3471	3471	1553
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	696	180	146	2399	1774	516
RTOR Reduction (vph)	0	12	0	0	0	30
Lane Group Flow (vph)	696	168	146	2399	1774	486
Heavy Vehicles (%)	3%	3%	4%	4%	4%	4%
Turn Type	Prot	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4				6
Actuated Green, G (s)	25.6	37.1	11.5	85.4	69.4	95.0
Effective Green, g (s)	25.6	37.1	11.5	85.4	69.4	95.0
Actuated g/C Ratio	0.21	0.31	0.10	0.71	0.58	0.79
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	725	543	166	2470	2007	1287
v/s Ratio Prot	c0.20	0.03	0.08	c0.69	0.51	0.08
v/s Ratio Perm		0.08				0.23
v/c Ratio	0.96	0.31	0.88	0.97	0.88	0.38
Uniform Delay, d1	46.7	31.7	53.6	16.2	21.8	3.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.7	0.3	37.2	12.5	6.1	0.2
Delay (s)	70.4	32.0	90.8	28.7	27.9	3.9
Level of Service	E	C	F	C	C	A
Approach Delay (s)	62.5			32.2	22.5	
Approach LOS	E			C	C	

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
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 (vph)	504	443	21	112	592	0	44	1068	133	612	630	791
Future Volume (vph)	504	443	21	112	592	0	44	1068	133	612	630	791
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	0.97	0.95		0.97	0.95		1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		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	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		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)	3273	3348		3400	3505		1719	3438	1538	3335	3438	1538
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3273	3348		3400	3505		1719	3438	1538	3335	3438	1538
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)	531	466	22	118	623	0	46	1124	140	644	663	833
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	93	0	0	220
Lane Group Flow (vph)	531	485	0	118	623	0	46	1124	47	644	663	613
Confl. Peds. (#/hr)			4	4								
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	5%	5%	5%	5%	5%	5%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	18.8	31.1		8.2	20.5		4.2	40.2	40.2	22.5	58.5	58.5
Effective Green, g (s)	18.8	31.1		8.2	20.5		4.2	40.2	40.2	22.5	58.5	58.5
Actuated g/C Ratio	0.16	0.26		0.07	0.17		0.04	0.34	0.34	0.19	0.49	0.49
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)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	512	867		232	598		60	1151	515	625	1676	749
v/s Ratio Prot	c0.16	0.14		0.03	c0.18		0.03	c0.33		c0.19	0.19	
v/s Ratio Perm									0.03			0.40
v/c Ratio	1.04	0.56		0.51	1.04		0.77	0.98	0.09	1.03	0.40	0.82
Uniform Delay, d1	50.6	38.5		54.0	49.8		57.4	39.4	27.4	48.8	19.5	26.2
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	49.7	0.8		1.8	48.1		43.5	21.5	0.3	44.0	0.7	9.7
Delay (s)	100.3	39.3		55.7	97.9		100.9	60.9	27.7	92.8	20.2	35.9
Level of Service	F	D		E	F		F	E	C	F	C	D
Approach Delay (s)		71.1			91.2			58.8			48.2	
Approach LOS		E			F			E			D	

Intersection Summary			
HCM 2000 Control Delay	61.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	53	54	43	165	45	41
Future Volume (Veh/h)	53	54	43	165	45	41
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	62	64	51	194	53	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			126		390	94
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			126		390	94
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		91	95
cM capacity (veh/h)			1442		592	963

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	126	245	101
Volume Left	0	51	53
Volume Right	64	0	48
cSH	1700	1442	725
Volume to Capacity	0.07	0.04	0.14
Queue Length 95th (ft)	0	3	12
Control Delay (s)	0.0	1.8	10.8
Lane LOS		A	B
Approach Delay (s)	0.0	1.8	10.8
Approach LOS			B

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	29.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	53	54	43	165	45	41
Future Vol, veh/h	53	54	43	165	45	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	5	5	5	2	2
Mvmt Flow	62	64	51	194	53	48

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	126	0	389	94
Stage 1	-	-	-	-	94	-
Stage 2	-	-	-	-	295	-
Critical Hdwy	-	-	4.15	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.245	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1442	-	615	963
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	755	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1442	-	590	963
Mov Cap-2 Maneuver	-	-	-	-	590	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	725	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	724	-	-	1442	-
HCM Lane V/C Ratio	0.14	-	-	0.035	-
HCM Control Delay (s)	10.8	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	149	114	83	526	56	149	30	40	62	28	0
Future Volume (Veh/h)	0	149	114	83	526	56	149	30	40	62	28	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	157	120	87	554	59	157	32	42	65	29	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	613			277			989	1004	217	1032	1034	584
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	613			277			989	1004	217	1032	1034	584
tC, single (s)	4.2			4.2			*6.0	*6.0	*6.0	*6.0	*6.0	*6.0
tC, 2 stage (s)												
tF (s)	2.3			2.3			*2.0	*2.0	*2.0	*2.0	*2.0	*2.0
p0 queue free %	100			93			61	92	97	82	93	100
cM capacity (veh/h)	911			1258			402	410	1331	365	393	797

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	277	700	231	94
Volume Left	0	87	157	65
Volume Right	120	59	42	0
cSH	911	1258	462	373
Volume to Capacity	0.00	0.07	0.50	0.25
Queue Length 95th (ft)	0	6	68	25
Control Delay (s)	0.0	1.8	20.3	17.9
Lane LOS		A	C	C
Approach Delay (s)	0.0	1.8	20.3	17.9
Approach LOS			C	C

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		

* User Entered Value

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	149	114	83	526	56	149	30	40	62	28	0
Future Vol, veh/h	0	149	114	83	526	56	149	30	40	62	28	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	14	14	14	7	7	7	4	4	4	2	2	2
Mvmt Flow	0	157	120	87	554	59	157	32	42	65	29	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	613	0	0	277	0	0	990	1004	217	1012	1035	583
Stage 1	-	-	-	-	-	-	217	217	-	758	758	-
Stage 2	-	-	-	-	-	-	773	787	-	254	277	-
Critical Hdwy	4.24	-	-	4.17	-	-	6	6	6	6	6	6
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.12	5.52	-
Follow-up Hdwy	2.326	-	-	2.263	-	-	2	2	2	2	2	2
Pot Cap-1 Maneuver	911	-	-	1258	-	-	449	441	1331	436	422	797
Stage 1	-	-	-	-	-	-	1320	1368	-	608	690	-
Stage 2	-	-	-	-	-	-	592	662	-	1253	1270	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	911	-	-	1258	-	-	388	394	1331	365	377	797
Mov Cap-2 Maneuver	-	-	-	-	-	-	388	394	-	365	377	-
Stage 1	-	-	-	-	-	-	1320	1368	-	608	617	-
Stage 2	-	-	-	-	-	-	504	592	-	1185	1270	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1	21.3	18.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	447	911	-	-	1258	-	-	369
HCM Lane V/C Ratio	0.516	-	-	-	0.069	-	-	0.257
HCM Control Delay (s)	21.3	0	-	-	8.1	0	-	18.1
HCM Lane LOS	C	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	2.9	0	-	-	0.2	-	-	1



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1255	435	1233	535	560	1574
Future Volume (vph)	1255	435	1233	535	560	1574
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3400	1568	5085	1526	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3400	1568	5085	1526	1770	5085
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1294	448	1271	552	577	1623
RTOR Reduction (vph)	0	0	0	414	0	0
Lane Group Flow (vph)	1294	448	1271	138	577	1623
Confl. Peds. (#/hr)				6	6	
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	29.5	54.0	22.5	22.5	24.5	51.5
Effective Green, g (s)	29.5	54.0	22.5	22.5	24.5	51.5
Actuated g/C Ratio	0.33	0.60	0.25	0.25	0.27	0.57
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1114	1019	1271	381	481	2909
v/s Ratio Prot	c0.38	0.12	c0.25		c0.33	0.32
v/s Ratio Perm		0.17		0.09		
v/c Ratio	1.16	0.44	1.00	0.36	1.20	0.56
Uniform Delay, d1	30.2	9.8	33.8	27.8	32.8	12.1
Progression Factor	1.00	1.00	1.24	4.87	1.00	1.00
Incremental Delay, d2	82.9	0.3	19.4	1.6	108.4	0.8
Delay (s)	113.1	10.1	61.3	137.1	141.2	12.9
Level of Service	F	B	E	F	F	B
Approach Delay (s)	86.6		84.3			46.5
Approach LOS	F		F			D

Intersection Summary			
HCM 2000 Control Delay	70.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	615	520	1248	930	530	2299
Future Volume (vph)	615	520	1248	930	530	2299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	5036	1510	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	5036	1510	1770	5085
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	628	531	1273	949	541	2346
RTOR Reduction (vph)	0	331	0	442	0	0
Lane Group Flow (vph)	628	200	1273	507	541	2346
Confl. Peds. (#/hr)				7	7	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	27.5	27.5	26.5	26.5	22.5	53.5
Effective Green, g (s)	27.5	27.5	26.5	26.5	22.5	53.5
Actuated g/C Ratio	0.31	0.31	0.29	0.29	0.25	0.59
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	540	483	1482	444	442	3022
v/s Ratio Prot	c0.35		0.25		c0.31	0.46
v/s Ratio Perm		0.13		c0.34		
v/c Ratio	1.16	0.41	0.86	1.14	1.22	0.78
Uniform Delay, d1	31.2	24.8	30.0	31.8	33.8	13.7
Progression Factor	1.00	1.00	1.00	1.00	0.88	0.93
Incremental Delay, d2	92.2	0.6	6.7	87.3	111.6	1.1
Delay (s)	123.5	25.4	36.7	119.1	141.4	13.9
Level of Service	F	C	D	F	F	B
Approach Delay (s)	78.6		71.9			37.8
Approach LOS	E		E			D

Intersection Summary			
HCM 2000 Control Delay	57.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	1897	14	0	2914	0	281
Future Volume (Veh/h)	1897	14	0	2914	0	281
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1997	15	0	3067	0	296
Pedestrians					3	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.57		0.75	0.57
vC, conflicting volume			2015		3030	1009
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1265		152	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	52
cM capacity (veh/h)			306		615	614

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1331	681	1022	1022	1022	296
Volume Left	0	0	0	0	0	0
Volume Right	0	15	0	0	0	296
cSH	1700	1700	1700	1700	1700	614
Volume to Capacity	0.78	0.40	0.60	0.60	0.60	0.48
Queue Length 95th (ft)	0	0	0	0	0	65
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	16.2
Lane LOS						C
Approach Delay (s)	0.0		0.0			16.2
Approach LOS						C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.4

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	1897	14	0	2914	0	281
Future Vol, veh/h	1897	14	0	2914	0	281
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1997	15	0	3067	0	296

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1009
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2.5
Pot Cap-1 Maneuver	-	-	0	-	0	373
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	372
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	43.3
HCM LOS			E

Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	372	-
HCM Lane V/C Ratio	-	-	0.795	-
HCM Control Delay (s)	-	-	43.3	-
HCM Lane LOS	-	-	E	-
HCM 95th %tile Q(veh)	-	-	6.8	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1422	66	543	2371	88	489
Future Volume (vph)	1422	66	543	2371	88	489
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3446		1770	3539	1787	1599
Flt Permitted	1.00		0.08	1.00	0.95	1.00
Satd. Flow (perm)	3446		154	3539	1787	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1466	68	560	2444	91	504
RTOR Reduction (vph)	3	0	0	0	0	6
Lane Group Flow (vph)	1531	0	560	2444	91	498
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	4%	4%	2%	2%	1%	1%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	44.0		81.9	81.9	9.1	42.5
Effective Green, g (s)	44.0		81.9	81.9	9.1	42.5
Actuated g/C Ratio	0.44		0.82	0.82	0.09	0.42
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1516		665	2898	162	751
v/s Ratio Prot	c0.44		0.28	c0.69	0.05	c0.22
v/s Ratio Perm			0.41			0.09
v/c Ratio	1.01		0.84	0.84	0.56	0.66
Uniform Delay, d1	28.0		26.1	5.3	43.5	23.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	25.5		9.5	2.4	4.4	2.2
Delay (s)	53.5		35.6	7.7	47.9	25.2
Level of Service	D		D	A	D	C
Approach Delay (s)	53.5			12.9	28.7	
Approach LOS	D			B	C	

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
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 (vph)	73	176	177	73	118	230	47	336	70	373	617	87
Future Volume (vph)	73	176	177	73	118	230	47	336	70	373	617	87
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	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	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	1.00		1.00	1.00	1.00
Frt	1.00	0.92		1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1697		1787	1881	1599	1770	1814		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1697		1787	1881	1599	1770	1814		1770	1863	1583
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)	77	185	186	77	124	242	49	354	74	393	649	92
RTOR Reduction (vph)	0	49	0	0	0	98	0	10	0	0	0	46
Lane Group Flow (vph)	77	322	0	77	124	144	49	418	0	393	649	46
Confl. Peds. (#/hr)			4	4								
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases						8						6
Actuated Green, G (s)	3.8	16.3		3.8	16.3	32.5	2.9	20.0		16.2	33.3	37.1
Effective Green, g (s)	3.8	16.3		3.8	16.3	32.5	2.9	20.0		16.2	33.3	37.1
Actuated g/C Ratio	0.05	0.22		0.05	0.22	0.44	0.04	0.27		0.22	0.45	0.50
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)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	90	372		91	412	796	69	488		385	834	886
v/s Ratio Prot	c0.04	c0.19		0.04	0.07	0.04	0.03	0.23		c0.22	c0.35	0.00
v/s Ratio Perm						0.05						0.03
v/c Ratio	0.86	0.87		0.85	0.30	0.18	0.71	0.86		1.02	0.78	0.05
Uniform Delay, d1	35.0	27.9		35.0	24.2	12.8	35.3	25.8		29.1	17.4	9.6
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	50.6	18.5		47.9	0.4	0.1	29.0	13.9		51.3	4.6	0.0
Delay (s)	85.6	46.4		82.8	24.7	12.9	64.3	39.7		80.3	22.0	9.6
Level of Service	F	D		F	C	B	E	D		F	C	A
Approach Delay (s)		53.1			28.3			42.2			41.2	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	41.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	74.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	3	0	9	212	1	43	7	350	359	44	526	1
Future Volume (vph)	3	0	9	212	1	43	7	350	359	44	526	1
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	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.98		1.00	0.98		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.90		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1655		1733	1526		1785	1881	1561	1749	1844	
Flt Permitted		0.96		0.75	1.00		0.33	1.00	1.00	0.50	1.00	
Satd. Flow (perm)		1604		1367	1526		611	1881	1561	911	1844	
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)	3	0	10	236	1	48	8	389	399	49	584	1
RTOR Reduction (vph)	0	9	0	0	34	0	0	0	196	0	0	0
Lane Group Flow (vph)	0	4	0	236	15	0	8	389	203	49	585	0
Confl. Peds. (#/hr)	1		1	1		1	3		3	3		3
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		13.1		13.1	13.1		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)		13.1		13.1	13.1		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio		0.29		0.29	0.29		0.51	0.51	0.51	0.51	0.51	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		465		397	443		311	959	796	464	940	
v/s Ratio Prot					0.01			0.21			c0.32	
v/s Ratio Perm		0.00		c0.17			0.01		0.13	0.05		
v/c Ratio		0.01		0.59	0.03		0.03	0.41	0.26	0.11	0.62	
Uniform Delay, d1		11.4		13.7	11.5		5.5	6.8	6.2	5.7	7.9	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		2.4	0.0		0.0	0.3	0.2	0.1	1.3	
Delay (s)		11.4		16.1	11.5		5.5	7.1	6.4	5.8	9.2	
Level of Service		B		B	B		A	A	A	A	A	
Approach Delay (s)		11.4			15.3			6.7			9.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	45.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	54	11	20	39	163	39	43	616	76	56	581	132
Future Volume (vph)	54	11	20	39	163	39	43	616	76	56	581	132
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	
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	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.98		1.00	0.97	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1609			1799		1787	1845		1769	1801	
Flt Permitted		0.64			0.94		0.17	1.00		0.18	1.00	
Satd. Flow (perm)		1066			1697		312	1845		343	1801	
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)	57	12	21	41	172	41	45	648	80	59	612	139
RTOR Reduction (vph)	0	16	0	0	12	0	0	6	0	0	11	0
Lane Group Flow (vph)	0	74	0	0	242	0	45	722	0	59	740	0
Confl. Peds. (#/hr)	3		4	4		3	6		3	3		6
Heavy Vehicles (%)	10%	10%	10%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		12.9			12.9		31.9	29.1		31.9	29.1	
Effective Green, g (s)		12.9			12.9		31.9	29.1		31.9	29.1	
Actuated g/C Ratio		0.22			0.22		0.55	0.50		0.55	0.50	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		235			375		241	920		256	898	
v/s Ratio Prot							0.01	0.39		c0.01	c0.41	
v/s Ratio Perm		0.07			c0.14		0.09			0.12		
v/c Ratio		0.31			0.65		0.19	0.78		0.23	0.82	
Uniform Delay, d1		19.0			20.6		8.6	12.0		8.4	12.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8			3.8		0.4	4.4		0.5	6.2	
Delay (s)		19.8			24.4		9.0	16.5		8.8	18.6	
Level of Service		B			C		A	B		A	B	
Approach Delay (s)		19.8			24.4			16.0			17.9	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	451	60	258	20	85	11	300	275	13	7	440	197
Future Volume (vph)	451	60	258	20	85	11	300	275	13	7	440	197
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	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.96		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.95	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1796	1534		1800		1787	1865		1745	1742	
Flt Permitted		0.68	1.00		0.73		0.11	1.00		0.58	1.00	
Satd. Flow (perm)		1281	1534		1317		211	1865		1057	1742	
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)	475	63	272	21	89	12	316	289	14	7	463	207
RTOR Reduction (vph)	0	0	176	0	5	0	0	2	0	0	19	0
Lane Group Flow (vph)	0	538	96	0	117	0	316	301	0	7	651	0
Confl. Peds. (#/hr)	2		9	9		2	5		5	5		5
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		29.5	29.5		29.5		45.1	39.6		32.1	31.1	
Effective Green, g (s)		29.5	29.5		29.5		45.1	39.6		32.1	31.1	
Actuated g/C Ratio		0.35	0.35		0.35		0.54	0.47		0.38	0.37	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		452	541		464		292	883		414	648	
v/s Ratio Prot							c0.12	0.16		0.00	0.37	
v/s Ratio Perm		c0.42	0.06		0.09		c0.46			0.01		
v/c Ratio		1.19	0.18		0.25		1.08	0.34		0.02	1.00	
Uniform Delay, d1		27.0	18.7		19.2		23.0	13.8		15.9	26.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		105.8	0.2		0.3		76.3	0.2		0.0	36.3	
Delay (s)		132.8	18.8		19.5		99.3	14.0		15.9	62.6	
Level of Service		F	B		B		F	B		B	E	
Approach Delay (s)		94.6			19.5			57.6			62.1	
Approach LOS		F			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	70.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	83.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	34	532	39	86	548	16	27	27	199	3	23	32
Future Volume (Veh/h)	34	532	39	86	548	16	27	27	199	3	23	32
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	560	41	91	577	17	28	28	209	3	24	34
Pedestrians		1			7			9				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			1				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.90						0.90	0.90		0.90	0.90	0.90
vC, conflicting volume	594			610			1476	1438	596	1525	1450	586
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	493			610			1473	1431	596	1528	1444	485
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 %	96			91			56	73	58	92	77	94
cM capacity (veh/h)	968			960			64	104	492	36	104	527

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	36	601	685	265	61
Volume Left	36	0	91	28	3
Volume Right	0	41	17	209	34
cSH	968	1700	960	396	160
Volume to Capacity	0.04	0.35	0.09	0.67	0.38
Queue Length 95th (ft)	3	0	8	118	41
Control Delay (s)	8.9	0.0	2.4	37.0	40.6
Lane LOS	A		A	E	E
Approach Delay (s)	0.5		2.4	37.0	40.6
Approach LOS				E	E

Intersection Summary				
Average Delay	8.6			
Intersection Capacity Utilization	85.4%	ICU Level of Service		E
Analysis Period (min)	15			

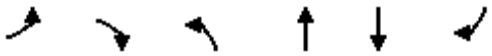
Intersection	
Int Delay, s/veh	8

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	34	532	39	86	548	16	27	27	199	3	23	32
Future Vol, veh/h	34	532	39	86	548	16	27	27	199	3	23	32
Conflicting Peds, #/hr	0	0	9	9	0	0	1	0	7	7	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	2	2	2	4	4	4	0	0	0
Mvmt Flow	36	560	41	91	577	17	28	28	209	3	24	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	594	0	0	610	0	0	1457	1436	597	1439	1448	586
Stage 1	-	-	-	-	-	-	661	661	-	766	766	-
Stage 2	-	-	-	-	-	-	796	775	-	673	682	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.14	6.54	6.24	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.536	4.036	3.336	3.5	4	3.3
Pot Cap-1 Maneuver	987	-	-	969	-	-	106	132	499	112	133	514
Stage 1	-	-	-	-	-	-	448	457	-	398	415	-
Stage 2	-	-	-	-	-	-	378	405	-	448	453	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	986	-	-	963	-	-	71	108	491	44	109	514
Mov Cap-2 Maneuver	-	-	-	-	-	-	71	108	-	44	109	-
Stage 1	-	-	-	-	-	-	428	437	-	383	356	-
Stage 2	-	-	-	-	-	-	283	348	-	230	433	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.5	1.2	36.5	37.6
HCM LOS			E	E

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	86	491	963	-	-	986	-	-	170
HCM Lane V/C Ratio	0.661	0.427	0.094	-	-	0.036	-	-	0.359
HCM Control Delay (s)	105.7	17.7	9.1	0	-	8.8	-	-	37.6
HCM Lane LOS	F	C	A	A	-	A	-	-	E
HCM 95th %tile Q(veh)	3.1	2.1	0.3	-	-	0.1	-	-	1.5



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	0	728	17	23	17
Future Volume (Veh/h)	6	0	728	17	23	17
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	6	0	766	18	24	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1574	24	24			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1574	24	24			
tC, single (s)	*6.0	6.2	4.1			
tC, 2 stage (s)						
tF (s)	*2.0	3.3	2.2			
p0 queue free %	94	100	51			
cM capacity (veh/h)	101	1050	1578			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	6	766	18	24	18
Volume Left	6	766	0	0	0
Volume Right	0	0	0	0	18
cSH	101	1578	1700	1700	1700
Volume to Capacity	0.06	0.49	0.01	0.01	0.01
Queue Length 95th (ft)	5	69	0	0	0
Control Delay (s)	43.0	9.4	0.0	0.0	0.0
Lane LOS	E	A			
Approach Delay (s)	43.0	9.2		0.0	
Approach LOS	E				

Intersection Summary			
Average Delay	9.0		
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

* User Entered Value

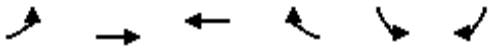
Intersection	
Int Delay, s/veh	9.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	0	728	17	23	17
Future Vol, veh/h	6	0	728	17	23	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	4	4	0	0
Mvmt Flow	6	0	766	18	24	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1575	-	24	0	-	0
Stage 1	24	-	-	-	-	-
Stage 2	1551	-	-	-	-	-
Critical Hdwy	6	-	4.14	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	2	-	2.236	-	-	-
Pot Cap-1 Maneuver	196	0	1578	-	-	0
Stage 1	1748	0	-	-	-	0
Stage 2	259	0	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	101	-	1578	-	-	-
Mov Cap-2 Maneuver	101	-	-	-	-	-
Stage 1	1748	-	-	-	-	-
Stage 2	133	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	43	9.2	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	1578	-	101	-
HCM Lane V/C Ratio	0.486	-	0.063	-
HCM Control Delay (s)	9.4	-	43	-
HCM Lane LOS	A	-	E	-
HCM 95th %tile Q(veh)	2.8	-	0.2	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	2982	0	0	23	0
Future Volume (Veh/h)	0	2982	0	0	23	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	3139	0	0	24	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0				1570	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				1570	0
tC, single (s)	4.2				*6.5	6.9
tC, 2 stage (s)						
tF (s)	2.2				*2.5	3.3
p0 queue free %	100				83	100
cM capacity (veh/h)	1614				139	1091

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	1570	1570	0	0	24
Volume Left	0	0	0	0	24
Volume Right	0	0	0	0	0
cSH	1700	1700	1700	1700	139
Volume to Capacity	0.92	0.92	0.00	0.00	0.17
Queue Length 95th (ft)	0	0	0	0	15
Control Delay (s)	0.0	0.0	0.0	0.0	36.2
Lane LOS					E
Approach Delay (s)	0.0		0.0		36.2
Approach LOS					E

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

* User Entered Value

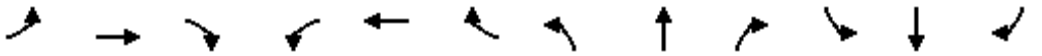
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2982	0	0	23	0
Future Vol, veh/h	0	2982	0	0	23	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	4	4	0	0
Mvmt Flow	0	3139	0	0	24	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	-	1569	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	1569	-
Critical Hdwy	-	-	-	-	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	-	-	2.5	-
Pot Cap-1 Maneuver	0	-	0	-	139	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	189	0
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	-	-	-	-	139	-
Mov Cap-2 Maneuver	-	-	-	-	139	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	189	-

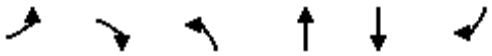
Approach	EB	WB	SB
HCM Control Delay, s	0	0	36.3
HCM LOS			E

Minor Lane/Major Mvmt	EBT	WBR	SBLn1
Capacity (veh/h)	-	-	139
HCM Lane V/C Ratio	-	-	0.174
HCM Control Delay (s)	-	-	36.3
HCM Lane LOS	-	-	E
HCM 95th %tile Q(veh)	-	-	0.6



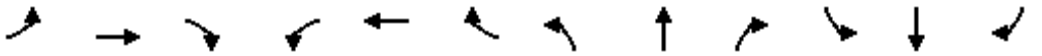
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	238	0	0	542	0	1878	179	0	3594	763
Future Volume (vph)	0	0	238	0	0	542	0	1878	179	0	3594	763
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2814			2760		5085	1583		5085	1583
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2814			2760		5085	1583		5085	1583
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)	0	0	245	0	0	559	0	1936	185	0	3705	787
RTOR Reduction (vph)	0	0	53	0	0	24	0	0	59	0	0	161
Lane Group Flow (vph)	0	0	192	0	0	535	0	1936	126	0	3705	626
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			5			1			2			6
Actuated Green, G (s)			12.3			24.5		70.9	70.9		83.1	83.1
Effective Green, g (s)			12.3			24.5		70.9	70.9		83.1	83.1
Actuated g/C Ratio			0.12			0.23		0.68	0.68		0.80	0.80
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			331			647		3453	1075		4047	1260
v/s Ratio Prot								0.38			c0.73	
v/s Ratio Perm			0.07			c0.19			0.08			0.40
v/c Ratio			0.58			0.83		0.56	0.12		0.92	0.50
Uniform Delay, d1			43.6			37.9		8.7	5.8		8.0	3.6
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			2.6			8.5		0.2	0.0		3.8	0.3
Delay (s)			46.2			46.4		8.9	5.9		11.8	3.9
Level of Service			D			D		A	A		B	A
Approach Delay (s)		46.2			46.4			8.6			10.4	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	104.4	Sum of lost time (s)	9.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	459	230	149	1598	2892	940
Future Volume (vph)	459	230	149	1598	2892	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583	1752	3505	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583	1752	3505	3539	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	468	235	152	1631	2951	959
RTOR Reduction (vph)	0	2	0	0	0	11
Lane Group Flow (vph)	468	233	152	1631	2951	948
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	Prot	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4				6
Actuated Green, G (s)	18.0	26.5	8.5	93.0	80.0	98.0
Effective Green, g (s)	18.0	26.5	8.5	93.0	80.0	98.0
Actuated g/C Ratio	0.15	0.22	0.07	0.78	0.67	0.82
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	514	408	124	2716	2359	1352
v/s Ratio Prot	c0.14	0.04	c0.09	0.47	c0.83	0.11
v/s Ratio Perm		0.11				0.49
v/c Ratio	0.91	0.57	1.23	0.60	1.25	0.70
Uniform Delay, d1	50.2	41.7	55.8	5.7	20.0	4.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	20.3	1.9	153.7	1.0	116.6	1.7
Delay (s)	70.5	43.6	209.5	6.7	136.6	6.4
Level of Service	E	D	F	A	F	A
Approach Delay (s)	61.5			24.0	104.7	
Approach LOS	E			C	F	

Intersection Summary			
HCM 2000 Control Delay	77.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	112.5%	ICU Level of Service	H
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 (vph)	485	945	70	90	700	558	55	704	130	1044	1421	657
Future Volume (vph)	485	945	70	90	700	558	55	704	130	1044	1421	657
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	4.5
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.99	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	1.00
Frt	1.00	0.99		1.00	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	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	3532		3467	3574	1577	1752	3505	1544	3433	3539	1555
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	3532		3467	3574	1577	1752	3505	1544	3433	3539	1555
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)	500	974	72	93	722	575	57	726	134	1076	1465	677
RTOR Reduction (vph)	0	4	0	0	0	396	0	0	105	0	0	182
Lane Group Flow (vph)	500	1042	0	93	722	179	57	726	29	1076	1465	495
Confl. Peds. (#/hr)	1		6	6		1	3		1	1		3
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	16.8	35.0		5.3	23.5	23.5	4.0	26.2	26.2	35.5	57.7	57.7
Effective Green, g (s)	16.8	35.0		5.3	23.5	23.5	4.0	26.2	26.2	35.5	57.7	57.7
Actuated g/C Ratio	0.14	0.29		0.04	0.20	0.20	0.03	0.22	0.22	0.30	0.48	0.48
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	485	1030		153	699	308	58	765	337	1015	1701	747
v/s Ratio Prot	c0.14	c0.29		0.03	0.20		0.03	c0.21		c0.31	0.41	
v/s Ratio Perm						0.11			0.02			0.32
v/c Ratio	1.03	1.01		0.61	1.03	0.58	0.98	0.95	0.09	1.06	0.86	0.66
Uniform Delay, d1	51.6	42.5		56.3	48.2	43.8	58.0	46.2	37.4	42.2	27.6	23.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	49.0	30.9		6.7	42.8	2.8	111.4	22.2	0.5	45.6	6.0	4.6
Delay (s)	100.6	73.4		63.0	91.0	46.6	169.4	68.5	37.9	87.8	33.6	28.3
Level of Service	F	E		E	F	D	F	E	D	F	C	C
Approach Delay (s)		82.2			70.8			70.3			50.6	
Approach LOS		F			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	64.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	97.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	212	34	26	159	39	28
Future Volume (Veh/h)	212	34	26	159	39	28
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	236	38	29	177	43	31
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			274		490	255
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			274		490	255
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		92	96
cM capacity (veh/h)			1278		525	784

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	274	206	74
Volume Left	0	29	43
Volume Right	38	0	31
cSH	1700	1278	609
Volume to Capacity	0.16	0.02	0.12
Queue Length 95th (ft)	0	2	10
Control Delay (s)	0.0	1.3	11.7
Lane LOS		A	B
Approach Delay (s)	0.0	1.3	11.7
Approach LOS			B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

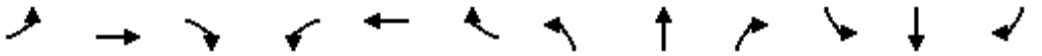
Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	212	34	26	159	39	28
Future Vol, veh/h	212	34	26	159	39	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	4	4	2	2
Mvmt Flow	236	38	29	177	43	31

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	273	0	488	254
Stage 1	-	-	-	-	254	-
Stage 2	-	-	-	-	234	-
Critical Hdwy	-	-	4.14	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.236	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1279	-	539	785
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	805	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1279	-	526	785
Mov Cap-2 Maneuver	-	-	-	-	526	-
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	785	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	610	-	-	1279	-
HCM Lane V/C Ratio	0.122	-	-	0.023	-
HCM Control Delay (s)	11.7	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	674	226	21	309	42	53	25	10	38	22	0
Future Volume (Veh/h)	0	674	226	21	309	42	53	25	10	38	22	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	709	238	22	325	44	56	26	11	40	23	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	369			947			1230	1241	828	1243	1338	347
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	369			947			1230	1241	828	1243	1338	347
tC, single (s)	4.1			4.1			*6.0	*6.0	*6.0	*6.0	*6.0	*6.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*2.0	*2.0	*2.0	*2.0	*2.0	*2.0
p0 queue free %	100			97			81	91	98	86	91	100
cM capacity (veh/h)	1190			721			292	305	565	281	266	1110

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	947	391	93	63
Volume Left	0	22	56	40
Volume Right	238	44	11	0
cSH	1190	721	313	275
Volume to Capacity	0.00	0.03	0.30	0.23
Queue Length 95th (ft)	0	2	30	22
Control Delay (s)	0.0	0.9	21.3	21.9
Lane LOS		A	C	C
Approach Delay (s)	0.0	0.9	21.3	21.9
Approach LOS			C	C

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

* User Entered Value

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	674	226	21	309	42	53	25	10	38	22	0
Future Vol, veh/h	0	674	226	21	309	42	53	25	10	38	22	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	3	3	3	2	2	2	2	2	2
Mvmt Flow	0	709	238	22	325	44	56	26	11	40	23	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	369	0	0	947	0	0	1231	1242	828	1239	1339	347
Stage 1	-	-	-	-	-	-	828	828	-	392	392	-
Stage 2	-	-	-	-	-	-	403	414	-	847	947	-
Critical Hdwy	4.12	-	-	4.13	-	-	6	6	6	6	6	6
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.227	-	-	2	2	2	2	2	2
Pot Cap-1 Maneuver	1190	-	-	721	-	-	319	314	565	316	274	1110
Stage 1	-	-	-	-	-	-	550	631	-	1029	1098	-
Stage 2	-	-	-	-	-	-	1013	1068	-	535	542	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1190	-	-	721	-	-	289	302	565	281	263	1110
Mov Cap-2 Maneuver	-	-	-	-	-	-	289	302	-	281	263	-
Stage 1	-	-	-	-	-	-	550	631	-	1029	1055	-
Stage 2	-	-	-	-	-	-	952	1026	-	503	542	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.6	21.5	22
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	310	1190	-	-	721	-	-	274
HCM Lane V/C Ratio	0.299	-	-	-	0.031	-	-	0.231
HCM Control Delay (s)	21.5	0	-	-	10.2	0	-	22
HCM Lane LOS	C	A	-	-	B	A	-	C
HCM 95th %tile Q(veh)	1.2	0	-	-	0.1	-	-	0.9



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	535	321	1622	388	859	1053
Future Volume (vph)	535	321	1622	388	859	1053
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3273	1509	4988	1510	1752	5036
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3273	1509	4988	1510	1752	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	563	338	1707	408	904	1108
RTOR Reduction (vph)	0	0	0	287	0	0
Lane Group Flow (vph)	563	338	1707	121	904	1108
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	7%	7%	4%	4%	3%	3%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	17.6	50.5	26.0	26.0	32.9	63.4
Effective Green, g (s)	17.6	50.5	26.0	26.0	32.9	63.4
Actuated g/C Ratio	0.20	0.56	0.29	0.29	0.37	0.70
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	640	922	1440	436	640	3547
v/s Ratio Prot	c0.17	0.13	c0.34		c0.52	0.22
v/s Ratio Perm		0.09		0.08		
v/c Ratio	0.88	0.37	1.19	0.28	1.41	0.31
Uniform Delay, d1	35.2	10.9	32.0	24.7	28.6	5.0
Progression Factor	1.00	1.00	1.09	2.71	1.00	1.00
Incremental Delay, d2	13.1	0.2	88.0	0.9	194.8	0.2
Delay (s)	48.3	11.2	122.8	67.9	223.4	5.3
Level of Service	D	B	F	E	F	A
Approach Delay (s)	34.4		112.2			103.3
Approach LOS	C		F			F

Intersection Summary			
HCM 2000 Control Delay	94.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	205	576	1468	1261	347	1213
Future Volume (vph)	205	576	1468	1261	347	1213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1719	1538	4940	1496	1719	4940
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1719	1538	4940	1496	1719	4940
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	216	606	1545	1327	365	1277
RTOR Reduction (vph)	0	225	0	328	0	0
Lane Group Flow (vph)	216	381	1545	999	365	1277
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	18.5	18.5	43.5	43.5	14.5	62.5
Effective Green, g (s)	18.5	18.5	43.5	43.5	14.5	62.5
Actuated g/C Ratio	0.21	0.21	0.48	0.48	0.16	0.69
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	353	316	2387	723	276	3430
v/s Ratio Prot	0.13		0.31		c0.21	0.26
v/s Ratio Perm		c0.25		c0.67		
v/c Ratio	0.61	1.21	0.65	1.38	1.32	0.37
Uniform Delay, d1	32.5	35.8	17.5	23.2	37.8	5.7
Progression Factor	1.00	1.00	1.00	1.00	0.80	1.83
Incremental Delay, d2	3.1	118.8	1.4	180.6	165.7	0.3
Delay (s)	35.6	154.6	18.9	203.9	195.9	10.6
Level of Service	D	F	B	F	F	B
Approach Delay (s)	123.3		104.3			51.8
Approach LOS	F		F			D

Intersection Summary			
HCM 2000 Control Delay	91.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	105.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	2236	17	0	1409	0	298
Future Volume (Veh/h)	2236	17	0	1409	0	298
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2354	18	0	1483	0	314
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.54		0.59	0.54
vC, conflicting volume			2372		2857	1186
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1830		1721	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			100		100	46
cM capacity (veh/h)			168		47	582

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1569	803	494	494	494	314
Volume Left	0	0	0	0	0	0
Volume Right	0	18	0	0	0	314
cSH	1700	1700	1700	1700	1700	582
Volume to Capacity	0.92	0.47	0.29	0.29	0.29	0.54
Queue Length 95th (ft)	0	0	0	0	0	80
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	18.2
Lane LOS						C
Approach Delay (s)	0.0		0.0			18.2
Approach LOS						C

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	87.5%	ICU Level of Service		E
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	5

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	2236	17	0	1409	0	298
Future Vol, veh/h	2236	17	0	1409	0	298
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	6	6	6	6	2	2
Mvmt Flow	2354	18	0	1483	0	314

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1186
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2
Pot Cap-1 Maneuver	-	-	0	-	0	340
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	340
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	66.7
HCM LOS			F

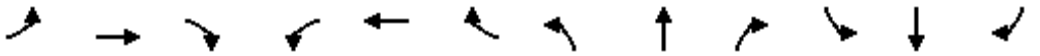
Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	340	-
HCM Lane V/C Ratio	-	-	0.923	-
HCM Control Delay (s)	-	-	66.7	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	9.3	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1695	32	420	1069	102	666
Future Volume (vph)	1695	32	420	1069	102	666
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3395		1703	3406	1736	1553
Flt Permitted	1.00		0.08	1.00	0.95	1.00
Satd. Flow (perm)	3395		139	3406	1736	1553
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1784	34	442	1125	107	701
RTOR Reduction (vph)	2	0	0	0	0	4
Lane Group Flow (vph)	1816	0	442	1125	107	697
Confl. Peds. (#/hr)		1	1		3	
Heavy Vehicles (%)	6%	6%	6%	6%	4%	4%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	47.0		79.5	79.5	11.5	39.5
Effective Green, g (s)	47.0		79.5	79.5	11.5	39.5
Actuated g/C Ratio	0.47		0.80	0.80	0.12	0.40
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1595		548	2707	199	683
v/s Ratio Prot	c0.53		0.23	0.33	0.06	c0.29
v/s Ratio Perm			0.41			0.16
v/c Ratio	1.14		0.81	0.42	0.54	1.02
Uniform Delay, d1	26.5		27.7	3.1	41.7	30.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	70.7		8.5	0.1	2.8	39.9
Delay (s)	97.2		36.2	3.2	44.5	70.1
Level of Service	F		D	A	D	E
Approach Delay (s)	97.2			12.5	66.7	
Approach LOS	F			B	E	

Intersection Summary			
HCM 2000 Control Delay	59.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
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 (vph)	33	124	63	43	256	414	279	563	41	193	398	73
Future Volume (vph)	33	124	63	43	256	414	279	563	41	193	398	73
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	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	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	1.00		1.00	1.00	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1656	1643		1752	1845	1568	1752	1826		1736	1827	1553
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1656	1643		1752	1845	1568	1752	1826		1736	1827	1553
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)	35	131	66	45	269	436	294	593	43	203	419	77
RTOR Reduction (vph)	0	25	0	0	0	124	0	3	0	0	0	51
Lane Group Flow (vph)	35	172	0	45	269	312	294	633	0	203	419	26
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	9%	9%	9%	3%	3%	3%	3%	3%	3%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases						8						6
Actuated Green, G (s)	3.8	16.4		2.8	15.4	24.8	13.6	25.0		9.4	20.8	24.6
Effective Green, g (s)	3.8	16.4		2.8	15.4	24.8	13.6	25.0		9.4	20.8	24.6
Actuated g/C Ratio	0.05	0.23		0.04	0.22	0.35	0.19	0.35		0.13	0.29	0.34
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)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	87	376		68	396	641	332	637		227	530	631
v/s Ratio Prot	0.02	0.10		c0.03	c0.15	0.06	c0.17	c0.35		0.12	0.23	0.00
v/s Ratio Perm						0.14						0.01
v/c Ratio	0.40	0.46		0.66	0.68	0.49	0.89	0.99		0.89	0.79	0.04
Uniform Delay, d1	32.8	23.8		33.9	25.8	18.4	28.2	23.2		30.6	23.4	15.7
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	3.0	0.9		21.6	4.6	0.6	23.3	33.8		32.7	7.9	0.0
Delay (s)	35.8	24.7		55.5	30.4	19.0	51.6	57.0		63.3	31.3	15.7
Level of Service	D	C		E	C	B	D	E		E	C	B
Approach Delay (s)		26.3			25.3			55.3			38.9	
Approach LOS		C			C			E			D	

Intersection Summary					
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	0.88				
Actuated Cycle Length (s)	71.6	Sum of lost time (s)		18.0	
Intersection Capacity Utilization	75.4%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	1	0	555	1	39	1	215	206	21	523	0
Future Volume (vph)	0	1	0	555	1	39	1	215	206	21	523	0
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	
Lane Util. Factor		1.00		1.00	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	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		1.00		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1900		1716	1544		1701	1792	1491	1734	1827	
Flt Permitted		1.00		0.76	1.00		0.20	1.00	1.00	0.57	1.00	
Satd. Flow (perm)		1900		1368	1544		360	1792	1491	1045	1827	
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)	0	1	0	617	1	43	1	239	229	23	581	0
RTOR Reduction (vph)	0	0	0	0	22	0	0	0	149	0	0	0
Lane Group Flow (vph)	0	1	0	617	22	0	1	239	80	23	581	0
Confl. Peds. (#/hr)			1	1			3		1	1		3
Heavy Vehicles (%)	0%	0%	0%	5%	5%	5%	6%	6%	6%	4%	4%	4%
Turn Type		NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		28.4		28.4	28.4		19.9	19.9	19.9	19.9	19.9	
Effective Green, g (s)		28.4		28.4	28.4		19.9	19.9	19.9	19.9	19.9	
Actuated g/C Ratio		0.50		0.50	0.50		0.35	0.35	0.35	0.35	0.35	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		941		678	765		125	622	517	362	634	
v/s Ratio Prot		0.00			0.01			0.13			c0.32	
v/s Ratio Perm				c0.45			0.00		0.05	0.02		
v/c Ratio		0.00		0.91	0.03		0.01	0.38	0.15	0.06	0.92	
Uniform Delay, d1		7.3		13.3	7.4		12.2	14.1	12.9	12.5	17.9	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		16.4	0.0		0.0	0.4	0.1	0.1	18.0	
Delay (s)		7.3		29.6	7.4		12.3	14.5	13.0	12.6	35.9	
Level of Service		A		C	A		B	B	B	B	D	
Approach Delay (s)		7.3			28.2			13.8			35.0	
Approach LOS		A			C			B			D	

Intersection Summary			
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	57.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	19	20	19	14	92	44	36	376	122	70	717	278
Future Volume (vph)	19	20	19	14	92	44	36	376	122	70	717	278
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	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.96		1.00	0.96		1.00	0.96	
Flt Protected		0.98			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1477			1669		1703	1717		1735	1739	
Flt Permitted		0.82			0.97		0.07	1.00		0.37	1.00	
Satd. Flow (perm)		1236			1624		132	1717		681	1739	
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)	21	22	21	16	102	49	40	418	136	78	797	309
RTOR Reduction (vph)	0	18	0	0	18	0	0	11	0	0	13	0
Lane Group Flow (vph)	0	46	0	0	149	0	40	543	0	78	1093	0
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	20%	20%	20%	8%	8%	8%	6%	6%	6%	4%	4%	4%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		12.6			12.6		58.1	55.2		60.9	56.6	
Effective Green, g (s)		12.6			12.6		58.1	55.2		60.9	56.6	
Actuated g/C Ratio		0.15			0.15		0.68	0.64		0.71	0.66	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		181			239		142	1107		537	1149	
v/s Ratio Prot							c0.01	0.32		0.01	c0.63	
v/s Ratio Perm		0.04			c0.09		0.18			0.10		
v/c Ratio		0.25			0.62		0.28	0.49		0.15	0.95	
Uniform Delay, d1		32.3			34.3		14.9	7.9		4.4	13.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			5.0		1.1	0.3		0.1	16.2	
Delay (s)		33.1			39.3		16.0	8.2		4.6	29.4	
Level of Service		C			D		B	A		A	C	
Approach Delay (s)		33.1			39.3			8.8			27.8	
Approach LOS		C			D			A			C	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	85.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	244	46	152	4	53	4	420	269	10	1	373	396
Future Volume (vph)	244	46	152	4	53	4	420	269	10	1	373	396
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	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.97		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.92	
Flt Protected		0.96	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750	1506		1838		1752	1833		1716	1645	
Flt Permitted		0.76	1.00		0.98		0.08	1.00		0.58	1.00	
Satd. Flow (perm)		1393	1506		1803		154	1833		1048	1645	
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)	257	48	160	4	56	4	442	283	11	1	393	417
RTOR Reduction (vph)	0	0	127	0	2	0	0	1	0	0	41	0
Lane Group Flow (vph)	0	305	33	0	62	0	442	293	0	1	769	0
Confl. Peds. (#/hr)	1		4	4		1	3		2	2		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		19.1	19.1		19.1		65.5	60.0		44.4	43.4	
Effective Green, g (s)		19.1	19.1		19.1		65.5	60.0		44.4	43.4	
Actuated g/C Ratio		0.20	0.20		0.20		0.70	0.64		0.47	0.46	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		284	307		367		408	1175		504	762	
v/s Ratio Prot							c0.20	0.16		0.00	0.47	
v/s Ratio Perm		c0.22	0.02		0.03		c0.55			0.00		
v/c Ratio		1.07	0.11		0.17		1.08	0.25		0.00	1.01	
Uniform Delay, d1		37.2	30.3		30.7		30.2	7.2		12.9	25.1	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		74.4	0.2		0.2		68.8	0.1		0.0	35.0	
Delay (s)		111.7	30.5		30.9		99.0	7.3		12.9	60.1	
Level of Service		F	C		C		F	A		B	E	
Approach Delay (s)		83.7			30.9			62.4			60.0	
Approach LOS		F			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	65.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	93.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	101.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	29	380	37	168	747	16	7	33	76	0	16	14
Future Volume (Veh/h)	29	380	37	168	747	16	7	33	76	0	16	14
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	31	400	39	177	786	17	7	35	80	0	17	15
Pedestrians		2			10			4				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			0				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.88						0.88	0.88		0.88	0.88	0.88
vC, conflicting volume	803			443			1660	1642	434	1678	1654	796
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	712			443			1680	1661	434	1701	1674	705
tC, single (s)	4.1			4.1			7.2	6.6	6.3	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.6	4.1	3.4	3.5	4.0	3.3
p0 queue free %	96			84			83	47	87	100	75	96
cM capacity (veh/h)	777			1108			42	67	600	28	69	388

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	31	439	980	122	32
Volume Left	31	0	177	7	0
Volume Right	0	39	17	80	15
cSH	777	1700	1108	182	112
Volume to Capacity	0.04	0.26	0.16	0.67	0.29
Queue Length 95th (ft)	3	0	14	100	27
Control Delay (s)	9.8	0.0	3.8	56.0	49.6
Lane LOS	A		A	F	E
Approach Delay (s)	0.6		3.8	56.0	49.6
Approach LOS				F	E

Intersection Summary				
Average Delay	7.8			
Intersection Capacity Utilization	91.2%	ICU Level of Service		F
Analysis Period (min)	15			

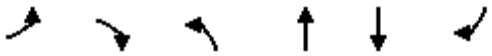
Intersection	
Int Delay, s/veh	6.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	29	380	37	168	747	16	7	33	76	0	16	14
Future Vol, veh/h	29	380	37	168	747	16	7	33	76	0	16	14
Conflicting Peds, #/hr	0	0	4	4	0	0	2	0	10	10	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	3	3	3	9	9	9	0	0	0
Mvmt Flow	31	400	39	177	786	17	7	35	80	0	17	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	803	0	0	443	0	0	1651	1642	433	1656	1652	797
Stage 1	-	-	-	-	-	-	485	485	-	1148	1148	-
Stage 2	-	-	-	-	-	-	1166	1157	-	508	504	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.19	6.59	6.29	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.19	5.59	-	6.1	5.5	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.581	4.081	3.381	3.5	4	3.3
Pot Cap-1 Maneuver	812	-	-	1112	-	-	76	96	608	79	100	390
Stage 1	-	-	-	-	-	-	550	540	-	244	276	-
Stage 2	-	-	-	-	-	-	229	263	-	551	544	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	810	-	-	1101	-	-	45	65	600	30	68	389
Mov Cap-2 Maneuver	-	-	-	-	-	-	45	65	-	30	68	-
Stage 1	-	-	-	-	-	-	527	517	-	235	196	-
Stage 2	-	-	-	-	-	-	143	186	-	424	521	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.6	1.6	59.9	49.8
HCM LOS			F	E

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	60	600	1101	-	-	810	-	-	111
HCM Lane V/C Ratio	0.702	0.133	0.161	-	-	0.038	-	-	0.284
HCM Control Delay (s)	151	11.9	8.9	0	-	9.6	-	-	49.8
HCM Lane LOS	F	B	A	A	-	A	-	-	E
HCM 95th %tile Q(veh)	3	0.5	0.6	-	-	0.1	-	-	1.1



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	0	1049	36	26	6
Future Volume (Veh/h)	20	0	1049	36	26	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	0	1104	38	27	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2273	27	27			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2273	27	27			
tC, single (s)	*6.0	6.3	4.1			
tC, 2 stage (s)						
tF (s)	*2.0	3.4	2.2			
p0 queue free %	1	100	30			
cM capacity (veh/h)	21	1037	1568			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	21	1104	38	27	6
Volume Left	21	1104	0	0	0
Volume Right	0	0	0	0	6
cSH	21	1568	1700	1700	1700
Volume to Capacity	0.99	0.70	0.02	0.02	0.00
Queue Length 95th (ft)	70	161	0	0	0
Control Delay (s)	447.4	12.6	0.0	0.0	0.0
Lane LOS	F	B			
Approach Delay (s)	447.4	12.1		0.0	
Approach LOS	F				

Intersection Summary			
Average Delay	19.4		
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

* User Entered Value

Intersection	
Int Delay, s/veh	19.7

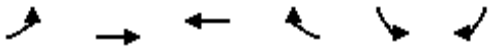
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	0	1049	36	26	6
Future Vol, veh/h	20	0	1049	36	26	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	6	6	5	5	18	18
Mvmt Flow	21	0	1104	38	27	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2273	-	27	0	-	0
Stage 1	27	-	-	-	-	-
Stage 2	2246	-	-	-	-	-
Critical Hdwy	6	-	4.15	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	2	-	2.245	-	-	-
Pot Cap-1 Maneuver	72	0	1568	-	-	0
Stage 1	1741	0	-	-	-	0
Stage 2	104	0	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	~ 21	-	1568	-	-	-
Mov Cap-2 Maneuver	~ 21	-	-	-	-	-
Stage 1	1741	-	-	-	-	-
Stage 2	31	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 455.1	12.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT
Capacity (veh/h)	1568	- 21	-
HCM Lane V/C Ratio	0.704	- 1.003	-
HCM Control Delay (s)	12.6	-$ 455.1	-
HCM Lane LOS	B	- F	-
HCM 95th %tile Q(veh)	6.4	- 2.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1830	0	1085	26	0
Future Volume (Veh/h)	0	1830	0	1085	26	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1926	0	1142	27	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1142				963	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1142				963	0
tC, single (s)	4.2				7.2	7.3
tC, 2 stage (s)						
tF (s)	2.3				3.7	3.5
p0 queue free %	100				88	100
cM capacity (veh/h)	585				226	1034

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	963	963	571	571	27
Volume Left	0	0	0	0	27
Volume Right	0	0	571	571	0
cSH	1700	1700	1700	1700	226
Volume to Capacity	0.57	0.57	0.34	0.34	0.12
Queue Length 95th (ft)	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	23.0
Lane LOS					C
Approach Delay (s)	0.0		0.0		23.0
Approach LOS					C

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

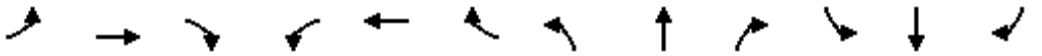
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑		↑↑	↰	
Traffic Vol, veh/h	0	1830	0	1085	26	0
Future Vol, veh/h	0	1830	0	1085	26	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	6	6	5	5	18	18
Mvmt Flow	0	1926	0	1142	27	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	-	963	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	963	-
Critical Hdwy	-	-	-	-	7.86	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	6.86	-
Follow-up Hdwy	-	-	-	-	3.68	-
Pot Cap-1 Maneuver	0	-	0	-	188	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	245	0
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	-	-	-	-	188	-
Mov Cap-2 Maneuver	-	-	-	-	188	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	245	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	27.4
HCM LOS			D

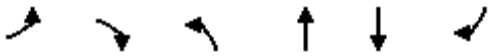
Minor Lane/Major Mvmt	EBT	WBR	SBLn1
Capacity (veh/h)	-	-	188
HCM Lane V/C Ratio	-	-	0.146
HCM Control Delay (s)	-	-	27.4
HCM Lane LOS	-	-	D
HCM 95th %tile Q(veh)	-	-	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	133	0	0	598	0	2732	198	0	1939	612
Future Volume (vph)	0	0	133	0	0	598	0	2732	198	0	1939	612
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
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frpb, ped/bikes			1.00			1.00		1.00	0.98		1.00	1.00
Flpb, ped/bikes			1.00			1.00		1.00	1.00		1.00	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2760			2538		4988	1521		4893	1524
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2760			2538		4988	1521		4893	1524
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)	0	0	137	0	0	616	0	2816	204	0	1999	631
RTOR Reduction (vph)	0	0	67	0	0	13	0	0	74	0	0	118
Lane Group Flow (vph)	0	0	70	0	0	603	0	2816	130	0	1999	513
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	12%	12%	12%	4%	4%	4%	6%	6%	6%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			5			1			2			6
Actuated Green, G (s)			7.7			23.5		56.5	56.5		72.3	72.3
Effective Green, g (s)			7.7			23.5		56.5	56.5		72.3	72.3
Actuated g/C Ratio			0.09			0.26		0.63	0.63		0.81	0.81
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			238			670		3166	965		3974	1238
v/s Ratio Prot								c0.56			0.41	
v/s Ratio Perm			0.03			c0.24			0.09			0.34
v/c Ratio			0.30			0.90		0.89	0.13		0.50	0.41
Uniform Delay, d1			38.1			31.6		13.6	6.5		2.6	2.4
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.7			14.9		3.5	0.1		0.1	0.2
Delay (s)			38.8			46.5		17.1	6.6		2.8	2.6
Level of Service			D			D		B	A		A	A
Approach Delay (s)		38.8			46.5			16.4			2.7	
Approach LOS		D			D			B			A	

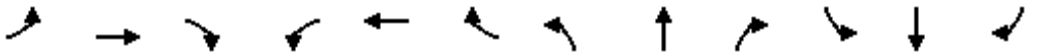
Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	782	184	144	2303	1703	535
Future Volume (vph)	782	184	144	2303	1703	535
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3400	1568	1736	3471	3471	1553
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3400	1568	1736	3471	3471	1553
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	815	192	150	2399	1774	557
RTOR Reduction (vph)	0	9	0	0	0	28
Lane Group Flow (vph)	815	183	150	2399	1774	529
Heavy Vehicles (%)	3%	3%	4%	4%	4%	4%
Turn Type	Prot	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4				6
Actuated Green, G (s)	28.5	39.9	11.4	82.5	66.6	95.1
Effective Green, g (s)	28.5	39.9	11.4	82.5	66.6	95.1
Actuated g/C Ratio	0.24	0.33	0.10	0.69	0.55	0.79
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	807	580	164	2386	1926	1288
v/s Ratio Prot	c0.24	0.03	0.09	c0.69	0.51	0.10
v/s Ratio Perm		0.09				0.24
v/c Ratio	1.01	0.31	0.91	1.01	0.92	0.41
Uniform Delay, d1	45.8	29.9	53.8	18.8	24.3	3.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	34.1	0.3	45.9	19.7	8.8	0.2
Delay (s)	79.9	30.2	99.7	38.5	33.1	4.0
Level of Service	E	C	F	D	C	A
Approach Delay (s)	70.4			42.1	26.1	
Approach LOS	E			D	C	

Intersection Summary			
HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
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 (vph)	505	443	21	112	592	0	44	1070	133	614	635	795
Future Volume (vph)	505	443	21	112	592	0	44	1070	133	614	635	795
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	0.97	0.95		0.97	0.95		1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		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	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		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)	3273	3348		3400	3505		1719	3438	1538	3335	3438	1538
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3273	3348		3400	3505		1719	3438	1538	3335	3438	1538
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)	532	466	22	118	623	0	46	1126	140	646	668	837
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	93	0	0	218
Lane Group Flow (vph)	532	485	0	118	623	0	46	1126	47	646	668	619
Confl. Peds. (#/hr)			4	4								
Heavy Vehicles (%)	7%	7%	7%	3%	3%	3%	5%	5%	5%	5%	5%	5%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	18.6	30.9		8.2	20.5		4.2	40.4	40.4	22.5	58.7	58.7
Effective Green, g (s)	18.6	30.9		8.2	20.5		4.2	40.4	40.4	22.5	58.7	58.7
Actuated g/C Ratio	0.16	0.26		0.07	0.17		0.04	0.34	0.34	0.19	0.49	0.49
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)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	507	862		232	598		60	1157	517	625	1681	752
v/s Ratio Prot	c0.16	0.14		0.03	c0.18		0.03	c0.33		c0.19	0.19	
v/s Ratio Perm									0.03			0.40
v/c Ratio	1.05	0.56		0.51	1.04		0.77	0.97	0.09	1.03	0.40	0.82
Uniform Delay, d1	50.7	38.7		54.0	49.8		57.4	39.3	27.2	48.8	19.4	26.2
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	53.5	0.8		1.8	48.1		43.5	20.8	0.3	44.9	0.7	9.9
Delay (s)	104.2	39.5		55.7	97.9		100.9	60.0	27.6	93.7	20.1	36.2
Level of Service	F	D		E	F		F	E	C	F	C	D
Approach Delay (s)		73.3			91.2			58.0			48.5	
Approach LOS		E			F			E			D	

Intersection Summary			
HCM 2000 Control Delay	61.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	53	73	52	165	98	67
Future Volume (Veh/h)	53	73	52	165	98	67
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	62	86	61	194	115	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			148		421	105
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			148		421	105
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		80	92
cM capacity (veh/h)			1415		564	949

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	148	255	194
Volume Left	0	61	115
Volume Right	86	0	79
cSH	1700	1415	676
Volume to Capacity	0.09	0.04	0.29
Queue Length 95th (ft)	0	3	30
Control Delay (s)	0.0	2.1	12.5
Lane LOS		A	B
Approach Delay (s)	0.0	2.1	12.5
Approach LOS			B

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		

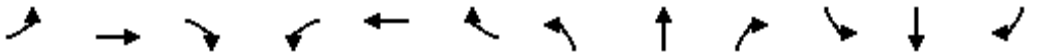
Intersection	
Int Delay, s/veh	4.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	53	73	52	165	98	67
Future Vol, veh/h	53	73	52	165	98	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	5	5	5	2	2
Mvmt Flow	62	86	61	194	115	79

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	148	0	421	105
Stage 1	-	-	-	-	105	-
Stage 2	-	-	-	-	316	-
Critical Hdwy	-	-	4.15	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.245	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1415	-	589	949
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	739	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1415	-	561	949
Mov Cap-2 Maneuver	-	-	-	-	561	-
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	704	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	673	-	-	1415	-
HCM Lane V/C Ratio	0.288	-	-	0.043	-
HCM Control Delay (s)	12.5	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	149	114	83	526	65	149	35	40	88	42	166
Future Volume (Veh/h)	58	149	114	83	526	65	149	35	40	88	42	166
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	61	157	120	87	554	68	157	37	42	93	44	175
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	622			277			1298	1135	217	1162	1161	588
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	622			277			1298	1135	217	1162	1161	588
tC, single (s)	4.2			4.2			*6.0	*6.0	*6.0	*6.0	*6.0	*6.0
tC, 2 stage (s)												
tF (s)	2.3			2.3			*2.0	*2.0	*2.0	*2.0	*2.0	*2.0
p0 queue free %	93			93			13	88	97	67	86	78
cM capacity (veh/h)	903			1258			181	318	1331	280	306	792

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	338	709	236	312
Volume Left	61	87	157	93
Volume Right	120	68	42	175
cSH	903	1258	233	448
Volume to Capacity	0.07	0.07	1.01	0.70
Queue Length 95th (ft)	5	6	240	132
Control Delay (s)	2.3	1.8	107.6	29.5
Lane LOS	A	A	F	D
Approach Delay (s)	2.3	1.8	107.6	29.5
Approach LOS			F	D

Intersection Summary			
Average Delay	23.0		
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		

* User Entered Value

Intersection	
Int Delay, s/veh	20

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	58	149	114	83	526	65	149	35	40	88	42	166
Future Vol, veh/h	58	149	114	83	526	65	149	35	40	88	42	166
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	14	14	14	7	7	7	4	4	4	2	2	2
Mvmt Flow	61	157	120	87	554	68	157	37	42	93	44	175

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	622	0	0	277	0	0	1211	1136	217	1141	1162	588
Stage 1	-	-	-	-	-	-	339	339	-	763	763	-
Stage 2	-	-	-	-	-	-	872	797	-	378	399	-
Critical Hdwy	4.24	-	-	4.17	-	-	6	6	6	6	6	6
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.12	5.52	-
Follow-up Hdwy	2.326	-	-	2.263	-	-	2	2	2	2	2	2
Pot Cap-1 Maneuver	903	-	-	1258	-	-	329	365	1331	363	352	792
Stage 1	-	-	-	-	-	-	1108	1172	-	604	685	-
Stage 2	-	-	-	-	-	-	513	653	-	1050	1088	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	903	-	-	1258	-	-	196	300	1331	275	289	792
Mov Cap-2 Maneuver	-	-	-	-	-	-	196	300	-	275	289	-
Stage 1	-	-	-	-	-	-	1018	1077	-	555	612	-
Stage 2	-	-	-	-	-	-	331	583	-	902	1000	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	1	89.1	30.9
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	247	903	-	-	1258	-	-	439
HCM Lane V/C Ratio	0.955	0.068	-	-	0.069	-	-	0.71
HCM Control Delay (s)	89.1	9.3	0	-	8.1	0	-	30.9
HCM Lane LOS	F	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	8.7	0.2	-	-	0.2	-	-	5.5



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1255	435	1250	535	560	1600
Future Volume (vph)	1255	435	1250	535	560	1600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3400	1568	5085	1526	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3400	1568	5085	1526	1770	5085
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1294	448	1289	552	577	1649
RTOR Reduction (vph)	0	0	0	414	0	0
Lane Group Flow (vph)	1294	448	1289	138	577	1649
Confl. Peds. (#/hr)				6	6	
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	29.5	54.0	22.5	22.5	24.5	51.5
Effective Green, g (s)	29.5	54.0	22.5	22.5	24.5	51.5
Actuated g/C Ratio	0.33	0.60	0.25	0.25	0.27	0.57
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1114	1019	1271	381	481	2909
v/s Ratio Prot	c0.38	0.12	c0.25		c0.33	0.32
v/s Ratio Perm		0.17		0.09		
v/c Ratio	1.16	0.44	1.01	0.36	1.20	0.57
Uniform Delay, d1	30.2	9.8	33.8	27.8	32.8	12.2
Progression Factor	1.00	1.00	1.25	4.88	1.00	1.00
Incremental Delay, d2	82.9	0.3	22.7	1.5	108.4	0.8
Delay (s)	113.1	10.1	64.9	137.2	141.2	13.0
Level of Service	F	B	E	F	F	B
Approach Delay (s)	86.6		86.6			46.2
Approach LOS	F		F			D

Intersection Summary			
HCM 2000 Control Delay	71.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	615	520	1265	930	530	2325
Future Volume (vph)	615	520	1265	930	530	2325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	5036	1510	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	5036	1510	1770	5085
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	628	531	1291	949	541	2372
RTOR Reduction (vph)	0	331	0	442	0	0
Lane Group Flow (vph)	628	200	1291	507	541	2372
Confl. Peds. (#/hr)				7	7	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	27.5	27.5	26.5	26.5	22.5	53.5
Effective Green, g (s)	27.5	27.5	26.5	26.5	22.5	53.5
Actuated g/C Ratio	0.31	0.31	0.29	0.29	0.25	0.59
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	540	483	1482	444	442	3022
v/s Ratio Prot	c0.35		0.26		c0.31	0.47
v/s Ratio Perm		0.13		c0.34		
v/c Ratio	1.16	0.41	0.87	1.14	1.22	0.78
Uniform Delay, d1	31.2	24.8	30.1	31.8	33.8	13.9
Progression Factor	1.00	1.00	1.00	1.00	0.89	0.93
Incremental Delay, d2	92.2	0.6	7.3	87.3	111.5	1.1
Delay (s)	123.5	25.4	37.4	119.1	141.6	14.0
Level of Service	F	C	D	F	F	B
Approach Delay (s)	78.6		72.0			37.7
Approach LOS	E		E			D

Intersection Summary			
HCM 2000 Control Delay	57.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (veh/h)	1897	17	0	2940	0	298
Future Volume (Veh/h)	1897	17	0	2940	0	298
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1997	18	0	3095	0	314
Pedestrians					3	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					3.5	
Percent Blockage					0	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	335			372		
pX, platoon unblocked			0.58		0.77	0.58
vC, conflicting volume			2018		3041	1010
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1316		176	0
tC, single (s)			4.2		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	50
cM capacity (veh/h)			300		610	631

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3	NW 1
Volume Total	1331	684	1032	1032	1032	314
Volume Left	0	0	0	0	0	0
Volume Right	0	18	0	0	0	314
cSH	1700	1700	1700	1700	1700	631
Volume to Capacity	0.78	0.40	0.61	0.61	0.61	0.50
Queue Length 95th (ft)	0	0	0	0	0	69
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	16.2
Lane LOS						C
Approach Delay (s)	0.0		0.0			16.2
Approach LOS						C

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	78.1%	ICU Level of Service		D
Analysis Period (min)	15			

Intersection	
Int Delay, s/veh	2.9

Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Vol, veh/h	1897	17	0	2940	0	298
Future Vol, veh/h	1897	17	0	2940	0	298
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	2	2
Mvmt Flow	1997	18	0	3095	0	314

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	1010
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	2.5
Pot Cap-1 Maneuver	-	-	0	-	0	372
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	371
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	NB	SB	NW
HCM Control Delay, s	0	0	49.9
HCM LOS			E

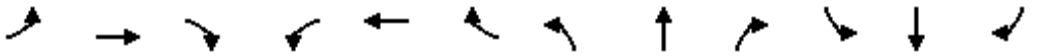
Minor Lane/Major Mvmt	NBT	NBR	NWLn1	SBT
Capacity (veh/h)	-	-	371	-
HCM Lane V/C Ratio	-	-	0.846	-
HCM Control Delay (s)	-	-	49.9	-
HCM Lane LOS	-	-	E	-
HCM 95th %tile Q(veh)	-	-	7.8	-



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1425	66	569	2371	90	489
Future Volume (vph)	1425	66	569	2371	90	489
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	4.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3446		1770	3539	1787	1599
Flt Permitted	1.00		0.09	1.00	0.95	1.00
Satd. Flow (perm)	3446		159	3539	1787	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1469	68	587	2444	93	504
RTOR Reduction (vph)	3	0	0	0	0	4
Lane Group Flow (vph)	1534	0	587	2444	93	500
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	4%	4%	2%	2%	1%	1%
Turn Type	NA		pm+pt	NA	Prot	pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases			6			4
Actuated Green, G (s)	42.3		81.8	81.8	9.2	44.2
Effective Green, g (s)	42.3		81.8	81.8	9.2	44.2
Actuated g/C Ratio	0.42		0.82	0.82	0.09	0.44
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1457		693	2894	164	778
v/s Ratio Prot	c0.45		0.30	c0.69	0.05	c0.22
v/s Ratio Perm			0.40			0.09
v/c Ratio	1.05		0.85	0.84	0.57	0.64
Uniform Delay, d1	28.9		25.4	5.4	43.5	21.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	38.7		9.4	2.4	4.4	1.8
Delay (s)	67.6		34.8	7.8	47.9	23.6
Level of Service	E		C	A	D	C
Approach Delay (s)	67.6			13.0	27.4	
Approach LOS	E			B	C	

Intersection Summary			
HCM 2000 Control Delay	30.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
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 (vph)	73	192	242	73	128	248	89	410	70	401	730	87
Future Volume (vph)	73	192	242	73	128	248	89	410	70	401	730	87
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	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98		1.00	1.00	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	1.00		1.00	1.00	1.00
Frt	1.00	0.92		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1679		1787	1881	1599	1770	1822		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1679		1787	1881	1599	1770	1822		1770	1863	1583
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)	77	202	255	77	135	261	94	432	74	422	768	92
RTOR Reduction (vph)	0	61	0	0	0	83	0	8	0	0	0	49
Lane Group Flow (vph)	77	396	0	77	135	178	94	498	0	422	768	43
Confl. Peds. (#/hr)			4	4								
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases						8						6
Actuated Green, G (s)	3.9	18.1		3.9	18.1	32.6	3.9	20.6		14.5	31.2	35.1
Effective Green, g (s)	3.9	18.1		3.9	18.1	32.6	3.9	20.6		14.5	31.2	35.1
Actuated g/C Ratio	0.05	0.24		0.05	0.24	0.43	0.05	0.27		0.19	0.42	0.47
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)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	91	404		92	453	789	91	499		341	773	834
v/s Ratio Prot	c0.04	c0.24		0.04	0.07	0.04	0.05	0.27		c0.24	c0.41	0.00
v/s Ratio Perm						0.07						0.02
v/c Ratio	0.85	0.98		0.84	0.30	0.23	1.03	1.00		1.24	0.99	0.05
Uniform Delay, d1	35.3	28.3		35.3	23.3	13.3	35.6	27.2		30.3	21.8	10.9
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	47.9	39.5		45.2	0.4	0.1	103.6	39.5		129.6	30.6	0.0
Delay (s)	83.2	67.9		80.5	23.7	13.5	139.2	66.7		159.9	52.4	10.9
Level of Service	F	E		F	C	B	F	E		F	D	B
Approach Delay (s)		70.1			27.3			78.1			84.8	
Approach LOS		E			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	71.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	75.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	3	0	9	264	1	43	7	350	440	44	526	1
Future Volume (vph)	3	0	9	264	1	43	7	350	440	44	526	1
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	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.98		1.00	0.98		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt		0.90		1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1655		1733	1526		1785	1881	1561	1749	1844	
Flt Permitted		0.96		0.75	1.00		0.30	1.00	1.00	0.48	1.00	
Satd. Flow (perm)		1611		1367	1526		565	1881	1561	884	1844	
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)	3	0	10	293	1	48	8	389	489	49	584	1
RTOR Reduction (vph)	0	9	0	0	32	0	0	0	256	0	0	0
Lane Group Flow (vph)	0	4	0	293	17	0	8	389	233	49	585	0
Confl. Peds. (#/hr)	1		1	1		1	3		3	3		3
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4		4	8		
Actuated Green, G (s)		15.0		15.0	15.0		21.9	21.9	21.9	21.9	21.9	
Effective Green, g (s)		15.0		15.0	15.0		21.9	21.9	21.9	21.9	21.9	
Actuated g/C Ratio		0.33		0.33	0.33		0.48	0.48	0.48	0.48	0.48	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		526		446	498		269	897	744	421	879	
v/s Ratio Prot					0.01			0.21			c0.32	
v/s Ratio Perm		0.00		c0.21			0.01		0.15	0.06		
v/c Ratio		0.01		0.66	0.03		0.03	0.43	0.31	0.12	0.67	
Uniform Delay, d1		10.4		13.2	10.5		6.4	7.9	7.4	6.6	9.2	
Progression Factor		1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0		3.5	0.0		0.0	0.3	0.2	0.1	1.9	
Delay (s)		10.4		16.7	10.5		6.4	8.2	7.6	6.8	11.1	
Level of Service		B		B	B		A	A	A	A	B	
Approach Delay (s)		10.4			15.8			7.9			10.8	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	45.9	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	57	11	20	39	163	39	43	694	76	56	616	149
Future Volume (vph)	57	11	20	39	163	39	43	694	76	56	616	149
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	
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	0.99	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.99		1.00	0.97	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1610			1799		1787	1849		1770	1798	
Flt Permitted		0.61			0.94		0.14	1.00		0.13	1.00	
Satd. Flow (perm)		1013			1696		258	1849		248	1798	
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)	60	12	21	41	172	41	45	731	80	59	648	157
RTOR Reduction (vph)	0	16	0	0	12	0	0	5	0	0	12	0
Lane Group Flow (vph)	0	77	0	0	242	0	45	806	0	59	793	0
Confl. Peds. (#/hr)	3		4	4		3	6		3	3		6
Heavy Vehicles (%)	10%	10%	10%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		13.0			13.0		34.0	31.1		34.0	31.1	
Effective Green, g (s)		13.0			13.0		34.0	31.1		34.0	31.1	
Actuated g/C Ratio		0.21			0.21		0.56	0.51		0.56	0.51	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		217			364		218	950		212	924	
v/s Ratio Prot							0.01	0.44		c0.01	c0.44	
v/s Ratio Perm		0.08			c0.14		0.11			0.14		
v/c Ratio		0.35			0.67		0.21	0.85		0.28	0.86	
Uniform Delay, d1		20.2			21.8		9.2	12.7		9.5	12.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.0			4.5		0.5	7.1		0.7	8.0	
Delay (s)		21.2			26.3		9.7	19.8		10.2	20.8	
Level of Service		C			C		A	B		B	C	
Approach Delay (s)		21.2			26.3			19.3			20.1	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	60.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	487	60	258	20	85	11	300	317	13	7	467	205
Future Volume (vph)	487	60	258	20	85	11	300	317	13	7	467	205
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	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00	0.96		1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	0.95	
Flt Protected		0.96	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1795	1534		1800		1787	1867		1746	1743	
Flt Permitted		0.68	1.00		0.66		0.11	1.00		0.55	1.00	
Satd. Flow (perm)		1277	1534		1192		206	1867		1015	1743	
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)	513	63	272	21	89	12	316	334	14	7	492	216
RTOR Reduction (vph)	0	0	176	0	5	0	0	2	0	0	19	0
Lane Group Flow (vph)	0	576	96	0	117	0	316	346	0	7	689	0
Confl. Peds. (#/hr)	2		9	9		2	5		5	5		5
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		29.5	29.5		29.5		45.1	39.6		33.1	32.1	
Effective Green, g (s)		29.5	29.5		29.5		45.1	39.6		33.1	32.1	
Actuated g/C Ratio		0.35	0.35		0.35		0.54	0.47		0.40	0.38	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		450	541		420		271	884		410	669	
v/s Ratio Prot							c0.12	0.19		0.00	0.40	
v/s Ratio Perm		c0.45	0.06		0.10		c0.51			0.01		
v/c Ratio		1.28	0.18		0.28		1.17	0.39		0.02	1.03	
Uniform Delay, d1		27.0	18.7		19.4		22.7	14.2		15.3	25.7	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		142.2	0.2		0.4		107.2	0.3		0.0	42.6	
Delay (s)		169.3	18.8		19.8		129.9	14.5		15.3	68.4	
Level of Service		F	B		B		F	B		B	E	
Approach Delay (s)		121.0			19.8			69.4			67.9	
Approach LOS		F			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	85.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	83.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	34	558	39	92	550	16	27	27	209	3	23	32
Future Volume (Veh/h)	34	558	39	92	550	16	27	27	209	3	23	32
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	587	41	97	579	17	28	28	220	3	24	34
Pedestrians		1			7			9				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		3.5			3.5			3.5				
Percent Blockage		0			1			1				
Right turn flare (veh)									5			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		187			537							
pX, platoon unblocked	0.90						0.90	0.90		0.90	0.90	0.90
vC, conflicting volume	596			637			1517	1478	624	1572	1490	588
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	495			637			1519	1476	624	1579	1489	487
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 %	96			90			52	71	54	90	75	94
cM capacity (veh/h)	966			939			58	96	475	30	96	526

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total	36	628	693	276	61
Volume Left	36	0	97	28	3
Volume Right	0	41	17	220	34
cSH	966	1700	939	380	147
Volume to Capacity	0.04	0.37	0.10	0.73	0.41
Queue Length 95th (ft)	3	0	9	139	45
Control Delay (s)	8.9	0.0	2.6	41.1	45.8
Lane LOS	A		A	E	E
Approach Delay (s)	0.5		2.6	41.1	45.8
Approach LOS				E	E

Intersection Summary				
Average Delay	9.6			
Intersection Capacity Utilization	87.2%	ICU Level of Service		E
Analysis Period (min)	15			

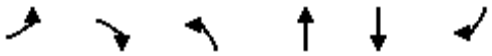
Intersection	
Int Delay, s/veh	9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	34	558	39	92	550	16	27	27	209	3	23	32
Future Vol, veh/h	34	558	39	92	550	16	27	27	209	3	23	32
Conflicting Peds, #/hr	0	0	9	9	0	0	1	0	7	7	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	130	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	2	2	2	4	4	4	0	0	0
Mvmt Flow	36	587	41	97	579	17	28	28	220	3	24	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	596	0	0	637	0	0	1499	1477	624	1482	1490	588
Stage 1	-	-	-	-	-	-	688	688	-	781	781	-
Stage 2	-	-	-	-	-	-	811	789	-	701	709	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.14	6.54	6.24	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.14	5.54	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.536	4.036	3.336	3.5	4	3.3
Pot Cap-1 Maneuver	985	-	-	947	-	-	99	125	482	104	125	513
Stage 1	-	-	-	-	-	-	433	444	-	391	408	-
Stage 2	-	-	-	-	-	-	370	399	-	433	440	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	984	-	-	941	-	-	64	101	475	37	101	513
Mov Cap-2 Maneuver	-	-	-	-	-	-	64	101	-	37	101	-
Stage 1	-	-	-	-	-	-	414	424	-	377	345	-
Stage 2	-	-	-	-	-	-	271	337	-	208	420	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.5	1.3	41.3	42.2
HCM LOS			E	E

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	78	475	941	-	-	984	-	-	156
HCM Lane V/C Ratio	0.729	0.463	0.103	-	-	0.036	-	-	0.391
HCM Control Delay (s)	127.5	19	9.3	0	-	8.8	-	-	42.2
HCM Lane LOS	F	C	A	A	-	A	-	-	E
HCM 95th %tile Q(veh)	3.5	2.4	0.3	-	-	0.1	-	-	1.7



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	0	760	17	23	17
Future Volume (Veh/h)	6	0	760	17	23	17
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	6	0	800	18	24	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1642	24	24			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1642	24	24			
tC, single (s)	*6.0	6.2	4.1			
tC, 2 stage (s)						
tF (s)	*2.0	3.3	2.2			
p0 queue free %	93	100	49			
cM capacity (veh/h)	88	1050	1578			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	6	800	18	24	18
Volume Left	6	800	0	0	0
Volume Right	0	0	0	0	18
cSH	88	1578	1700	1700	1700
Volume to Capacity	0.07	0.51	0.01	0.01	0.01
Queue Length 95th (ft)	5	75	0	0	0
Control Delay (s)	49.1	9.6	0.0	0.0	0.0
Lane LOS	E	A			
Approach Delay (s)	49.1	9.4		0.0	
Approach LOS	E				

Intersection Summary				
Average Delay	9.2			
Intersection Capacity Utilization	58.8%	ICU Level of Service		B
Analysis Period (min)	15			

* User Entered Value

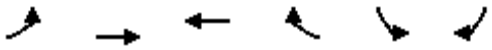
Intersection	
Int Delay, s/veh	9.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	0	760	17	23	17
Future Vol, veh/h	6	0	760	17	23	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	4	4	0	0
Mvmt Flow	6	0	800	18	24	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1642	-	24	0	-	0
Stage 1	24	-	-	-	-	-
Stage 2	1618	-	-	-	-	-
Critical Hdwy	6	-	4.14	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	2	-	2.236	-	-	-
Pot Cap-1 Maneuver	178	0	1578	-	-	0
Stage 1	1748	0	-	-	-	0
Stage 2	238	0	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	88	-	1578	-	-	-
Mov Cap-2 Maneuver	88	-	-	-	-	-
Stage 1	1748	-	-	-	-	-
Stage 2	117	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	49	9.4	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	1578	-	88	-
HCM Lane V/C Ratio	0.507	-	0.072	-
HCM Control Delay (s)	9.6	-	49	-
HCM Lane LOS	A	-	E	-
HCM 95th %tile Q(veh)	3	-	0.2	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	3062	0	777	23	0
Future Volume (Veh/h)	0	3062	0	777	23	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	3223	0	818	24	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	818				1612	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	818				1612	0
tC, single (s)	4.2				*6.5	6.9
tC, 2 stage (s)						
tF (s)	2.2				*2.5	3.3
p0 queue free %	100				82	100
cM capacity (veh/h)	800				130	1091

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	1612	1612	409	409	24
Volume Left	0	0	0	0	24
Volume Right	0	0	409	409	0
cSH	1700	1700	1700	1700	130
Volume to Capacity	0.95	0.95	0.24	0.24	0.18
Queue Length 95th (ft)	0	0	0	0	16
Control Delay (s)	0.0	0.0	0.0	0.0	38.7
Lane LOS					E
Approach Delay (s)	0.0		0.0		38.7
Approach LOS					E

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		

* User Entered Value

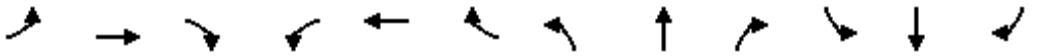
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑		↑↑	↰	
Traffic Vol, veh/h	0	3062	0	777	23	0
Future Vol, veh/h	0	3062	0	777	23	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	4	4	0	0
Mvmt Flow	0	3223	0	818	24	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	-	1612	-
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	1612	-
Critical Hdwy	-	-	-	-	6.5	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	-	-	2.5	-
Pot Cap-1 Maneuver	0	-	0	-	130	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	178	0
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	-	-	-	-	130	-
Mov Cap-2 Maneuver	-	-	-	-	130	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	178	-

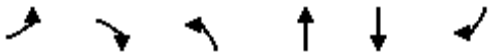
Approach	EB	WB	SB
HCM Control Delay, s	0	0	38.9
HCM LOS			E

Minor Lane/Major Mvmt	EBT	WBR	SBLn1
Capacity (veh/h)	-	-	130
HCM Lane V/C Ratio	-	-	0.186
HCM Control Delay (s)	-	-	38.9
HCM Lane LOS	-	-	E
HCM 95th %tile Q(veh)	-	-	0.7



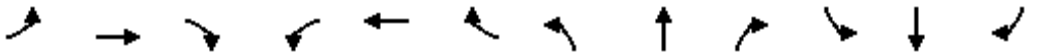
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	238	0	0	542	0	1962	179	0	3722	763
Future Volume (vph)	0	0	238	0	0	542	0	1962	179	0	3722	763
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Lane Util. Factor			0.88			0.88		0.91	1.00		0.91	1.00
Frt			0.85			0.85		1.00	0.85		1.00	0.85
Flt Protected			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (prot)			2814			2760		5085	1583		5085	1583
Flt Permitted			1.00			1.00		1.00	1.00		1.00	1.00
Satd. Flow (perm)			2814			2760		5085	1583		5085	1583
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)	0	0	245	0	0	559	0	2023	185	0	3837	787
RTOR Reduction (vph)	0	0	53	0	0	20	0	0	60	0	0	160
Lane Group Flow (vph)	0	0	192	0	0	539	0	2023	125	0	3837	627
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type			Perm			Perm		NA	Perm		NA	Perm
Protected Phases								2			6	
Permitted Phases			5			1			2			6
Actuated Green, G (s)			12.3			24.7		70.9	70.9		83.3	83.3
Effective Green, g (s)			12.3			24.7		70.9	70.9		83.3	83.3
Actuated g/C Ratio			0.12			0.24		0.68	0.68		0.80	0.80
Clearance Time (s)			4.5			4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0			3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			330			651		3446	1072		4049	1260
v/s Ratio Prot								0.40			c0.75	
v/s Ratio Perm			0.07			c0.20			0.08			0.40
v/c Ratio			0.58			0.83		0.59	0.12		0.95	0.50
Uniform Delay, d1			43.7			37.9		9.0	5.9		8.8	3.6
Progression Factor			1.00			1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			2.6			8.5		0.3	0.0		5.8	0.3
Delay (s)			46.3			46.5		9.3	5.9		14.7	3.9
Level of Service			D			D		A	A		B	A
Approach Delay (s)		46.3			46.5			9.0			12.8	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	104.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	543	238	162	1598	2892	1068
Future Volume (vph)	543	238	162	1598	2892	1068
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583	1752	3505	3539	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583	1752	3505	3539	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	554	243	165	1631	2951	1090
RTOR Reduction (vph)	0	2	0	0	0	9
Lane Group Flow (vph)	554	241	165	1631	2951	1081
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	Prot	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4				6
Actuated Green, G (s)	18.5	27.0	8.5	92.5	79.5	98.0
Effective Green, g (s)	18.5	27.0	8.5	92.5	79.5	98.0
Actuated g/C Ratio	0.15	0.22	0.07	0.77	0.66	0.82
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	529	415	124	2701	2344	1352
v/s Ratio Prot	c0.16	0.04	c0.09	0.47	c0.83	0.12
v/s Ratio Perm		0.11				0.56
v/c Ratio	1.05	0.58	1.33	0.60	1.26	0.80
Uniform Delay, d1	50.8	41.5	55.8	5.9	20.2	5.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	52.1	2.1	193.7	1.0	120.2	3.4
Delay (s)	102.8	43.5	249.4	6.9	140.4	9.2
Level of Service	F	D	F	A	F	A
Approach Delay (s)	84.7			29.2	105.0	
Approach LOS	F			C	F	

Intersection Summary			
HCM 2000 Control Delay	82.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	115.7%	ICU Level of Service	H
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 (vph)	490	945	70	90	700	560	55	710	130	1045	1425	660
Future Volume (vph)	490	945	70	90	700	560	55	710	130	1045	1425	660
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	4.5
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.99	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	1.00
Frt	1.00	0.99		1.00	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	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3467	3532		3467	3574	1577	1752	3505	1544	3433	3539	1555
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3467	3532		3467	3574	1577	1752	3505	1544	3433	3539	1555
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)	505	974	72	93	722	577	57	732	134	1077	1469	680
RTOR Reduction (vph)	0	4	0	0	0	396	0	0	105	0	0	183
Lane Group Flow (vph)	505	1042	0	93	722	181	57	732	29	1077	1469	497
Confl. Peds. (#/hr)	1		6	6		1	3		1	1		3
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	16.7	35.1		5.1	23.5	23.5	4.0	26.3	26.3	35.5	57.8	57.8
Effective Green, g (s)	16.7	35.1		5.1	23.5	23.5	4.0	26.3	26.3	35.5	57.8	57.8
Actuated g/C Ratio	0.14	0.29		0.04	0.20	0.20	0.03	0.22	0.22	0.30	0.48	0.48
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	482	1033		147	699	308	58	768	338	1015	1704	748
v/s Ratio Prot	c0.15	c0.29		0.03	0.20		0.03	c0.21		c0.31	0.42	
v/s Ratio Perm						0.12			0.02			0.32
v/c Ratio	1.05	1.01		0.63	1.03	0.59	0.98	0.95	0.09	1.06	0.86	0.66
Uniform Delay, d1	51.6	42.5		56.5	48.2	43.9	58.0	46.2	37.3	42.2	27.6	23.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	54.0	30.1		8.6	42.8	2.9	111.4	22.9	0.5	45.9	6.0	4.6
Delay (s)	105.7	72.5		65.1	91.0	46.7	169.4	69.1	37.8	88.2	33.6	28.3
Level of Service	F	E		E	F	D	F	E	D	F	C	C
Approach Delay (s)		83.3			70.9			70.8			50.7	
Approach LOS		F			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	64.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	212	94	55	159	77	47
Future Volume (Veh/h)	212	94	55	159	77	47
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	236	104	61	177	86	52
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			340		587	288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			340		587	288
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		81	93
cM capacity (veh/h)			1208		448	751

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	340	238	138
Volume Left	0	61	86
Volume Right	104	0	52
cSH	1700	1208	529
Volume to Capacity	0.20	0.05	0.26
Queue Length 95th (ft)	0	4	26
Control Delay (s)	0.0	2.4	14.2
Lane LOS		A	B
Approach Delay (s)	0.0	2.4	14.2
Approach LOS			B

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

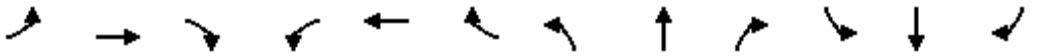
Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	212	94	55	159	77	47
Future Vol, veh/h	212	94	55	159	77	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	4	4	2	2
Mvmt Flow	236	104	61	177	86	52

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	340	0	587	288
Stage 1	-	-	-	-	288	-
Stage 2	-	-	-	-	299	-
Critical Hdwy	-	-	4.14	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.236	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1208	-	472	751
Stage 1	-	-	-	-	761	-
Stage 2	-	-	-	-	752	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1208	-	446	751
Mov Cap-2 Maneuver	-	-	-	-	446	-
Stage 1	-	-	-	-	761	-
Stage 2	-	-	-	-	710	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	527	-	-	1208	-
HCM Lane V/C Ratio	0.261	-	-	0.051	-
HCM Control Delay (s)	14.2	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	674	226	21	309	71	53	41	10	57	33	122
Future Volume (Veh/h)	188	674	226	21	309	71	53	41	10	57	33	122
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	198	709	238	22	325	75	56	43	11	60	35	128
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	400			947			1776	1668	828	1663	1750	362
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	400			947			1776	1668	828	1663	1750	362
tC, single (s)	4.1			4.1			*6.0	*6.0	*6.0	*6.0	*6.0	*6.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*2.0	*2.0	*2.0	*2.0	*2.0	*2.0
p0 queue free %	83			97			35	69	98	45	71	88
cM capacity (veh/h)	1159			721			86	138	565	110	123	1086

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1145	422	110	223
Volume Left	198	22	56	60
Volume Right	238	75	11	128
cSH	1159	721	112	235
Volume to Capacity	0.17	0.03	0.98	0.95
Queue Length 95th (ft)	15	2	157	211
Control Delay (s)	4.3	0.9	151.7	90.7
Lane LOS	A	A	F	F
Approach Delay (s)	4.3	0.9	151.7	90.7
Approach LOS			F	F

Intersection Summary				
Average Delay	22.2			
Intersection Capacity Utilization	104.6%	ICU Level of Service	G	
Analysis Period (min)	15			

* User Entered Value

Intersection	
Int Delay, s/veh	40

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	188	674	226	21	309	71	53	41	10	57	33	122
Future Vol, veh/h	188	674	226	21	309	71	53	41	10	57	33	122
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	3	3	3	2	2	2	2	2	2
Mvmt Flow	198	709	238	22	325	75	56	43	11	60	35	128

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	400	0	0	947	0	0	1712	1668	828	1658	1750	363
Stage 1	-	-	-	-	-	-	1224	1224	-	407	407	-
Stage 2	-	-	-	-	-	-	488	444	-	1251	1343	-
Critical Hdwy	4.12	-	-	4.13	-	-	6	6	6	6	6	6
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.227	-	-	2	2	2	2	2	2
Pot Cap-1 Maneuver	1159	-	-	721	-	-	161	171	565	174	152	1085
Stage 1	-	-	-	-	-	-	310	380	-	1007	1078	-
Stage 2	-	-	-	-	-	-	896	1028	-	298	326	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1159	-	-	721	-	-	70	101	565	80	90	1085
Mov Cap-2 Maneuver	-	-	-	-	-	-	70	101	-	80	90	-
Stage 1	-	-	-	-	-	-	192	235	-	622	1035	-
Stage 2	-	-	-	-	-	-	733	987	-	148	201	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.5	261.8	203.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	88	1159	-	-	721	-	-	178
HCM Lane V/C Ratio	1.244	0.171	-	-	0.031	-	-	1.254
HCM Control Delay (s)	261.8	8.7	0	-	10.2	0	-	203.4
HCM Lane LOS	F	A	A	-	B	A	-	F
HCM 95th %tile Q(veh)	7.9	0.6	-	-	0.1	-	-	12.4



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	535	321	1622	388	859	1053
Future Volume (vph)	535	321	1622	388	859	1053
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	0.97	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3273	1509	4988	1527	3400	5036
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3273	1509	4988	1527	3400	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	563	338	1707	408	904	1108
RTOR Reduction (vph)	0	1	0	257	0	0
Lane Group Flow (vph)	563	337	1707	151	904	1108
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	7%	7%	4%	4%	3%	3%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	17.6	43.1	33.4	33.4	25.5	63.4
Effective Green, g (s)	17.6	43.1	33.4	33.4	25.5	63.4
Actuated g/C Ratio	0.20	0.48	0.37	0.37	0.28	0.70
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	640	798	1851	566	963	3547
v/s Ratio Prot	c0.17	0.12	c0.34		c0.27	0.22
v/s Ratio Perm		0.10		0.10		
v/c Ratio	0.88	0.42	0.92	0.27	0.94	0.31
Uniform Delay, d1	35.2	15.3	27.1	19.8	31.5	5.0
Progression Factor	1.00	1.00	0.83	1.97	1.00	1.00
Incremental Delay, d2	13.1	0.4	5.5	0.6	16.1	0.2
Delay (s)	48.3	15.7	27.9	39.6	47.6	5.3
Level of Service	D	B	C	D	D	A
Approach Delay (s)	36.1		30.1			24.3
Approach LOS	D		C			C

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	205	576	1468	1261	347	1213
Future Volume (vph)	205	576	1468	1261	347	1213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	0.88	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3335	1538	4940	2660	1719	4940
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3335	1538	4940	2660	1719	4940
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	216	606	1545	1327	365	1277
RTOR Reduction (vph)	0	339	0	99	0	0
Lane Group Flow (vph)	216	267	1545	1228	365	1277
Confl. Peds. (#/hr)				3	3	
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Turn Type	Prot	Perm	NA	pm+ov	Prot	NA
Protected Phases	8		2	8	1	6
Permitted Phases		8		2		
Actuated Green, G (s)	20.0	20.0	35.3	55.3	21.2	61.0
Effective Green, g (s)	20.0	20.0	35.3	55.3	21.2	61.0
Actuated g/C Ratio	0.22	0.22	0.39	0.61	0.24	0.68
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	741	341	1937	1767	404	3348
v/s Ratio Prot	0.06		c0.31	c0.15	c0.21	0.26
v/s Ratio Perm		0.17		0.31		
v/c Ratio	0.29	0.78	0.80	0.70	0.90	0.38
Uniform Delay, d1	29.1	33.0	24.2	11.7	33.4	6.3
Progression Factor	1.00	1.00	1.00	1.00	0.72	0.83
Incremental Delay, d2	0.2	11.1	3.5	1.2	20.8	0.3
Delay (s)	29.3	44.1	27.7	12.9	45.0	5.5
Level of Service	C	D	C	B	D	A
Approach Delay (s)	40.2		20.9			14.3
Approach LOS	D		C			B

Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1570	0	0	1409	102	964
Future Volume (vph)	1570	0	0	1409	102	964
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5			4.5	4.5	4.5
Lane Util. Factor	0.95			0.91	1.00	0.88
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3406			4893	1770	2787
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3406			4893	1770	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1653	0	0	1483	107	1015
RTOR Reduction (vph)	0	0	0	0	0	16
Lane Group Flow (vph)	1653	0	0	1483	107	999
Heavy Vehicles (%)	6%	6%	6%	6%	2%	2%
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	41.4			41.4	29.1	29.1
Effective Green, g (s)	41.4			41.4	29.1	29.1
Actuated g/C Ratio	0.52			0.52	0.37	0.37
Clearance Time (s)	4.5			4.5	4.5	4.5
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1773			2548	647	1020
v/s Ratio Prot	c0.49			0.30	0.06	
v/s Ratio Perm						c0.36
v/c Ratio	0.93			0.58	0.17	0.98
Uniform Delay, d1	17.7			13.1	17.0	24.9
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	9.5			0.3	0.1	22.9
Delay (s)	27.2			13.4	17.1	47.8
Level of Service	C			B	B	D
Approach Delay (s)	27.2			13.4	44.8	
Approach LOS	C			B	D	

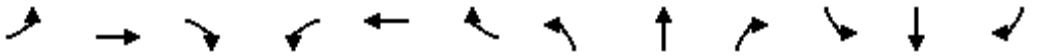
Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	79.5	Sum of lost time (s)	9.0
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1678	49	420	1171	0	0
Future Volume (vph)	1678	49	420	1171	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		
Lane Util. Factor	0.95		1.00	0.95		
Frpb, ped/bikes	1.00		1.00	1.00		
Flpb, ped/bikes	1.00		1.00	1.00		
Frt	1.00		1.00	1.00		
Flt Protected	1.00		0.95	1.00		
Satd. Flow (prot)	3390		1703	3406		
Flt Permitted	1.00		0.10	1.00		
Satd. Flow (perm)	3390		174	3406		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1766	52	442	1233	0	0
RTOR Reduction (vph)	3	0	0	0	0	0
Lane Group Flow (vph)	1815	0	442	1233	0	0
Confl. Peds. (#/hr)		1	1		3	
Heavy Vehicles (%)	6%	6%	6%	6%	4%	4%
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Actuated Green, G (s)	36.6		54.2	58.7		
Effective Green, g (s)	36.6		54.2	58.7		
Actuated g/C Ratio	0.62		0.92	1.00		
Clearance Time (s)	4.5		4.5	4.5		
Vehicle Extension (s)	3.0		3.0	3.0		
Lane Grp Cap (vph)	2113		501	3406		
v/s Ratio Prot	0.54		c0.20	0.36		
v/s Ratio Perm			c0.62			
v/c Ratio	0.86		0.88	0.36		
Uniform Delay, d1	9.0		16.8	0.0		
Progression Factor	1.00		1.00	1.00		
Incremental Delay, d2	4.8		16.6	0.1		
Delay (s)	13.8		33.4	0.1		
Level of Service	B		C	A		
Approach Delay (s)	13.8			8.9	0.0	
Approach LOS	B			A	A	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	58.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
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 (vph)	33	124	63	43	256	414	279	563	41	193	398	73
Future Volume (vph)	33	124	63	43	256	414	279	563	41	193	398	73
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	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	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	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1656	1743	1449	1752	1845	1568	1752	1826		1736	1827	1553
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1656	1743	1449	1752	1845	1568	1752	1826		1736	1827	1553
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)	35	131	66	45	269	436	294	593	43	203	419	77
RTOR Reduction (vph)	0	0	51	0	0	124	0	3	0	0	0	51
Lane Group Flow (vph)	35	131	15	45	269	312	294	633	0	203	419	26
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	9%	9%	9%	3%	3%	3%	3%	3%	3%	4%	4%	4%
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases			4			8						6
Actuated Green, G (s)	3.8	16.4	16.4	2.8	15.4	24.8	13.6	25.0		9.4	20.8	24.6
Effective Green, g (s)	3.8	16.4	16.4	2.8	15.4	24.8	13.6	25.0		9.4	20.8	24.6
Actuated g/C Ratio	0.05	0.23	0.23	0.04	0.22	0.35	0.19	0.35		0.13	0.29	0.34
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	87	399	331	68	396	641	332	637		227	530	631
v/s Ratio Prot	0.02	0.08		c0.03	c0.15	0.06	c0.17	c0.35		0.12	0.23	0.00
v/s Ratio Perm			0.01			0.14						0.01
v/c Ratio	0.40	0.33	0.05	0.66	0.68	0.49	0.89	0.99		0.89	0.79	0.04
Uniform Delay, d1	32.8	23.0	21.5	33.9	25.8	18.4	28.2	23.2		30.6	23.4	15.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.0	0.5	0.1	21.6	4.6	0.6	23.3	33.8		32.7	7.9	0.0
Delay (s)	35.8	23.5	21.6	55.5	30.4	19.0	51.6	57.0		63.3	31.3	15.7
Level of Service	D	C	C	E	C	B	D	E		E	C	B
Approach Delay (s)		24.8			25.3			55.3			38.9	
Approach LOS		C			C			E			D	

Intersection Summary					
HCM 2000 Control Delay	39.6	HCM 2000 Level of Service	D		
HCM 2000 Volume to Capacity ratio	0.88				
Actuated Cycle Length (s)	71.6	Sum of lost time (s)	18.0		
Intersection Capacity Utilization	75.4%	ICU Level of Service	D		
Analysis Period (min)	15				

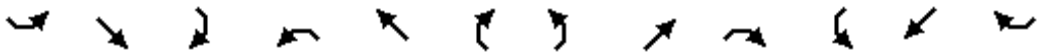
c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	18	145	48	456	391	142	70	321	674
Future Volume (vph)	0	0	0	18	145	48	456	391	142	70	321	674
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
Lane Util. Factor					1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes					0.99		1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes					1.00		1.00	1.00		1.00	1.00	1.00
Frt					0.97		1.00	0.96		1.00	1.00	0.85
Flt Protected					1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)					1689		1702	1711		1735	1827	1532
Flt Permitted					1.00		0.40	1.00		0.44	1.00	1.00
Satd. Flow (perm)					1689		708	1711		805	1827	1532
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)	0	0	0	20	161	53	507	434	158	78	357	749
RTOR Reduction (vph)	0	0	0	0	12	0	0	14	0	0	0	174
Lane Group Flow (vph)	0	0	0	0	222	0	507	578	0	78	357	575
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	20%	20%	20%	8%	8%	8%	6%	6%	6%	4%	4%	4%
Turn Type				Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases					8		5	2		1	6	
Permitted Phases				8			2			6		6
Actuated Green, G (s)					14.6		56.9	48.6		39.3	35.5	35.5
Effective Green, g (s)					14.6		56.9	48.6		39.3	35.5	35.5
Actuated g/C Ratio					0.18		0.71	0.60		0.49	0.44	0.44
Clearance Time (s)					4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)					3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)					306		709	1032		436	805	675
v/s Ratio Prot							c0.15	0.34		0.01	0.20	
v/s Ratio Perm					0.13		0.36			0.08		c0.38
v/c Ratio					0.72		0.72	0.56		0.18	0.44	0.85
Uniform Delay, d1					31.1		6.5	9.5		11.0	15.6	20.1
Progression Factor					1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2					8.2		3.4	0.7		0.2	0.4	10.1
Delay (s)					39.3		10.0	10.2		11.2	16.0	30.3
Level of Service					D		A	B		B	B	C
Approach Delay (s)		0.0			39.3			10.1			24.7	
Approach LOS		A			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	80.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	283	46	171	0	0	0	0	689	10	1	358	0
Future Volume (vph)	283	46	171	0	0	0	0	689	10	1	358	0
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	
Lane Util. Factor	1.00	1.00						1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98						1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00						1.00		1.00	1.00	
Frt	1.00	0.88						1.00		1.00	1.00	
Flt Protected	0.95	1.00						1.00		0.95	1.00	
Satd. Flow (prot)	1733	1578						1840		1719	1810	
Flt Permitted	0.95	1.00						1.00		0.14	1.00	
Satd. Flow (perm)	1733	1578						1840		249	1810	
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)	298	48	180	0	0	0	0	725	11	1	377	0
RTOR Reduction (vph)	0	134	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	298	94	0	0	0	0	0	735	0	1	377	0
Confl. Peds. (#/hr)	1		4	4		1	3		2	2		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4									6		
Actuated Green, G (s)	14.0	14.0						25.9		31.2	31.2	
Effective Green, g (s)	14.0	14.0						25.9		31.2	31.2	
Actuated g/C Ratio	0.26	0.26						0.48		0.58	0.58	
Clearance Time (s)	4.5	4.5						4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)	447	407						879		165	1041	
v/s Ratio Prot		0.06						c0.40		0.00	c0.21	
v/s Ratio Perm	c0.17									0.00		
v/c Ratio	0.67	0.23						0.84		0.01	0.36	
Uniform Delay, d1	18.0	15.9						12.3		8.4	6.2	
Progression Factor	1.00	1.00						1.00		1.00	1.00	
Incremental Delay, d2	3.7	0.3						7.0		0.0	0.2	
Delay (s)	21.7	16.2						19.3		8.4	6.4	
Level of Service	C	B						B		A	A	
Approach Delay (s)		19.3			0.0			19.3			6.4	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	54.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	29	397	37	0	0	0	0	40	76	41	155	0
Future Volume (vph)	29	397	37	0	0	0	0	40	76	41	155	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	31	418	39	0	0	0	0	42	80	43	163	0

Direction, Lane #	SE 1	SE 2	NE 1	NE 2	SW 1
Volume Total (vph)	240	248	42	80	206
Volume Left (vph)	31	0	0	0	43
Volume Right (vph)	0	39	0	80	0
Hadj (s)	0.13	-0.04	0.15	-0.55	0.04
Departure Headway (s)	5.6	5.4	6.2	5.5	5.9
Degree Utilization, x	0.37	0.37	0.07	0.12	0.34
Capacity (veh/h)	621	645	542	607	580
Control Delay (s)	10.6	10.3	8.5	8.1	11.9
Approach Delay (s)	10.5		8.2		11.9
Approach LOS	B		A		B

Intersection Summary				
Delay	10.5			
Level of Service	B			
Intersection Capacity Utilization	41.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	29	397	37	0	0	0	0	0	0	40	76
Future Vol, veh/h	0	29	397	37	0	0	0	0	0	0	40	76
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	4	4	4	2	3	3	3	2	9	9	9
Mvmt Flow	0	31	418	39	0	0	0	0	0	0	42	80
Number of Lanes	0	0	2	0	0	0	0	0	0	0	1	1

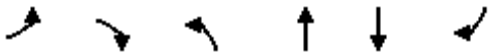
Approach	SE	NE
Opposing Approach		SW
Opposing Lanes	0	1
Conflicting Approach Left	SW	SE
Conflicting Lanes Left	1	2
Conflicting Approach Right	NE	
Conflicting Lanes Right	2	0
HCM Control Delay	11.4	9.1
HCM LOS	B	A

Lane	NELn1	NELn2	SELn1	SELn2	SWLn1
Vol Left, %	0%	0%	13%	0%	21%
Vol Thru, %	100%	0%	87%	84%	79%
Vol Right, %	0%	100%	0%	16%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	76	228	236	196
LT Vol	0	0	29	0	41
Through Vol	40	0	199	199	155
RT Vol	0	76	0	37	0
Lane Flow Rate	42	80	239	248	206
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.072	0.121	0.368	0.369	0.335
Departure Headway (Hd)	6.146	5.436	5.527	5.352	5.85
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	577	652	647	667	611
Service Time	3.945	3.235	3.303	3.129	3.932
HCM Lane V/C Ratio	0.073	0.123	0.369	0.372	0.337
HCM Control Delay	9.4	9	11.5	11.3	11.9
HCM Lane LOS	A	A	B	B	B
HCM 95th-tile Q	0.2	0.4	1.7	1.7	1.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	41	155	0
Future Vol, veh/h	0	41	155	0
Peak Hour Factor	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	43	163	0
Number of Lanes	0	0	1	0

Approach	SW
Opposing Approach	NE
Opposing Lanes	2
Conflicting Approach Left	
Conflicting Lanes Left	0
Conflicting Approach Right	SE
Conflicting Lanes Right	2
HCM Control Delay	11.9
HCM LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	782	184	144	2303	1703	535
Future Volume (vph)	782	184	144	2303	1703	535
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3400	1568	1736	4988	4988	1553
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3400	1568	1736	4988	4988	1553
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	815	192	150	2399	1774	557
RTOR Reduction (vph)	0	2	0	0	0	67
Lane Group Flow (vph)	815	190	150	2399	1774	490
Heavy Vehicles (%)	3%	3%	4%	4%	4%	4%
Turn Type	Prot	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4				6
Actuated Green, G (s)	33.9	48.6	14.7	77.1	57.9	91.8
Effective Green, g (s)	33.9	48.6	14.7	77.1	57.9	91.8
Actuated g/C Ratio	0.28	0.41	0.12	0.64	0.48	0.76
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	960	693	212	3204	2406	1246
v/s Ratio Prot	c0.24	0.03	0.09	c0.48	0.36	0.11
v/s Ratio Perm		0.09				0.20
v/c Ratio	0.85	0.27	0.71	0.75	0.74	0.39
Uniform Delay, d1	40.6	23.9	50.6	14.8	24.9	4.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.1	0.2	10.3	1.7	2.1	0.2
Delay (s)	47.7	24.1	60.9	16.4	27.0	4.9
Level of Service	D	C	E	B	C	A
Approach Delay (s)	43.2			19.0	21.7	
Approach LOS	D			B	C	

Intersection Summary			
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



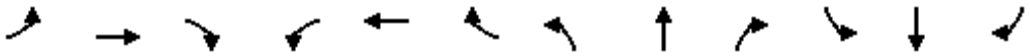
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Right Turn Channelized						
Traffic Volume (veh/h)	53	73	52	165	98	67
Future Volume (veh/h)	53	73	52	165	98	67
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	62	86	61	194	115	79
Approach Volume (veh/h)	148			255	194	
Crossing Volume (veh/h)	61			115	62	
High Capacity (veh/h)	1320			1266	1319	
High v/c (veh/h)	0.11			0.20	0.15	
Low Capacity (veh/h)	1103			1053	1102	
Low v/c (veh/h)	0.13			0.24	0.18	

Intersection Summary			
Maximum v/c High	0.20		
Maximum v/c Low	0.24		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A

Intersection	
Intersection Delay, s/veh	5.7
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	148	255	194
Demand Flow Rate, veh/h	155	268	198
Vehicles Circulating, veh/h	64	117	65
Vehicles Exiting, veh/h	321	146	154
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.9	6.5	5.2
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	TR	LT	LR
Assumed Moves	TR	LT	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	155	268	198
Cap Entry Lane, veh/h	1060	1005	1059
Entry HV Adj Factor	0.954	0.953	0.980
Flow Entry, veh/h	148	255	194
Cap Entry, veh/h	1011	957	1037
V/C Ratio	0.146	0.267	0.187
Control Delay, s/veh	4.9	6.5	5.2
LOS	A	A	A
95th %tile Queue, veh	1	1	1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Right Turn Channelized												
Traffic Volume (veh/h)	58	149	114	83	526	65	149	35	40	88	42	166
Future Volume (veh/h)	58	149	114	83	526	65	149	35	40	88	42	166
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	61	157	120	87	554	68	157	37	42	93	44	175
Approach Volume (veh/h)		338			709			236			312	
Crossing Volume (veh/h)		224			255			311			798	
High Capacity (veh/h)		1162			1134			1085			734	
High v/c (veh/h)		0.29			0.63			0.22			0.42	
Low Capacity (veh/h)		959			934			890			579	
Low v/c (veh/h)		0.35			0.76			0.27			0.54	

Intersection Summary					
Maximum v/c High	0.63				
Maximum v/c Low	0.76				
Intersection Capacity Utilization	82.7%	ICU Level of Service		E	

Intersection	
Intersection Delay, s/veh	21.7
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	338	709	236	312
Demand Flow Rate, veh/h	386	759	245	318
Vehicles Circulating, veh/h	233	271	344	849
Vehicles Exiting, veh/h	934	318	275	181
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.2	32.0	8.3	24.3
Approach LOS	A	D	A	C

Lane	Left	Right	Left	Left	Left
Designated Moves	LT	R	LTR	LTR	LTR
Assumed Moves	LT	R	LTR	LTR	LTR
RT Channelized					
Lane Util	0.645	0.355	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193	5.193
Entry Flow, veh/h	249	137	759	245	318
Cap Entry Lane, veh/h	895	895	862	801	483
Entry HV Adj Factor	0.876	0.876	0.934	0.961	0.982
Flow Entry, veh/h	218	120	709	236	312
Cap Entry, veh/h	784	784	805	770	474
V/C Ratio	0.278	0.153	0.881	0.306	0.658
Control Delay, s/veh	7.7	6.2	32.0	8.3	24.3
LOS	A	A	D	A	C
95th %tile Queue, veh	1	1	11	1	5



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1255	435	1250	535	560	1600
Future Volume (vph)	1255	435	1250	535	560	1600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	1.00	0.97	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3400	1568	5085	1549	3433	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3400	1568	5085	1549	3433	5085
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1294	448	1289	552	577	1649
RTOR Reduction (vph)	0	0	0	399	0	0
Lane Group Flow (vph)	1294	448	1289	153	577	1649
Confl. Peds. (#/hr)				6	6	
Confl. Bikes (#/hr)				1		
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	35.5	51.6	24.9	24.9	16.1	45.5
Effective Green, g (s)	35.5	51.6	24.9	24.9	16.1	45.5
Actuated g/C Ratio	0.39	0.57	0.28	0.28	0.18	0.51
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1341	977	1406	428	614	2570
v/s Ratio Prot	c0.38	0.08	c0.25		c0.17	0.32
v/s Ratio Perm		0.20		0.10		
v/c Ratio	0.96	0.46	0.92	0.36	0.94	0.64
Uniform Delay, d1	26.6	11.1	31.5	26.1	36.5	16.3
Progression Factor	1.00	1.00	1.05	4.08	1.00	1.00
Incremental Delay, d2	16.8	0.3	7.1	1.4	22.3	1.2
Delay (s)	43.4	11.5	40.1	107.9	58.8	17.5
Level of Service	D	B	D	F	E	B
Approach Delay (s)	35.2		60.4			28.2
Approach LOS	D		E			C

Intersection Summary			
HCM 2000 Control Delay	40.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	615	520	1265	930	530	2325
Future Volume (vph)	615	520	1265	930	530	2325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	0.91	0.88	1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	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
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	5036	2699	1770	5085
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	5036	2699	1770	5085
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	628	531	1291	949	541	2372
RTOR Reduction (vph)	0	419	0	111	0	0
Lane Group Flow (vph)	628	112	1291	838	541	2372
Confl. Peds. (#/hr)				7	7	
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	Prot	Perm	NA	pm+ov	Prot	NA
Protected Phases	8		2	8	1	6
Permitted Phases		8		2		
Actuated Green, G (s)	19.0	19.0	28.0	47.0	29.5	62.0
Effective Green, g (s)	19.0	19.0	28.0	47.0	29.5	62.0
Actuated g/C Ratio	0.21	0.21	0.31	0.52	0.33	0.69
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	724	334	1566	1544	580	3503
v/s Ratio Prot	c0.18		c0.26	0.11	c0.31	0.47
v/s Ratio Perm		0.07		0.20		
v/c Ratio	0.87	0.34	0.82	0.54	0.93	0.68
Uniform Delay, d1	34.3	30.1	28.7	14.3	29.3	8.2
Progression Factor	1.00	1.00	1.00	1.00	1.17	0.59
Incremental Delay, d2	10.7	0.6	5.1	0.4	15.2	0.6
Delay (s)	45.0	30.7	33.8	14.7	49.4	5.4
Level of Service	D	C	C	B	D	A
Approach Delay (s)	38.5		25.7			13.6
Approach LOS	D		C			B

Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1408	0	0	2940	73	787
Future Volume (vph)	1408	0	0	2940	73	787
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5			4.5	4.5	4.5
Lane Util. Factor	0.95			0.91	1.00	0.88
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3505			5036	1770	2787
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3505			5036	1770	2787
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1482	0	0	3095	77	828
RTOR Reduction (vph)	0	0	0	0	0	63
Lane Group Flow (vph)	1482	0	0	3095	77	765
Confl. Peds. (#/hr)		3	3			
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases						8
Actuated Green, G (s)	77.5			77.5	33.5	33.5
Effective Green, g (s)	77.5			77.5	33.5	33.5
Actuated g/C Ratio	0.65			0.65	0.28	0.28
Clearance Time (s)	4.5			4.5	4.5	4.5
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	2263			3252	494	778
v/s Ratio Prot	0.42			c0.61	0.04	
v/s Ratio Perm						c0.27
v/c Ratio	0.65			0.95	0.16	0.98
Uniform Delay, d1	13.0			19.5	32.6	43.0
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.7			7.5	0.1	28.0
Delay (s)	13.7			27.0	32.7	71.0
Level of Service	B			C	C	E
Approach Delay (s)	13.7			27.0	67.7	
Approach LOS	B			C	E	

Intersection Summary			
HCM 2000 Control Delay	30.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

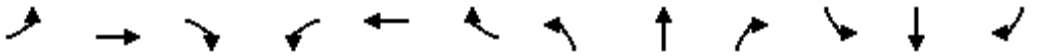
c Critical Lane Group



Movement	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1408	83	569	2444	0	0
Future Volume (vph)	1408	83	569	2444	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		
Lane Util. Factor	0.95		1.00	0.95		
Frpb, ped/bikes	1.00		1.00	1.00		
Flpb, ped/bikes	1.00		1.00	1.00		
Frt	0.99		1.00	1.00		
Flt Protected	1.00		0.95	1.00		
Satd. Flow (prot)	3439		1770	3539		
Flt Permitted	1.00		0.11	1.00		
Satd. Flow (perm)	3439		201	3539		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1452	86	587	2520	0	0
RTOR Reduction (vph)	7	0	0	0	0	0
Lane Group Flow (vph)	1531	0	587	2520	0	0
Confl. Peds. (#/hr)		2	2			
Heavy Vehicles (%)	4%	4%	2%	2%	1%	1%
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Actuated Green, G (s)	32.6		54.2	58.7		
Effective Green, g (s)	32.6		54.2	58.7		
Actuated g/C Ratio	0.56		0.92	1.00		
Clearance Time (s)	4.5		4.5	4.5		
Vehicle Extension (s)	3.0		3.0	3.0		
Lane Grp Cap (vph)	1909		642	3539		
v/s Ratio Prot	0.45		c0.27	0.71		
v/s Ratio Perm			c0.58			
v/c Ratio	0.80		0.91	0.71		
Uniform Delay, d1	10.5		15.6	0.0		
Progression Factor	1.00		1.00	1.00		
Incremental Delay, d2	3.7		17.6	0.7		
Delay (s)	14.1		33.2	0.7		
Level of Service	B		C	A		
Approach Delay (s)	14.1			6.8	0.0	
Approach LOS	B			A	A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	58.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
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 (vph)	73	192	242	73	128	248	89	410	70	401	730	87
Future Volume (vph)	73	192	242	73	128	248	89	410	70	401	730	87
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	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	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	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1536	1787	1881	1599	1770	1822		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1536	1787	1881	1599	1770	1822		1770	1863	1583
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)	77	202	255	77	135	261	94	432	74	422	768	92
RTOR Reduction (vph)	0	0	203	0	0	89	0	8	0	0	0	45
Lane Group Flow (vph)	77	202	52	77	135	172	94	498	0	422	768	47
Confl. Peds. (#/hr)			4	4								
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases			4			8						6
Actuated Green, G (s)	3.8	12.7	12.7	3.8	12.7	27.4	3.8	20.8		14.7	31.7	35.5
Effective Green, g (s)	3.8	12.7	12.7	3.8	12.7	27.4	3.8	20.8		14.7	31.7	35.5
Actuated g/C Ratio	0.05	0.18	0.18	0.05	0.18	0.39	0.05	0.30		0.21	0.45	0.51
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	96	338	278	97	341	728	96	541		371	843	904
v/s Ratio Prot	c0.04	c0.11		0.04	0.07	0.05	0.05	0.27		c0.24	c0.41	0.00
v/s Ratio Perm			0.03			0.06						0.03
v/c Ratio	0.80	0.60	0.19	0.79	0.40	0.24	0.98	0.92		1.14	0.91	0.05
Uniform Delay, d1	32.7	26.3	24.3	32.7	25.3	14.3	33.1	23.8		27.6	17.8	8.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	36.6	2.8	0.3	34.6	0.8	0.2	84.1	21.2		89.6	13.9	0.0
Delay (s)	69.3	29.1	24.6	67.4	26.0	14.5	117.2	45.0		117.2	31.7	8.8
Level of Service	E	C	C	E	C	B	F	D		F	C	A
Approach Delay (s)		32.8			26.4			56.3			58.2	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	47.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	59	248	50	343	740	87	56	411	354
Future Volume (vph)	0	0	0	59	248	50	343	740	87	56	411	354
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
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	0.98
Flpb, ped/bikes					1.00		1.00	1.00		1.00	1.00	1.00
Frt					0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected					0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)					1803		1786	1846		1769	1863	1553
Flt Permitted					0.99		0.30	1.00		0.14	1.00	1.00
Satd. Flow (perm)					1803		564	1846		260	1863	1553
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)	0	0	0	62	261	53	361	779	92	59	433	373
RTOR Reduction (vph)	0	0	0	0	8	0	0	5	0	0	0	146
Lane Group Flow (vph)	0	0	0	0	368	0	361	866	0	59	433	227
Confl. Peds. (#/hr)	3		4	4		3	6		3	3		6
Heavy Vehicles (%)	10%	10%	10%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type				Perm	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases					8		5	2		1	6	
Permitted Phases				8			2			6		6
Actuated Green, G (s)					17.5		45.4	38.2		31.4	28.7	28.7
Effective Green, g (s)					17.5		45.4	38.2		31.4	28.7	28.7
Actuated g/C Ratio					0.24		0.63	0.53		0.44	0.40	0.40
Clearance Time (s)					4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)					3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)					438		563	980		170	743	619
v/s Ratio Prot							c0.11	c0.47		0.01	0.23	
v/s Ratio Perm					0.20		0.30			0.14		0.15
v/c Ratio					0.84		0.64	0.88		0.35	0.58	0.37
Uniform Delay, d1					25.9		8.2	14.9		14.2	16.9	15.2
Progression Factor					1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2					13.6		2.5	9.5		1.2	1.2	0.4
Delay (s)					39.5		10.7	24.4		15.4	18.1	15.6
Level of Service					D		B	C		B	B	B
Approach Delay (s)		0.0			39.5			20.4			16.8	
Approach LOS		A			D			C			B	

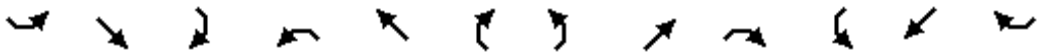
Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	71.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	555	60	278	0	0	0	0	617	13	7	467	0
Future Volume (vph)	555	60	278	0	0	0	0	617	13	7	467	0
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	
Lane Util. Factor	1.00	1.00						1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97						1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00						1.00		1.00	1.00	
Frt	1.00	0.88						1.00		1.00	1.00	
Flt Protected	0.95	1.00						1.00		0.95	1.00	
Satd. Flow (prot)	1780	1597						1875		1752	1845	
Flt Permitted	0.95	1.00						1.00		0.11	1.00	
Satd. Flow (perm)	1780	1597						1875		208	1845	
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)	584	63	293	0	0	0	0	649	14	7	492	0
RTOR Reduction (vph)	0	176	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	584	180	0	0	0	0	0	662	0	7	492	0
Confl. Peds. (#/hr)	2		9	9		2	5		5	5		5
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4									6		
Actuated Green, G (s)	30.2	30.2						31.2		36.5	36.5	
Effective Green, g (s)	30.2	30.2						31.2		36.5	36.5	
Actuated g/C Ratio	0.40	0.40						0.41		0.48	0.48	
Clearance Time (s)	4.5	4.5						4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)	710	637						772		116	889	
v/s Ratio Prot		0.11						c0.35		0.00	c0.27	
v/s Ratio Perm	c0.33									0.03		
v/c Ratio	0.82	0.28						0.86		0.06	0.55	
Uniform Delay, d1	20.4	15.4						20.2		14.7	13.8	
Progression Factor	1.00	1.00						1.00		1.00	1.00	
Incremental Delay, d2	7.6	0.2						9.3		0.2	0.7	
Delay (s)	28.0	15.7						29.6		14.9	14.6	
Level of Service	C	B						C		B	B	
Approach Delay (s)		23.3			0.0			29.6			14.6	
Approach LOS		C			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	75.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	34	575	39	0	0	0	0	54	209	74	117	0
Future Volume (vph)	34	575	39	0	0	0	0	54	209	74	117	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	605	41	0	0	0	0	57	220	78	123	0

Direction, Lane #	SE 1	SE 2	NE 1	NE 2	SW 1
Volume Total (vph)	339	344	57	220	201
Volume Left (vph)	36	0	0	0	78
Volume Right (vph)	0	41	0	220	0
Hadj (s)	0.07	-0.07	0.07	-0.63	0.08
Departure Headway (s)	6.0	5.9	6.7	6.0	6.7
Degree Utilization, x	0.56	0.56	0.11	0.37	0.37
Capacity (veh/h)	583	600	507	569	518
Control Delay (s)	15.3	14.9	9.3	11.3	13.5
Approach Delay (s)	15.1		10.9		13.5
Approach LOS	C		B		B

Intersection Summary				
Delay	13.8			
Level of Service	B			
Intersection Capacity Utilization	52.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Movement	SEU	SEL	SET	SER	NWU	NWL	NWT	NWR	NEU	NEL	NET	NER
Lane Configurations												
Traffic Vol, veh/h	0	34	575	39	0	0	0	0	0	0	54	209
Future Vol, veh/h	0	34	575	39	0	0	0	0	0	0	54	209
Peak Hour Factor	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	1	1	1	2	2	2	2	2	4	4	4
Mvmt Flow	0	36	605	41	0	0	0	0	0	0	57	220
Number of Lanes	0	0	2	0	0	0	0	0	0	0	1	1

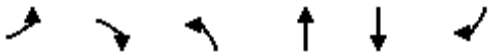
Approach	SE	NE
Opposing Approach		SW
Opposing Lanes	0	1
Conflicting Approach Left	SW	SE
Conflicting Lanes Left	1	2
Conflicting Approach Right	NE	
Conflicting Lanes Right	2	0
HCM Control Delay	16.1	11.8
HCM LOS	C	B

Lane	NELn1	NELn2	SELn1	SELn2	SWLn1
Vol Left, %	0%	0%	11%	0%	39%
Vol Thru, %	100%	0%	89%	88%	61%
Vol Right, %	0%	100%	0%	12%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	54	209	322	327	191
LT Vol	0	0	34	0	74
Through Vol	54	0	288	288	117
RT Vol	0	209	0	39	0
Lane Flow Rate	57	220	338	344	201
Geometry Grp	7	7	7	7	6
Degree of Util (X)	0.106	0.367	0.566	0.561	0.372
Departure Headway (Hd)	6.717	6.004	6.017	5.879	6.657
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	533	598	599	615	541
Service Time	4.464	3.751	3.751	3.613	4.698
HCM Lane V/C Ratio	0.107	0.368	0.564	0.559	0.372
HCM Control Delay	10.3	12.2	16.3	15.9	13.6
HCM Lane LOS	B	B	C	C	B
HCM 95th-tile Q	0.4	1.7	3.5	3.5	1.7

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SWU	SWL	SWT	SWR
Lane Configurations				
Traffic Vol, veh/h	0	74	117	0
Future Vol, veh/h	0	74	117	0
Peak Hour Factor	0.92	0.95	0.95	0.95
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	78	123	0
Number of Lanes	0	0	1	0

Approach	SW
Opposing Approach	NE
Opposing Lanes	2
Conflicting Approach Left	
Conflicting Lanes Left	0
Conflicting Approach Right	SE
Conflicting Lanes Right	2
HCM Control Delay	13.6
HCM LOS	B



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	543	238	162	1598	2892	1068
Future Volume (vph)	543	238	162	1598	2892	1068
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583	1752	5036	5085	1583
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583	1752	5036	5085	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	554	243	165	1631	2951	1090
RTOR Reduction (vph)	0	1	0	0	0	26
Lane Group Flow (vph)	554	242	165	1631	2951	1064
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type	Prot	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	4	5	5	2	6	4
Permitted Phases		4				6
Actuated Green, G (s)	23.3	35.7	12.4	87.7	70.8	94.1
Effective Green, g (s)	23.3	35.7	12.4	87.7	70.8	94.1
Actuated g/C Ratio	0.19	0.30	0.10	0.73	0.59	0.78
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	666	530	181	3680	3000	1300
v/s Ratio Prot	0.16	0.05	c0.09	0.32	c0.58	c0.16
v/s Ratio Perm		0.11				0.51
v/c Ratio	0.83	0.46	0.91	0.44	0.98	0.82
Uniform Delay, d1	46.5	34.3	53.3	6.4	24.0	7.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.7	0.6	42.5	0.4	13.0	4.1
Delay (s)	55.2	34.9	95.7	6.8	37.1	11.9
Level of Service	E	C	F	A	D	B
Approach Delay (s)	49.0			15.0	30.3	
Approach LOS	D			B	C	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



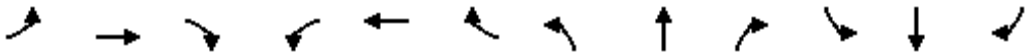
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Right Turn Channelized						
Traffic Volume (veh/h)	212	94	55	159	77	47
Future Volume (veh/h)	212	94	55	159	77	47
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	236	104	61	177	86	52
Approach Volume (veh/h)	340			238	138	
Crossing Volume (veh/h)	61			86	236	
High Capacity (veh/h)	1320			1295	1151	
High v/c (veh/h)	0.26			0.18	0.12	
Low Capacity (veh/h)	1103			1079	949	
Low v/c (veh/h)	0.31			0.22	0.15	

Intersection Summary			
Maximum v/c High	0.26		
Maximum v/c Low	0.31		
Intersection Capacity Utilization	45.4%	ICU Level of Service	A

Intersection	
Intersection Delay, s/veh	6.3
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	340	238	138
Demand Flow Rate, veh/h	350	247	141
Vehicles Circulating, veh/h	63	88	243
Vehicles Exiting, veh/h	272	296	170
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	6.9	5.9	5.7
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	TR	LT	LR
Assumed Moves	TR	LT	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	350	247	141
Cap Entry Lane, veh/h	1061	1035	886
Entry HV Adj Factor	0.971	0.963	0.979
Flow Entry, veh/h	340	238	138
Cap Entry, veh/h	1030	997	867
V/C Ratio	0.330	0.239	0.159
Control Delay, s/veh	6.9	5.9	5.7
LOS	A	A	A
95th %tile Queue, veh	1	1	1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Right Turn Channelized												
Traffic Volume (veh/h)	188	674	226	21	309	71	53	41	10	57	33	122
Future Volume (veh/h)	188	674	226	21	309	71	53	41	10	57	33	122
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	198	709	238	22	325	75	56	43	11	60	35	128
Approach Volume (veh/h)		1145			422			110			223	
Crossing Volume (veh/h)		117			297			967			403	
High Capacity (veh/h)		1264			1097			640			1008	
High v/c (veh/h)		0.91			0.38			0.17			0.22	
Low Capacity (veh/h)		1051			900			497			821	
Low v/c (veh/h)		1.09			0.47			0.22			0.27	

Intersection Summary				
Maximum v/c High	0.91			
Maximum v/c Low	1.09			
Intersection Capacity Utilization	90.8%	ICU Level of Service	E	

Intersection	
Intersection Delay, s/veh	21.2
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	1145	422	110	223
Demand Flow Rate, veh/h	1168	435	112	228
Vehicles Circulating, veh/h	120	303	986	415
Vehicles Exiting, veh/h	523	795	302	323
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	27.9	11.8	13.1	8.6
Approach LOS	D	B	B	A

Lane	Left	Right	Left	Left	Left
Designated Moves	LT	R	LTR	LTR	LTR
Assumed Moves	LT	R	LTR	LTR	LTR
RT Channelized					
Lane Util	0.792	0.208	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193	5.193
Entry Flow, veh/h	925	243	435	112	228
Cap Entry Lane, veh/h	1002	1002	835	422	746
Entry HV Adj Factor	0.980	0.979	0.971	0.983	0.979
Flow Entry, veh/h	907	238	422	110	223
Cap Entry, veh/h	982	982	810	415	731
V/C Ratio	0.923	0.242	0.521	0.266	0.306
Control Delay, s/veh	33.6	6.0	11.8	13.1	8.6
LOS	D	A	B	B	A
95th %tile Queue, veh	14	1	3	1	1

Intersection: 101: OR-213 & I-205 SB Ramps

Movement	EB	NB
Directions Served	L	L
Maximum Queue (ft)	136	157
Average Queue (ft)	38	47
95th Queue (ft)	109	125
Link Distance (ft)	227	219
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 101: OR-213 & I-205 SB Ramps

Movement	EB	NB	SB
Directions Served	L	L	T
Maximum Queue (ft)	34	135	23
Average Queue (ft)	6	22	1
95th Queue (ft)	26	80	13
Link Distance (ft)	227	219	242
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	4	0	4	0	8	0	4	0	4	0	4	0	0
TURNING MOVEMENTS	0	2	1	3	0	2	0	2	1	3	0	3	0	0
YEAR 2015 TOTAL	**0**	**6**	**1**	**7**	**0**	**10**	**0**	**6**	**1**	**7**	**0**	**7**	**0**	**0**
YEAR: 2014														
REAR-END	0	2	0	2	0	3	0	2	0	1	1	2	0	0
TURNING MOVEMENTS	0	1	2	3	0	1	0	3	0	2	1	3	0	0
YEAR 2014 TOTAL	**0**	**3**	**2**	**5**	**0**	**4**	**0**	**5**	**0**	**3**	**2**	**5**	**0**	**0**
YEAR: 2013														
REAR-END	0	0	1	1	0	0	0	0	0	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2012														
PEDESTRIAN	0	1	0	1	0	1	0	0	1	1	0	1	0	0
REAR-END	0	2	2	4	0	2	0	2	2	2	2	4	0	0
TURNING MOVEMENTS	0	4	2	6	0	6	0	4	2	2	4	6	0	0
YEAR 2012 TOTAL	**0**	**7**	**4**	**11**	**0**	**9**	**0**	**6**	**5**	**5**	**6**	**11**	**0**	**0**
YEAR: 2011														
REAR-END	0	4	1	5	0	6	0	3	2	5	0	5	0	0

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	1	0	1	0	0
YEAR 2011 TOTAL	**0**	**4**	**2**	**6**	**0**	**6**	**0**	**3**	**3**	**6**	**0**	**6**	**0**	**0**
FINAL TOTAL	**0**	**20**	**10**	**30**	**0**	**29**	**0**	**20**	**9**	**22**	**8**	**30**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00210	N	N	N				01/18/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
NONE							TU		WB EX PAC HY 99E	N		TRF SIGNAL	N	WET	REAR		UNKN	N -S									000		00
							10A			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK		026	000		07
																								UNK					
																02	NONE 0	STOP											
																	PRVTE	N -S									012		00
																	PSNGR CAR		01	DRVR	NONE	45	M	OR-Y		000	000		00
																								OR<25					
02676	N	N	N				07/27/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NO RPT							WE		WB EX PAC HY 99E	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
							12P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	28	M	OR-Y		026	000		07
																								OR<25					
																02	NONE 0	STOP											
																	PRVTE	N -S									011		00
																	PSNGR CAR		01	DRVR	NONE	20	M	OR-Y		000	000		00
																								OR<25					
																02	NONE 0	STOP											
																	PRVTE	N -S									011		00
																	PSNGR CAR		02	PSNG	INJC	55	M			000	000		00
03094	N	N	N				08/24/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE							WE		WB EX PAC HY 99E	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
							9A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	52	F	OR-Y		026	000		07
																								OR<25					
																02	NONE 0	STOP											
																	PRVTE	N -S									012		00
																	PSNGR CAR		01	DRVR	INJC	38	F	OR-Y		000	000		00
																								OR<25					
01210	Y	Y	N	N	N		03/31/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											01,07
STATE							SA		WB EX PAC HY 99E	N		L-TURN REF	N	WET	REAR		PRVTE	N -S									000		00
							1A			06	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	64	F	OR-Y		026,047	000		01,07
																								OR<25					
																02	NONE 0	STOP											
																	PRVTE	N -S									012		00
																	PSNGR CAR		01	DRVR	INJC	48	F	OR-Y		000	000		00
																								OR<25					
05299	N	N	N				12/30/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013,099	27,29
NO RPT							TU		WB EX PAC HY 99E	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
							6P			06	2		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	22	F	OR-Y		016,026	038	099	27,29
																								OR<25					
																02	NONE 0	STOP											
																	PRVTE	N -S									011	013	00
																	PSNGR CAR		01	DRVR	INJC	26	M	OR-Y		000	000		00
																								OR<25					
																03	NONE 0	STOP											
																	PRVTE	N -S									022		00
																	PSNGR CAR		01	DRVR	NONE	77	M	OR-Y		000	000		00
																								OR<25					
01064	N	N	N				03/27/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29
NO RPT							FR		WB EX PAC HY 99E	N		TRF SIGNAL	N	DRY	REAR		UNKN	E -W									000		00
							11A			06	1		N	DAY	INJ		UNKNOWN		01	DRVR	NONE	00	Unk	UNK		026	000		29

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																							UNK					
															02	NONE 0	STOP											
																PRVTE	E -W									011	013	
																PSNGR CAR		01	DRVR	NONE	34	M	OTH-Y		000	000		00
																							N-RES					
															03	NONE 0	STOP											
																PRVTE	E -W									022	013	
																PSNGR CAR		01	DRVR	INJC	58	F	OR-Y		000	000		00
																							OR<25					
															04	NONE 0	STOP											
																PRVTE	E -W									022		00
																PSNGR CAR		01	DRVR	INJC	43	M	UNK		000	000		00
																							UNK					
															04	NONE 0	STOP											
																PRVTE	E -W									022		00
																PSNGR CAR		02	PSNG	INJC	44	F			000	000		00
															04	NONE 0	STOP											
																PRVTE	E -W									022		00
																PSNGR CAR		03	PSNG	INJC	15	M			000	000		00
02614	N	N	N			06/30/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											013	29
NO RPT						TU		WB EX PAC HY 99E	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
						11A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	54	M	OR-Y		026	000		29
																							UNK					
															02	NONE 0	STOP											
																PRVTE	N -S									011	013	
																PSNGR CAR		01	DRVR	INJB	26	M	OTH-Y		000	000		00
																							N-RES					
															03	NONE 0	STOP											
																UNKN	N -S									022		00
																PSNGR CAR		01	DRVR	NONE	56	M	OR-Y		000	000		00
																							OR<25					
04289	N	N	N			11/13/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT												07
NONE						SU		WB EX PAC HY 99E	E		TRF SIGNAL	N	WET	REAR		PRVTE	E -W									000		00
						11A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	E -W									011		00
																PSNGR CAR		01	DRVR	INJC	17	F	OR-Y		000	000		00
																							OR<25					
01880	N	N	N			05/22/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	PED	01	NONE 0	TURN-R											083	02,19
CITY						TU		WB EX PAC HY 99E	E		TRF SIGNAL	N	WET	PED		PRVTE	E -N									016		00
						11A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	47	M	OR-Y		029	000	083	02
																							OR<25					
																	-											
																	STRGHT	01	CONV	INJB	51	M		I XWLK	000	035		00,19
																	N S											
03460	N	N	N			09/17/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE						MO		WB EX PAC HY 99E	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W S	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES / OR<25	PED LOC	ERROR	ACT	EVENT	CAUSE
							5P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK		026	000		07
																02	NONE 0	STOP						OR<25				
																	PRVTE	E -W									011		00
																	PSNGR CAR		01	DRVR	NONE	38	F	OR-Y		000	000		00
																								OR<25				
04205	N	N	N				11/07/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
NONE							WE		WB EX PAC HY 99E	E		TRF SIGNAL	N	WET	REAR		PRVTE	E -W								000		00
							7A			06	0		N	DAWN	PDO		PSNGR CAR		01	DRVR	NONE	20	M	OR-Y		026	000		07
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	E -W									011		00
																	PSNGR CAR		01	DRVR	NONE	52	M	OR-Y		000	000		00
																								OR<25				
02304	N	N	N				06/28/2013	11	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											27,07
NONE							FR		WB EX PAC HY 99E	E		TRF SIGNAL	N	UNK	REAR		PRVTE	E -W								000		00
							3P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	43	M	OR-Y		016,026	000		27,07
																								OR>25				
																02	NONE 0	STOP										
																	PRVTE	E -W									012		00
																	PSNGR CAR		01	DRVR	NONE	00	M	UNK		000	000		00
																								OR<25				
03151	N	N	N				08/15/2014	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29
NONE							FR		WB EX PAC HY 99E	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W								000		00
							3P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	46	F	OTH-Y		026	000		29
																								N-RES				
																02	NONE 0	STOP										
																	PRVTE	E -W									011 013		00
																	PSNGR CAR		01	DRVR	NONE	46	F	OR-Y		000	000		00
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	E -W									011 013		00
																	PSNGR CAR		02	PSNG	INJC	24	F			000	000		00
																03	NONE 0	STOP										
																	UNKN	E -W									022		00
																	UNKNOWN		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK				
00830	N	N	N				03/06/2015	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE							FR		WB EX PAC HY 99E	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W								000		00
							3P			06	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	49	F	OR-Y		026	000		29
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	E -W									011		00
																	PSNGR CAR		01	DRVR	INJC	36	M	OR-Y		000	000		00
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	E -W									011		00
																	PSNGR CAR		02	PSNG	INJC	32	F			000	000		00
02481	N	N	N				06/22/2015	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
NONE							MO 3P		WB EX PAC HY 99E	E 06	 0	TRF SIGNAL	N N	DRY DAY	REAR INJ		PRVTE PSNGR CAR	E -W	01	DRVR	NONE	41	M	OR-Y OR<25		026	000 000	00 29
																02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	INJC	68	M	OR-Y OR<25		000	011 000	00 00
02606 NONE	N	N	N				07/18/2012 WE 2P	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER S 06	3-LEG 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	17	M	OR-Y OR<25		026	000 000	07 07
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	INJC	43	F	OR-Y OR<25		000	011 000	00 00
01678 NONE	N	N	N				05/07/2012 MO 8P	11	PACIFIC HY 99E WB EX PAC HY 99E	INTER SW 06	3-LEG 1	N TRF SIGNAL	N N	CLR DRY DLIT	BIKE TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-R E -N	01	DRVR	NONE	41	M	OR-Y OR<25		000	000 000	18,19,04 00 00
																		- STRGHT S N	01	BIKE	INJB	20	F		I	XWLK 020,060	035	18,04
00891 NONE	N	N	N				03/15/2011 TU 1P	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER CN 03	3-LEG 1	N TRF SIGNAL	N N	RAIN WET DAY	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	NONE	28	M	OR-Y OR<25		020	000 000	04 04
																02	NONE 0 PRVTE PSNGR CAR	TURN-L E -S	01	DRVR	NONE	21	F	OR-Y OR<25		000	000 000	00 00
																02	NONE 0 PRVTE PSNGR CAR	TURN-L E -S	02	PSNG	NO<5	01	M			000	000 000	00 00
00905 STATE	N	N	N	N	N		03/14/2011 MO 4P	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER CN 04	3-LEG 1	N TRF SIGNAL	N N	CLD DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	INJC	54	F	SUSP OR<25		026	000 000	07 07
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	INJC	58	F	OR-Y OR<25		000	011 000	00 00
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	02	PSNG	INJC	33	M			000	011 000	00 00
01007 NONE	N	N	N				03/17/2012 SA 1P	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER CN 01	3-LEG 1	N TRF SIGNAL	N N	RAIN WET DAY	ANGL-OTH TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L E -S	01	DRVR	NONE	55	F	OR-Y OR<25		097	000 000	04 00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															01	NONE 0 PRVTE PSNGR CAR	TURN-L E -S	02	PSNG	INJC	43	F			000 000	000 00
															02	NONE 0 PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	NONE	52	M	OR-Y OR<25		000 000	000 00
01096 NONE	N	N	N			03/23/2012 FR 1P	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER CN 02	3-LEG 1	N TRF SIGNAL	N N	CLR DRY DAY	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	45	M	OR-Y OR<25		000 000	02 000 00
															02	NONE 0 PRVTE PSNGR CAR	TURN-R E -N	01	DRVR	NONE	91	M	OR-Y OR<25		028 015 000	00 00 02
01120 STATE	N	N	N	N	N	03/24/2012 SA 5A	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER CN 04	3-LEG 1	N L-GRN-SIG	N N	CLD DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	INJC	59	M	OR-Y OR<25		000 000	04 00 00
															02	NONE 0 PRVTE PSNGR CAR	TURN-L N -E	01	DRVR	INJC	44	F	OR-Y OR<25		000 020	00 04
03764 CITY	N	N	N			10/10/2012 WE 4A	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER CN 04	3-LEG 1	N TRF SIGNAL	N N	CLR DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	52	M	OR-Y OR<25		097 000	04 00 00
															01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	02	PSNG	INJC	35	M			000 000	000 00
															02	NONE 0 PRVTE PSNGR CAR	TURN-L N -E	01	DRVR	INJC	49	M	OR-Y OR<25		097 000	000 00
04671 NONE	N	N	N			12/04/2012 TU 5P	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER CN 02	3-LEG 1	N TRF SIGNAL	N N	RAIN WET DLIT	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-R E -N	01	DRVR	NONE	67	M	OR-Y OR<25		028 000	02 00 02
															02	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	42	F	OR-Y OR<25		000 000	000 00
01191 STATE	N	N	N			03/27/2014 TH 3P	14	PACIFIC HY 99E WB EX PAC HY 99E	INTER CN 03	3-LEG 1	N TRF SIGNAL	N N	CLR DRY DAY	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	NONE	23	M	OTH-Y N-RES		020 000	04 00 04
															02	NONE 0 PRVTE PSNGR CAR	TURN-L E -S	01	DRVR	NONE	66	F	OR-Y		000 000	000 00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																							OR<25					
01560	N	N	N	N	N	04/23/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	ANGL-OTH	01	NONE 0	TURN-L											04
NONE						WE		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	E -S									000		00
						11A			01	2		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	21	F	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	N -S									000		00
																PSNGR CAR		01	DRVR	NONE	52	F	OR-Y		020	000		04
																							OR<25					
															03	NONE 0	TURN-L											
																PRVTE	E -S									000		00
																PSNGR CAR		01	DRVR	NONE	30	F	OR-Y		000	000		00
																							OR<25					
04035	N	N	N			10/10/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										013	04
NO RPT						FR		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -S									000		00
						9P			03	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	19	M	OR-Y		020	000		04
																							OR<25					
															02	NONE 0	TURN-L											
																PRVTE	E -S									000	031	00
																PSNGR CAR		01	DRVR	INJC	16	F	OR-Y		000	000		00
																							OR<25					
															03	NONE 0	TURN-L											
																PRVTE	E -S									022		00
																PSNGR CAR		01	DRVR	NONE	35	F	OR-Y		000	000		00
																							OR<25					
02482	N	N	N	N	N	06/22/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
STATE						MO		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000		00
						7A			02	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	45	F	OR-Y		020	000		04
																							OR<25					
															02	NONE 0	TURN-L											
																PRVTE	E -S									000		00
																PSNGR CAR		01	DRVR	NONE	56	M	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	TURN-L											
																PRVTE	E -S									000		00
																PSNGR CAR		02	PSNG	INJC	42	F			000	000		00
04797	N	N	N			11/14/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											04
NO RPT						SA		WB EX PAC HY 99E	CN		TRF SIGNAL	N	WET	TURN		PRVTE	S -N									000		00
						2P			02	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	58	M	OTH-Y		000,097	000		00
																							N-RES					
															02	NONE 0	TURN-L											
																PRVTE	E -S									000		00
																PSNGR CAR		01	DRVR	NONE	82	M	OR-Y		000	000		00
																							OR>25					
															02	NONE 0	TURN-L											
																PRVTE	E -S									000		00
																PSNGR CAR		02	PSNG	INJB	82	F			000,097	000		00
00802	N	N	N	N	N	03/03/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
STATE						TU		WB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -S									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at WB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D C	A L	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
						12P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y OR<25		020	000	04
															02	NONE 0 PRVTE PSNGR CAR	TURN-L E -S	01	DRVR	NONE	77	F	OR-Y OR<25		000	000 000	00 00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at NB EXTO I-205 WB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	2	2	4	0	2	0	2	1	3	1	4	0	0
TURNING MOVEMENTS	0	2	0	2	0	3	0	2	0	0	2	2	0	0
YEAR 2015 TOTAL	**0**	**4**	**2**	**6**	**0**	**5**	**0**	**4**	**1**	**3**	**3**	**6**	**0**	**0**
YEAR: 2014														
REAR-END	0	1	0	1	0	2	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	0	2	2	0	0	0	2	0	0	2	2	0	0
YEAR 2014 TOTAL	**0**	**1**	**2**	**3**	**0**	**2**	**0**	**2**	**1**	**0**	**3**	**3**	**0**	**0**
YEAR: 2013														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	0	1	1	0	0
REAR-END	0	0	1	1	0	0	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**0**	**2**	**1**	**0**	**3**	**3**	**0**	**0**
YEAR: 2012														
REAR-END	0	0	1	1	0	0	0	0	1	1	0	1	0	0
YEAR 2012 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**
YEAR: 2011														
REAR-END	0	0	2	2	0	0	0	1	1	1	1	2	0	0

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at NB EXTO I-205 WB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	1	1	2	0	0
YEAR 2011 TOTAL	**0**	**1**	**3**	**4**	**0**	**1**	**0**	**2**	**2**	**2**	**2**	**4**	**0**	**0**
FINAL TOTAL	**0**	**7**	**10**	**17**	**0**	**9**	**0**	**10**	**6**	**6**	**11**	**17**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 WB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 17

SER# / INVEST	S P E D	A L C	R U G L	S C H K	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02247	N	N	N			06/22/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											07
NONE						FR		NB EXTO I-205 WB	N		TRF SIGNAL	N	WET	REAR		PRVTE	N -S									000		00
						3P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	55	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	N -S									012		00
																PSNGR CAR		01	DRVR	NONE	55	M	OR-Y OR<25		000	000		00
00404	N	N	N			02/03/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	OTH OBJ	01	NONE 0	TURN-R											044	08
NO RPT						SU		NB EXTO I-205 WB	N		TRF SIGNAL	N	DRY	FIX		PRVTE	E -N									000	044	00
						2A			05	1		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	56	F	OR-Y OR<25		001	000		08
01897	N	N	N			05/17/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT												29
NO RPT						SA		NB EXTO I-205 WB	N		L-GRN-SIG	N	WET	REAR		PRVTE	N -S									000		00
						10P			06	0		N	DARK	INJ		PSNGR CAR		01	DRVR	NONE	37	M	OR-Y OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	N -S									012		00
																PSNGR CAR		01	DRVR	INJC	34	F	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	N -S									012		00
																PSNGR CAR		02	PSNG	INJC	47	F			000	000		00
01559	N	N	N			04/28/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												29
NONE						TU		NB EXTO I-205 WB	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
						10A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	64	M	OR-Y OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	N -S									011		00
																PSNGR CAR		01	DRVR	INJC	65	F	OR-Y OR<25		000	000		00
04365	N	N	N			09/20/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												29
NONE						SU		NB EXTO I-205 WB	N		TRF SIGNAL	N	DRY	REAR		UNKN	N -S									000		00
						UNK			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		026	000		29
															02	NONE 0	STOP											
																PRVTE	N -S									012		00
																PSNGR CAR		01	DRVR	NONE	34	M	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	N -S									012		00
																PSNGR CAR		02	PSNG	NO<5	01	M			000	000		00
															02	NONE 0	STOP											
																PRVTE	N -S									012		00
																PSNGR CAR		03	PSNG	INJC	29	F			000	000		00
05481	N	N	N			12/18/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT												29
NONE						FR		NB EXTO I-205 WB	N		TRF SIGNAL	N	UNK	REAR		UNKN	N -S									000		00
						6A			06	1		N	DAWN	PDO		PSNGR CAR		01	DRVR	NONE	00	F	UNK		026	000		29

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 WB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 17

SER# / INVEST	S P E D	A L C	R S L	W C H	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC / TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
															02	NONE 0	STOP						UNK				
																PRVTE	N -S									012	00
																PSNGR CAR		01	DRVR	NONE	72	M	OR-Y		000	000	00
																							OR<25				
01852	N	N	N			05/27/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	TURN-R										07
NONE						FR		NB EXTO I-205 WB	SE		YIELD	N	DRY	REAR		PRVTE	S -E									000	00
						7A			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	48	F	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	S -E									011	00
																PSNGR CAR		01	DRVR	NONE	31	M	OR-Y		000	000	00
																							OR<25				
04141	N	N	N			11/04/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										07
NO RPT						FR		NB EXTO I-205 WB	S		TRF SIGNAL	N	WET	REAR		PRVTE	S -N									000	00
						9P			06	1		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	90	F	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	NONE	24	M	OR-Y		000	000	00
																							OR<25				
05083	Y	N	N	N	N	12/30/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										07,01
STATE						MO		NB EXTO I-205 WB	S		TRF SIGNAL	N	WET	REAR		PRVTE	S -N									000	00
						7P			06	0		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	51	F	OR-Y		043,026,047	000	07,01
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	NONE	50	M	OR-Y		000	000	00
																							OR<25				
00848	N	N	N			03/10/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE						TH		NB EXTO I-205 WB	CN		TRF SIGNAL	N	WET	TURN		PRVTE	S -N									000	00
						8P			04	1		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK		000	000	00
																							OR<25				
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		01	DRVR	NONE	57	F	OR-Y		028,004	000	02
																							OR<25				
03084	N	N	N	N	N	08/23/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	TURN-L										04
STATE						TU		NB EXTO I-205 WB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -E									000	00
						8A			04	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	54	F	OR-Y		000	000	00
																							OR<25				
															02	NONE 0	STRGHT										
																PRVTE	S -N									000	00
																PSNGR CAR		01	DRVR	INJA	52	F	OR-Y		020	028	04
																							OR<25				
03065	N	N	N	N	N	08/19/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										27,04
STATE						MO		NB EXTO I-205 WB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
						9P			04	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	19	F	OR-Y		016,020	038	27,04
																							OR<25				
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 WB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 17

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC / TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	26	M	OR-Y OR<25		000	000	00
00203 CITY	N	N	N	N	N	01/16/2014 TH 11P	14	PACIFIC HY 99E NB EXTO I-205 WB	INTER CN 04	3-LEG 1	N L-GRN-SIG	N N	CLD DRY DLIT	O-1 L-TURN TURN PDO	01	NONE 0 UNKN PSNGR CAR	TURN-L N -E	01	DRVR	NONE	00	M	UNK UNK		003	000 000	04 00 04
															02	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	45	M	OR-Y OR<25		000	000	00 00
04525 STATE	N	N	N	N	N	11/09/2014 SU 7A	14	PACIFIC HY 99E NB EXTO I-205 WB	INTER CN 04	3-LEG 2	N TRF SIGNAL	N N	CLD DRY DLIT	O-1 L-TURN TURN PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-L N -E	01	DRVR	NONE	28	F	OTH-Y N-RES		003	000 000	04 00 04
															02	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	31	M	OR-Y OR<25		000	000	00 00
02021 NONE	N	N	N	N	N	05/28/2015 TH 9P	14	PACIFIC HY 99E NB EXTO I-205 WB	INTER CN 04	3-LEG 2	N TRF SIGNAL	N N	CLR DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	INJB	29	M	OR-Y OR<25		000	000 000	02 00 00
															02	NONE 0 PRVTE PSNGR CAR	TURN-L N -E	01	DRVR	NONE	19	F	OR-Y OR>25		028,004	000	00 02
04587 NO RPT	N	N	N			11/03/2015 TU 9P	14	PACIFIC HY 99E NB EXTO I-205 WB	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	CLR DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	INJC	25	F	OR-Y OR<25		016,020	000 000	27,04 00 27,04
															01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	02	PSNG	INJC	05	F			000	000	00 00
															02	NONE 0 PRVTE PSNGR CAR	TURN-L N -E	01	DRVR	NONE	57	M	OR-Y OR<25		000	000	00 00
05429 NONE	N	N	N			12/17/2015 TH 1P	14	PACIFIC HY 99E NB EXTO I-205 WB	INTER CN 01	3-LEG 1	N TRF SIGNAL	N N	RAIN WET DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-L N -E	01	DRVR	NONE	25	F	OR-Y OR<25		026	000 000	29 00 29
															02	NONE 0 PRVTE PSNGR CAR	STOP N -E	01	DRVR	NONE	64	M	OR-Y OR<25		000	013 000	00 00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	1	0	1	0	1	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	2	0	2	0	3	0	2	0	1	1	2	0	0
YEAR 2015 TOTAL	**0**	**3**	**0**	**3**	**0**	**4**	**0**	**2**	**1**	**1**	**2**	**3**	**0**	**0**
YEAR: 2014														
REAR-END	0	1	3	4	0	1	0	4	0	3	1	4	0	0
YEAR 2014 TOTAL	**0**	**1**	**3**	**4**	**0**	**1**	**0**	**4**	**0**	**3**	**1**	**4**	**0**	**0**
YEAR: 2013														
REAR-END	0	2	1	3	0	2	0	1	1	0	3	3	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**2**	**2**	**4**	**0**	**2**	**0**	**2**	**1**	**0**	**4**	**4**	**0**	**0**
YEAR: 2012														
REAR-END	0	0	5	5	0	0	0	4	1	5	0	5	0	0
TURNING MOVEMENTS	0	2	0	2	0	2	0	1	1	1	1	2	0	0
YEAR 2012 TOTAL	**0**	**2**	**5**	**7**	**0**	**2**	**0**	**5**	**2**	**6**	**1**	**7**	**0**	**0**
YEAR: 2011														
REAR-END	0	3	1	4	0	4	0	2	2	3	1	4	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR 2011 TOTAL	**0**	**3**	**2**	**5**	**0**	**4**	**0**	**2**	**3**	**3**	**2**	**5**	**0**	**0**

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

FINAL TOTAL	**0**	**11**	**12**	**23**	**0**	**13**	**0**	**15**	**7**	**13**	**10**	**23**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
04876	N	N	N				11/18/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT										29
NONE							WE		EB EX PAC HY 99E	N		TRF SIGNAL	N	WET	REAR		PRVTE	N -S									000	00
							8A			06	1		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	19	M	OR-Y OR<25		026	000	29
																02	NONE 0	STOP										
																	PRVTE	N -S									011	00
																	PSNGR CAR		01	DRVR	INJC	34	M	OR-Y OR<25		000	000	00
04362	N	N	N				11/17/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										07
NONE							TH		EB EX PAC HY 99E	NE		YIELD	N	WET	REAR		PRVTE	SE-NW									000	00
							8A			09	1		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	19	M	UNK OR<25		026	000	07
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	00
																	PSNGR CAR		01	DRVR	INJA	31	F	OR-Y OR<25		000	000	00
01689	N	N	N				05/08/2012	14	PACIFIC HY 99E	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE							TU		EB EX PAC HY 99E	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
							12P			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	77	M	OR-Y OR<25		026	000	07
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	00
																	PSNGR CAR		01	DRVR	NONE	62	M	OR-Y OR<25		000	000	00
01854	N	N	N	N	N		05/19/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										27,07
STATE							SA		EB EX PAC HY 99E	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
							7P			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	57	F	OR-Y OR<25		016,026	000	27,07
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	00
																	PSNGR CAR		01	DRVR	NONE	24	F	OR-Y OR>25		000	000	00
01924	N	N	N				05/24/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE							TH		EB EX PAC HY 99E	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
							9A			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y OR<25		026	000	07
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	00
																	PSNGR CAR		01	DRVR	NONE	64	M	OR-Y OR<25		000	000	00
02321	N	N	N				06/28/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE							TH		EB EX PAC HY 99E	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
							12P			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	24	M	OR-Y OR<25		026	000	07
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	00
																	PSNGR CAR		01	DRVR	NONE	71	M	OR-Y OR<25		000	000	00
03957	N	N	N				10/22/2012	11	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT										07
NONE							MO		EB EX PAC HY 99E	NE		YIELD	N	WET	REAR		PRVTE	SE-NW									000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
						2P			09	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OTH-Y N-RES		026	000	07
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	NONE	39	F	OR-Y OR<25		000	000	00
01366 NONE	N	N	N			04/22/2013 MO 7P	11	EB EX PAC HY 99E PACIFIC HY 99E	INTER NE 09	3-LEG 1	N YIELD	N N	CLR DRY DUSK	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	42	M	OR-Y OR<25		026	000 000	07 00 07
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	NONE	20	M	OR-Y OR<25		000	000	00
82215 NONE	N	N	N			11/12/2013 TU 8A	11	PACIFIC HY 99E EB EX PAC HY 99E	INTER NE 09	3-LEG 1	N YIELD	N N N	RAIN WET DAWN	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	M	UNK UNK		026	000 000	07 00 07
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	INJC	65	F	OR-Y OR<25		000	000	00
00474 CITY	N	N	N	N	N	02/04/2014 TU 10A	14	PACIFIC HY 99E EB EX PAC HY 99E	INTER NE 09	3-LEG 1	N TRF SIGNAL	N N N	CLD DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	35	M	OR-Y OR<25		026	000 038	27,07 00 27,07
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	NONE	52	F	OR-Y OR<25		000	000	00
00923 NONE	N	N	N			03/04/2014 TU 8A	14	PACIFIC HY 99E EB EX PAC HY 99E	INTER NE 09	3-LEG 1	N YIELD	N N N	CLR DRY DLIT	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	Unk	OR-Y OR<25		026	000 000	07 00 07
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	NONE	52	F	OR-Y OR<25		000	000	00
02990 NONE	N	N	N			08/03/2014 SU UNK	11	PACIFIC HY 99E EB EX PAC HY 99E	INTER NE 09	3-LEG 1	N TRF SIGNAL	N N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	60	F	OR-Y OR<25		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW								011	00
																PSNGR CAR		01	DRVR	NONE	66	M	OR-Y OR<25		000	000	00
05025 NONE	N	N	N			12/12/2014 FR 2P	11	PACIFIC HY 99E EB EX PAC HY 99E	INTER NE 09	3-LEG 1	N YIELD	N N N	CLR DRY DAY	S-STRGHT REAR INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-R E -N	01	DRVR	NONE	43	F	OR-Y OR>25		042	000 000	07 00 07
															02	NONE 0	TURN-R									

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																	PRVTE	E -N									000		00
																	PSNGR CAR		01	DRVR	INJC	65	F	OR-Y OR<25		000	000		00
01260	Y	N	N				04/15/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											013	01
NONE							FR		EB EX PAC HY 99E	E		YIELD	N	WET	REAR		UNKN	E -W									000		00
							12P			06	1		N	DAY	INJ		UNKNOWN		01	DRVR	NONE	00	Unk	UNK UNK		047,026	000		01
																02	NONE 0	STOP											
																	PRVTE	E -W									011	013	00
																	PSNGR CAR		01	DRVR	NONE	24	F	OR-Y OR<25		000	000		00
																03	NONE 0	STOP											
																	PRVTE	E -W									022		00
																	PSNGR CAR		01	DRVR	INJC	41	M	OR-Y OR<25		000	000		00
																03	NONE 0	STOP											
																	PRVTE	E -W									022		00
																	PSNGR CAR		02	PSNG	INJC	15	F			000	000		00
03326	N	N	N				09/08/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NO RPT							TH		EB EX PAC HY 99E	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00
							11A			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	75	M	OR-Y OR<25		026	000		07
																02	NONE 0	STOP											
																	PRVTE	E -W									011		00
																	PSNGR CAR		01	DRVR	NONE	00	F	OR-Y OR<25		000	000		00
04032	N	N	N				10/29/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE							SA		EB EX PAC HY 99E	E		TRF SIGNAL	N	DRY	REAR		UNKN	E -W									000		00
							10A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y UNK		026	000		07
																02	NONE 0	STOP											
																	PRVTE	E -W									012		00
																	PSNGR CAR		01	DRVR	INJC	53	F	OR-Y OR<25		000	000		00
04751	N	N	N				12/08/2013	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE							SU		EB EX PAC HY 99E	E		TRF SIGNAL	N	UNK	REAR		PRVTE	E -W									000		00
							5P			06	2		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y UNK		026	000		07
																02	NONE 0	STOP											
																	PRVTE	E -W									012		00
																	PSNGR CAR		01	DRVR	INJC	39	F	OR-Y OR<25		000	000		00
04167	N	N	N				11/05/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	TURN-L												04
NONE							SA		EB EX PAC HY 99E	CN		TRF SIGNAL	N	WET	TURN		PRVTE	E -S									000		00
							7A			03	1		N	DAWN	PDO		PSNGR CAR		01	DRVR	NONE	61	F	OR-Y OR<25		097	000		00
																02	NONE 0	STRGHT											
																	PRVTE	N -S									000		00
																	PSNGR CAR		01	DRVR	NONE	64	F	OR-Y OR<25		097	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at EB EX PAC HY 99E, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 23

SER# / INVEST	S P E D	A L C	D R S	S W U G S	C O H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
03521	N	N	N	N	N		09/22/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
STATE							SA		EB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
							9A			02	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	34	M	OR-Y OR<25		020	000	04
																02	NONE 0	TURN-L										
																	PRVTE	E -S									000	00
																	PSNGR CAR		01	DRVR	INJC	64	F	OR-Y OR<25		000	000	00
04882	N	N	N	N	N		12/17/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										04
STATE							MO		EB EX PAC HY 99E	CN		L-GRN-SIG	N	WET	TURN		PRVTE	S -N									000	00
							9P			04	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	53	F	OR-Y OR<25		000	000	00
																02	NONE 0	TURN-L										
																	PRVTE	N -E									000	00
																	PSNGR CAR		01	DRVR	NONE	57	M	OR-Y OR<25		003	000	04
00576	N	N	N				02/19/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										02
NONE							TU		EB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -E									000	00
							9P			04	1		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y OR<25		028	000	02
																02	NONE 0	STRGHT										
																	PRVTE	S -N									000	00
																	PSNGR CAR		01	DRVR	NONE	57	M	OR-Y OR<25		000	000	00
01337	N	N	N				04/14/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
NONE							TU		EB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
							3P			02	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	36	M	OR-Y OR<25		020	000	04
																01	NONE 0	STRGHT										
																	PRVTE	S -N									000	00
																	PSNGR CAR		02	PSNG	NO<5	04	M			000	000	00
																02	NONE 0	TURN-L										
																	PRVTE	E -S									000	00
																	PSNGR CAR		01	DRVR	INJC	37	F	OR-Y OR<25		000	000	00
05735	N	N	N				12/31/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
NO RPT							TH		EB EX PAC HY 99E	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
							7P			02	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	51	F	OR-Y OR<25		020	000	04
																02	NONE 0	TURN-L										
																	PRVTE	E -S									000	00
																	PSNGR CAR		01	DRVR	INJC	25	M	OR-Y OR<25		000	000	00
																02	NONE 0	TURN-L										
																	PRVTE	E -S									000	00
																	PSNGR CAR		02	PSNG	INJC	27	F			000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	1	0	1	0	2	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2015 TOTAL	**0**	**2**	**0**	**2**	**0**	**3**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**0**
YEAR: 2014														
REAR-END	0	2	1	3	0	2	0	2	1	3	0	3	0	0
YEAR 2014 TOTAL	**0**	**2**	**1**	**3**	**0**	**2**	**0**	**2**	**1**	**3**	**0**	**3**	**0**	**0**
YEAR: 2013														
REAR-END	0	2	2	4	0	2	0	4	0	4	0	4	0	0
TURNING MOVEMENTS	0	1	0	1	0	3	0	1	0	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**3**	**2**	**5**	**0**	**5**	**0**	**5**	**0**	**4**	**1**	**5**	**0**	**0**
YEAR: 2012														
REAR-END	0	0	2	2	0	0	0	2	0	2	0	2	0	0
TURNING MOVEMENTS	0	1	3	4	0	1	0	3	1	2	2	4	0	0
YEAR 2012 TOTAL	**0**	**1**	**5**	**6**	**0**	**1**	**0**	**5**	**1**	**4**	**2**	**6**	**0**	**0**
YEAR: 2011														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	2	2	0	0	0	2	0	1	1	2	0	0
YEAR 2011 TOTAL	**0**	**0**	**3**	**3**	**0**	**0**	**0**	**3**	**0**	**2**	**1**	**3**	**0**	**0**

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

FINAL TOTAL	**0**	**8**	**11**	**19**	**0**	**11**	**0**	**17**	**2**	**15**	**4**	**19**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 19

SER# / INVEST	S P E D	A L C	D R S L	S W C H	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
00828	N	N	N	N	N	01/09/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									07
CITY						MO		NB EXTO I-205 EB	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S								000	00
						1P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	40	M	SUSP OR<25		026	000	07
															01	NONE 0	STRGHT									
																PRVTE	N -S								000	00
																PSNGR CAR		02	PSNG	NONE	39	F			000	000	00
															01	NONE 0	STRGHT									
																PRVTE	N -S								000	00
																PSNGR CAR		03	PSNG	NO<5	01	F			000	000	00
															02	NONE 0	STOP									
																PRVTE	N -S								012	00
																PSNGR CAR		01	DRVR	NONE	32	F	OR-Y OR<25		000	000	00
01099	N	N	N			04/01/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									07
NONE						MO		NB EXTO I-205 EB	N		L-GRN-SIG	N	DRY	REAR		PRVTE	N -S								000	00
						1P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	66	M	OR-Y OR<25		026	000	07
															02	NONE 0	STOP									
																PRVTE	N -S								012	00
																PSNGR CAR		01	DRVR	INJC	47	F	OR-Y OR<25		000	000	00
00690	N	N	N			02/22/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									29
NO RPT						SU		NB EXTO I-205 EB	N		L-GRN-SIG	N	DRY	REAR		PRVTE	N -S								000	00
						11A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	49	F	OR-Y UNK		026	000	29
															02	NONE 0	STOP									
																RENTL	N -S								012	00
																PSNGR CAR		01	DRVR	NONE	47	M	OR-Y OR<25		000	000	00
															02	NONE 0	STOP									
																RENTL	N -S								012	00
																PSNGR CAR		02	PSNG	INJC	38	F			000	000	00
															02	NONE 0	STOP									
																RENTL	N -S								012	00
																PSNGR CAR		03	PSNG	INJC	15	M			000	000	00
02254	N	N	N			06/25/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-OTHER	01	NONE 0	TURN-R									08
NONE						SA		NB EXTO I-205 EB	NE		TRF SIGNAL	N	DRY	TURN		PRVTE	S -NE								000	00
						6P			05	1		N	DAY	PDO		MTRCYCLE		01	DRVR	NONE	00	Unk	UNK UNK		006	000	08
															02	NONE 0	TURN-R									
																PRVTE	S -NE								000	00
																PSNGR CAR		01	DRVR	NONE	49	F	OTH-Y N-RES		000	000	00
00395	N	N	N			01/30/2014	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									07
NONE						TH		NB EXTO I-205 EB	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW								000	00
						3P			09	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	59	M	OR-Y		026	000	07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 19

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	00
																	PSNGR CAR		01	DRVR	INJC	25	F	OR-Y		000	000	00
																								OR<25				
04196	N	N	N				10/22/2014	11	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										29
NONE							WE		NB EXTO I-205 EB	NE		YIELD	N	WET	REAR		PRVTE	SE-NW									000	00
							3P			09	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK		026	000	29
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	00
																	PSNGR CAR		01	DRVR	INJC	59	F	OR-Y		000	000	00
																								OR<25				
03474	N	N	N				09/05/2014	11	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE							FR		NB EXTO I-205 EB	E		TRF SIGNAL	N	DRY	REAR		UNKN	E -W									000	00
							11A			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000	29
																								UNK				
																02	NONE 0	STOP										
																	PRVTE	E -W									011	00
																	PSNGR CAR		01	DRVR	NONE	40	F	OR-Y		000	000	00
																								UNK				
02378	N	N	N				07/06/2011	14	PACIFIC HY 99E	INTER		N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE							WE		NB EXTO I-205 EB	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
							2P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y		026	000	07
																								UNK				
																02	NONE 0	STOP										
																	PRVTE	S -N									011	00
																	PSNGR CAR		01	DRVR	NONE	43	F	OR-Y		000	000	00
																								OR<25				
01838	N	N	N				05/18/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										04
NO RPT							FR		NB EXTO I-205 EB	S		L-GRN-SIG	N	DRY	TURN		PRVTE	S -N									000	00
							4P			04	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	43	M	OR-Y		097	000	00
																								OR<25				
																02	NONE 0	TURN-L										
																	PRVTE	N -E									000	00
																	PSNGR CAR		01	DRVR	NONE	81	M	OTH-Y		097	000	00
																								N-RES				
03490	N	N	N	N	N		09/18/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE							WE		NB EXTO I-205 EB	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
							4P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	25	F	NONE		026	000	07
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	S -N									011	00
																	PSNGR CAR		01	DRVR	NONE	24	F	OR-Y		000	000	00
																								OR<25				
04363	N	N	N	N	N		11/11/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										07
STATE							MO		NB EXTO I-205 EB	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
							1P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	93	M	OR-Y		043,026	000	07
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	S -N									011	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 19

SER# / INVEST	S P E D	A L C	R S L	S W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		01	DRVR	INJC	57	F	OR-Y OR>25		000	000	00
04886 NONE	N	N	N			12/17/2013 TU 3P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER S 06	3-LEG 1	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	35	M	OR-Y OR<25		026	000	07
															02	NONE UNKN UNKNOWN	STOP S -N	01	DRVR	NONE	00	Unk	UNK UNK		000	011 000	00
03249 STATE	N	N	N			09/03/2011 SA 8P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER CN 04	3-LEG 1	N L-GRN-SIG	N N	FOG DRY DLIT	O-1 L-TURN TURN PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-L N -E	01	DRVR	NONE	62	M	OTH-Y N-RES		000	000	04 00 00
															02	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	70	F	OR-Y OR>25		020	000 000	00 04
00563 CITY	N	N	N	N	N	02/12/2012 SU 10P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER CN 02	3-LEG 1	N TRF SIGNAL	N N	RAIN WET DLIT	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	24	F	OR-Y OR<25		021	000	04
															02	NONE 0 PRVTE PSNGR CAR	TURN-L E -S	01	DRVR	NONE	56	M	OR-Y OR<25		000	000	00 00
02698 NONE	N	N	N	N	N	07/24/2012 TU 4P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-R S -E	01	DRVR	NONE	50	F	SUSP OR<25		006,052	000	08,32
															02	NONE 0 PRVTE PSNGR CAR	TURN-R S -E	01	DRVR	NONE	47	F	OR-Y OR<25		000	000	00 00
03080 NONE	N	N	N			08/19/2012 SU 3P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER CN 04	3-LEG 1	N TRF SIGNAL	N N	CLR DRY DAY	O-1 L-TURN TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	00	F	OR-Y UNK		020	000	04
															02	NONE 0 PRVTE PSNGR CAR	TURN-L N -E	01	DRVR	NONE	29	M	OR-Y OR<25		000	000	00 00
04535 STATE	N	N	N	N	N	11/22/2012 TH 8P	14	PACIFIC HY 99E NB EXTO I-205 EB	INTER CN 04	3-LEG 1	N TRF SIGNAL	N N	CLR DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	INJC	18	F	OR-Y OR<25		020	000	04
															01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	02	PSNG	NO<5	01	M			000	000	00 00
															02	NONE 0	TURN-L										

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at NB EXTO I-205 EB, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 19

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PRVTE	N -E									00
																PSNGR CAR		01	DRVR	NONE	42	F	OR-Y OR<25	000	000	00
01632	N	N	N	N	N	05/11/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L									04
CITY						SA		NB EXTO I-205 EB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -E								000	00
						10P			04	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	63	M	OR-Y OR<25	000	000	00
															01	NONE 0	TURN-L									
																PRVTE	N -E								000	00
																PSNGR CAR		02	PSNG	INJC	58	F		000	000	00
															02	NONE 0	STRGHT									
																PRVTE	S -N								000	00
																PSNGR CAR		01	DRVR	INJC	17	F	OR-Y OR<25	020	000	04
01891	N	N	N	N	N	05/18/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT									04
STATE						MO		NB EXTO I-205 EB	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N								000	00
						8A			04	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	41	F	OR-Y OR<25	020	000	04
															02	NONE 0	TURN-L									
																PRVTE	N -E								000	00
																PSNGR CAR		01	DRVR	INJC	67	F	OR-Y OR<25	000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	1	1	2	0	1	0	2	0	1	1	2	0	0
YEAR 2015 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**2**	**0**	**1**	**1**	**2**	**0**	**0**
YEAR: 2014														
REAR-END	0	6	0	6	0	7	0	6	0	6	0	6	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	2	0	2	0	0
YEAR 2014 TOTAL	**0**	**7**	**1**	**8**	**0**	**8**	**0**	**7**	**1**	**8**	**0**	**8**	**0**	**0**
YEAR: 2013														
REAR-END	0	2	0	2	0	2	0	1	0	1	1	2	0	0
TURNING MOVEMENTS	0	0	2	2	0	0	0	1	1	2	0	2	0	0
YEAR 2013 TOTAL	**0**	**2**	**2**	**4**	**0**	**2**	**0**	**2**	**1**	**3**	**1**	**4**	**0**	**0**
YEAR: 2012														
REAR-END	0	1	0	1	0	5	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	2	0	2	0	0
YEAR 2012 TOTAL	**0**	**2**	**1**	**3**	**0**	**6**	**0**	**2**	**1**	**3**	**0**	**3**	**0**	**0**
YEAR: 2011														
REAR-END	0	2	1	3	0	2	0	3	0	2	1	3	0	0
YEAR 2011 TOTAL	**0**	**2**	**1**	**3**	**0**	**2**	**0**	**3**	**0**	**2**	**1**	**3**	**0**	**0**
FINAL TOTAL	**0**	**14**	**6**	**20**	**0**	**19**	**0**	**16**	**3**	**17**	**3**	**20**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02478	N	N	N				07/10/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
NO RPT							TU		15TH ST	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE									000		00
							7A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	54	M	OR-Y OR<25		026	000		07
																01	NONE 0	STRGHT											
																	PRVTE	SW-NE									000		00
																	PSNGR CAR		02	PSNG	INJB	48	M			000	000		00
																01	NONE 0	STRGHT											
																	PRVTE	SW-NE									000		00
																	PSNGR CAR		03	PSNG	INJC	45	M			000	000		00
																01	NONE 0	STRGHT											
																	PRVTE	SW-NE									000		00
																	PSNGR CAR		04	PSNG	INJC	24	M			000	000		00
																02	NONE 0	STOP											
																	PRVTE	SW-NE									011	013	00
																	PSNGR CAR		01	DRVR	NONE	18	F	OR-Y OR<25		000	000		00
																03	NONE 0	STOP											
																	PRVTE	SW-NE									022	013	00
																	PSNGR CAR		01	DRVR	INJC	34	F	OR-Y OR<25		000	000		00
																04	NONE 0	STOP											
																	PRVTE	SW-NE									022		00
																	PSNGR CAR		01	DRVR	NONE	32	M	OR-Y OR<25		000	000		00
02162	N	N	N				06/18/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE							SA		15TH ST	SE		STOP SIGN	N	DRY	REAR		PRVTE	SE-NW									000		00
							10P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	49	F	OR-Y OR<25		026	000		07
																02	NONE 0	STOP											
																	PRVTE	SE-NW									011		00
																	PSNGR CAR		01	DRVR	INJC	28	M	OR-Y OR<25		000	000		00
02450	N	N	N				07/11/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE							MO		15TH ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
							6P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	20	M	OR-Y OR<25		026	000		07
																02	NONE 0	STOP											
																	PRVTE	SE-NW									011		00
																	PSNGR CAR		01	DRVR	NONE	69	M	OR-Y OR<25		000	000		00
04973	N	N	N	N	N		12/09/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	BIKE	01	NONE 0	TURN-R										084	02
NONE							TU		15TH ST	SE		STOP SIGN	N	WET	TURN		PRVTE	SE-NE									015		00
							12P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR<25		027	000	084	02
																	- STRGHT		01	BIKE	INJA	54	F		I XWLK	000	034		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W S N	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO NE SW	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00492	N	N	N	N	N	N	02/10/2011	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											27,07
STATE							TH	0	15TH ST	SE		STOP SIGN	N	DRY	REAR		PRVTE	SE-NW										000	00
							9A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	66	M	OR-Y OR<25		016,026	000		27,07
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011		00
																	PSNGR CAR		01	DRVR	INJC	59	F	OR-Y OR<25		000	000		00
02221	N	N	N	N	N	N	06/22/2013	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
CITY							SA	0	15TH ST	SE		STOP SIGN	N	DRY	REAR		PRVTE	SE-NW									000		00
							10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	59	F	OR-Y OR<25		026	000		07
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011		00
																	PSNGR CAR		01	DRVR	INJC	58	M	OR-Y OR<25		000	000		00
04877	N	N	N				12/17/2013	19	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											07
NONE							TU	0	15TH ST	SE		STOP SIGN	N	UNK	REAR		PRVTE	SE-NW									000		00
							5P			06	0		N	DUSK	INJ		UNKNOWN		01	DRVR	NONE	33	F	OR-Y OR<25		026	000		07
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011		00
																	PSNGR CAR		01	DRVR	INJC	48	F	OTH-Y OR<25		000	000		00
01124	N	N	N				03/21/2014	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
NONE							FR	0	15TH ST	SE		STOP SIGN	N	DRY	REAR		PRVTE	SE-NW									000		00
							1P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	32	F	OR-Y OR<25		026	000		07
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	013	00
																	PSNGR CAR		01	DRVR	INJC	32	F	OR-Y OR<25		000	000		00
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	013	00
																	PSNGR CAR		02	PSNG	NO<5	04	M			000	000		00
																03	NONE 0	STOP										
																	UNKN	SE-NW									022		00
																	UNKNOWN		01	DRVR	NONE	00	Unk	UNK UNK		000	000		00
01616	N	N	N				04/28/2014	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE							MO	0	15TH ST	SE		STOP SIGN	N	DRY	REAR		PRVTE	SE-NW									000		00
							7A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	53	M	OR-Y OR<25		026	000		29
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011		00
																	PSNGR CAR		01	DRVR	INJC	50	M	OR-Y OR<25		000	000		00
01736	N	N	N	N	N	N	05/06/2014	19	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											29
CITY							TU	0	15TH ST	SE		STOP SIGN	N	DRY	REAR		UNKN	SE-NW									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
						4P			06	0		N	DAY	INJ		MTRCYCLE		01	DRVR	INJC	00	M	UNK UNK		026	000	29
															02	NONE 0 PRVTE	STOP SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	58	F	OR-Y OR<25		000	000	00
01975 NONE	N	N	N			05/23/2014 FR 6P	19 0	PACIFIC HY 99E 15TH ST	INTER SE 06	3-LEG 0	N STOP SIGN	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 UNKN PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	M	UNK UNK		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	55	F	OR-Y OR<25		000	000	00
															02	NONE 0 PRVTE	STOP SE-NW									011	00
																PSNGR CAR		02	PSNG	INJC	20	F			000	000	00
03302 NONE	N	N	N			08/25/2014 MO 1P	19 0	PACIFIC HY 99E 15TH ST	INTER SE 06	3-LEG 0	N STOP SIGN	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	53	M	OR-Y OR<25		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	45	F	OR-Y OR<25		000	000	00
03718 NO RPT	N	N	N			09/22/2014 MO 6A	19 0	PACIFIC HY 99E 15TH ST	INTER SE 06	3-LEG 0	N STOP SIGN	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	57	M	OR-Y OR<25		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	38	F	OR-Y OR<25		000	000	00
02082 NONE	N	N	N			06/01/2015 MO 4P	17 0	PACIFIC HY 99E 15TH ST	INTER SE 06	3-LEG 0	N STOP SIGN	N N	CLD DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	56	M	OR-Y OR<25		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	55	F	OR-Y OR<25		000	000	00
00180 NONE	N	N	N			01/15/2015 TH 6P	17 0	PACIFIC HY 99E 15TH ST	INTER SE 06	3-LEG 0	N STOP SIGN	N N	CLR DRY DLIT	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	60	M	OR-Y OR<25		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	51	F	OR-Y OR>25		000	000	00
00381	N	N	N			01/28/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-R										02

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D / A L C	R S W U C O H R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
NONE			SA		15TH ST	CN		STOP SIGN	N	DRY	TURN		PRVTE	SE-NE									000	00
			2P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y UNK		028	000	02
												02	NONE 0	STRGHT										
													PRVTE	SW-NE									000	00
													PSNGR CAR		01	DRVR	NONE	27	F	OR-Y OR<25		000	000	00
03991	N N N		10/24/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	TURN-R										02
NO RPT			WE		15TH ST	CN		STOP SIGN	N	WET	TURN		PRVTE	SE-NE									015	00
			5P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	39	F	OR-Y OR<25		028	000	02
												02	NONE 0	STRGHT										
													PRVTE	SW-NE									000	00
													PSNGR CAR		01	DRVR	INJC	26	F	OR-Y OR<25		000	000	00
02305	N N N		06/11/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	ANGL-OTH	01	NONE 0	STRGHT										02
NONE			TU		15TH ST	CN		STOP SIGN	N	WET	TURN		PRVTE	SW-NE									000	00
			2P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	47	F	OR-Y OR<25		000	000	00
												02	NONE 0	TURN-R										
													PRVTE	SE-NE									015	00
													PSNGR CAR		01	DRVR	NONE	00	F	UNK OR<25		028	000	02
04064	N N N		10/23/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-OTHER	01	NONE 0	TURN-R										07
NONE			WE		15TH ST	CN		STOP SIGN	N	DRY	TURN		PRVTE	SE-NE									000	00
			11A			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	72	M	OR-Y OR<25		042	000	07
												02	NONE 0	TURN-R										
													PRVTE	SE-NE									000	00
													PSNGR CAR		01	DRVR	NONE	62	F	OR-Y OR<25		000	000	00
01496	N N N		04/18/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-R										02
NO RPT			FR		15TH ST	CN		STOP SIGN	N	DRY	TURN		PRVTE	SE-NE									015	00
			4P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	21	M	OR-Y OR<25		028	000	02
												02	NONE 0	STRGHT										
													PRVTE	SW-NE									000	00
													PSNGR CAR		01	DRVR	NONE	29	F	OR-Y OR<25		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	1	2	0	2	0	2	0	0
YEAR 2015 TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**1**	**3**	**0**	**3**	**0**	**3**	**0**	**0**
YEAR: 2014														
REAR-END	0	2	0	2	0	2	0	1	1	2	0	2	0	0
TURNING MOVEMENTS	0	3	2	5	0	3	0	4	1	5	0	5	0	0
YEAR 2014 TOTAL	**0**	**5**	**2**	**7**	**0**	**5**	**0**	**5**	**2**	**7**	**0**	**7**	**0**	**0**
YEAR: 2013														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	5	4	9	0	12	0	9	0	5	4	9	0	0
YEAR 2013 TOTAL	**0**	**5**	**5**	**10**	**0**	**12**	**0**	**10**	**0**	**6**	**4**	**10**	**0**	**0**
YEAR: 2012														
REAR-END	0	7	0	7	0	9	0	4	3	4	3	7	0	0
TURNING MOVEMENTS	0	3	1	4	0	3	0	2	2	1	3	4	0	0
YEAR 2012 TOTAL	**0**	**10**	**1**	**11**	**0**	**12**	**0**	**6**	**5**	**5**	**6**	**11**	**0**	**0**
YEAR: 2011														
REAR-END	0	8	4	12	0	12	0	7	3	8	3	12	0	0

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
TURNING MOVEMENTS	0	5	1	6	0	10	0	4	2	3	3	6	0	0
YEAR 2011 TOTAL	**0**	**13**	**5**	**18**	**0**	**22**	**0**	**11**	**5**	**11**	**6**	**18**	**0**	**0**
FINAL TOTAL	**0**	**34**	**15**	**49**	**0**	**52**	**1**	**35**	**12**	**32**	**16**	**49**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	SPEED	ALC	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
03520	N	N	N			09/24/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
STATE						SA		14TH ST	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
						12A			06	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	20	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP									011	013	
																PRVTE	NE-SW											00
																PSNGR CAR		01	DRVR	NONE	46	M	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	NE-SW									022		00
																PSNGR CAR		01	DRVR	NONE	19	M	OR-Y OR<25		000	000		00
04057	N	N	N			10/31/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT												07
NONE						MO		14TH ST	NE		TRF SIGNAL	N	WET	REAR		PRVTE	NE-SW									000		00
						6P			06	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		01	DRVR	INJC	70	M	OR-Y OR<25		000	000		00
04688	N	N	N	N	N	12/05/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
STATE						MO		14TH ST	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
						11A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	24	F	OR-Y OR<25		026	000		07
															01	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		02	PSNG	INJC	23	F			000	000		00
															01	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		03	PSNG	NO<5	01	M			000	000		00
															02	NONE 0	STOP											
																PRVTE	NE-SW									011	013	00
																PSNGR CAR		01	DRVR	NONE	26	M	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	NE-SW									022		00
																PSNGR CAR		01	DRVR	NONE	35	M	OR-Y OR<25		000	000		00
01222	N	N	N	N	N	04/02/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
STATE						MO		14TH ST	NE		L-GRN-SIG	N	DRY	REAR		PRVTE	NE-SW									000		00
						10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	20	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP									012		
																PRVTE	NE-SW											00
																PSNGR CAR		01	DRVR	INJC	38	M	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		02	PSNG	INJC	32	F			000	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	D R S L	S W C K	O R	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
04230	N	N	N	N	N	11/10/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											07
STATE						SA		14TH ST	NE		L-GRN-SIG	N	DRY	REAR		PRVTE	NE-SW									000		00
						5P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	81	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		01	DRVR	INJC	38	M	OR-Y OR<25		000	000		00
04249	Y	Y	N	N	N	11/11/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT												01,07
CITY						SU		14TH ST	NE		L-GRN-SIG	N	WET	REAR		PRVTE	NE-SW									000		00
						5P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	46	M	OR-Y OR<25		043,047,026	000		01,07
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		01	DRVR	NONE	31	F	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		02	PSNG	INJC	32	M			000	000		00
01353	N	N	N	N	N	04/08/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	BIKE			-											110	18,14
CITY						TU		14TH ST	NE		TRF SIGNAL	N	DRY	TURN			STRGHT SE NW	01	BIKE	INJB	50	M		I	XWLK	020	035		18,14
						1P			06	0		N	DAY	INJ	01	NONE 0	TURN-L												
																PRVTE	NE-SE									000		00
																PSNGR CAR		01	DRVR	NONE	31	F	OR-Y OR>25		000	000		00
04183	N	N	N			10/21/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT												26
NONE						TU		14TH ST	NE		L-GRN-SIG	N	WET	REAR		UNKN	NE-SW									000		00
						2P			06	0		N	DAY	INJ		UNKNOWN		01	DRVR	NONE	00	F	UNK UNK		026	000		29
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		01	DRVR	NONE	21	M	OTH-Y N-RES		000	000		00
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		02	PSNG	INJC	21	F			000	000		00
03503	N	N	N			08/28/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												29
NONE						FR		14TH ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
						2P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	NONE	37	F	OR-Y OR<25		000	000		00
03968	N	N	N			10/23/2012	16	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE						TU	0	14TH ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
						2P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	35	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	INJC	61	M	OR-Y OR<25		000	000		00
02271	N	N	N			06/13/2014	16	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR	0	14TH ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
						10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	46	M	OR-Y OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	INJC	23	M	OR-Y OR<25		000	000		00
00262	Y	N	N	N	N	01/21/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										013	01,07
STATE						FR		14TH ST	SW		TRF SIGNAL	N	WET	REAR		PRVTE	SW-NE								000		00
						5A			06	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	23	F	OR-Y OR<25		047,026	000		01,07
															02	NONE 0	STOP											
																PRVTE	SW-NE									011	013	00
																PSNGR CAR		01	DRVR	NONE	42	F	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	SW-NE									022		00
																PSNGR CAR		01	DRVR	NONE	51	M	OR-Y OR<25		000	000		00
00344	N	N	N			01/28/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											27,07
CITY						FR		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE								000		00
						12P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	53	M	OR-Y OR<25		016,026	000		27,07
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		01	DRVR	INJC	20	F	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		02	PSNG	NO<5	03	F			000	000		00
01845	Y	N	N	N	N	05/27/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										013	32,01,07
STATE						FR		14TH ST	SW		UNKNOWN	N	WET	REAR		PRVTE	SW-NE								000		00
						6P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	21	M	SUSP OR>25		052,047,043	000		32,01,07
															02	NONE 0	STOP											
																PRVTE	SW-NE									011	013	00
																PSNGR CAR		01	DRVR	NONE	39	M	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	SW-NE									022		00
																PSNGR CAR		01	DRVR	NONE	54	M	OR-Y OR<25		000	000		00
01784	N	N	N			05/12/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R U S	S C L	W O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
NONE						TH		14TH ST	SW		TRF SIGNAL	N	UNK	REAR		PRVTE	SW-NE									000		00
						6P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	38	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		01	DRVR	NONE	29	M	OR-Y OR<25		000	000		00
01971	N	N	N	N	N	06/03/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											27
STATE						FR		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE									000		00
						2P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	51	M	OR-Y OR>25		016,026	000		27
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		01	DRVR	INJC	31	M	OR-Y OR<25		000	000		00
02437	N	N	N			07/01/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						FR		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE									000		00
						6P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	38	F	OR-Y OR<25		026	000		07
															01	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		02	PSNG	INJC	12	M			000	000		00
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		01	DRVR	NONE	26	F	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		02	PSNG	INJC	25	M			000	000		00
															02	NONE 0	STOP											
																PRVTE	SW-NE									011		00
																PSNGR CAR		03	PSNG	NO<5	01	M			000	000		00
03363	Y	N	N	N	N	09/12/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	32,01,07
STATE						MO		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE									000		00
						4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	49	F	SUSP OR<25		052,047,026	000		32,01,07
															02	NONE 0	STOP											
																PRVTE	SW-NE									011	013	00
																PSNGR CAR		01	DRVR	INJC	40	F	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	SW-NE									022		00
																PSNGR CAR		01	DRVR	INJB	25	M	OR-Y N-RES		000	000		00
81684	N	N	N			02/16/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
NONE						TH		14TH ST	SW		TRF SIGNAL	N	WET	REAR		PRVTE	SW-NE									000		00
						6P			06	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	34	F	OR-Y OR<25		026	000		07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															02	NONE 0	STOP									
																PRVTE	SW-NE								011	00
																PSNGR CAR		01	DRVR	INJC	51	F	OR-Y OR>25		000	000 00
02893	N	N	N	N	N	08/06/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									07
STATE						MO		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE								000	00
						5P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	48	F	OR-Y OR<25		026	000 07
															02	NONE 0	STOP									
																PRVTE	SW-NE								011	00
																PSNGR CAR		01	DRVR	INJC	37	F	OR-Y OR<25		000	000 00
04802	N	N	N			12/12/2012	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT									07
NONE						WE		14TH ST	SW		TRF SIGNAL	N	WET	REAR		PRVTE	SW-NE								000	00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	31	M	OR-Y OR<25		026	000 07
															02	NONE 0	STOP									
																PRVTE	SW-NE								011	00
																PSNGR CAR		01	DRVR	INJC	55	F	OR-Y OR>25		000	000 00
04856	N	N	N			12/15/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 1	STRGHT									07
NONE						SU		14TH ST	SW		TRF SIGNAL	N	DRY	REAR		PRVTE	SW-NE								000	00
						2P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	26	F	OR-Y OR<25		026	000 07
															02	NONE 0	STOP									
																PRVTE	SW-NE								011	00
																PSNGR CAR		01	DRVR	NONE	00	F	UNK OR>25		000	000 00
00073	N	N	N			01/05/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT									02
CITY						WE		14TH ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SW-NE								000	00
						11A			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	32	F	OR-Y OR<25		000	000 00
															02	NONE 0	TURN-L									
																PRVTE	NE-SE								000	00
																PSNGR CAR		01	DRVR	INJC	85	F	OR-Y OR<25		028,004	000 02
															02	NONE 0	TURN-L									
																PRVTE	NE-SE								000	00
																PSNGR CAR		02	PSNG	INJC	17	M			000	000 00
00909	N	N	N	N	N	03/14/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT									02
STATE						MO		14TH ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SW-NE								000	00
						8A			04	0		N	DAWN	INJ		PSNGR CAR		01	DRVR	INJC	21	F	OR-Y OR<25		000	000 00
															02	NONE 0	TURN-L									
																PRVTE	NE-SE								000	00
																PSNGR CAR		01	DRVR	INJB	27	F	OR-Y OR<25		028,004	000 02
02805	N	N	N			08/04/2011	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	S-STRGHT	01	NONE 0	STRGHT									07
NONE						TH		14TH ST	CN		TRF SIGNAL	N	DRY	REAR		UNKN	NE-SW								000	00
						3P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	F	UNK		042	000 07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R G S	S H L	W C O K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES / UNK / OR-Y / OR>25	PED LOC	ERROR	ACT EVENT	CAUSE
															02	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW									000 000	00 00
03304 NO RPT	N	N	N			09/07/2011 WE 5P	14	PACIFIC HY 99E 14TH ST	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	CLR DRY DAY	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	NONE	38	F	OR-Y OR<25		004,028	000 000	02 02
															02	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	INJB	25	F	OR-Y OR<25		000	000 000	00 00
04004 CITY	N	N	N			09/20/2011 TU UNK	14	PACIFIC HY 99E 14TH ST 02	INTER CN 02	3-LEG 0	N TRF SIGNAL	N N	UNK UNK UNK	S-1TURN REAR PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	NONE	20	F	OTH-Y N-RES		026	000 000	07 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NE-SE	01	DRVR	NONE	89	F	OTH-Y OR<25		000	013 000	00 00
04527 CITY	N	N	N	N	N	11/26/2011 SA 6P	14	PACIFIC HY 99E 14TH ST 04	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	CLD DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	INJC	59	M	OR-Y OR<25		004,028	000 000	02 02
															01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	02	PSNG	INJC	29	F			000	000 000	00 00
															02	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	INJC	49	M	OR-Y OR<25		000	000 000	00 00
04723 NO RPT	N	N	N			12/07/2011 WE 5P	14	PACIFIC HY 99E 14TH ST 04	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	CLR DRY DLIT	O-1 L-TURN TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	48	F	OR-Y OR<25		000	000 000	02,07 00
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	NONE	33	M	OR-Y OR<25		028,004	001 013 000	00 02
															03	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	48	M	OR-Y OR<25		000	000 000	00 00
04879 CITY	N	N	N			12/19/2011 MO 10A	14	PACIFIC HY 99E 14TH ST 04	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	CLR DRY DAY	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	INJB	22	M	OR-Y OR<25		097	000 000	04 00
															02	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE									000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	29	F	OR-Y OR<25		097	000	00
01218 STATE	N	N	N	N	N	03/31/2012 SA 9P	14	PACIFIC HY 99E 14TH ST	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	RAIN WET DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	45	M	OR-Y OR<25		020	000 000	04 00 04
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	INJC	70	M	OR-Y OR<25		000	000 000	00 00 00
02254 CITY	N	N	N			06/23/2012 SA 6A	14	PACIFIC HY 99E 14TH ST	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	RAIN WET DAWN	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	40	M	OR-Y OR<25		000	000 000	02 00 00
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	INJC	43	F	OTH-Y OR<25		028,004	000 000	00 02
02653 NONE	N	N	N			07/21/2012 SA 1P	14	PACIFIC HY 99E 14TH ST	INTER CN 03	3-LEG 0	N TRF SIGNAL	N N	CLR DRY DAY	O-1 L-TURN TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	50	F	OR-Y OR<25		000	000 000	02 00 00
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	NONE	00	F	UNK UNK		028	000 000	00 02
03404 STATE	N	N	N	N	N	09/13/2012 TH 7P	14	PACIFIC HY 99E 14TH ST	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	CLR DRY DUSK	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	INJC	37	M	OR-Y OR<25		000	000 000	02 00 00
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	NONE	53	F	OR-Y OR<25		028,004	000 000	00 02
00388 STATE	N	N	N	N	N	02/01/2013 FR 9P	14	PACIFIC HY 99E 14TH ST	INTER CN 03	3-LEG 0	N TRF SIGNAL	N N	CLR DRY DLIT	O-1 L-TURN TURN PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	NONE	49	F	OR-Y OR<25		028,004	000 000	02 00 02
															02	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	23	M	OR-Y OR<25		000	000 000	00 00
															02	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	02	PSNG	NO<5	01	M			000	000 000	00 00
00556 CITY	N	N	N			02/18/2013 MO 2P	14	PACIFIC HY 99E 14TH ST	INTER CN 02	3-LEG 0	N TRF SIGNAL	N N	CLD DRY DAY	ANGL-OTH TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	INJB	46	M	OR-Y OR<25		000	000 000	02 00 00
															02	NONE 0	TURN-R										

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	SPE	DAL	RCS	WOH	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	TYPE	PRTC / INJ / SVRTY	AGE	SEX	LICNS / RES / E	PED LOC / X	ERROR	ACT EVENT	CAUSE
															PRVTE	SE-NE										016	00
															PSNGR CAR		01	DRVR	NONE	32	M	OR-Y OR<25		028	000	02
														02	NONE 0	TURN-R											
															PRVTE	SE-NE										016	00
															PSNGR CAR		02	PSNG	INJC	36	F			000	000	00
00564	N	N	N	N	02/18/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT											02
CITY					MO		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
					10A			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	91	M	OR-Y OR<25		000	000	00
														02	NONE 0	TURN-L											
															PRVTE	NE-SE										000	00
															PSNGR CAR		01	DRVR	INJC	69	M	OR-Y OR<25		028,004	000	02
00701	N	N	N		02/28/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NONE					TH		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
					12P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	58	M	OR-Y OR<25		000	000	00
														02	NONE 0	TURN-L											
															PRVTE	NE-SE										000	00
															PSNGR CAR		01	DRVR	NONE	64	M	OR-Y OR<25		028,004	000	02
01290	N	N	N	N	04/16/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT											04
NONE					TU		14TH ST	CN		L-GRN-SIG	N	DRY	TURN		PRVTE	SW-NE									000	00
					12P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	37	F	OR-Y OR<25		000	000	00
														02	NONE 0	TURN-L											
															PRVTE	NE-SE										000	00
															PSNGR CAR		01	DRVR	INJC	63	F	OR-Y OR<25		003,004	000	04
														02	NONE 0	TURN-L											
															PRVTE	NE-SE										000	00
															PSNGR CAR		02	PSNG	INJB	20	F			000	000	00
														02	NONE 0	TURN-L											
															PRVTE	NE-SE										000	00
															PSNGR CAR		03	PSNG	NO<5	01	F			000	000	00
02592	N	N	N		07/19/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L											02
NONE					FR		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NE-SE									000	00
					6P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	23	F	OR-Y OR<25		028	000	02
														02	NONE 0	STRGHT											
															PRVTE	SW-NE										000	00
															PSNGR CAR		01	DRVR	NONE	00	M	OR-Y OR<25		000	000	00
03806	N	N	N		10/07/2013	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											04,02
CITY					MO		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
					9P			04	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	57	F	OR-Y OR<25		000	000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R U S	S C L	W O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	NONE	48 M	OR-Y OR<25		003,028,004	000 000		00 04,02
04575 CITY	N	Y	N			11/25/2013 MO 7P	14	PACIFIC HY 99E 14TH ST	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	UNK DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	34 M	OR-Y OR<25		000	000		02 00 00
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	INJC	26 M	OR-Y OR<25		028,004	000		00 02
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	02	PSNG	INJC	42 F			000	000		00 00
04860 CITY	N	N	N			12/16/2013 MO 6P	14	PACIFIC HY 99E 14TH ST	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	UNK DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	INJC	48 F	SUSP OR<25		028,004	000	013	02 00 02
															02	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	INJC	33 M	OR-Y OR<25		000	000	013	00 00
															03	NONE 0 PRVTE PSNGR CAR	STOP NE-SW	01	DRVR	INJC	36 F	OR-Y OR<25		000	022 000		00 00
															03	NONE 0 PRVTE PSNGR CAR	STOP NE-SW	02	PSNG	INJC	36 M			000	022 000		00 00
															03	NONE 0 PRVTE PSNGR CAR	STOP NE-SW	03	PSNG	NO<5	02 M			000	022 000		00 00
															03	NONE 0 PRVTE PSNGR CAR	STOP NE-SW	04	PSNG	INJC	01 M			000	022 000		00 00
00805 NONE	N	N	N			02/24/2014 MO 11A	14	PACIFIC HY 99E 14TH ST	INTER CN 02	3-LEG 0	N TRF SIGNAL	N N	RAIN WET DAY	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-L SE-SW	01	DRVR	NONE	83 F	OR-Y OR<25		020	000		04 00 04
															02	NONE 0 PRVTE PSNGR CAR	TURN-L NE-SE	01	DRVR	NONE	46 M	OR-Y OR<25		000	000 000		00 00
01313 CITY	N	N	N			04/05/2014 SA 4P	14	PACIFIC HY 99E 14TH ST	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N	CLD DRY DAY	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	35 F	N-VAL		040	000		04 00 04

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CITY OF OREGON CITY, CLACKAMAS COUNTY

PACIFIC HY 99E at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 49

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
																								OR<25				
																02	NONE 0	TURN-L										
																	PRVTE	NE-SE									000	00
																	PSNGR CAR		01	DRVR	INJC	32	F	OR-Y		040	000	04
																								OR<25				
02244	N	N	N				06/11/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	BIKE	01	NONE 0	TURN-R										02
NONE							WE		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-SE									000	00
							6P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	59	M	OR-Y		027	000	02
																								OR<25				
																		-										
																		STRGHT	01	BIKE	INJB	48	M		I	INRD	000	000	00
																		SW NE										
03729	N	N	N				09/22/2014	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE							MO		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
							9A			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	42	F	OR-Y		000	000	00
																								OR<25				
																02	NONE 0	TURN-L										
																	PRVTE	NE-SE									000	00
																	PSNGR CAR		01	DRVR	NONE	00	M	UNK		028,004	000	02
																								UNK				
00042	N	N	N				01/05/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
NO RPT							MO		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE									000	00
							11A			04	0		N	DAY	INJ		TRUCK		01	DRVR	NONE	21	M	OR-Y		000	000	00
																								OR>25				
																02	NONE 0	TURN-L										
																	PRVTE	NE-SE									000	00
																	PSNGR CAR		01	DRVR	INJB	65	F	OR-Y		028,004	000	02
																								OR<25				
02305	N	N	N				06/13/2015	14	PACIFIC HY 99E	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										02
NO RPT							SA		14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NE-SE									000	00
							9A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	17	F	OR-Y		028	000	02
																								OR<25				
																02	NONE 0	STRGHT										
																	PRVTE	SW-NE									000	00
																	PSNGR CAR		01	DRVR	NONE	32	M	OR-Y		000	000	00
																								OR<25				

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

ABERNATHY RD at REDLAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2014														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2011														
REAR-END	0	1	0	1	0	3	0	1	0	1	0	1	0	0
YEAR 2011 TOTAL	**0**	**1**	**0**	**1**	**0**	**3**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
FINAL TOTAL	**0**	**1**	**1**	**2**	**0**	**3**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

ABERNATHY RD at REDLAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 2

SER# / INVEST	S P E D	A L C	R U G S	S C H L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
02695	N	N	N	N	N	07/28/2011	16	ABERNATHY RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									07
CITY						TH	0	REDLAND RD	NW		L-TURN REF	N	DRY	REAR		PRVTE	NW-SE								000	00
						1P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	55	F	OR-Y OR<25		026	000	07
															02	NONE 0	STOP									
																PRVTE	NW-SE								012	00
																PSNGR CAR		01	DRVR	INJC	16	F	OR-Y OR<25		000	000	00
															02	NONE 0	STOP									
																PRVTE	NW-SE								012	00
																PSNGR CAR		02	PSNG	INJC	13	F			000	000	00
															02	NONE 0	STOP									
																PRVTE	NW-SE								012	00
																PSNGR CAR		03	PSNG	INJC	08	F			000	000	00
00995	N	N	N			03/11/2014	16	ABERNATHY RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT									04
NONE						TU	0	REDLAND RD	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	SE-NW								000	00
						2P			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	62	F	OR-Y OR<25		020	000	04
															02	NONE 0	STRGHT									
																UNKN	SW-NE								000	00
																PSNGR CAR		01	DRVR	NONE	00	F	UNK UNK		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

REDLAND RD at HOLCOMB BLVD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	1	2	3	0	1	0	3	0	2	1	3	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	1	1	2	0	0
YEAR 2015 TOTAL	**0**	**2**	**3**	**5**	**0**	**2**	**0**	**4**	**1**	**3**	**2**	**5**	**0**	**0**
YEAR: 2014														
REAR-END	0	1	0	1	0	1	0	1	0	0	1	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**2**	**0**	**1**	**1**	**2**	**0**	**0**
YEAR: 2013														
REAR-END	0	0	2	2	0	0	0	2	0	2	0	2	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	0	1	0	1	1	0	0
YEAR 2013 TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**0**	**2**	**1**	**2**	**1**	**3**	**0**	**0**
YEAR: 2012														
REAR-END	0	0	1	1	0	0	0	0	1	1	0	1	0	0
YEAR 2012 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**
YEAR: 2011														
REAR-END	0	1	0	1	0	2	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2011 TOTAL	**0**	**1**	**1**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**0**

REDLAND RD at HOLCOMB BLVD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

FINAL TOTAL	**0**	**5**	**8**	**13**	**0**	**6**	**0**	**10**	**3**	**9**	**4**	**13**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

REDLAND RD at HOLCOMB BLVD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 13

SER# / INVEST	S P E D	A L C	R S S	U G L	C H K	O R W	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
04478	N	N	N				11/07/2011	16	HOLCOMB BLVD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE							MO	0	REDLAND RD	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
							11A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y UNK		026	000		07
																02	NONE 0	STOP											
																	PRVTE	NE-SW									011		00
																	PSNGR CAR		01	DRVR	INJC	53	M	OR-Y OR<25		000	000		00
																02	NONE 0	STOP											
																	PRVTE	NE-SW									011		00
																	PSNGR CAR		02	PSNG	INJC	48	F			000	000		00
01882	N	N	N				05/22/2012	16	HOLCOMB BLVD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
NONE							TU	0	REDLAND RD	NE		TRF SIGNAL	N	WET	REAR		PRVTE	NE-SW									000		00
							10A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	27	F	OR-Y OR<25		026	000		07
																02	NONE 0	STOP											
																	PRVTE	NE-SW									011		00
																	PSNGR CAR		01	DRVR	NONE	24	M	OR-Y OR<25		000	000		00
03052	N	N	N				07/30/2013	16	HOLCOMB BLVD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE							TU	0	REDLAND RD	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
							6A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y OR<25		026	000		07
																02	NONE 0	STOP											
																	PRVTE	NE-SW									011		00
																	PSNGR CAR		01	DRVR	NONE	42	F	OR-Y OR<25		000	000		00
00207	N	N	N				01/16/2014	16	HOLCOMB BLVD	INTER	CROSS	N	N	FOG	S-1STOP	01	NONE 0	STRGHT											07
NONE							TH	0	REDLAND RD	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
							7A			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	16	M	OR-Y OR<25		026	000		07
																02	NONE 0	STOP											
																	PRVTE	NE-SW									011		00
																	PSNGR CAR		01	DRVR	INJC	41	F	OR-Y OR<25		000	000		00
03773	N	N	N	N	N		09/25/2014	16	HOLCOMB BLVD	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	POLCE 0	STRGHT											02
COUNTY							TH	0	REDLAND RD	NE		TRF SIGNAL	N	DRY	TURN		PUBLC	NE-SW									000		00
							6P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	37	M	OR-Y OR<25		000	000		00
																02	NONE 0	TURN-L											
																	PRVTE	SW-NW									000		00
																	PSNGR CAR		01	DRVR	NONE	16	M	OR-Y OR<25		028,004	000		02
03807	N	N	N				09/18/2015	16	HOLCOMB BLVD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE							FR	0	REDLAND RD	NE		TRF SIGNAL	N	DRY	REAR		UNKN	NE-SW									000		00
							10P			06	0		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		026	000		29
																02	NONE 0	STOP											
																	PRVTE	NE-SW									011		00
																	PSNGR CAR		01	DRVR	NONE	17	F	OR-Y		000	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

REDLAND RD at HOLCOMB BLVD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 13

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DAY OF WEEK / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
04246	N	N	N			10/14/2015	16	HOLCOMB BLVD	INTER	CROSS	N	N	CLR	O-OTHER	01	NONE 0	TURN-R						OR<25				02
NONE						WE	0	REDLAND RD	NE		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NE									000	00
						9P			05	0		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	00	F	UNK		000	000	00
																							OR<25				
															02	NONE 0	TURN-L										
																PRVTE	NW-NE									000	00
																PSNGR CAR		01	DRVR	NONE	17	F	OR-Y		028	000	02
																							OR<25				
02001	N	N	N			05/27/2015	16	HOLCOMB BLVD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE						WE	0	REDLAND RD	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000	00
						10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	45	F	OR-Y		026	000	29
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJB	65	F	OR-Y		000	000	00
																							OR<25				
01653	N	N	N			05/13/2013	16	HOLCOMB BLVD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE						MO	0	REDLAND RD	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000	00
						3P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	NW-SE									011	00
																PSNGR CAR		01	DRVR	NONE	40	F	OR-Y		000	000	00
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	NW-SE									011	00
																PSNGR CAR		02	PSNG	NO<5	03	F			000	000	00
02812	N	N	N			07/12/2015	16	HOLCOMB BLVD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE						SU	0	REDLAND RD	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000	00
						5P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	58	M	OTH-Y		026	000	29
																							N-RES				
															02	NONE 0	STOP										
																PRVTE	NW-SE									011	00
																PSNGR CAR		01	DRVR	NONE	58	M	OR-Y		000	000	00
																							OR<25				
01969	N	N	N	N	N	06/03/2011	16	HOLCOMB BLVD	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										04
CITY						FR	0	REDLAND RD	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NW-SE									000	00
						6A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	59	M	OR-Y		020	000	04
																							OR>25				
															02	NONE 0	TURN-L										
																PRVTE	SE-SW									000	00
																PSNGR CAR		01	DRVR	NONE	70	F	OR-Y		000	000	00
																							OR<25				
03648	N	N	N	N	N	09/28/2013	16	HOLCOMB BLVD	INTER	CROSS	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										04
STATE						SA	0	REDLAND RD	CN		L-GRN-SIG	N	WET	TURN		PRVTE	NW-SE									000	00
						8P			01	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	52	M	OR-Y		000	000	00
																							OR<25				
															01	NONE 0	STRGHT										
																PRVTE	NW-SE									000	00

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CITY OF OREGON CITY, CLACKAMAS COUNTY

REDLAND RD at HOLCOMB BLVD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 13

SER# / INVEST	S P E D / A L C	R S W U C O H R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
													PSNGR CAR		02	PSNG	INJB	19	M			000	000	00
												02	NONE 0	TURN-L										
													PRVTE	SE-SW									000	00
													PSNGR CAR		01	DRVR	NONE	18	F	OR-Y		028,004,003	000	04
																					OR<25			
05202	N N N	12/07/2015	16	HOLCOMB BLVD	INTER	CROSS	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT											02
NONE		MO	0	REDLAND RD	CN		TRF SIGNAL	N	WET	TURN			PRVTE	N -S									000	00
		7A			01	0		N	DAY	INJ			PSNGR CAR		01	DRVR	NONE	35	M	OTH-Y		000	000	00
																					OR<25			
												02	NONE 0	TURN-L										
													PRVTE	S -W									000	00
													PSNGR CAR		01	DRVR	INJC	30	M	OR-Y		028,004	000	02
																					OR<25			

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at ABERNATHY RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
FINAL TOTAL														

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at 17TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
FINAL TOTAL														

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
ANGLE	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	1	1	2	0	0
YEAR 2015 TOTAL	**0**	**2**	**1**	**3**	**0**	**2**	**0**	**2**	**1**	**2**	**1**	**3**	**0**	**0**
YEAR: 2014														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	2	3	0	1	0	2	1	2	1	3	0	0
YEAR 2014 TOTAL	**0**	**1**	**3**	**4**	**0**	**1**	**0**	**3**	**1**	**3**	**1**	**4**	**0**	**0**
YEAR: 2013														
ANGLE	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**0**
YEAR: 2012														
ANGLE	0	1	1	2	0	2	0	1	1	1	1	2	0	0
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	2	3	0	1	0	3	0	3	0	3	0	0
YEAR 2012 TOTAL	**0**	**3**	**3**	**6**	**0**	**4**	**0**	**5**	**1**	**5**	**1**	**6**	**0**	**0**
YEAR: 2011														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	2	0	2	0	2	0	2	0	2	0	2	0	0

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
TURNING MOVEMENTS	0	1	1	2	0	2	0	2	0	1	1	2	0	0
YEAR 2011 TOTAL	**0**	**3**	**2**	**5**	**0**	**4**	**0**	**5**	**0**	**4**	**1**	**5**	**0**	**0**
FINAL TOTAL	**0**	**11**	**9**	**20**	**0**	**13**	**0**	**17**	**3**	**16**	**4**	**20**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01896	N	N	N			05/23/2012	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						WE	0	15TH ST	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
						5P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	35	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		01	DRVR	INJC	48	M	OR-Y OR<25		000	000		00
00020	N	N	N			01/03/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NO RPT						MO	0	15TH ST	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000		00
						10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		026	000		07
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	INJC	53	M	OR-Y OR<25		000	000		00
02978	N	N	N			08/12/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
NONE						FR	0	15TH ST	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000		00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		026	000		07
															02	NONE 0	STOP											
																PRVTE	NW-SE									011	013	00
																PSNGR CAR		01	DRVR	INJC	34	F	OR-Y OR<25		000	000		00
															03	UNKN 0	STOP											
																UNKN	NW-SE									022		00
																UNKNOWN		01	DRVR	NONE	00	Unk	UNK UNK		000	000		00
00548	Y	N	N			02/07/2014	16	WASHINGTON ST	INTER	CROSS	N	N	SNOW	ANGL-STP	01	NONE 0	TURN-R										124	01,08
NONE						FR	0	15TH ST	NW		TRF SIGNAL	N	SNO	TURN		PRVTE	NE-NW									000	124	00
						3P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		047,001	000		01,08
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	NONE	57	M	OR-Y OR<25		000	000		00
01851	N	N	N	N	N	05/27/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT											02
CITY						FR	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW									000		00
						10P			02	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	30	F	OTH-Y N-RES		000	000		00
															02	NONE 0	TURN-L											
																PRVTE	NW-NE									000		00
																PSNGR CAR		01	DRVR	NONE	16	M	OR-Y OR<25		004,028	000		02
02174	Y	N	N	N	N	06/19/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-STP	01	NONE 0	TURN-R											32,01
CITY						SU	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NE									001		00
						12P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR<25		052,043	017		32,01
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		01	DRVR	INJC	46	F	OR-Y		000	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	R G S	S H L	W C O K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	NE-SW									012		00
																PSNGR CAR		02	PSNG	INJC	18	F			000	000		00
02178	N	N	N			06/19/2011		16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
NO RPT						SU	0		15TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	SE-NW								000		00
						3P				02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	70	F	OR-Y		097	000		00
																								OR>25					
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		01	DRVR	NONE	48	M	OR-Y		097	000		00
																							OR<25					
01121	N	N	N			03/24/2012		17	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE						SA	0		15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-NE								000		00
						2P				02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	64	F	OR-Y		000	000		00
																								OR<25					
															02	NONE 0	TURN-R											
																PRVTE	SE-NE									016		00
																PSNGR CAR		01	DRVR	NONE	49	M	OR-Y		028	000		02
																							OR<25					
01703	N	N	N	N	N	05/12/2012		16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
CITY						SA	0		15TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	SE-NW								000		00
						9A				02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	52	M	OR-Y		000	000		00
																								OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		01	DRVR	NONE	62	M	OR-Y		020	000		04
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		02	PSNG	INJC	60	F			000	000		00
01797	N	N	N			05/16/2012		17	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										013	02
NONE						WE	0		15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NW-NE								000		00
						4P				02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	46	F	OR-Y		028	000		02
																								OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SE-NW									000	013	00
																PSNGR CAR		01	DRVR	NONE	30	F	OR-Y		000	000		00
																							OR<25					
															03	NONE 0	TURN-R											
																PRVTE	NE-NW									022		00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																							UNK					
02541	N	N	N			07/13/2012		16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NO RPT						FR	0		15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW								000		00
						2P				02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	18	M	OR-Y		000	000		00
																								OR<25					
															02	NONE 0	TURN-L											
																PRVTE	NW-NE									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	D R S L	S W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	16	F	OR-Y OR<25		028,004	000		02
04903	N	N	N			12/16/2012	16	WASHINGTON ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											04
NO RPT						SU	0	15TH ST	CN		TRF SIGNAL	N	WET	ANGL		PRVTE	SE-NW									000		00
						9P			01	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	32	M	OR-Y OR<25		020	000		04
															01	NONE 0	STRGHT											
																PRVTE	SE-NW									000		00
																PSNGR CAR		02	PSNG	NO<5	02	F			000	000		00
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		01	DRVR	NONE	57	F	OR-Y OR<25		000	000		00
03443	N	N	N	N	N	09/16/2013	16	WASHINGTON ST	INTER	CROSS	N	N	CLD	BIKE	01	NONE 0	TURN-L										084	02
CITY						MO	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NW-NE									000		00
						6P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	39	M	OR-Y OR<25		027	000	084	02
																- STRGHT SE NW		01	BIKE	INJC	45	M		I INRD	000	035		00
03476	N	N	N	N	N	09/18/2013	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
CITY						WE	0	15TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	NE-SW									000		00
						12P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	23	F	OR-Y OR<25		020	000		04
															02	NONE 0	STRGHT											
																PRVTE	NW-SE									000		00
																PSNGR CAR		01	DRVR	NONE	66	F	OR-Y OR<25		000	000		00
01340	N	N	N	N	N	04/07/2014	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NONE						MO	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW									000		00
						9P			02	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	39	M	OR-Y OR<25		000	000		00
															02	NONE 0	TURN-L											
																PRVTE	NW-NE									000		00
																PSNGR CAR		01	DRVR	INJC	22	F	OR-Y OR>25		028,004	000		02
02043	N	N	N			05/28/2014	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
NONE						WE	0	15TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	NE-SW									000		00
						2P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y OR<25		020	000		04
															02	NONE 0	STRGHT											
																PRVTE	SE-NW									000		00
																PSNGR CAR		01	DRVR	NONE	62	M	OR-Y OR<25		000	000		00
02753	N	N	N			07/17/2014	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NO RPT						TH	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW									000		00
						4P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	59	F	OR-Y OR<25		000	000		00
															02	NONE 1	TURN-L											

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 15TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 20

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PRVTE	NW-NE									000	00
																PSNGR CAR		01	DRVR	NONE	40	M	OR-Y OR<25		028,004	000	02
00711	N	N	N			02/23/2015	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
NO RPT						MO	0	15TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW									000	00
						8P			02	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	39	F	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NW-NE									000	00
																PSNGR CAR		01	DRVR	NONE	16	M	OR-Y OR<25		028,004	000	02
04626	N	N	N			11/06/2015	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
NONE						FR	0	15TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	NE-SW									000	00
						9A			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	38	M	OTH-Y N-RES		000	000	00
															02	NONE 0	STRGHT										
																PRVTE	SE-NW									000	00
																PSNGR CAR		01	DRVR	NONE	20	F	OR-Y OR<25		020	000	04
03528	N	N	N			08/29/2015	16	WASHINGTON ST	INTER	CROSS	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE						SA	0	15TH ST	CN		TRF SIGNAL	N	WET	TURN		PRVTE	SE-NW									000	00
						9A			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	54	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NW-NE									000	00
																PSNGR CAR		01	DRVR	NONE	37	M	OR-Y OR<25		028,004	000	02

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	2	0	2	0	2	0	2	0	2	0	2	0	0
YEAR 2015 TOTAL	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**0**
YEAR: 2014														
FIXED / OTHER OBJECT	0	0	1	1	0	0	1	1	0	0	1	1	0	1
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**1**	**2**	**0**	**1**	**1**	**2**	**0**	**1**
YEAR: 2013														
TURNING MOVEMENTS	0	1	1	2	0	5	0	1	1	0	2	2	0	0
YEAR 2013 TOTAL	**0**	**1**	**1**	**2**	**0**	**5**	**0**	**1**	**1**	**0**	**2**	**2**	**0**	**0**
YEAR: 2012														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	0	1	1	0	1	0	0
YEAR 2012 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**1**	**1**	**2**	**0**	**2**	**0**	**0**
YEAR: 2011														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2011 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
FINAL TOTAL	**0**	**5**	**4**	**9**	**0**	**9**	**1**	**7**	**2**	**6**	**3**	**9**	**0**	**1**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 9

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02018	N	N	N			05/28/2014	16	WASHINGTON ST	INTER	CROSS	N	N	CLD	S-STRGHT	01	NONE 0	STRGHT											07
CITY						WE	0	14TH ST	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
						8A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	40	F	OR-Y		043,026	000		07
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									006		00
																PSNGR CAR		01	DRVR	INJC	47	M	OR-Y		000	000		00
																							OR<25					
00650	N	N	N	N	N	02/13/2014	16	WASHINGTON ST	INTER	CROSS	N	Y	CLD	FIX OBJ	01	NONE 1	TURN-R										055	08
CITY						TH	0	14TH ST	W		TRF SIGNAL	N	DRY	FIX		PRVTE	NW-SW									000	055	00
						6P			06	0		N	DARK	PDO		SEMI TOW		01	DRVR	NONE	22	M	OR-Y		002	000		08
																							OR<25					
02972	N	N	N			07/23/2015	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						TH	0	14TH ST	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000		00
						4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	39	F	OR-Y		026	000		29
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	INJC	57	F	OR-Y		000	000		00
																							OR<25					
04634	N	N	N			11/06/2015	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR	0	14TH ST	NW		TRF SIGNAL	N	DRY	REAR		UNKN	NW-SE									000		00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK		026	000		29
																							UNK					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	INJC	58	F	OR-Y		000	000		00
																							OR<25					
03563	N	N	N			09/22/2011	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NONE						TH	0	14TH ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NE-SW									000		00
						5P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	53	F	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	TURN-L											
																PRVTE	SW-NW									000		00
																PSNGR CAR		01	DRVR	NONE	26	F	OR-Y		004,028	000		02
																							OR<25					
00866	N	N	N			03/06/2012	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
NONE						TU	0	14TH ST	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	SE-NW									000		00
						9A			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	84	M	OR-Y		000	000		00
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	SW-NE									000		00
																PSNGR CAR		01	DRVR	NONE	44	F	OR-Y		020	000		04
																							OR<25					
00960	N	N	N	N	N	03/14/2012	17	WASHINGTON ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											02
CITY						WE	0	14TH ST	CN		STOP SIGN	N	WET	TURN		PRVTE	NW-SE									015		00
						4P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	39	F	OR-Y		028	000		02
																							OR<25					
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 9

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	38	M	OR-Y OR<25		000	000	00
00349	N	N	N	N	N	01/29/2013	16	WASHINGTON ST	INTER	CROSS	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT										02,14
CITY						TU	0	14TH ST	CN		L-GRN-SIG	N	WET	TURN		PRVTE	NE-SW									000	00
						6P			01	0		N	DARK	INJ		OTH BUS		01	DRVR	NONE	52	M	OR-Y OR<25		000	000	00
															01	NONE 0	STRGHT										
																PRVTE	NE-SW									000	00
																OTH BUS		02	PSNG	INJC	59	F			000	000	00
															01	NONE 0	STRGHT										
																PRVTE	NE-SW									000	00
																OTH BUS		03	PSNG	INJC	44	F			000	000	00
															01	NONE 0	STRGHT										
																PRVTE	NE-SW									000	00
																OTH BUS		04	PSNG	INJC	19	F			000	000	00
															01	NONE 0	STRGHT										
																PRVTE	NE-SW									000	00
																OTH BUS		05	PSNG	INJC	33	M			000	000	00
															02	NONE 0	TURN-L										
																PRVTE	SW-NW									000	00
																PSNGR CAR		01	DRVR	INJB	24	F	OR-Y OR<25		028,004	000	02,14
04816	N	N	N	N	N	12/13/2013	16	WASHINGTON ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										02
CITY						FR	0	14TH ST	CN		TRF SIGNAL	N	DRY	TURN		UNKN	SE-SW									000	00
						5P			03	0		N	DLIT	PDO		MTRCYCLE		01	DRVR	NONE	00	Unk	UNK UNK		028	000	02
															02	NONE 0	STRGHT										
																PRVTE	NW-SE									000	00
																PSNGR CAR		01	DRVR	NONE	31	F	OR-Y OR<25		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
ANGLE	0	2	4	6	0	2	1	3	2	6	0	6	0	0
TURNING MOVEMENTS	0	2	1	3	0	2	0	3	0	3	0	3	0	0
YEAR 2015 TOTAL	**0**	**4**	**5**	**9**	**0**	**4**	**1**	**6**	**2**	**9**	**0**	**9**	**0**	**0**
YEAR: 2014														
ANGLE	0	2	4	6	0	3	0	6	0	4	2	6	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**2**	**5**	**7**	**0**	**3**	**0**	**6**	**1**	**5**	**2**	**7**	**0**	**0**
YEAR: 2013														
ANGLE	0	1	4	5	0	1	0	5	0	5	0	5	0	0
YEAR 2013 TOTAL	**0**	**1**	**4**	**5**	**0**	**1**	**0**	**5**	**0**	**5**	**0**	**5**	**0**	**0**
YEAR: 2012														
ANGLE	0	4	0	4	0	4	0	3	1	4	0	4	0	0
YEAR 2012 TOTAL	**0**	**4**	**0**	**4**	**0**	**4**	**0**	**3**	**1**	**4**	**0**	**4**	**0**	**0**
YEAR: 2011														
ANGLE	0	2	0	2	0	4	0	2	0	2	0	2	0	0
PEDESTRIAN	0	1	0	1	0	1	0	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	0	2	0	2	0	0
YEAR 2011 TOTAL	**0**	**4**	**1**	**5**	**0**	**6**	**0**	**3**	**1**	**4**	**1**	**5**	**0**	**0**

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

FINAL TOTAL	**0**	**15**	**15**	**30**	**0**	**18**	**1**	**23**	**5**	**27**	**3**	**30**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D / A L C	R S W U G S	C O H L	R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
03788	N	N	N		10/10/2011	16	MAIN ST	INTER	CROSS	N	N	CLD	PED	01	NONE 0	STRGHT										02
CITY					MO	0	14TH ST	SW		FLASHBCN-A	N	WET	PED		PRVTE	SW-NE									000	00
					7P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	71	M	OR-Y OR<25		029	000	02
																- STRGHT SE NW	01	PED	INJC	53	M		I XWLK	000	035	00
02759	N	N	N	N	08/01/2011	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
CITY					MO	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		RENTL	NE-SW									000	00
					8A			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	61	M	OR-Y OR<25		021	026	03
														02	NONE 0	STRGHT										
															PRVTE	SE-NW									015	00
															MTRCYCLE		01	DRVR	INJB	25	F	OR-Y OR<25		000	000	00
03123	N	N	N	N	08/25/2011	17	MAIN ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02
CITY					TH	0	14TH ST	CN		UNKNOWN	N	DRY	TURN		PRVTE	NE-SW									000	00
					10A			01	0		N	DAY	INJ		MTRCYCLE		01	DRVR	INJB	63	M	OR-Y OR<25		000	000	00
														02	NONE 0	TURN-L										
															PRVTE	SW-NW									000	00
															PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR<25		028,004	000	02
03461	N	N	N		09/20/2011	16	MAIN ST	INTER	CROSS	N	N	UNK	S-OTHER	01	NONE 0	TURN-R										08
NONE					TU	0	14TH ST	CN		FLASHBCN-R	N	UNK	TURN		PRVTE	SW-SE									000	00
					6P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OTH-Y N-RES		006	000	08
														02	NONE 0	TURN-R										
															PRVTE	SW-SE									000	00
															PSNGR CAR		01	DRVR	NONE	47	M	OR-Y OR<25		000	000	00
04663	N	N	N		12/04/2011	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
NONE					SU	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NW-SE									000	00
					3P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	54	F	OR-Y OR>25		021	000	03
														01	NONE 0	STRGHT										
															PRVTE	NW-SE									000	00
															PSNGR CAR		02	PSNG	INJC	16	F			000	000	00
														01	NONE 0	STRGHT										
															PRVTE	NW-SE									000	00
															PSNGR CAR		03	PSNG	INJC	01	M			000	000	00
														02	NONE 0	STRGHT										
															PRVTE	NE-SW									000	00
															PSNGR CAR		01	DRVR	NONE	26	M	OR-Y OR<25		000	000	00
00830	N	N	N		03/05/2012	16	MAIN ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT										02
NO RPT					MO	0	14TH ST	CN		STOP SIGN	N	WET	ANGL		PRVTE	SW-NE									015	00
					9A			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	49	F	OR-Y		028	000	02

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

SER# / INVEST	S P E D / A L C	R S W U C O H R / S L K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AG E	AS E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
												02	NONE 0	STRGHT						OR<25					
													PRVTE	SE-NW									000		00
													PSNGR CAR		01	DRVR	NONE	88 F		OR-Y		000	000		00
																				OR<25					
02622	N N N		07/19/2012	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE			TH	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	SE-NW									000		00
			4P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	30 F		OR-Y		000	000		00
																				OR<25					
												01	NONE 0	STRGHT											
													PRVTE	SE-NW									000		00
													PSNGR CAR		02	PSNG	NO<5	04 F				000	000		00
												02	NONE 0	STRGHT											
													PRVTE	SW-NE									015		00
													PSNGR CAR		01	DRVR	INJC	67 F		OR-Y		028	000		02
																				OR<25					
02833	N N N N N		08/02/2012	16	MAIN ST	INTER	CROSS	N	N	CLR	BIKE			-										110	05,03
CITY			TH	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL			STRGHT	01	BIKE	INJB	29 M			I XWLK	039,021	000		05,03
			6P			01	0		N	DAY	INJ			NE SW											
												01	NONE 0	STRGHT											
													PRVTE	SE-NW									000	110	00
													PSNGR CAR		01	DRVR	NONE	58 M		OR-Y		000	000		00
																				OR<25					
03088	N N N		08/20/2012	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											03
CITY			MO	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	NE-SW									000		00
			5P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	17 M		OR-Y		021	000		03
																				OR<25					
												02	NONE 0	STRGHT											
													PRVTE	SE-NW									000		00
													PSNGR CAR		01	DRVR	INJC	63 F		OR-Y		000	000		00
																				OR<25					
00573	N N N		02/19/2013	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE			TU	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NE-SW									000		00
			5P			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	60 F		OR-Y		000	000		00
																				OR<25					
												02	NONE 0	STRGHT											
													PRVTE	NW-SE									015		00
													PSNGR CAR		01	DRVR	NONE	41 M		OR-Y		028	000		02
																				OR<25					
00675	N N N		02/26/2013	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											03
NONE			TU	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NW-SE									000		00
			8A			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	20 M		OR-Y		021	000		03
																				OR<25					
												02	NONE 0	STRGHT											
													PRVTE	NE-SW									015		00
													PSNGR CAR		01	DRVR	NONE	56 F		OR-Y		000	000		00
																				OR<25					
01511	N N N N N		05/02/2013	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
CITY			TH	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	NE-SW									015		00

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						10A			03	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	58	F	OR-Y OR<25		028	000	02
															02	NONE 0	STRGHT										
																PRVTE	NW-SE									000	00
																PSNGR CAR		01	DRVR	INJC	40	M	OR-Y OR<25		000	000	00
02357	N	N	N	N	N	07/02/2013	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
CITY						TU	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	NE-SW									000	00
						8A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	24	F	OR-Y OR<25		021	000	03
															02	NONE 0	STRGHT										
																PRVTE	NW-SE									000	00
																PSNGR CAR		01	DRVR	NONE	67	F	OR-Y OR<25		000	000	00
03983	N	N	N			10/18/2013	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
NONE						FR	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	SE-NW									000	00
						2P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	21	F	UNK OR<25		021	000	03
															02	NONE 0	STRGHT										
																PRVTE	NE-SW									015	00
																PSNGR CAR		01	DRVR	NONE	71	F	OR-Y OR<25		000	000	00
00647	N	N	N			02/13/2014	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NONE						TH	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	SW-NE									015	00
						1P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	41	F	OR-Y OR<25		028	000	02
															02	NONE 0	STRGHT										
																PRVTE	NW-SE									000	00
																PSNGR CAR		01	DRVR	NONE	00	F	UNK OR<25		000	000	00
00942	N	N	N			03/06/2014	16	MAIN ST	INTER	CROSS	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT										02
NONE						TH	0	14TH ST	CN		FLASHBCN-R	N	WET	TURN		PRVTE	SE-NW									000	00
						11A			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	45	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	NW-NE									000	00
																PSNGR CAR		01	DRVR	NONE	65	M	OR-Y OR<25		028,004	000	02
02048	N	N	N	N	N	05/29/2014	16	MAIN ST	INTER	CROSS	N	N	CLR	BIKE													110	03
CITY						TH	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL			-										
						6A			03	0		N	DAWN	INJ			STRGHT NE SW	01	BIKE	INJC	51	M		I INRD	021	034	03
															01	NONE 0	STRGHT										
																PRVTE	NE-SW									000	00
																PSNGR CAR		01	DRVR	NONE	65	F	OR-Y OR<25		000	000	00
02751	N	N	N			07/17/2014	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NO RPT						TH	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NW-SE									000	00
						4P			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	30	M	OR-Y OR<25		000	000	00
															02	NONE 0	STRGHT										

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CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

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SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PRVTE	NE-SW									015	00
																PSNGR CAR		01	DRVR	NONE	40	M	OTH-Y N-RES		028	000	02
03506	N	N	N			09/08/2014	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											03
NONE						MO	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	SE-NW									000	00
						5P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	24	M	OR-Y OR<25		000	000	00
															02	NONE 0	STRGHT										
																UNKN	SW-NE									000	00
																PSNGR CAR		01	DRVR	NONE	00	F	UNK UNK		021	000	03
04665	N	N	N			11/17/2014	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE						MO	0	14TH ST	CN		FLASHBCN-R	N	DRY	ANGL		PRVTE	NE-SW									015	00
						10A			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	66	M	OR-Y OR<25		028	000	02
															02	NONE 0	STRGHT										
																PRVTE	SE-NW									000	00
																PSNGR CAR		01	DRVR	NONE	16	F	OR-Y OR<25		000	000	00
04069	N	N	N			10/13/2014	16	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NO RPT						MO	0	14TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	NW-SE									000	00
						6P			04	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	INJB	20	M	OTH-Y OR<25		028	000	02
															01	NONE 0	STRGHT										
																PRVTE	NW-SE									000	00
																PSNGR CAR		02	PSNG	INJB	40	F			000	000	00
															02	NONE 0	STRGHT										
																PRVTE	SW-NE									015	00
																PSNGR CAR		01	DRVR	NONE	57	M	OR-Y OR<25		000	000	00
00432	N	N	N			02/03/2015	16	MAIN ST	INTER	CROSS	N	N	UNK	ANGL-OTH	01	NONE 0	STRGHT											02
NONE						TU	0	14TH ST	CN		FLASHBCN-R	N	WET	ANGL		PRVTE	NW-SE									000	00
						11A			03	0		N	DAY	INJ		TRUCK		01	DRVR	NONE	38	M	OTH-Y N-RES		000	000	00
															02	NONE 0	STRGHT										
																PRVTE	NE-SW									015	00
																PSNGR CAR		01	DRVR	INJC	79	F	OR-Y OR<25		028	000	02
01732	N	N	N			05/08/2015	17	MAIN ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NONE						FR	0	14TH ST	CN		FLASHBCN-R	N	DRY	TURN		PRVTE	NW-SE									015	00
						6P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	40	M	OR-Y OR<25		000	000	00
															02	NONE 0	TURN-L										
																PRVTE	SE-SW									015	00
																PSNGR CAR		01	DRVR	NONE	65	M	OR-Y OR<25		028,004	000	02
03374	N	N	N			08/18/2015	17	MAIN ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-L											03
NONE						TU	0	14TH ST	CN		FLASHBCN-R	N	DRY	TURN		PRVTE	SW-NW									000	00
						5P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	55	M	OTH-Y N-RES		021	000	03

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CITY OF OREGON CITY, CLACKAMAS COUNTY

MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

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SER# / INVEST	S P E D	A L C	R U S	S C L	W O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															02	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	23 M		OR-Y OR<25		000	000 000	00 00
05284 NO RPT	N	N	N			12/10/2015 TH 12P	17 0	MAIN ST 14TH ST	INTER CN 03	CROSS 0	N FLASHBCN-R	N N N	RAIN WET DAY	ANGL-OTH ANGL INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	70 M		OR-Y OR<25		028	015 000	02 00 02
															02	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	INJC	26 F		OR-Y OR<25		000	000 000	00 00
															02	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	02	PSNG	NO<5	01 F				000	000 000	00 00
01269 NONE	N	N	N			04/09/2015 TH 6A	17 0	MAIN ST 14TH ST	INTER CN 03	CROSS 0	N STOP SIGN	N N N	FOG DRY DAY	ANGL-OTH ANGL PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	75 M		OR-Y OR<25		021	000 000	03 00 03
															02	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	75 M		OR-Y OR<25		000	000 000	00 00
01276 NONE	N	N	N			04/09/2015 TH 1P	17 0	MAIN ST 14TH ST	INTER CN 03	CROSS 0	N FLASHBCN-R	N N N	UNK UNK DAY	ANGL-OTH ANGL PDO	01	NONE 0 PRVTE MTRCYCLE	STRGHT NW-SE	01	DRVR	NONE	00 Unk		OR-Y OR<25		021	000 000	03 00 03
															02	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	25 F		OR-Y OR<25		000	000 000	00 00
01437 NONE	N	N	N			04/22/2015 WE 5P	17 0	MAIN ST 14TH ST	INTER CN 03	CROSS 0	N FLASHBCN-R	N N N	CLR DRY DAY	ANGL-OTH ANGL PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	46 M		OR-Y OR<25		000	000 000	02 00 00
															02	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	17 F		OR-Y OR<25		028	015 000	00 02
01862 NO RPT	N	N	N			05/16/2015 SA 8A	17 0	MAIN ST 14TH ST	INTER CN 01	CROSS 0	N FLASHBCN-R	N N N	CLR DRY DAY	ANGL-OTH ANGL PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	68 M		OR-Y OR<25		000	000 000	02 00 00
															02	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	36 F		OR-Y OR<25		028	015 000	00 02
04205 NONE	N	N	N			10/12/2015 MO 1P	17 0	MAIN ST 14TH ST	INTER CN 04	CROSS 0	N TRF SIGNAL	N N N	CLR DRY DAY	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-R SW-SE	01	DRVR	NONE	27 M		OTH-Y		028	016 000	02 00 02

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TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

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MAIN ST at 14TH ST, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 30

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															02	NONE 0	STRGHT						OR<25				
																PRVTE	NW-SE									000	00
	D	R	S	W												PSNGR CAR		01	DRVR	NONE	48	F	OR-Y	000	000	000	00
																							OR<25				

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

WASHINGTON ST at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2012														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	2	4	6	0	3	0	4	1	5	1	6	0	0
SIDESWIPE - OVERTAKING	0	1	0	1	0	1	0	0	1	1	0	1	0	0
YEAR 2012 TOTAL	**0**	**3**	**5**	**8**	**0**	**4**	**0**	**5**	**2**	**7**	**1**	**8**	**0**	**0**
YEAR: 2011														
ANGLE	0	0	1	1	0	0	0	0	1	1	0	1	0	0
REAR-END	0	3	3	6	0	6	0	4	1	4	2	6	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2011 TOTAL	**0**	**3**	**5**	**8**	**0**	**6**	**0**	**5**	**2**	**6**	**2**	**8**	**0**	**0**
FINAL TOTAL	**0**	**6**	**10**	**16**	**0**	**10**	**0**	**10**	**4**	**13**	**3**	**16**	**0**	**0**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 16

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
04848	N	N	N			12/16/2011	14	CASCADE HY SOUTH	INTER	CROSS	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											07
NONE						FR		WASHINGTON ST	UN		TRF SIGNAL	N	UNK	REAR		PRVTE	UN-UN									000		00
						5P			06	1		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	UN-UN									011		00
																PSNGR CAR		01	DRVR	NONE	64	M	OR-Y OR<25		000	000		00
81700	N	N	N			02/16/2012	14	CASCADE HY SOUTH	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											013	07
NONE						TH		WASHINGTON ST	N		TRF SIGNAL	N	WET	REAR		UNKN	N -S									000		00
						10A			06	1		N	DAY	PDO		UNKNOWN		01	DRVR	NONE	00	Unk	UNK UNK		026	000		07
															02	NONE 0	STOP											
																PRVTE	N -S									011	013	00
																PSNGR CAR		01	DRVR	NONE	74	M	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																UNKN	N -S									022		00
																UNKNOWN		01	DRVR	NONE	00	F	UNK UNK		000	000		00
01339	N	N	N			04/20/2011	14	CASCADE HY SOUTH	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE						WE		WASHINGTON ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
						11A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	21	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	INJC	24	F	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		02	PSNG	INJC	25	F			000	000		00
01822	N	N	N			05/13/2011	14	CASCADE HY SOUTH	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE						FR		WASHINGTON ST	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
						3P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OTH-Y N-RES		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	NONE	26	F	OR-Y OR>25		000	000		00
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		02	PSNG	NO<5	01	M			000	000		00
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		03	PSNG	NO<5	04	F			000	000		00
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		04	PSNG	NO<5	02	F			000	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 16

SER# / INVEST	SPEED	ALCHL	DRSWK	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
													02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	05	PSNG	NO<5	03	F			000	011 000		00 00
01563 NONE	N	N	N	05/06/2011 FR 6P	14	CASCADE HY SOUTH WASHINGTON ST	INTER SW 06	CROSS 1	N TRF SIGNAL	N N	RAIN WET DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	43	M	OR-Y OR<25		026	000 000		07 00 07
													02	NONE 0 PRVTE PSNGR CAR	STOP SW-NE	01	DRVR	NONE	63	M	OR-Y OR<25		000	011 000		00 00
00651 NO RPT	N	N	N	02/19/2012 SU 4P	14	CASCADE HY SOUTH WASHINGTON ST	INTER SW 06	CROSS 1	N TRF SIGNAL	N N	CLR UNK DUSK	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	49	F	OR-Y OR<25		026	000 000		07 00 07
													02	NONE 0 UNKN PSNGR CAR	STOP SW-NE	01	DRVR	NONE	00	F	UNK UNK		000	011 000		00 00
03589 NONE	N	N	N	09/29/2011 TH 12P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	19	M	OR-Y OR>25		026	000 000		07 00 07
													02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	INJC	44	F	OR-Y OR<25		000	011 000		00 00
04398 CITY	N	Y	N	Y 11/19/2011 SA 10P	14	CASCADE HY SOUTH WASHINGTON ST 06	INTER NW 06	CROSS 1	N TRF SIGNAL	N N	CLD DRY DLIT	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	45	F	SUSP OR<25		026	000 000	013	07 00 07
													02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	INJC	30	M	OR-Y OR<25		000	011 013 000		00 00
													03	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	INJC	64	F	OR-Y OR<25		000	022 000		00 00
													03	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	02	PSNG	INJC	33	M			000	022 000		00 00
00612 NONE	N	N	N	Y 02/17/2012 FR 12P	14	CASCADE HY SOUTH WASHINGTON ST 06	INTER NW 06	CROSS 1	N TRF SIGNAL	N N	RAIN WET DAY	S-STRGHT SS-O INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	INJC	59	F	OR-Y OR<25		045	000 000		13 00 13
													02	NONE 0 PRVTE	STRGHT NW-SE									000			00

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 16

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES / EJECT	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	00	M	UNK OR<25		000	000	00
01212 NONE	N	N	N			03/31/2012 SA 2P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 1	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	00	M	UNK OR>25		026	000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	NONE	73	F	OR-Y OR<25		000	011 000	00 00
01295 NONE	N	N	N			04/07/2012 SA 4P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 1	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 UNKN PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	00	M	OR-Y UNK		026	000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	NONE	50	M	OR-Y OR<25		000	011 000	00 00
02387 NONE	N	N	N			07/03/2012 TU 11A	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 1	N TRF SIGNAL	N N	CLD DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	75	F	OR-Y OR<25		026	000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	INJC	23	F	OR-Y OR<25		000	012 000	00 00
03599 NO RPT	N	N	N			09/28/2012 FR 1P	14	CASCADE HY SOUTH WASHINGTON ST	INTER NW 06	CROSS 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	57	M	OR-Y OR<25		026	000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	01	DRVR	INJC	21	M	OR-Y OR<25		000	011 000	00 00
															02	NONE 0 PRVTE PSNGR CAR	STOP NW-SE	02	PSNG	INJC	60	F			000	011 000	00 00
01864 NONE	N	N	N			05/28/2011 SA 6P	14	CASCADE HY SOUTH WASHINGTON ST	INTER CN 04	CROSS 0	N TRF SIGNAL	N N	RAIN WET DAY	ANGL-OTH ANGL PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	35	M	OR-Y OR>25		020	000 000	04 00 04
															02	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	34	F	OTH-Y N-RES		000	000 000	00 00
03019 CITY	N	N	N	N	Y	08/19/2011 FR 12P	14	CASCADE HY SOUTH WASHINGTON ST	INTER CN 01	CROSS 0	N TRF SIGNAL	N N	CLR DRY DAY	S-OTHER TURN PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-R NW-SW	01	DRVR	NONE	61	M	OTH-Y N-RES		034	031 000	06 00 06
															02	NONE 0	TURN-R										

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CITY OF OREGON CITY, CLACKAMAS COUNTY

WASHINGTON ST at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 16

SER# / INVEST	S P E D C	A L G	R U H	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PRVTE	NW-SW									000	00
																PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR>25		001	000	00
03865	N	N	N			10/16/2012	14	CASCADE HY SOUTH	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
NONE						TU		WASHINGTON ST	CN		TRF SIGNAL	N	DRY	ANGL		UNKN	W -E									000	00
						4P			03	1		N	DAY	PDO		UNKNOWN		01	DRVR	NONE	00	Unk	UNK UNK		028	000	02
															02	NONE 0	STRGHT										
																PRVTE	N -S									000	00
																PSNGR CAR		01	DRVR	NONE	73	F	OR-Y OR<25		000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

CLACKAMAS RIVER DR at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	0	1	1	0	1
REAR-END	0	4	0	4	0	7	0	4	0	4	0	4	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	1	1	0	1	0	1	0	0
YEAR 2015 TOTAL	**0**	**4**	**2**	**6**	**0**	**7**	**1**	**6**	**0**	**5**	**1**	**6**	**0**	**1**
YEAR: 2014														
ANGLE	0	0	1	1	0	0	0	0	0	1	0	1	0	0
MISCELLANEOUS	0	1	0	1	0	1	0	1	0	0	0	1	0	0
REAR-END	0	2	0	2	0	3	0	2	0	2	0	2	0	0
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**4**	**1**	**5**	**0**	**6**	**0**	**4**	**0**	**4**	**0**	**5**	**0**	**0**
YEAR: 2013														
MISCELLANEOUS	0	1	0	1	0	2	0	1	0	0	1	1	0	0
REAR-END	0	1	1	2	0	1	0	1	1	2	0	2	0	0
SIDESWIPE - OVERTAKING	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**3**	**1**	**4**	**0**	**4**	**0**	**3**	**1**	**3**	**1**	**4**	**0**	**0**
YEAR: 2012														
BACKING	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	2	0	2	0	2	0	2	0	2	0	2	0	0
YEAR 2012 TOTAL	**0**	**2**	**1**	**3**	**0**	**2**	**0**	**3**	**0**	**3**	**0**	**3**	**0**	**0**
FINAL TOTAL	**0**	**13**	**5**	**18**	**0**	**19**	**1**	**16**	**1**	**15**	**2**	**18**	**0**	**1**

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CLACKAMAS RIVER DR at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 18

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
00824	Y	N	N	N	N	03/10/2013	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLD	OVERTURN	01	NONE 0	TURN-R										33,01
CITY						SU		CASCADE HY SOUTH	NE		TRF SIGNAL	N	DRY	OTH		PRVTE	SE-NE									000	00
						3A			05	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	21	F	OR-Y OR<25		047,051	000	33,01
															01	NONE 0	TURN-R										
																PRVTE	SE-NE									000	00
																PSNGR CAR		02	PSNG	INJC	24	F			000	000	00
02192	N	N	N			06/18/2012	16	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	O-1STOP	01	NONE 0	BACK											10
NO RPT						MO	0	CASCADE HY SOUTH	NE		L-GRN-SIG	N	DRY	BACK		PRVTE	SW-NE									000	00
						9A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	58	M	OR-Y OR<25		011	000	10
															02	NONE 0	STOP										
																PRVTE	NE-SW									011	00
																PSNGR CAR		01	DRVR	NONE	60	F	OR-Y OR<25		000	000	00
00300	N	N	N			01/25/2013	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						FR		CASCADE HY SOUTH	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000	00
						3P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	23	M	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																MOTRHOME		01	DRVR	INJC	55	F	OR-Y OR<25		000	000	00
02119	N	N	N			06/02/2014	14	CLACKAMAS RIVER DR	INTER		N	N	CLR	OVERTURN	01	NONE 0	STRGHT											10
NONE						MO		CASCADE HY SOUTH	SE		TRF SIGNAL	N	DRY	OTH		PRVTE	S -N									007	00
						6A			06	0		N	UNK	INJ		PSNGR CAR		01	DRVR	INJB	48	M	OR-Y OR<25		083	000	10
00563	N	N	N			02/13/2015	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR		CASCADE HY SOUTH	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000	00
						8A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	18	F	OTH-Y N-RES		026	000	29
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	33	F	OR-Y OR<25		000	000	00
00636	N	N	N			02/18/2015	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						WE		CASCADE HY SOUTH	SE		TRF SIGNAL	N	DRY	REAR		UNKN	SE-NW									000	00
						8A			06	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		026	000	29
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	16	M	OR-Y OR<25		000	000	00
05141	N	N	N			12/04/2015	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR		CASCADE HY SOUTH	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000	00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	28	F	OR-Y OR<25		026	000	29
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CLACKAMAS RIVER DR at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 18

SER# / INVEST	S P E D / A L C	R S W U C O H R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
													PSNGR CAR		01	DRVR	INJC	41	F	OR-Y		000	000		00
																				OR<25					
												02	NONE 0	STOP											
													PRVTE	SE-NW									011		00
													PSNGR CAR		02	PSNG	INJC	33	F			000	000		00
01484	N N N		04/22/2012	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE			SU		CASCADE HY SOUTH	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00
			4P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000		07
																				OR<25					
												02	NONE 0	STOP											
													PRVTE	S -N									011		00
													PSNGR CAR		01	DRVR	NONE	63	F	OR-Y		000	000		00
																				OR<25					
												02	NONE 0	STOP											
													PRVTE	S -N									011		00
													PSNGR CAR		02	PSNG	INJC	72	F			000	000		00
01672	N N N N N		05/15/2013	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											07
CITY			WE		CASCADE HY SOUTH	NW		TRF SIGNAL	N	WET	REAR		PRVTE	NW-SE									000		00
			3P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	18	F	OR-Y		026	000		07
																				OR<25					
												02	NONE 0	STOP											
													PRVTE	NW-SE									011	013	00
													PSNGR CAR		01	DRVR	NONE	24	F	OR-Y		000	000		00
																				OR<25					
												03	NONE 0	STOP											
													PRVTE	NW-SE									022		00
													PSNGR CAR		01	DRVR	NONE	30	M	OR-Y		000	000		00
																				OR<25					
02081	N N N N N		06/12/2013	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											13
COUNTY			WE		CASCADE HY SOUTH	NW		TRF SIGNAL	N	DRY	SS-O		PRVTE	NW-SE									000		00
			10A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	50	M	OR-Y		045	000		13
																				OR<25					
												02	NONE 0	STOP											
													PRVTE	NW-SE									011		00
													PSNGR CAR		01	DRVR	INJC	42	F	OR-Y		000	000		00
																				OR<25					
02995	N N N		08/05/2014	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29
NONE			TU		CASCADE HY SOUTH	NW		TRF SIGNAL	N	DRY	REAR		UNKN	NW-SE									000		00
			7P			06	0		N	DAY	INJ		UNKNOWN		01	DRVR	NONE	00	F	OTH-Y		026	000		29
																				UNK					
												02	NONE 0	STOP											
													PRVTE	NW-SE									011	013	00
													PSNGR CAR		01	DRVR	INJC	31	F	OR-Y		000	000		00
																				OR<25					
												02	NONE 0	STOP											
													PRVTE	NW-SE									011	013	00
													PSNGR CAR		02	PSNG	INJC	42	M			000	000		00
												03	NONE 0	STOP											

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CLACKAMAS RIVER DR at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 18

SER# / INVEST	S P E D	A L C	R U S	S C L	W O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																PRVTE	NW-SE									022		00
																PSNGR CAR		01	DRVR	NONE	31	F	OR-Y		000	000		00
																							UNK					
03780	N	N	N			09/25/2014	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						TH		CASCADE HY SOUTH	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000		00
						2P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	71	M	OR-Y		026	000		29
																							OR>25					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011		00
																PSNGR CAR		01	DRVR	INJC	19	F	OR-Y		000	000		00
																							OR<25					
00541	N	N	N			02/11/2015	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29
NO RPT						WE		CASCADE HY SOUTH	NW		TRF SIGNAL	N	DRY	REAR		PRVTE	NW-SE									000		00
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	52	M	OR-Y		026	000		29
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	NW-SE									011	013	00
																PSNGR CAR		01	DRVR	INJB	20	M	OR-Y		000	000		00
																							OR<25					
															03	NONE 0	STOP											
																PRVTE	NW-SE									022	013	00
																PSNGR CAR		01	DRVR	NONE	64	M	OR-Y		000	000		00
																							OR<25					
															04	NONE 1	STOP											
																PRVTE	NW-SE									022		00
																PSNGR CAR		01	DRVR	INJC	29	M	OTH-Y		000	000		00
																							OR<25					
															04	NONE 1	STOP											
																PRVTE	NW-SE									022		00
																PSNGR CAR		02	PSNG	INJC	56	M			000	000		00
03836	N	N	N			09/19/2015	14	CLACKAMAS RIVER DR	INTER	CROSS	N	Y	CLR	FIX OBJ	01	NONE 0	TURN-L										043	02,05,08
COUNTY						SA		CASCADE HY SOUTH	NW		TRF SIGNAL	N	DRY	FIX		PRVTE	NW-NE									000	043	00
						2A			05	2		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	48	M	UNK		073,039,002	000		02,05,08
																							N-RES					
04280	N	N	N			11/13/2012	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											26,07
NONE						TU		CASCADE HY SOUTH	CN		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00
						7A			04	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	19	M	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	INJC	21	M	OR-Y		000	000		26
																							OR<25					
02997	N	N	N			08/05/2014	14	CLACKAMAS RIVER DR	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-L											04
NONE						TU		CASCADE HY SOUTH	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	NW-NE									000		00
						11A			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	68	F	OTH-Y		003	000		04
																							N-RES					
															02	NONE 0	STRGHT											
																PRVTE	NE-SW									000		00
																PSNGR CAR		01	DRVR	INJB	29	F	OR-Y		000	000		00
																							OR<25					

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CLACKAMAS RIVER DR at CASCADE HY SOUTH, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 18

SER# / INVEST	S P E D	A L C	R U S	S C L	W O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															02	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	02	PSNG	INJB	05	M			000	000 000	00 00
03266 NO RPT	N	N	N			08/22/2014 FR 7A	14	CLACKAMAS RIVER DR CASCADE HY SOUTH	INTER CN 01	CROSS 0	N TRF SIGNAL	N N N	UNK UNK DAY	ANGL-OTH ANGL PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT UN-UN	01	DRVR	NONE	44	F	OR-Y OR<25		000	000 000	16,04 00 00
															02	NONE 0 PRVTE PSNGR CAR	STRGHT NW-SE	01	DRVR	NONE	23	M	UNK OR>25		020	000 025	00 16,04
02654 NONE	N	N	N			07/01/2015 WE 10A	14	CLACKAMAS RIVER DR CASCADE HY SOUTH	INTER CN 01	CROSS 0	N TRF SIGNAL	N N N	CLR DRY DAY	S-1TURN TURN PDO	01	NONE 0 PRVTE TRUCK	TURN-R N -W	01	DRVR	NONE	00	M	OR-Y OR<25		006	000 000	08 00 08
															02	NONE 0 PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	NONE	71	F	OR-Y OR<25		000	000 000	00 00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

CASCADE HY SOUTH at REDLAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	6	2	8	0	11	0	6	2	4	4	8	0	0
TURNING MOVEMENTS	0	2	0	2	0	3	1	2	0	2	0	2	0	0
YEAR 2015 TOTAL	**0**	**8**	**2**	**10**	**0**	**14**	**1**	**8**	**2**	**6**	**4**	**10**	**0**	**0**
YEAR: 2014														
REAR-END	0	3	2	5	0	4	0	3	2	5	0	5	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2014 TOTAL	**0**	**3**	**3**	**6**	**0**	**4**	**0**	**4**	**2**	**6**	**0**	**6**	**0**	**0**
YEAR: 2013														
REAR-END	0	7	2	9	0	8	0	6	2	8	1	9	0	0
SIDESWIPE - OVERTAKING	0	0	1	1	0	0	2	0	1	0	1	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	0	1	1	0	1	0	0
YEAR 2013 TOTAL	**0**	**8**	**3**	**11**	**0**	**9**	**2**	**6**	**4**	**9**	**2**	**11**	**0**	**0**
YEAR: 2012														
REAR-END	0	2	1	3	0	5	0	2	0	3	0	3	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
YEAR 2012 TOTAL	**0**	**2**	**2**	**4**	**0**	**5**	**0**	**3**	**0**	**3**	**1**	**4**	**0**	**0**
YEAR: 2011														
REAR-END	0	3	0	3	0	4	0	2	1	3	0	3	0	0

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

CASCADE HY SOUTH at REDLAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
TURNING MOVEMENTS	0	2	0	2	0	3	0	1	1	2	0	2	0	0
YEAR 2011 TOTAL	**0**	**5**	**0**	**5**	**0**	**7**	**0**	**3**	**2**	**5**	**0**	**5**	**0**	**0**
FINAL TOTAL	**0**	**26**	**10**	**36**	**0**	**39**	**3**	**24**	**10**	**29**	**7**	**36**	**0**	**0**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at REDLAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 36

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01049	Y	N	N	N	N	03/28/2011	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	TURN-L											32,01
STATE						MO		REDLAND RD	N		TRF SIGNAL	N	DRY	TURN		PRVTE	S -W										001	00
						5P			06	0		N	DAY	INJ		PSNGR CAR			01 DRVR	INJC	19	M	OR-Y OR<25		052,047	000		32,01
															02	NONE 0	STOP											
																PRVTE	N -S										011	00
																PSNGR CAR			01 DRVR	NONE	50	F	OR-Y OR<25		000	000		00
02101	Y	Y	N			06/12/2011	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											01,07
CITY						SU		REDLAND RD	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S										000	00
						11A			06	0		N	DAY	INJ		PSNGR CAR			01 DRVR	NONE	38	M	OR-Y OR<25		047,043,026	000		01,07
															02	NONE 0	STOP											
																PRVTE	N -S										011	00
																PSNGR CAR			01 DRVR	INJC	41	F	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	N -S										011	00
																PSNGR CAR			02 PSNG	INJC	56	F			000	000		00
01593	N	N	N			05/08/2013	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											27,07
NO RPT						WE		REDLAND RD	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S										000	00
						12P			06	0		N	DAY	INJ		PSNGR CAR			01 DRVR	NONE	27	F	OR-Y OR<25		016,026	000		27,07
															02	NONE 0	STOP											
																PRVTE	N -S										011	00
																PSNGR CAR			01 DRVR	INJC	63	F	OR-Y OR<25		000	000		00
04034	Y	N	N			10/22/2013	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											01,07
CITY						TU		REDLAND RD	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S										000	00
						8P			06	0		N	DLIT	INJ		PSNGR CAR			01 DRVR	INJC	57	F	OR-Y OR<25		047,043,026	000		01,07
															02	NONE 0	STOP											
																PRVTE	N -S										011	00
																PSNGR CAR			01 DRVR	NONE	16	M	OR-Y OR<25		000	000		00
04654	N	N	N			11/17/2014	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						MO		REDLAND RD	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S										000	00
						12P			06	0		N	DAY	INJ		PSNGR CAR			01 DRVR	NONE	60	M	OTH-Y N-RES		026	000		29
															02	NONE 0	STOP											
																PRVTE	N -S										011	00
																PSNGR CAR			01 DRVR	NONE	66	F	OR-Y OR>25		000	000		00
															02	NONE 0	STOP											
																PRVTE	N -S										011	00
																PSNGR CAR			02 PSNG	INJC	61	F			000	000		00
01056	N	N	N			03/26/2015	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						TH		REDLAND RD	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S										000	00
						2P			06	0		N	DAY	PDO		PSNGR CAR			01 DRVR	NONE	53	F	OR-Y		026	000		29

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at REDLAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 36

SER# / INVEST	SPEC	ALC	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	N -S									011		00
																PSNGR CAR		01	DRVR	NONE	44	F	OR-Y		000	000		00
																							OR<25					
02925	N	N	N			07/20/2015	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						MO		REDLAND RD	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
						3P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	35	F	OR-Y		026	000		29
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	N -S									011		00
																PSNGR CAR		01	DRVR	NONE	19	M	OR-Y		000	000		00
																							OR<25					
00947	N	N	N			03/17/2011	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
NO RPT						TH		REDLAND RD	S		TRF SIGNAL	N	WET	REAR		PRVTE	S -N									000		00
						2P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	74	F	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	INJC	46	M	OR-Y		000	000		00
																							OR<25					
02552	N	N	N	N	Y	07/18/2011	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
STATE						MO		REDLAND RD	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00
						6A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	16	M	OR-Y		043,026	000		07
																							OR<25					
															02	NONE 0	STOP											
																PRVTE	S -N									011	013	00
																PSNGR CAR		01	DRVR	INJC	48	M	OR-Y		000	000		00
																							OR<25					
															03	NONE 0	STOP											
																PRVTE	S -N									022		00
																PSNGR CAR		01	DRVR	NONE	52	F	OR-Y		000	000		00
																							OR<25					
04021	N	N	N			10/26/2012	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						FR		REDLAND RD	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00
						5P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	41	M	OR-Y		026	000		07
																							OR<25					
															02	NONE 0	STOP											
																UNKN	S -N									011		00
																UNKNOWN		01	DRVR	NONE	00	Unk	UNK		000	000		00
																							UNK					
00947	N	N	N			03/19/2013	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
NONE						TU		REDLAND RD	S		TRF SIGNAL	N	WET	REAR		UNKN	S -N									000		00
						1P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000		07
																							UNK					
															02	NONE 0	STOP											
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	NONE	18	F	OR-Y		000	000		00
																							OR<25					
02451	N	N	N	N	N	07/09/2013	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	27,07
CITY						TU		REDLAND RD	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at REDLAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 36

SER# / INVEST	S P E D	A L C	U G S	S H L	W C O K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
						3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	21	F	OR-Y OR<25		016,026	038		27,07
															02	NONE 0	STOP										
																PRVTE	S -N									011	013	00
																PSNGR CAR		01	DRVR	NONE	46	F	OR-Y OR<25		000	000		00
															03	NONE 0	STOP										
																PRVTE	S -N									022		00
																PSNGR CAR		01	DRVR	INJC	35	M	OR-Y OR<25		000	000		00
															03	NONE 0	STOP										
																PRVTE	S -N									022		00
																PSNGR CAR		02	PSNG	NO<5	04	M			000	000		00
03817	N	N	N			09/29/2014	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											29
NO RPT						MO		REDLAND RD	S		TRF SIGNAL	N	WET	REAR		PRVTE	S -N									000		00
						3P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	35	M	OR-Y OR<25		026	000		29
															02	NONE 0	STOP										
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	NONE	19	F	OR-Y OR<25		000	000		00
04185	N	N	N			10/21/2014	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						TU		REDLAND RD	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00
						UNK			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	28	M	OTH-Y OR<25		026	000		29
															02	NONE 0	STOP										
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	INJC	44	M	OR-Y OR<25		000	000		00
01123	N	N	N			03/31/2015	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											29
NONE						TU		REDLAND RD	S		TRF SIGNAL	N	WET	REAR		PRVTE	S -N									000		00
						6A			06	0		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	44	F	OR-Y OR<25		026	000		29
															02	NONE 0	STOP										
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	INJC	35	M	OR-Y OR<25		000	000		00
															02	NONE 0	STOP										
																PRVTE	S -N									011		00
																PSNGR CAR		02	PSNG	INJC	34	F			000	000		00
02150	N	N	N			06/04/2015	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NO RPT						TH		REDLAND RD	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00
						10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	55	M	OR-Y OR<25		026	000		29
															02	NONE 0	STOP										
																PRVTE	S -N									011		00
																PSNGR CAR		01	DRVR	INJC	62	F	OR-Y OR<25		000	000		00
04080	N	N	N			10/04/2015	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at REDLAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 36

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
NONE						SU		REDLAND RD	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
						1P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	18	F	OR-Y OR<25		026	000	29
															02	NONE 0	STOP										
																PRVTE	S -N									011 013	00
																PSNGR CAR		01	DRVR	NONE	18	F	OR-Y OR<25		000	000	00
															03	NONE 0	STOP										
																PRVTE	S -N									022	00
																PSNGR CAR		01	DRVR	INJC	77	F	OR-Y OR<25		000	000	00
04189	N	N	N			10/11/2015	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE						SU		REDLAND RD	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
						7P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	29	F	OR-Y OR<25		026	000	29
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	NONE	19	M	OR-Y OR<25		000	000	00
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		02	PSNG	INJC	26	F			000	000	00
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		03	PSNG	INJC	48	M			000	000	00
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		04	PSNG	INJC	45	F			000	000	00
04343	N	N	N			10/21/2015	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	FOG	S-1STOP	01	NONE 0	STRGHT										29
NONE						WE		REDLAND RD	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									001	00
						7A			06	0		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	24	M	OR-Y OR<25		026	000	29
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	INJC	52	M	OR-Y OR<25		000	000	00
05452	N	N	N			12/18/2015	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										29
NONE						FR		REDLAND RD	S		TRF SIGNAL	N	WET	REAR		PRVTE	S -N									000	00
						6A			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	42	F	OR-Y OR<25		026	000	29
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	INJC	51	M	OR-Y OR<25		000	000	00
00828	N	N	N			02/25/2014	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	ANGL-STP	01	NONE 0	TURN-R										08
NONE						TU		REDLAND RD	W		TRF SIGNAL	N	DRY	TURN		PRVTE	N -W									000	00
						2P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	32	M	OR-Y OR<25		001	000	08

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at REDLAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 36

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AG	SEX	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															02	NONE 0 PRVTE PSNGR CAR	STOP W -E	01	DRVR	NONE	50	M	OR-Y OR<25		000	012 000	00 00
02177 NO RPT	N	N	N			06/06/2015 SA 5P	14	CASCADE HY SOUTH REDLAND RD	INTER W 06	3-LEG 0	N TRF SIGNAL	N N N	CLR DRY DAY	ANGL-STP TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-R N -W	01	DRVR	INJC	32	M	OR-Y OR<25		001	000	08
															02	NONE 0 PRVTE TRUCK	STOP W -E	01	DRVR	NONE	35	M	OR-Y OR<25		000	012 000	00 00
															02	NONE 0 PRVTE TRUCK	STOP W -E	02	PSNG	INJC	42	M			000	012 000	00 00
00282 NONE	N	N	N			01/22/2012 SU 1P	14 0	CASCADE HY SOUTH REDLAND RD	INTER W 06	3-LEG 0	N TRF SIGNAL	N N N	UNK UNK DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	01	DRVR	NONE	32	M	OR-Y OR<25		026	000 000	07 07
															02	NONE 0 PRVTE PSNGR CAR	STOP W -E	01	DRVR	INJC	65	M	OR-Y OR<25		000	011 000	00 00
03192 NO RPT	N	N	N			08/29/2012 WE 9A	16 0	CASCADE HY SOUTH REDLAND RD	INTER W 06	3-LEG 0	N TRF SIGNAL	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	01	DRVR	INJB	34	F	OR-Y OR<25		026	000 000	07 07
															02	NONE 0 PRVTE PSNGR CAR	STOP W -E	01	DRVR	INJC	34	M	OR-Y OR<25		000	012 000	00 00
															02	NONE 0 PRVTE PSNGR CAR	STOP W -E	02	PSNG	INJC	22	M			000	012 000	00 00
															02	NONE 0 PRVTE PSNGR CAR	STOP W -E	03	PSNG	INJC	22	M			000	012 000	00 00
00301 NONE	N	N	N			01/25/2013 FR 11A	16 0	CASCADE HY SOUTH REDLAND RD	INTER W 06	3-LEG 0	N R-GRN-SIG	N N N	UNK WET DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-R W -S	01	DRVR	NONE	59	M	OR-Y OR<25		006	000 000	08 08
															02	NONE 0 PRVTE PSNGR CAR	TURN-R W -S	01	DRVR	NONE	40	F	OR-Y OR<25		000	000 000	00 00
00847 NONE	N	N	N			03/12/2013 TU 10A	16 0	CASCADE HY SOUTH REDLAND RD	INTER W 06	3-LEG 0	N L-GRN-SIG	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	01	DRVR	NONE	00	F	UNK		026	000 000	07 07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at REDLAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 36

SER# / INVEST	S P E D / A L C / U D S / C A L / O M K / R I Y	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																			OR<25					
											02	NONE 0 / PRVTE / PSNGR CAR	STOP / W -E									012		00
														01	DRVR	INJC	74	F	OR-Y OR<25		000	000		00
											02	NONE 0 / PRVTE / PSNGR CAR	STOP / W -E									012		00
														02	PSNG	INJC	56	F			000	000		00
02290	N N N	06/28/2013	16	CASCADE HY SOUTH	INTER		N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
NONE		FR 0		REDLAND RD	W		TRF SIGNAL	N	DRY	REAR		PRVTE	W -E									000		00
		8A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	74	M	OR-Y OR<25		026	000		07
											02	NONE 0 / PRVTE / PSNGR CAR	STOP / W -E									011	013	00
														01	DRVR	INJC	43	M	OR-Y OR<25		000	000		00
											03	NONE 0 / PRVTE / PSNGR CAR	STOP / W -E									022		00
														01	DRVR	NONE	46	F	OR-Y OR<25		000	000		00
03843	N N N	10/09/2013	16	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE		WE 0		REDLAND RD	W		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00
		9A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	22	M	OR-Y OR<25		026	000		07
											02	NONE 0 / PRVTE / PSNGR CAR	STOP / E -W									012		00
														01	DRVR	NONE	56	F	OR-Y OR<25		000	000		00
04583	N N N	11/25/2013	16	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE		MO 0		REDLAND RD	W		TRF SIGNAL	N	UNK	REAR		PRVTE	W -E									000		00
		4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	OTH-Y N-RES		026	000		07
											02	NONE 0 / PRVTE / PSNGR CAR	STOP / W -E									012		00
														01	DRVR	INJC	51	F	OR-Y OR<25		000	000		00
00188	N N N	01/14/2014	16	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE		TU 0		REDLAND RD	W		TRF SIGNAL	N	DRY	REAR		PRVTE	W -E									000		00
		4P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y OR<25		026	000		07
											02	NONE 0 / PRVTE / PSNGR CAR	STOP / W -E									011		00
														01	DRVR	NONE	37	F	OR-Y OR<25		000	000		00
											02	NONE 0 / PRVTE / PSNGR CAR	STOP / W -E									011		00
														02	PSNG	NO<5	01	M			000	000		00
04409	N N N	11/02/2014	16	CASCADE HY SOUTH	INTER	3-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											29
NONE		SU 0		REDLAND RD	W		TRF SIGNAL	N	WET	REAR		PRVTE	W -E									000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at REDLAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 36

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC / TYPE / SVRTY	INJ	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
							9A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	61	M	OR-Y OR<25		026	000		29
																02	NONE 0 PRVTE PSNGR CAR	STOP W -E									011		00
																			01	DRVR	INJC	35	M	OR-Y OR<25		000	000		00
																02	NONE 0 PRVTE PSNGR CAR	STOP W -E									011		00
																			02	PSNG	INJC	12	F			000	000		00
00811 NO RPT	N	N	N				03/07/2011 MO 12P	14	CASCADE HY SOUTH REDLAND RD	INTER CN 01	3-LEG 0	N TRF SIGNAL	N N N	RAIN WET DAY	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	INJA	76	F	OR-Y OR<25		020	000 000	013,010 013,010	04 00 04
																02	NONE 0 PRVTE PSNGR CAR	TURN-L S -W	01	DRVR	INJC	35	M	OR-Y OR<25		000	000 000		00 00
																03	NONE 0 PRVTE PSNGR CAR	UNK UN-UN	01	DRVR	NONE	17	F	OR-Y OR<25		000	022 000		00 00
04246 CITY	N	N	N				11/10/2012 SA 5A	14	CASCADE HY SOUTH REDLAND RD	INTER CN 01	3-LEG 0	N TRF SIGNAL	N N N	CLD DRY DLIT	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	NONE	21	F	OR-Y OR<25		000	000 000		04 00 00
																02	NONE 0 PRVTE PSNGR CAR	TURN-L W -N	01	DRVR	NONE	52	M	NONE OR<25		020	000 000		00 04
04081 STATE	Y	N	N	N	Y		10/25/2013 FR 7A	14	CASCADE HY SOUTH REDLAND RD	INTER CN 04	3-LEG 0	N TRF SIGNAL	N N N	CLD WET DAWN	S-STRGHT SS-O PDO	01	NONE 0 PRVTE TRUCK	STRGHT S -N	01	DRVR	NONE	54	M	OR-Y OR<25		045,047,026	007 000		13,01,07 00 13,01,07
																02	LOG 0 PRVTE BOBTAIL	STRGHT S -N	01	DRVR	NONE	60	M	OTH-Y N-RES		000	006 000		00 00
																03	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	NONE	58	F	OR-Y OR<25		000	011 000		00 00
04321 NO RPT	Y	N	N				11/07/2013 TH 2P	14	CASCADE HY SOUTH REDLAND RD	INTER CN 03	3-LEG 0	N TRF SIGNAL	N N N	RAIN WET DAY	ANGL-OTH TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	NONE	44	M	OR-Y OR<25		000	000 000	124	04,01 00 00
																02	NONE 0 PRVTE PSNGR CAR	TURN-L W -N	01	DRVR	INJC	59	F	OR-Y OR<25		047,020	001 000		00 04,01
05054	N	N	N				11/29/2015	14	CASCADE HY SOUTH	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT												04

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at REDLAND RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 36

SER# / INVEST	S P E D A C	R S W U C O H R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
NO RPT			SU 10A		REDLAND RD	CN 03	0	TRF SIGNAL	N N	DRY DAY	TURN INJ		PRVTE PSNGR CAR	N -S	01	DRVR	INJC	80	F	OR-Y OR<25		020	000 038	00 04
												02	NONE 0 PRVTE PSNGR CAR	TURN-L W -N	01	DRVR	NONE	64	F	OR-Y OR<25		000	000 000	00 00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2015														
REAR-END	0	10	17	27	0	13	0	17	9	14	13	27	0	0
SIDESWIPE - OVERTAKING	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	2	0	0	2	2	0	0
YEAR 2015 TOTAL	**0**	**12**	**18**	**30**	**0**	**15**	**0**	**20**	**9**	**15**	**15**	**30**	**0**	**0**
YEAR: 2014														
REAR-END	0	9	10	19	0	11	0	16	2	11	7	19	0	0
SIDESWIPE - OVERTAKING	0	0	1	1	0	0	0	0	1	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR 2014 TOTAL	**0**	**9**	**12**	**21**	**0**	**11**	**0**	**16**	**4**	**12**	**8**	**21**	**0**	**0**
YEAR: 2013														
ANGLE	0	0	1	1	0	0	0	0	1	0	1	1	0	0
BACKING	0	0	1	1	0	0	0	0	1	0	0	1	0	0
REAR-END	0	17	11	28	0	18	0	22	5	20	8	28	0	0
SIDESWIPE - OVERTAKING	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	2	0	2	0	3	1	2	0	1	1	2	0	0
YEAR 2013 TOTAL	**0**	**19**	**14**	**33**	**0**	**21**	**1**	**25**	**7**	**22**	**10**	**33**	**0**	**0**
YEAR: 2012														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
FIXED / OTHER OBJECT	0	1	0	1	0	1	0	1	0	1	0	1	0	1
PEDESTRIAN	0	1	0	1	0	1	0	1	0	1	0	1	0	0
REAR-END	0	18	6	24	0	24	0	16	6	16	8	24	0	0

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
TURNING MOVEMENTS	0	2	0	2	0	3	0	2	0	0	2	2	0	0
YEAR 2012 TOTAL	**0**	**22**	**7**	**29**	**0**	**29**	**0**	**21**	**6**	**19**	**10**	**29**	**0**	**1**
YEAR: 2011														
ANGLE	1	0	2	3	1	2	1	1	2	2	1	3	0	0
REAR-END	0	12	13	25	0	13	0	19	6	18	7	25	0	0
TURNING MOVEMENTS	0	2	0	2	0	3	0	0	2	0	2	2	0	0
YEAR 2011 TOTAL	**1**	**14**	**15**	**30**	**1**	**18**	**1**	**20**	**10**	**20**	**10**	**30**	**0**	**0**
FINAL TOTAL	**1**	**76**	**66**	**143**	**1**	**94**	**2**	**102**	**36**	**88**	**53**	**143**	**0**	**1**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
04839	N	N	N			11/29/2014	14	S BEAVERCREEK RD	INTER	CROSS	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											29
NO RPT						SA		CASCADE HY SOUTH	UN		TRF SIGNAL	N	UNK	REAR		PRVTE	UN-UN									000		00
						UNK			06	3		N	UNK	PDO		PSNGR CAR		01	DRVR	NONE	39	F	OR-Y OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	UN-UN									011		00
																PSNGR CAR		01	DRVR	NONE	27	M	OR-Y OR<25		000	000		00
01828	N	N	N			05/25/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											013	07
NONE						WE		CASCADE HY SOUTH	N		TRF SIGNAL	N	WET	REAR		PRVTE	N -S									000		00
						2P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	76	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	N -S									011	013	00
																PSNGR CAR		01	DRVR	NONE	00	M	OR-Y UNK		000	000		00
															03	NONE 0	STOP											
																PRVTE	N -S									022		00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		000	000		00
02674	N	N	N			07/27/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
NONE						WE		CASCADE HY SOUTH	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
						7P			06	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	29	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	N -S									011		00
																PSNGR CAR		01	DRVR	NONE	27	M	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	N -S									011		00
																PSNGR CAR		02	PSNG	INJC	05	F			000	000		00
01982	N	N	N	N	N	05/30/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	PED	01	NONE 0	STRGHT												18,14
STATE						WE		CASCADE HY SOUTH	N		TRF SIGNAL	N	DRY	PED		PRVTE	N -S									000		00
						4P			06	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	32	F	OR-Y OR<25		000	000	082	00
																	- STRGHT E W	01	PED	INJB	14	M		I	XWLK	028,020	035		18,14
00662	N	N	N	N	N	02/25/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	O-1STOP	01	NONE 0	BACK												10
CITY						MO		CASCADE HY SOUTH	N		TRF SIGNAL	N	SNO	BACK		PRVTE	S -N									000		00
						6P			06	3		N	UNK	PDO		PSNGR CAR		01	DRVR	NONE	34	F	SUSP OR<25		011	000		10
															02	NONE 0	STOP											
																PRVTE	N -S									011		00
																PSNGR CAR		01	DRVR	NONE	31	F	OR-Y OR<25		000	000		00
02051	N	N	N			06/10/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												10
NONE						MO		CASCADE HY SOUTH	N		TRF SIGNAL	N	DRY	SS-O		PRVTE	N -S									000		00
						12P			06	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	18	F	OR-Y		080	000		10

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	D R S L	S W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																							OR<25				
															02	NONE 0 / PRVTE / PSNGR CAR	STOP / N -S									011	00
																		01	DRVR	NONE	87	F	OR-Y OR<25		000	000	00
02085 / NONE	N	N	N			06/12/2013 / WE / 10A	14	S BEAVERCREEK RD / CASCADE HY SOUTH	INTER / N / 06	CROSS / 3	N / TRF SIGNAL	N / N / N	UNK / UNK / DAY	S-1STOP / REAR / PDO	01	NONE 0 / PRVTE / PSNGR CAR	STRGHT / N -S	01	DRVR	NONE	39	F	OR-Y OR<25		026	000	07
																										000	00
															02	NONE 0 / PUBLC / PSNGR CAR	STOP / N -S	01	DRVR	NONE	00	M	OR-Y UNK		000	011 / 000	00 / 00
03700 / NONE	N	N	N			10/01/2013 / TU / 1P	14	S BEAVERCREEK RD / CASCADE HY SOUTH	INTER / N / 06	CROSS / 3	N / TRF SIGNAL	N / N / N	CLR / DRY / DAY	S-1STOP / REAR / PDO	01	NONE 0 / UNKN / PSNGR CAR	STRGHT / N -S	01	DRVR	NONE	00	F	UNK UNK		026	000	07
																										000	00
															02	NONE 0 / PRVTE / PSNGR CAR	STOP / N -S	01	DRVR	NONE	52	M	OR-Y OR<25		000	011 / 000	00 / 00
04798 / CITY	N	Y	N			12/11/2013 / WE / 8P	14	S BEAVERCREEK RD / CASCADE HY SOUTH	INTER / N / 06	CROSS / 3	N / TRF SIGNAL	N / N / N	FOG / DRY / DLIT	S-1STOP / REAR / INJ	01	NONE 0 / PRVTE / PSNGR CAR	STRGHT / N -S	01	DRVR	NONE	64	M	OR-Y OR<25		026	000	07
																										000	00
															02	NONE 0 / PRVTE / PSNGR CAR	STOP / N -S	01	DRVR	INJC	58	M	OR-Y OR<25		000	011 / 000	00 / 00
01637 / NO RPT	N	N	N			04/29/2014 / TU / 2P	14	S BEAVERCREEK RD / CASCADE HY SOUTH	INTER / N / 06	CROSS / 3	N / TRF SIGNAL	N / N / N	CLR / DRY / DAY	S-1STOP / REAR / PDO	01	NONE 0 / PRVTE / PSNGR CAR	STRGHT / N -S	01	DRVR	NONE	00	M	OR-Y OR<25		026	000	07
																										000	00
															02	NONE 0 / PRVTE / PSNGR CAR	STOP / N -S	01	DRVR	NONE	65	F	OR-Y OR<25		000	011 / 000	00 / 00
03308 / NONE	N	N	N			08/25/2014 / MO / 4P	14	S BEAVERCREEK RD / CASCADE HY SOUTH	INTER / N / 06	CROSS / 3	N / TRF SIGNAL	N / N / N	CLR / DRY / DAY	S-1STOP / REAR / PDO	01	NONE 0 / PRVTE / PSNGR CAR	STRGHT / S -N	01	DRVR	NONE	22	F	OR-Y OR<25		026	000	29
																										000	00
															02	NONE 0 / PRVTE / PSNGR CAR	STOP / S -N	01	DRVR	NONE	28	F	OR-Y OR<25		000	011 / 000	00 / 00
04757 / NO RPT	N	N	N			11/22/2014 / SA / 1P	14	S BEAVERCREEK RD / CASCADE HY SOUTH	INTER / N / 06	CROSS / 3	N / TRF SIGNAL	N / N / N	UNK / WET / DAY	S-STRGHT / SS-O / PDO	01	NONE 0 / UNKN / PSNGR CAR	STRGHT / N -S	01	DRVR	NONE	00	F	OR-Y UNK		045	000	13
																										000	00
															02	NONE 0 / PRVTE	STRGHT / N -S									000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	R U S	S G L	W H K	C O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																	PSNGR CAR		01	DRVR	NONE	19	F	OR-Y OR<25		000	000	00
01497	N	N	N				04/21/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE							TU		CASCADE HY SOUTH	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000	00
							10P			06	3		N	DARK	INJ		PSNGR CAR		01	DRVR	INJB	54	M	OR-Y OR<25		026	000	29
																02	NONE 0	STOP										
																	UNKN	N -S									011	00
																	PSNGR CAR		01	DRVR	NONE	49	M	OR-Y UNK		000	000	00
01876	N	N	N				05/21/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-STRGHT	01	NONE 0	STRGHT										10
NO RPT							TH		CASCADE HY SOUTH	N		TRF SIGNAL	N	DRY	SS-O		PRVTE	N -S									000	00
							4P			06	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	78	F	OR-Y OR<25		080	000	10
																02	NONE 0	STRGHT										
																	PRVTE	N -S									000	00
																	PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR<25		000	000	00
																03	NONE 0	STRGHT										
																	PRVTE	N -S									000	00
																	PSNGR CAR		01	DRVR	INJC	54	F	OR-Y OR<25		000	000	00
02710	N	N	N				07/04/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										16,29
NO RPT							SA		CASCADE HY SOUTH	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000	00
							3P			06	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	63	F	OR-Y OR<25		026	025	16,29
																02	NONE 0	STOP										
																	PRVTE	N -S									011	00
																	PSNGR CAR		01	DRVR	NONE	62	F	OR-Y OR<25		000	000	00
03650	N	N	N				09/02/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE							WE		CASCADE HY SOUTH	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000	00
							2P			06	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	43	F	OR-Y OR<25		026	000	29
																02	NONE 0	STOP										
																	PRVTE	N -S									011	00
																	PSNGR CAR		01	DRVR	NONE	61	F	OR-Y OR<25		000	000	00
05088	N	N	N				12/01/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										29
NONE							TU		CASCADE HY SOUTH	N		TRF SIGNAL	N	WET	REAR		PRVTE	N -S									000	00
							5P			06	3		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	20	M	OR-Y OR<25		026	000	29
																02	NONE 0	STOP										
																	PRVTE	N -S									011	00
																	PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR<25		000	000	00
00115	N	N	N				01/10/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NO RPT							MO		CASCADE HY SOUTH	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000	00
							5P			06	2		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y OR<25		026	000	07
																02	NONE 0	STOP										

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PRVTE	NE-SW									011	00
																PSNGR CAR		01	DRVR	NONE	21	M	OR-Y OR<25		000	000	00
00158	N	N	N			01/13/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-STRGHT	01	NONE 0	STRGHT											07
NONE						TH		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	NE-SW									000	00
						4A			09	2		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	36	F	OR-Y OR<25		042	000	07
															02	NONE 0	STRGHT										
																PRVTE	NE-SW									000	00
																PSNGR CAR		01	DRVR	NONE	55	F	OR-Y OR>25		000	000	00
00268	N	N	N			01/22/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						SA		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						1P			09	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	48	F	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	47	M	OR-Y OR<25		000	000	00
00504	N	N	N			02/10/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						TH		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						3P			09	2		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	35	M	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	20	M	OR-Y OR<25		000	000	00
00807	N	N	N			03/07/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NO RPT						MO		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						6A			09	3		N	DAWN	PDO		PSNGR CAR		01	DRVR	NONE	45	M	OR-Y OR>25		026	000	07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	53	M	OR-Y OR<25		000	000	00
81746	N	N	N			04/04/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
NONE						MO		CASCADE HY SOUTH	NE		YIELD	N	WET	REAR		PRVTE	SE-NW									000	00
						10A			09	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	19	F	OR-Y OR<25		000	000	00
02297	N	N	N			06/30/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						TH		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						12P			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	30	M	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	48	M	OR-Y OR<25		000	000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	SPEED	ALCOHOL	DRUGS	SCHOOL BUS	WORK ZONE	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
03876	N	N	N			10/15/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						SA		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		UNKN	SE-NW									000		00
						12A			09	3		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y UNK		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	NONE	22	F	OR-Y OR<25		000	000		00
03993	N	N	N			10/25/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	FOG	S-1STOP	01	NONE 0	STRGHT											07
NO RPT						TU		CASCADE HY SOUTH	NE		YIELD	N	WET	REAR		PRVTE	SE-NW									000		00
						6P			09	2		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OTH-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	NONE	64	M	OR-Y OR<25		000	000		00
04755	N	N	N			12/09/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	UNKN 0	STRGHT										013	07
NONE						FR		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		UNKN	SE-NW									000		00
						8A			09	2		N	DAY	PDO		UNKNOWN		01	DRVR	NONE	00	Unk	UNK UNK		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011	013	00
																PSNGR CAR		01	DRVR	NONE	25	F	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	SE-NW									022		00
																PSNGR CAR		01	DRVR	NONE	00	F	UNK UNK		000	000		00
00376	N	N	N	N	N	01/28/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
STATE						SA		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000		00
						7P			09	2		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	45	F	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		01	DRVR	INJC	19	F	OR-Y OR<25		000	000		00
															02	NONE 0	STOP											
																PRVTE	SE-NW									011		00
																PSNGR CAR		02	PSNG	INJC	20	F			000	000		00
00436	N	N	N			02/02/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						TH		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000		00
						4P			09	2		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	85	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																UNKN	SE-NW									011		00
																PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		000	000		00
00485	N	N	N	N	N	02/06/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
CITY						MO		CASCADE HY SOUTH	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW									000		00
						6P			09	3		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	65	M	OTH-Y		043,026	000		07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	R U S	S C L	W O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																							N-RES				
															02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	INJC	26	M	OR-Y OR>25		000	011 000	00 00
00679 NONE	N	N	N			02/22/2012 WE 1P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NE 09	CROSS 2	N YIELD	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 UNKN UNKNOWN	STRGHT SE-NW	01	DRVR	NONE	00	M	UNK UNK		026	07 000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	INJC	23	F	OR-Y OR<25		000	011 000	00 00
															02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	02	PSNG	INJC	28	F			000	011 000	00 00
															02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	03	PSNG	INJC	55	F			000	011 000	00 00
00763 NONE	N	N	N			02/29/2012 WE 7P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NE 09	CROSS 3	N YIELD	N N N	RAIN WET DLIT	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	F	OR-Y OR<25		026	07 000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	INJC	17	F	OR-Y OR<25		000	011 000	00 00
00972 NONE	N	N	N			03/15/2012 TH 6A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NE 09	CROSS 2	N YIELD	N N N	RAIN WET DLIT	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	59	F	OR-Y OR<25		026	07 000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	INJC	56	F	OR-Y OR<25		000	011 000	00 00
01301 NO RPT	N	N	N			04/07/2012 SA 9A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NE 09	CROSS 2	N YIELD	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE MTRCYCLE	STRGHT SE-NW	01	DRVR	INJC	33	M	OR-Y OR<25		026	07 000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	NONE	28	M	OR-Y OR<25		000	011 000	00 00
01649 NONE	N	N	N			05/05/2012 SA 2P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NE 09	CROSS 2	N YIELD	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	35	M	OR-Y OR<25		026	07 000 000	07 00 07
															01	NONE 0 PRVTE	STRGHT SE-NW									000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PSNGR CAR		02	PSNG	NO<5	01	F			000	000	00
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	53	M	OR-Y		000	000	00
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		02	PSNG	INJC	49	F			000	000	00
01694	N	N	N			05/08/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						TU		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						8P			09	3		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	72	M	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	00	M	UNK		000	000	00
																							OR<25				
02190	N	N	N			06/18/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 1	STRGHT											07
NONE						MO		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						12P			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	70	M	OTH-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	43	F	OR-Y		000	000	00
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		02	PSNG	INJC	07	M			000	000	00
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		03	PSNG	INJC	09	F			000	000	00
02429	N	N	N			07/06/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						FR		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						2P			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	61	M	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	54	M	OTH-Y		000	000	00
																							N-RES				
02909	N	N	N			08/07/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						TU		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						3P			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	27	M	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	70	M	OR-Y		000	000	00
																							OR<25				
04569	N	N	N			11/26/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											27,07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D / A U C H / L G / C S	R S W / O / K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
NONE			MO		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
			3P			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	66	F	OR-Y OR<25		016,026	000	27,07
												02	NONE 0	STOP										
													PRVTE	SE-NW									011	00
													PSNGR CAR		01	DRVR	INJB	27	F	OR-Y OR<25		000	000	00
												02	NONE 0	STOP										
													PRVTE	SE-NW									011	00
													PSNGR CAR		02	PSNG	NO<5	02	M			000	000	00
00193	N N N		01/17/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE			TH		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
			10A			09	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK OR<25		026	000	07
												02	NONE 0	STOP										
													PRVTE	SE-NW									011	00
													PSNGR CAR		01	DRVR	NONE	29	F	OR-Y OR<25		000	000	00
00296	N N N		01/25/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	UNK	S-1STOP	01	NONE 0	STRGHT										07
NONE			FR		CASCADE HY SOUTH	NE		YIELD	N	WET	REAR		PRVTE	SE-NW									000	00
			7A			09	3		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y OR<25		026	000	07
												02	NONE 0	STOP										
													PRVTE	SE-NW									011	00
													PSNGR CAR		01	DRVR	INJC	24	F	OR-Y OR<25		000	000	00
												02	NONE 0	STOP										
													PRVTE	SE-NW									011	00
													PSNGR CAR		02	PSNG	NO<5	03	M			000	000	00
03686	N N N		03/27/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE			WE		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
			9A			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y OR<25		026	000	07
												02	NONE 0	STOP										
													PRVTE	SE-NW									011	00
													PSNGR CAR		01	DRVR	INJC	59	M	OR-Y OR<25		000	000	00
01343	N N N		04/10/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE			WE		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
			5P			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y OR<25		026	000	07
												02	NONE 0	STOP										
													PRVTE	SE-NW									011	00
													PSNGR CAR		01	DRVR	INJC	41	F	OR-Y OR<25		000	000	00
01405	N N N N N		04/24/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										27,07
CITY			WE		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
			1P			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	23	F	OR-Y OR<25		016,043,026	000	27,07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	R U S	S G L	W H K	C O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW									011 000	00 00
01782 NONE	N	N	N				05/21/2013 TU 7A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NE 09	CROSS 3	N YIELD	N N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	50	F	OTH-Y OR<25		026	000	07
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	NONE	62	F	OR-Y OR<25		000	011 000	00 00
02276 NONE	N	N	N				06/27/2013 TH 10A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NE 09	CROSS 3	N YIELD	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	M	UNK OR<25		026	000	07
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	INJC	63	F	OR-Y OR<25		000	011 000	00 00
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	02	PSNG	NO<5	01	F			000	011 000	00 00
03212 CITY	N	N	N				08/29/2013 TH 11A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NE 09	CROSS 3	N TRF SIGNAL	N N N	RAIN WET DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	19	M	OR-Y OR<25		026	000	07
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	INJC	24	F	OR-Y OR<25		000	011 000	00 00
03276 CITY	N	N	N	N	N	N	09/01/2013 SU 12P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NE 09	CROSS 3	N YIELD	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	62	M	OR-Y OR<25		043,026	000	07
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	INJC	48	F	OR-Y OR>25		000	011 000	00 00
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	02	PSNG	INJC	49	F			000	011 000	00 00
03531 NONE	N	N	N				09/21/2013 SA 9A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NE 09	CROSS 3	N YIELD	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	M	UNK N-RES		026	000	07
																02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	INJC	44	F	OR-Y		000	011 000	00 00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	R S L	S W C K	O R	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
04072	N	N	N			10/24/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	FOG	S-1STOP	01	NONE 0	STRGHT						OR<25				07
NONE						TH		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		UNKN	SE-NW									000	00
						7A			09	3		N	DLIT	PDO		UNKNOWN		01	DRVR	NONE	00	Unk	UNK		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	69	M	OR-Y		000	000	00
																							OR<25				
00987	N	N	N			03/11/2014	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE						TU		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						6P			09	3		N	DUSK	INJ		PSNGR CAR		01	DRVR	INJB	38	F	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	NONE	36	M	OR-Y		000	000	00
																							OR<25				
00273	N	N	N			01/22/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	FOG	S-1STOP	01	NONE 0	STRGHT										29
NONE						TH		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						6A			09	3		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	21	F	OR-Y		026	000	29
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	25	F	OR-Y		000	000	00
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		02	PSNG	INJC	04	F			000	000	00
02876	N	N	N			07/17/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE						FR		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						7A			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	69	M	OR-Y		026	000	29
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	33	M	OR-Y		000	000	00
																							OR<25				
03849	N	N	N			09/17/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE						TH		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						6P			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	42	M	OR-Y		026	000	29
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SE-NW									011	00
																PSNGR CAR		01	DRVR	INJC	47	F	OR-Y		000	000	00
																							OR<25				
00553	N	N	N			02/12/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE						TH		CASCADE HY SOUTH	NE		YIELD	N	DRY	REAR		PRVTE	SE-NW									000	00
						7P			09	3		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	65	M	OR-Y		026	000	29
																							OR<25				
															02	NONE 0	STOP										
																UNKN	SE-NW									011	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	R U S	S W C L	O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC / TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
																UNKNOWN		01	DRVR	NONE	45	F	OR-Y UNK		000	000	00
01159 NONE	N	N	N			04/02/2015 TH 4P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NE 09	CROSS 3	N YIELD	N N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	F	OR-Y OR>25		026	000 000	29 00 29
															02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	NONE	58	F	OR-Y OR<25		000	011 000	00 00
04182 NONE	N	N	N			09/14/2015 MO 12A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NE 09	CROSS 3	N YIELD	N N N	CLR DRY DLIT	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	F	UNK N-RES		026	000 000	29 00 29
															02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	NONE	27	F	OR-Y OR<25		000	011 000	00 00
05566 NONE	N	N	N			12/22/2015 TU 5A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NE 09	CROSS 3	N YIELD	N N N	UNK WET DARK	S-1STOP REAR PDO	01	NONE 0 UNKN PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	F	UNK UNK		026	000 000	29 00 29
															02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	NONE	42	F	OR-Y OR<25		000	011 000	00 00
00577 CITY	N	N	N	N	N	02/19/2013 TU 0 6A	16	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NE 09	CROSS 3	N YIELD	N N N	RAIN WET DLIT	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	53	M	OR-Y OR<25		043,026	000 000	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP SE-NW	01	DRVR	INJB	57	M	OR-Y OR<25		000	011 000	00 00
01893 CITY	N	N	N			05/30/2013 TH 2P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER E 06	CROSS 3	N TRF SIGNAL	N N N	CLD DRY DAY	ANGL-STP TURN INJ	01	NONE 1 PRVTE SEMI TOW	TURN-R S -E	01	DRVR	NONE	29	M	OR-Y OR<25		017	000 017	22 00
															02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	INJC	48	F	OR-Y OR<25		000	012 000	00 00
00120 NONE	N	N	N			01/09/2014 TH 5P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER E 03	CROSS 3	N TRF SIGNAL	N N N	RAIN WET DUSK	ANGL-OTH TURN PDO	01	NONE 0 PRVTE PSNGR CAR	TURN-R W -S	01	DRVR	NONE	56	F	OR-Y OR<25		028	016 000	02 00 02
															02	NONE 0 PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	NONE	63	M	UNK OR>25		000	000 000	00 00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	R G S	S H L	W C K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01893	N	N	N				04/20/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE							MO		CASCADE HY SOUTH	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00
							3P			06	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	17	F	OR-Y OR<25		026	000		29
																02	NONE 0	STOP											
																	PRVTE	E -W									011		00
																	PSNGR CAR		01	DRVR	INJC	47	F	OR-Y OR<25		000	000		00
04437	N	N	N				10/27/2015	14	S BEAVERCREEK RD	INTER	4-LEG	N	N	CLR	S-STRGHT	01	NONE 0	STRGHT											29
NONE							TU		CASCADE HY SOUTH	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00
							5P			06	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	17	M	OR-Y OR<25		042	000		29
																02	NONE 0	STRGHT											
																	PRVTE	E -W									006		00
																	PSNGR CAR		01	DRVR	NONE	53	F	OR-Y OR<25		000	000		00
00355	Y	N	Y	N	N		01/30/2011	16	S BEAVERCREEK RD	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											16,32
CITY							SU 0		CASCADE HY SOUTH	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00
							3P			06	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	72	F	OR-Y OR<25		053,026,011	025		16,32
																02	NONE 0	STOP											
																	PRVTE	E -W									011		00
																	PSNGR CAR		01	DRVR	INJB	51	F	OR-Y OR<25		000	000		00
																03	NONE 0	STOP											
																	PRVTE	E -W									022		00
																	PSNGR CAR		01	DRVR	NONE	54	M	OR-Y OR<25		000	000		00
01217	N	N	N				04/11/2011	16	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-OTHER	01	NONE 0	STRGHT											07
NONE							MO 0		CASCADE HY SOUTH	E		UNKNOWN	N	DRY	REAR		PRVTE	E -W									000		00
							8P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	47	F	OTH-Y N-RES		042	000		07
																02	NONE 0	STRGHT											
																	PRVTE	E -W									006		00
																	PSNGR CAR		01	DRVR	NONE	56	F	OR-Y OR<25		000	000		00
																02	NONE 0	STRGHT											
																	PRVTE	E -W									006		00
																	PSNGR CAR		02	PSNG	INJC	18	F			000	000		00
01368	Y	N	N	N	N		04/22/2011	16	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	01
STATE							FR 0		CASCADE HY SOUTH	E		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00
							2P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	41	F	OR-Y OR<25		047,026	000		01
																02	NONE 0	STOP											
																	PRVTE	S -N									011	013	00
																	PSNGR CAR		01	DRVR	NONE	17	F	OR-Y OR<25		000	000		00
																03	NONE 0	STOP											
																	PRVTE	S -N									022		00
																	PSNGR CAR		01	DRVR	NONE	22	M	OR-Y		000	000		00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	R S L	W C H	O R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
04115	N	N	N			11/03/2011	16	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT						OR<25				07
NONE						TH	0	CASCADE HY SOUTH	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000	00
						11A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK		026	000	07
																							UNK				
															02	NONE 0	STOP										
																PRVTE	E -W									011	00
																PSNGR CAR		01	DRVR	INJC	25	F	OR-Y		000	000	00
																							OR>25				
00750	N	N	N			02/27/2012	16	S BEAVERCREEK RD	INTER	CROSS	N	N	UNK	S-1STOP	01	NONE 0	STRGHT										07
NONE						MO	0	CASCADE HY SOUTH	E		TRF SIGNAL	N	WET	REAR		PRVTE	E -W									000	00
						2P			06	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	19	M	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	E -W									011	00
																PSNGR CAR		01	DRVR	INJC	33	M	OR-Y		000	000	00
																							OR<25				
05319	N	N	N			12/31/2014	16	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE						WE	0	CASCADE HY SOUTH	E		TRF SIGNAL	N	DRY	REAR		UNKN	UN-UN									000	00
						9P			06	3		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		026	000	29
																							UNK				
															02	NONE 0	STOP										
																PRVTE	UN-UN									011	00
																PSNGR CAR		01	DRVR	INJC	16	F	OR-Y		000	000	00
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	UN-UN									011	00
																PSNGR CAR		02	PSNG	INJC	18	F			000	000	00
03287	N	N	N			08/13/2015	16	S BEAVERCREEK RD	INTER	CROSS	N	N	UNK	S-1STOP	01	NONE 0	STRGHT										29
NO RPT						TH	0	CASCADE HY SOUTH	E		TRF SIGNAL	N	UNK	REAR		UNKN	E -W									000	00
						3P			06	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y		026	000	29
																							UNK				
															02	NONE 0	STOP										
																PRVTE	E -W									011	00
																PSNGR CAR		01	DRVR	NONE	65	F	OR-Y		000	000	00
																							OR<25				
00353	N	N	N			01/25/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										07
NONE						WE		CASCADE HY SOUTH	SE		YIELD	N	WET	REAR		PRVTE	SW-NE									000	00
						7P			09	2		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	18	M	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SW-NE									011	00
																PSNGR CAR		01	DRVR	INJC	50	F	OR-Y		000	000	00
																							OR<25				
02025	N	N	N			06/03/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	UNK	S-1STOP	01	NONE 0	STRGHT										07
NONE						SU		CASCADE HY SOUTH	SE		YIELD	N	UNK	REAR		PRVTE	SW-NE									000	00
						5P			09	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	SW-NE									011	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	46	M	OR-Y OR<25		000	000		00
03609 NO RPT	N	N	N			09/29/2012 SA 8A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER SE 09	CROSS 3	N YIELD	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	38	M	OR-Y OR<25		026	000		07
															02	NONE 0 PRVTE PSNGR CAR	STOP SW-NE	01	DRVR	INJC	24	M	OR-Y OR<25		000	011 000		00 00 00
															02	NONE 0 PRVTE PSNGR CAR	STOP SW-NE	02	PSNG	INJC	24	F			000	011 000		00 00
00303 NONE	N	N	N			01/25/2013 FR 11A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER SE 09	CROSS 3	N YIELD	N N	CLD DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	00	M	OR-Y OR<25		026	000	004	07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP SW-NE	01	DRVR	NONE	73	M	OR-Y OR<25		000	011 004 000		00 00
01066 NONE	N	N	N			03/29/2013 FR 5P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER SE 09	CROSS 3	N YIELD	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	53	M	OR-Y OR<25		026	000		07
															02	NONE 0 PRVTE PSNGR CAR	STOP SW-NE	01	DRVR	INJC	32	F	OR-Y OR<25		000	011 000		00 00
03374 NONE	N	N	N			09/11/2013 WE 8A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER SE 09	CROSS 3	N YIELD	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	32	F	OR-Y OR<25		026	000		07
															02	NONE 0 PRVTE PSNGR CAR	STOP SW-NE	01	DRVR	INJC	74	M	OR-Y OR<25		000	011 000		00 00
04298 NONE	N	N	N			11/05/2013 TU 5P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER SE 09	CROSS 3	N YIELD	N N	RAIN WET DLIT	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	22	F	OR-Y OR<25		026	000		07
															02	NONE 0 PRVTE PSNGR CAR	STOP SW-NE	01	DRVR	NONE	59	F	OR-Y OR<25		000	011 000		00 00
00483 CITY	N	N	N			02/06/2014 TH 10P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER SE 09	CROSS 3	N YIELD	N N	SNOW SNO DLIT	S-STRGHT REAR PDO	01	NONE 0 UNKN PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	00	M	UNK UNK		042	000	124 124	07 00 07
															02	NONE 0	STRGHT										

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																PRVTE	SW-NE									006	00
																PSNGR CAR		01	DRVR	NONE	18	M	OR-Y OR<25		000	000	00
01591	N	N	N			04/26/2014	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						SA		CASCADE HY SOUTH	SE		YIELD	N	DRY	REAR		PRVTE	SW-NE									000	00
						4P			09	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	28	M	OR-Y OR<25		026	000	29
															02	NONE 0	STOP										
																PRVTE	SW-NE									011	00
																PSNGR CAR		01	DRVR	NONE	69	M	OR-Y OR<25		000	000	00
00664	N	N	N			02/20/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						FR		CASCADE HY SOUTH	SE		YIELD	N	DRY	REAR		PRVTE	SW-NE									000	00
						3P			09	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	46	M	OR-Y OR<25		026	000	29
															02	NONE 0	STOP										
																PRVTE	SW-NE									011	00
																PSNGR CAR		01	DRVR	NONE	17	F	OR-Y OR<25		000	000	00
00930	N	N	N			03/15/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											29
NONE						SU		CASCADE HY SOUTH	SE		YIELD	N	WET	REAR		PRVTE	SW-NE									000	00
						10A			09	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	20	M	OR-Y OR<25		026	000	29
															02	NONE 0	STOP										
																PRVTE	SW-NE									011	00
																PSNGR CAR		01	DRVR	NONE	00	M	UNK OR<25		000	000	00
05136	N	N	N			12/03/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											29
NONE						TH		CASCADE HY SOUTH	SE		YIELD	N	WET	REAR		PRVTE	SW-NE									000	00
						5P			09	3		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	41	M	OR-Y OR<25		026	000	29
															02	NONE 0	STOP										
																PRVTE	SW-NE									011	00
																PSNGR CAR		01	DRVR	NONE	56	F	OR-Y OR<25		000	000	00
00146	N	N	N			01/12/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											07
CITY						WE		CASCADE HY SOUTH	S		TRF SIGNAL	N	WET	REAR		PRVTE	S -N									000	00
						4P			06	2		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	22	F	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	INJC	24	F	OR-Y OR<25		000	000	00
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		02	PSNG	INJC	24	F			000	000	00
00864	N	N	N			03/11/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						FR		CASCADE HY SOUTH	S		L-GRN-SIG	N	DRY	REAR		PRVTE	S -N									000	00
						1P			06	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	24	M	OR-Y OR<25		026	000	07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	U G S	C H L	O R K	W S	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	INJB	51	M	OR-Y OR<25		000	012 000	00 00
01684 NONE	N	N	N				05/16/2011 MO 8A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER S 06	CROSS 0	N TRF SIGNAL	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	INJC	24	F	OR-Y OR<25		026	000 000	07 00 07
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	NONE	39	M	OR-Y OR>25		000	011 000	00 00
03992 NONE	N	N	N				10/25/2011 TU 10A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER S 06	CROSS 2	N TRF SIGNAL	N N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	57	M	OR-Y OR<25		026	000 000	07 00 07
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	NONE	32	F	OR-Y OR<25		000	011 000	00 00
04652 NONE	N	N	N	N	N		12/03/2011 SA 9A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER S 06	CROSS 2	N TRF SIGNAL	N N N	FOG DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	45	M	OR-Y OR<25		016,026	000 000	27,07 00 27,07
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	INJC	73	M	OR-Y OR<25		000	011 000	00 00
00069 STATE	N	N	N	N	N		01/06/2012 FR 2P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER S 06	CROSS 3	N TRF SIGNAL	N N N	RAIN WET DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	16	F	OR-Y OR<25		043,026	004 000 000	07 00 07
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	INJC	55	F	OR-Y OR<25		000	011 004 000	00 00
02327 UNK	N	N	N	N	N		06/29/2012 FR 7A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER S 06	CROSS 2	N TRF SIGNAL	N N N	CLD DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	53	M	OR-Y OR<25		026,016	000 038	07,27 00 07,27
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	INJC	44	F	OR-Y OR<25		000	011 000	00 00
03411 NONE	N	N	N				09/13/2013 FR 11A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER S 06	CROSS 3	N TRF SIGNAL	N N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	63	F	OR-Y OR<25		026	000 000	07 00 07
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	NONE	00	M	UNK		000	011 000	00 00

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	SPEC	ALC	DRUGS	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
03520	N	N	N			09/20/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT						UNK				07
NONE						FR		CASCADE HY SOUTH	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
						6A			06	3		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	37	M	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	INJC	29	M	OR-Y OR<25		000	000	00
03630	N	N	N			09/27/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						FR		CASCADE HY SOUTH	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
						5A			06	3		N	DAWN	PDO		PSNGR CAR		01	DRVR	NONE	34	F	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	NONE	49	F	OR-Y OR<25		000	000	00
00463	Y	N	N	N	N	02/05/2014	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07,01
COUNTY						WE		CASCADE HY SOUTH	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
						5A			06	3		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	19	M	OTH-Y N-RES		026,047	000	07,01
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	INJC	44	F	OR-Y OR<25		000	000	00
00709	N	N	N			02/17/2014	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
NONE						MO		CASCADE HY SOUTH	S		TRF SIGNAL	N	WET	REAR		UNKN	S -N									000	00
						5A			06	3		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		026	000	07
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	INJC	55	M	OR-Y OR<25		000	000	00
01295	N	N	N			04/03/2014	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						TH		CASCADE HY SOUTH	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
						9A			06	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	20	F	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																UNKN	S -N									011	00
																PSNGR CAR		01	DRVR	NONE	00	M	UNK UNK		000	000	00
02651	N	N	N			06/26/2014	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NO RPT						TH		CASCADE HY SOUTH	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
						2P			06	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	UNK OR<25		026	000	29
															02	NONE 0	STOP										
																PRVTE	S -N									011	00
																PSNGR CAR		01	DRVR	NONE	22	M	OR-Y OR<25		000	000	00
02801	N	N	N			07/21/2014	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D / A L C	R S W U G H K	C O DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ / SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
NONE			MO		CASCADE HY SOUTH	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
			11A			06	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y		026	000	29
																					OR<25				
												02	NONE 0	STOP										
													PRVTE	S -N									011	00
													PSNGR CAR		01	DRVR	INJC	20	F	OR-Y		000	000	00
																					OR<25				
04596	N N	N	11/04/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE			WE		CASCADE HY SOUTH	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000	00
			5P			06	3		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	76	M	OR-Y		026	000	29
																					OR>25				
												02	NONE 0	STOP										
													PRVTE	S -N									011	00
													PSNGR CAR		01	DRVR	INJC	81	M	OR-Y		000	000	00
																					OR<25				
												02	NONE 0	STOP										
													PRVTE	S -N									011	00
													PSNGR CAR		02	PSNG	INJC	60	F			000	000	00
04973	N N	N	11/23/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										29
NONE			MO		CASCADE HY SOUTH	S		TRF SIGNAL	N	WET	REAR		UNKN	S -N									000	00
			6P			06	3		N	DUSK	PDO		UNKNOWN		01	DRVR	NONE	00	Unk	UNK		026	000	29
																					UNK				
												02	NONE 0	STOP										
													PRVTE	S -N									011	00
													PSNGR CAR		01	DRVR	NONE	72	M	OR-Y		000	000	00
																					OR<25				
01378	N N	N	01/12/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										07
NONE			WE		CASCADE HY SOUTH	W		TRF SIGNAL	N	WET	REAR		PRVTE	W -E									000	00
			12P			06	2		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	23	F	OR-Y		026	000	07
																					OR<25				
												02	NONE 0	STOP										
													PRVTE	W -E									011	00
													PSNGR CAR		01	DRVR	NONE	54	M	OR-Y		000	000	00
																					OR<25				
03959	N N	N	10/07/2014	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE			TU		CASCADE HY SOUTH	W		TRF SIGNAL	N	DRY	REAR		PRVTE	W -E									000	00
			7A			06	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	18	M	OR-Y		026	026	29
																					OR<25				
												02	NONE 0	STOP										
													PRVTE	W -E									011	00
													PSNGR CAR		01	DRVR	NONE	28	M	OR-Y		000	000	00
																					OR<25				
04748	N N	N	11/12/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										29
NONE			TH		CASCADE HY SOUTH	W		TRF SIGNAL	N	WET	REAR		PRVTE	W -E									000	00
			1P			06	3		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	20	F	OR-Y		026	000	29
																					OR<25				
												01	NONE 0	STRGHT										
													PRVTE	W -E									000	00
													PSNGR CAR		02	PSNG	INJC	18	F			000	000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	R G S	S H L	W C O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
															02	NONE 0	STOP										
																PRVTE	W -E									011	00
																PSNGR CAR		01	DRVR	NONE	17	M	OR-Y OR<25		000	000	00
05677	N	N	N			12/29/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											29
NONE						TU		CASCADE HY SOUTH	W		TRF SIGNAL	N	WET	REAR		PRVTE	W -E									000	00
						5P			06	3		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	80	M	OR-Y OR<25		026	000	29
															02	NONE 0	STOP										
																PRVTE	W -E									011	00
																PSNGR CAR		01	DRVR	INJC	27	M	OR-Y OR<25		000	000	00
04873	N	N	N			12/19/2011	16	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						MO	0	CASCADE HY SOUTH	W		TRF SIGNAL	N	DRY	REAR		PRVTE	W -E									000	00
						2P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	W -E									011	00
																PSNGR CAR		01	DRVR	NONE	30	F	OR-Y OR<25		000	000	00
02778	N	N	N			07/29/2012	16	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						SU	0	CASCADE HY SOUTH	W		L-TURN REF	N	DRY	REAR		PRVTE	W -E									000	00
						10A			06	2		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	37	F	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	W -E									012	00
																PSNGR CAR		01	DRVR	NONE	51	F	OR-Y OR<25		000	000	00
02536	N	N	N			07/15/2013	16	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						MO	0	CASCADE HY SOUTH	W		TRF SIGNAL	N	DRY	REAR		PRVTE	W -E									000	00
						6P			06	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	44	M	OR-Y OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	W -E									011	00
																PSNGR CAR		01	DRVR	NONE	60	F	OR-Y OR<25		000	000	00
04147	N	N	N			10/29/2013	16	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						TU	0	CASCADE HY SOUTH	W		TRF SIGNAL	N	DRY	REAR		PRVTE	W -E									000	00
						3P			06	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	20	F	OR-Y OR>25		026	000	07
															02	NONE 0	STOP										
																PRVTE	W -E									011	00
																PSNGR CAR		01	DRVR	INJC	34	F	OR-Y OR<25		000	000	00
00273	N	N	N	N	N	01/01/2014	16	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
CITY						WE	0	CASCADE HY SOUTH	W		TRF SIGNAL	N	DRY	REAR		PRVTE	W -E									000	00
						9A			06	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	65	F	SUSP OR<25		026	000	07
															02	NONE 0	STOP										
																PRVTE	W -E									011	00
																PSNGR CAR		01	DRVR	INJC	21	F	OR-Y		000	000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	R S L	S W C H	O R K	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
00762	N	N	N			03/02/2015	16	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT						OR<25				29
NONE						MO	0	CASCADE HY SOUTH	W		TRF SIGNAL	N	DRY	REAR		PRVTE	W -E									000	00
						2P			06	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	65	M	OR-Y		026	000	29
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	W -E									011	00
																PSNGR CAR		01	DRVR	INJC	54	F	OR-Y		000	000	00
																							OR<25				
04147	N	N	N			10/08/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE						TH	0	CASCADE HY SOUTH	W		TRF SIGNAL	N	DRY	REAR		PRVTE	W -E									000	00
						10A			06	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000	29
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	W -E									011	00
																PSNGR CAR		01	DRVR	NONE	59	F	OR-Y		000	000	00
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	W -E									011	00
																PSNGR CAR		02	PSNG	NO<5	03	F			000	000	00
04684	N	N	N			11/08/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										29
NONE						SU	0	CASCADE HY SOUTH	W		TRF SIGNAL	N	WET	REAR		PRVTE	W -E									000	00
						5P			06	3		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y		026	000	29
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	W -E									011	00
																PSNGR CAR		01	DRVR	NONE	64	M	OR-Y		000	000	00
																							OR<25				
01141	N	N	N			04/04/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										07
NONE						MO		CASCADE HY SOUTH	NW		YIELD	N	WET	REAR		PRVTE	NE-SW									000	00
						11A			09	2		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	OR-Y		026	000	07
																							UNK				
															02	NONE 0	STOP										
																PRVTE	NE-SW									011	00
																PSNGR CAR		01	DRVR	NONE	44	M	OR-Y		000	000	00
																							OR<25				
04735	N	N	N			12/08/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										07
NONE						TH		CASCADE HY SOUTH	NW		YIELD	N	DRY	REAR		PRVTE	NE-SW									000	00
						1P			09	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	70	M	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	NE-SW									011	00
																PSNGR CAR		01	DRVR	NONE	64	F	OR-Y		000	000	00
																							OR<25				
03846	N	N	N			10/15/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT										07
NONE						MO		CASCADE HY SOUTH	NW		YIELD	N	WET	REAR		PRVTE	NE-SW									000	00
						5P			09	3		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	46	M	OR-Y		026	000	07
																							OR<25				
															02	NONE 0	STOP										
																PRVTE	NE-SW									011	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	R U S	S C L	W O R K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																PSNGR CAR		01	DRVR	NONE	00	F	OR-Y OR<25		000	000		00
04066	N	N	N			10/29/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						MO		CASCADE HY SOUTH	NW		YIELD	N	DRY	REAR		PRVTE	NE-SW									000		00
						12P			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	24	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		01	DRVR	INJC	52	F	OR-Y OR<25		000	000		00
04076	N	N	N			10/29/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						MO		CASCADE HY SOUTH	NW		YIELD	N	DRY	REAR		PRVTE	NE-SW									000		00
						4P			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	50	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		01	DRVR	INJB	46	M	OR-Y OR<25		000	000		00
04216	Y	N	N			11/08/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	Y	CLD	FIX OBJ	01	NONE 0	STRGHT										055	01
CITY						TH		CASCADE HY SOUTH	NW		YIELD	N	DRY	FIX		PRVTE	NE-SW									000	055	00
						2P			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	51	F	OR-Y OR<25		047,081	000		01
02430	N	N	N			07/07/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						SU		CASCADE HY SOUTH	NW		YIELD	N	DRY	REAR		PRVTE	NE-SW									000		00
						12P			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	F	UNK OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		01	DRVR	INJC	36	M	OR-Y OR<25		000	000		00
03349	N	N	N	N	N	09/10/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
CITY						TU		CASCADE HY SOUTH	NW		YIELD	N	DRY	REAR		PRVTE	NE-SW									000		00
						1P			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	60	F	OR-Y OR<25		043,026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		01	DRVR	INJC	30	F	OR-Y OR<25		000	000		00
04790	N	N	N			12/12/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						TH		CASCADE HY SOUTH	NW		YIELD	N	DRY	REAR		PRVTE	NE-SW									000		00
						2P			09	3		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	54	M	OR-Y OR<25		026	000		07
															02	NONE 0	STOP											
																PRVTE	NE-SW									011		00
																PSNGR CAR		01	DRVR	INJC	56	F	OR-Y OR<25		000	000		00
00348	N	N	N			01/26/2014	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						SU		CASCADE HY SOUTH	NW		YIELD	N	DRY	REAR		PRVTE	NE-SW									000		00
						4P			09	3		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	UNK OR<25		026	000		07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	SPEED	ALCHL	DRUGS	WORK ZONE	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
														02	NONE 0 PRVTE	STOP NE-SW									011	00
															PSNGR CAR		01	DRVR	NONE	18	F	OR-Y OR<25		000	000	00
00768 NONE	N	N	N		02/21/2014 FR 7A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NW 09	CROSS 3	N YIELD	N N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	61	M	OR-Y OR<25		026	000 000	07 00 07
														02	NONE 0 PRVTE	STOP NE-SW									011	00
															PSNGR CAR		01	DRVR	NONE	49	F	OR-Y OR<25		000	000	00
01784 NONE	N	N	N		05/09/2014 FR 10A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NW 09	CROSS 3	N YIELD	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	23	F	OR-Y OR<25		026	000 000	07 00 07
														02	NONE 0 PRVTE	STOP NE-SW									011	00
															PSNGR CAR		01	DRVR	INJC	41	M	OR-Y OR<25		000	000	00
02955 NONE	N	N	N		08/01/2014 FR 9P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NW 09	CROSS 3	N YIELD	N N N	CLR DRY DLIT	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	29	F	OR-Y OR<25		026	000 000	29 00 29
														02	NONE 0 PRVTE	STOP NE-SW									011	00
															PSNGR CAR		01	DRVR	INJC	34	M	OR-Y OR<25		000	000	00
														02	NONE 0 PRVTE	STOP NE-SW									011	00
															PSNGR CAR		02	PSNG	INJC	36	F			000	000	00
04683 NO RPT	N	N	N		11/18/2014 TU 5P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NW 09	CROSS 3	N YIELD	N N N	CLR DRY DLIT	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	50	M	OR-Y OR<25		026	000 000	29 00 29
														02	NONE 0 PRVTE	STOP NE-SW									011	00
															PSNGR CAR		01	DRVR	INJB	35	M	OR-Y OR<25		000	000	00
04227 NO RPT	N	N	N		10/13/2015 TU 7P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NW 09	CROSS 3	N YIELD	N N N	CLR DRY DLIT	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	37	M	OR-Y OR<25		026	000 000	29 00 29
														02	NONE 0 PRVTE	STOP NE-SW									011	00
															PSNGR CAR		01	DRVR	INJB	77	F	OR-Y OR<25		000	000	00
01216 NONE	N	N	N		04/06/2015 MO 3P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NW 09	CROSS 3	N YIELD	N N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	57	F	OR-Y		026	000 000	29 00 29

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	SPEED	ALCHL	DRUGS	SCHL BUS	WORK ZONE	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES OR<25	PED LOC	ERROR	ACT EVENT	CAUSE
															02	NONE 0 PRVTE	STOP NE-SW									011	00
																PSNGR CAR		01	DRVR	NONE	60	F	OR-Y OR<25		000	000	00
04738 NO RPT	N	N	N			11/09/2015 MO 6P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER NW 09	CROSS 3	N YIELD	N N N	RAIN WET DUSK	S-1STOP REAR PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	00	M	OR-Y OR<25		026	000 000	29 00 29
															02	NONE 0 PRVTE	STOP NE-SW									011	00
																PSNGR CAR		01	DRVR	NONE	59	F	OR-Y OR<25		000	000	00
00286 STATE	N	N	N	N	N	01/23/2011 SU 6A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER CN 02	CROSS 2	N TRF SIGNAL	N N N	CLD WET DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L SW-NW	01	DRVR	NONE	65	F	OR-Y OR<25		028,003	000 000	02,04 00 02,04
															02	NONE 0 PRVTE	STRGHT NE-SW									000	00
																PSNGR CAR		01	DRVR	NONE	21	M	OR-Y OR<25		000	000	00
															02	NONE 0 PRVTE	STRGHT NE-SW									000	00
																PSNGR CAR		02	PSNG	INJC	27	F			000	000	00
00804 NONE	N	N	N			03/07/2011 MO 10A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER CN 04	CROSS 2	N TRF SIGNAL	N N N	CLR DRY DAY	ANGL-OTH ANGL PDO	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	00	F	UNK OR<25		020	000 000	04 00 04
															02	NONE 0 PRVTE	STRGHT W -E									000	00
																PSNGR CAR		01	DRVR	NONE	67	M	OR-Y OR<25		000	000	00
00825 CITY	N	Y	N			03/09/2011 WE 9P	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER CN 01	CROSS 2	N TRF SIGNAL	N N N	RAIN WET DLIT	O-OTHER TURN INJ	01	NONE 0 PRVTE PSNGR CAR	TURN-L N -E	01	DRVR	INJC	46	M	OR-Y OR<25		001	000 000	08 00 08
															02	NONE 0 PRVTE	TURN-L S -W									000	00
																PSNGR CAR		01	DRVR	NONE	21	M	OR-Y OR<25		000	000	00
															02	NONE 0 PRVTE	TURN-L S -W									000	00
																PSNGR CAR		02	PSNG	INJC	21	M			000	000	00
03843 STATE	N	Y	N	N	N	09/18/2011 SU 1A	14	S BEAVERCREEK RD CASCADE HY SOUTH	INTER CN 03	CROSS 2	N TRF SIGNAL	N N N	RAIN WET DLIT	ANGL-OTH ANGL FAT	01	NONE 0 PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	INJC	58	M	OR-Y OR<25		000	000 000	04 00 00
															02	NONE 0 PRVTE	STRGHT W -E									000	00

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	R U S	S G L	W C H K	O R	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																	PSNGR CAR		01	DRVR	KILL	29	F	OR-Y OR<25		020	000	04
																02	NONE 0 PRVTE	STRGHT W -E									000	00
																	PSNGR CAR		02	PSNG	INJB	26	M			000	000	00
04463	N	N	N				11/22/2011	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 1	STRGHT										04
NONE							TU		CASCADE HY SOUTH	CN		TRF SIGNAL	N	WET	ANGL		PRVTE	S -N									000	00
							10A			02	0		N	DAY	PDO		SEMI TOW		01	DRVR	NONE	44	M	OR-Y OR<25		097	000	00
																02	NONE 0 PRVTE	STRGHT E -W									000	00
																	PSNGR CAR		01	DRVR	NONE	77	F	OR-Y OR<25		097	000	00
00857	N	N	N	N	N	N	03/06/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT										04
CITY							TU		CASCADE HY SOUTH	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
							9P			02	2		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	27	M	OR-Y OR<25		020	000	04
																02	NONE 0 PRVTE	TURN-L N -E									000	00
																	PSNGR CAR		01	DRVR	INJC	45	M	OR-Y OR<25		000	000	00
																02	NONE 0 PRVTE	TURN-L N -E									000	00
																	PSNGR CAR		02	PSNG	INJA	39	F			000	000	00
02536	N	N	N	N	N	N	07/13/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02,14
STATE							FR		CASCADE HY SOUTH	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	W -E									000	00
							7P			03	2		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	28	M	OR-Y OR<25		028,024	000	02,14
																02	POLCE 0 PUBLC	STRGHT N -S									000	00
																	PSNGR CAR		01	DRVR	NONE	45	M	OR-Y OR<25		000	000	00
03642	N	N	N				10/01/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										04
NO RPT							MO		CASCADE HY SOUTH	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -S									000	00
							6A			01	3		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	19	F	OR-Y OR<25		020	000	04
																02	NONE 0 PRVTE	TURN-L S -W									000	00
																	PSNGR CAR		01	DRVR	NONE	28	F	OR-Y OR<25		000	000	00
																02	NONE 0 PRVTE	TURN-L S -W									000	00
																	PSNGR CAR		02	PSNG	NO<5	01	M			000	000	00
																02	NONE 0 PRVTE	TURN-L S -W									000	00
																	PSNGR CAR		03	PSNG	INJC	03	F			000	000	00
04829	N	N	N				12/13/2012	14	S BEAVERCREEK RD	INTER	CROSS	N	N	UNK	S-1STOP	01	NONE 0	STRGHT										07

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CITY OF OREGON CITY, CLACKAMAS COUNTY

CASCADE HY SOUTH at S BEAVERCREEK RD, City of Oregon City, Clackamas County, 01/01/2011 to 12/31/2015

Total crash records: 143

SER# / INVEST	S P E D	A L C	R S L	S W O H K	DATE / DAY / TIME	CLASS / DIST / FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
NONE					TH		CASCADE HY SOUTH	CN		TRF SIGNAL	N	UNK	REAR		PRVTE	W -E									000	00
					7A			03	3		N	DAWN	PDO		PSNGR CAR		01	DRVR	NONE	35	M	OR-Y OR<25		026	000	07
														02	NONE 0	STOP										
															PRVTE	W -E									011	00
															PSNGR CAR		01	DRVR	NONE	00	F	UNK OR<25		000	000	00
00083	N	N	N		01/08/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	TURN-L											07
NONE					TU		CASCADE HY SOUTH	CN		TRF SIGNAL	N	WET	REAR		PRVTE	W -N									000	00
					7A			02	3		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	35	F	OR-Y OR<25		026	000	07
														02	NONE 0	STOP										
															PRVTE	W -N									013	00
															PSNGR CAR		01	DRVR	NONE	38	M	OR-Y OR<25		000	000	00
03336	N	N	N	N N	09/09/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											04
CITY					MO		CASCADE HY SOUTH	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
					11P			04	3		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	29	M	OR-Y OR<25		000	000	00
														01	NONE 0	STRGHT										
															PRVTE	S -N									000	00
															PSNGR CAR		02	PSNG	INJB	21	F			000	000	00
														02	NONE 0	TURN-L										
															PRVTE	N -E									000	00
															PSNGR CAR		01	DRVR	NONE	42	F	OR-Y OR<25		003	000	04
05036	N	N	N		12/26/2013	14	S BEAVERCREEK RD	INTER	CROSS	N	N	UNK	ANGL-OTH	01	NONE 0	STRGHT											04
NONE					TH		CASCADE HY SOUTH	CN		TRF SIGNAL	N	WET	ANGL		PRVTE	S -N									000	00
					7A			02	3		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	30	M	OR-Y OR<25		020	000	04
														02	NONE 0	STRGHT										
															PRVTE	E -W									000	00
															PSNGR CAR		01	DRVR	NONE	57	F	OR-Y OR<25		000	000	00
00292	N	N	N		01/23/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	S-OTHER	01	NONE 0	TURN-L											08
NO RPT					FR		CASCADE HY SOUTH	CN		L-GRN-SIG	N	DRY	TURN		PRVTE	W -N									000	00
					11P			02	3		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	28	F	OR-Y OR<25		007	000	08
														02	NONE 0	TURN-L										
															PRVTE	W -N									000	00
															PSNGR CAR		01	DRVR	INJC	20	M	OR-Y OR<25		000	000	00
04783	N	N	N		11/13/2015	14	S BEAVERCREEK RD	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
NO RPT					FR		CASCADE HY SOUTH	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	SE-NW									000	00
					11P			01	3		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	16	F	OR-Y OR<25		000	000	00
														02	NONE 0	TURN-L										
															UNKN	NW-NE									000	00
															UNKNOWN		01	DRVR	NONE	00	Unk	UNK UNK		028,004	000	02

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Left-Turn Lane Warrant Analysis

Project: 17038 - Park Place Annexation
Intersection: 14th Street at Main Street
Date: 7/19/2017
Scenario: Existing Conditions - AM Peak Hour (NWB)

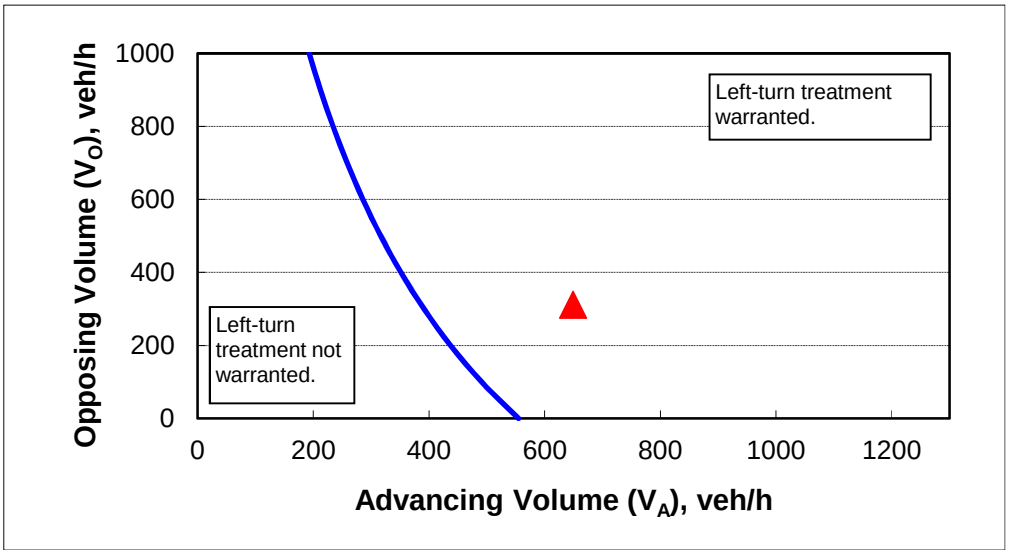
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	20
Number of left-turns in advancing volume (V_A), veh/h:	117
Advancing volume (V_A), veh/h:	649
Opposing volume (V_O), veh/h:	311

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	387
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 17038 - Park Place Annexation
Intersection: 14th Street at Main Street
Date: 7/19/2017
Scenario: Existing Conditions - PM Peak Hour (NWB)

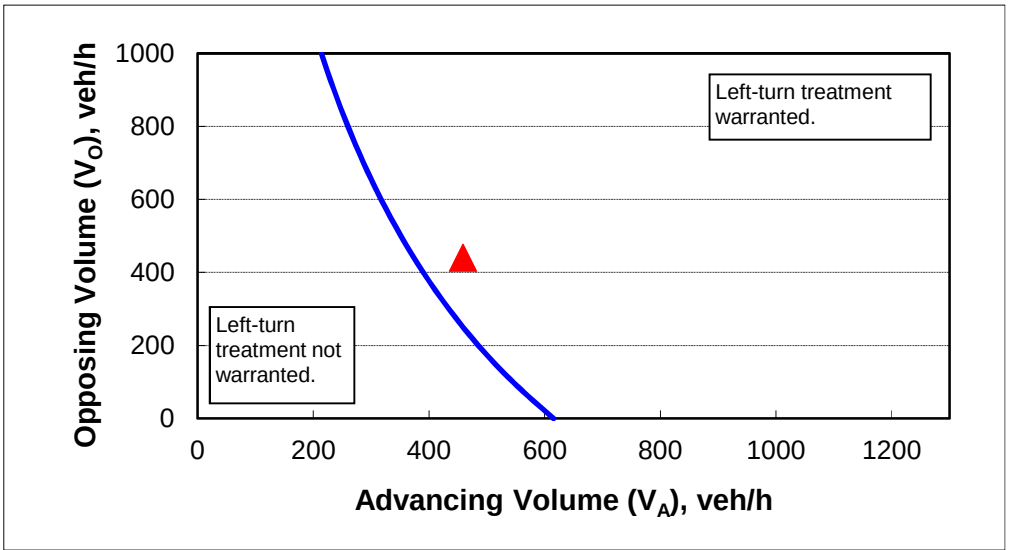
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	20
Number of left-turns in advancing volume (V_A), veh/h:	64
Advancing volume (V_A), veh/h:	459
Opposing volume (V_O), veh/h:	440

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	374
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 17038 - Park Place Annexation
Intersection: Holly Lane at S Holcomb Boulevard
Date: 7/19/2017
Scenario: 2035 Planning Horizon w/ Annexation - AM Peak Hour (WB)

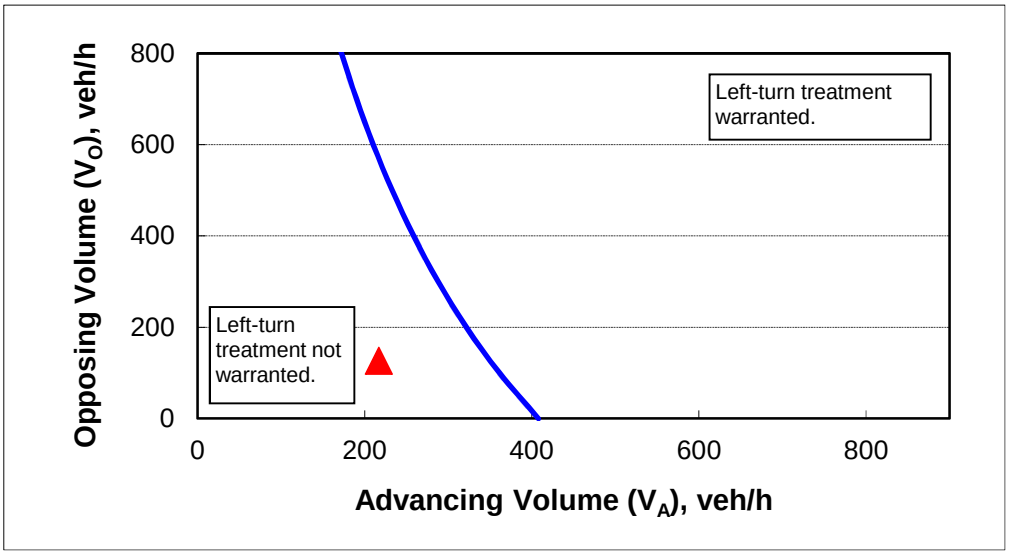
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	40
Number of left-turns in advancing volume (V_A), veh/h:	52
Advancing volume (V_A), veh/h:	217
Opposing volume (V_O), veh/h:	126

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	350
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 17038 - Park Place Annexation
Intersection: Holly Lane at S Holcomb Boulevard
Date: 7/19/2017
Scenario: 2035 Planning Horizon w/ Annexation - PM Peak Hour (WB)

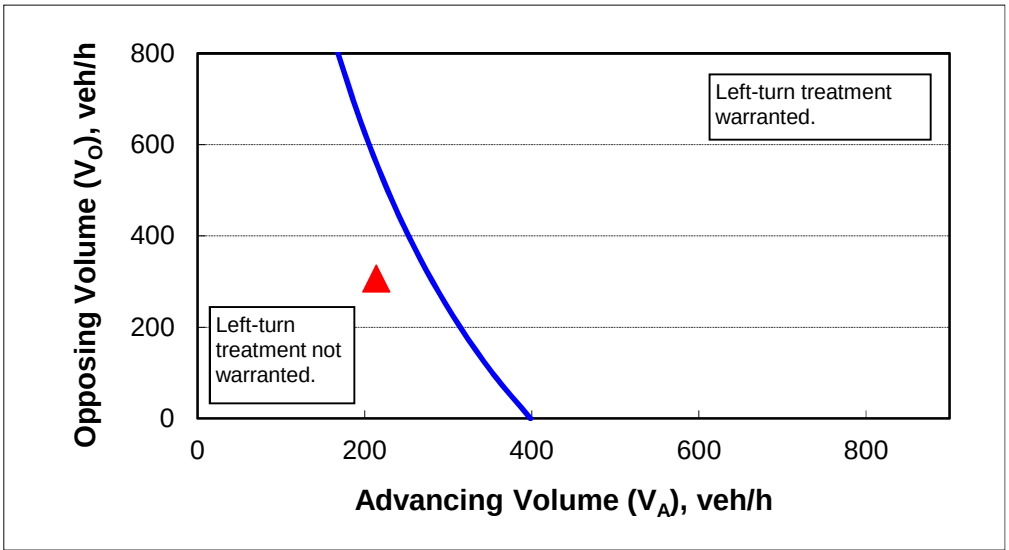
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	40
Number of left-turns in advancing volume (V_A), veh/h:	55
Advancing volume (V_A), veh/h:	214
Opposing volume (V_O), veh/h:	306

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	279
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 17038 - Park Place Annexation
Intersection: Holly Lane at S Redland Road
Date: 7/19/2017
Scenario: 2035 Planning Horizon w/ Annexation - AM Peak Hour (EB)

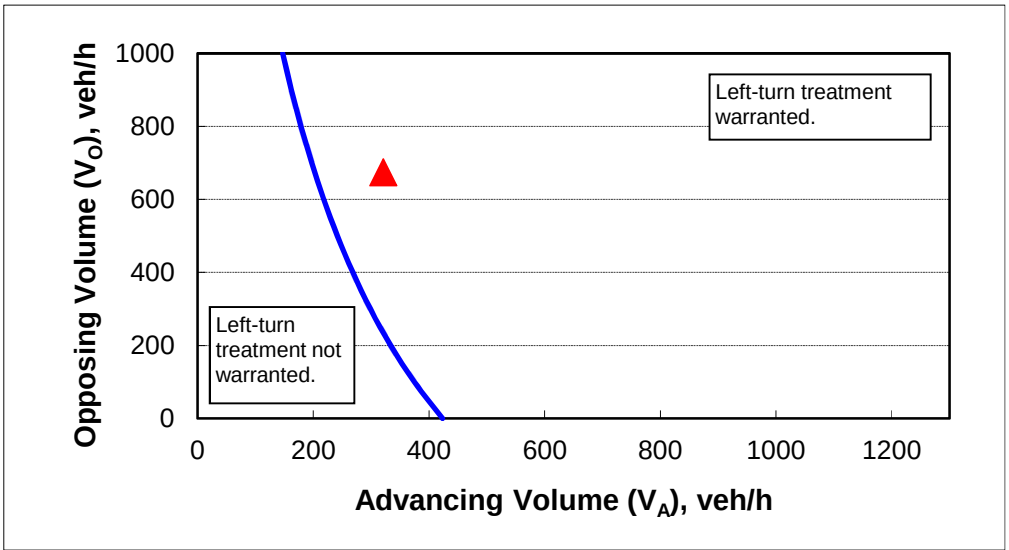
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	45
Number of left-turns in advancing volume (V_A), veh/h:	58
Advancing volume (V_A), veh/h:	321
Opposing volume (V_O), veh/h:	674

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	203
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 17038 - Park Place Annexation
Intersection: Holly Lane at S Redland Road
Date: 7/19/2017
Scenario: 2035 Planning Horizon w/ Annexation - PM Peak Hour (EB)

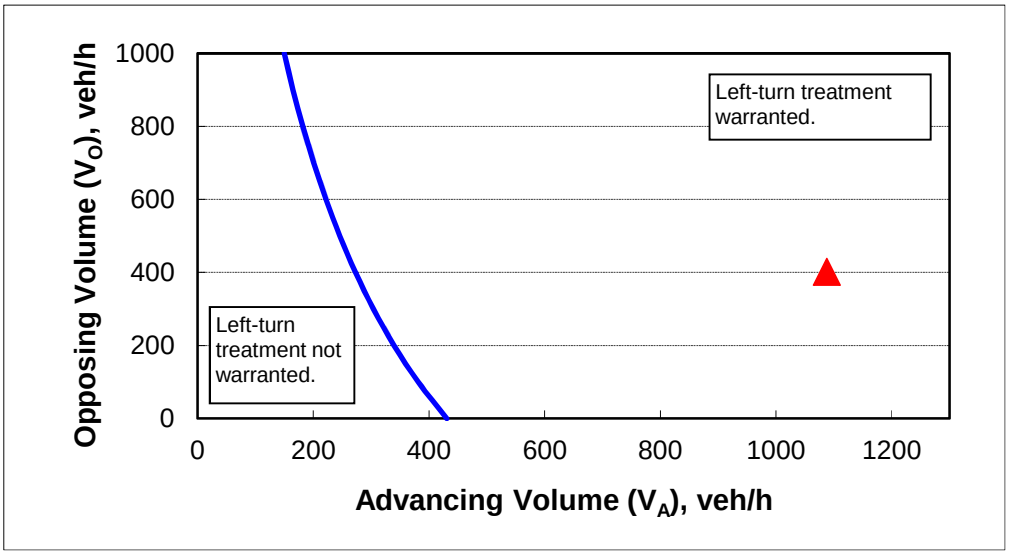
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	45
Number of left-turns in advancing volume (V_A), veh/h:	188
Advancing volume (V_A), veh/h:	1088
Opposing volume (V_O), veh/h:	401

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	273
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 17038 - Park Place Annexation
Intersection: Holly Lane at S Redland Road
Date: 7/19/2017
Scenario: Existing Conditions - AM Peak Hour (WB)

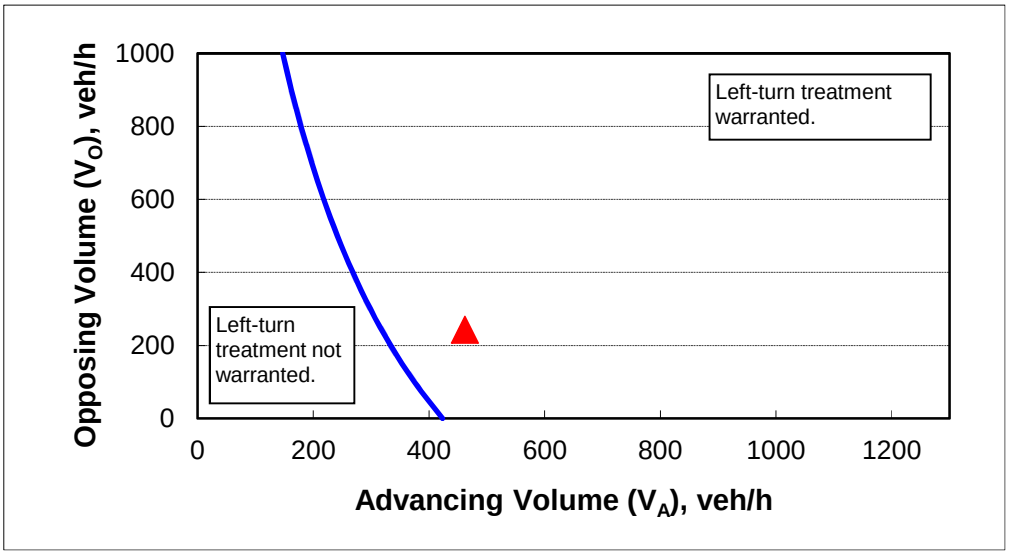
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	45
Number of left-turns in advancing volume (V_A), veh/h:	58
Advancing volume (V_A), veh/h:	462
Opposing volume (V_O), veh/h:	243

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	203
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 17038 - Park Place Annexation
Intersection: Holly Lane at S Redland Road
Date: 7/19/2017
Scenario: 2035 Planning Horizon w/o Annexation - PM Peak Hour (WB)

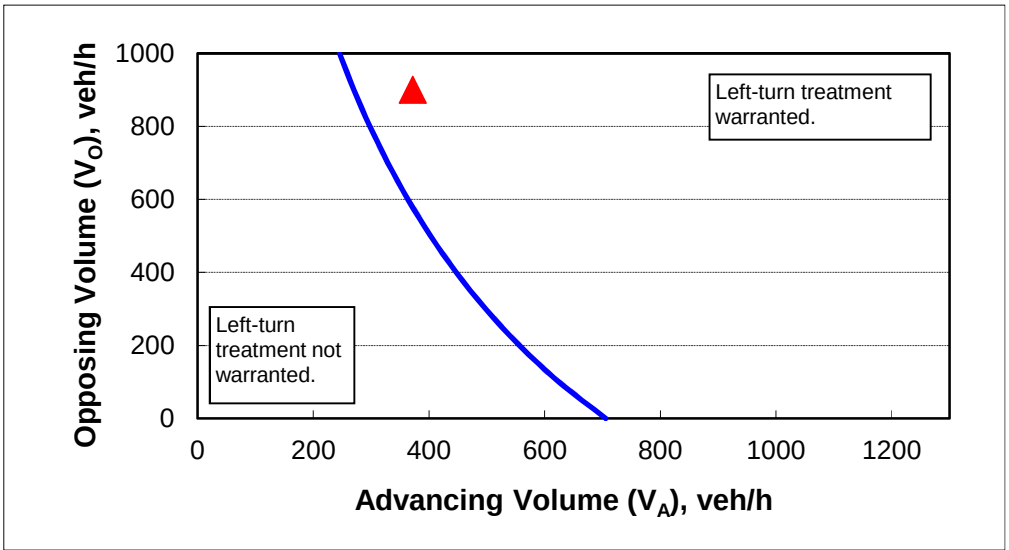
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	45
Number of left-turns in advancing volume (V_A), veh/h:	21
Advancing volume (V_A), veh/h:	372
Opposing volume (V_O), veh/h:	900

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	270
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Traffic Signal Warrant Analysis

Project: 17038 - Park Place Annexation
Date: 7/19/2017
Scenario: Year 2035 Planning Horizon plus Annexation

Major Street:	OR-99E	Minor Street:	15th Street
Number of Lanes:	2	Number of Lanes:	1
PM Peak Hour Volumes:	4854	PM Peak Hour Volumes:	0

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	48,540	10,600	
Minor Street*	0	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	48,540	15,900	
Minor Street*	0	1,350	**No**
Combination Warrant			
Major Street	48,540	12,720	
Minor Street*	0	2,120	**No**

* Minor street right-turning traffic volumes reduced by 85% of the right-turn capacity.

Traffic Signal Warrant Analysis

Project: 17038 - Park Place Annexation
Date: 7/19/2017
Scenario: Year 2035 Planning Horizon plus Annexation

Major Street:	14th Street	Minor Street:	Main Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	1289	PM Peak Hour Volumes:	211

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	12,890	8,850	
Minor Street*	2,110	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	12,890	13,300	
Minor Street*	2,110	1,350	**No**
Combination Warrant			
Major Street	12,890	10,640	
Minor Street*	2,110	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

Traffic Signal Warrant Analysis

Project: 17038 - Park Place Annexation
Date: 7/19/2017
Scenario: Year 2035 Planning Horizon plus Annexation

Major Street:	S Holcomb Boulevard	Minor Street:	Holly Lane
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	520	PM Peak Hour Volumes:	112

Warrant Used:

X 100 percent of standard warrants used

_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	5,200	8,850	
Minor Street*	1,120	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	5,200	13,300	
Minor Street*	1,120	1,350	**No**
Combination Warrant			
Major Street	5,200	10,640	
Minor Street*	1,120	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%

Traffic Signal Warrant Analysis

Project: 17038 - Park Place Annexation
Date: 7/19/2017
Scenario: Year 2035 Planning Horizon plus Annexation

Major Street:	S Redland Road	Minor Street:	Holly Lane
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	1489	PM Peak Hour Volumes:	182

Warrant Used:

_____ 100 percent of standard warrants used
X 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	14,890	6,200	
Minor Street*	1,820	1,850	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	14,890	9,300	
Minor Street*	1,820	950	**Yes**
Combination Warrant			
Major Street	14,890	7,440	
Minor Street*	1,820	1,480	**Yes**

* Minor street right-turning traffic volumes reduced by 25%

OREGON CITY

Community Development Department

221 Molalla Ave. Suite 200 | Oregon City OR 97045
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PRE-APPLICATION MEETING NOTES
Date: November 29, 2016
Notes Prepared: November 30, 2016.

Pre-App Number:	**PA 16-57**
Addresses:	AN-16-0005
	Multiple
	16472 Livesay Road & 15110 Holcomb Boulevard & others
Map Number(s):	2-2E-27B, 2-2E-28D
Tax Lot(s):	1000 and 2000 of 2-2E-27B, 100, 190, 300, 301, 302, 303, 400, 500, 502, 3700 & 3701 of 2-2E-28D
Addresses:	AN-16-0004
Address:	NO SITUS ADDRESSES
Clackamas Map Number(s):	2-2E-28A -00580, 2-2E-28A -00590, 2-2E-21D -02190, 2-2E-21D -02100, 2-2E-21D -02200, 2-2E-28A -00500
Project Name:	Park Place Annexation Zone Changes
Meeting Date:	November 29, 2016
Reviewer:	Pete Walter, AICP, Associate Planner

Parties present

City Staff	P. Walter, AICP, Planner
	W. Marshall, PE, Public Works
	A. Froman-Goodrich, PE, City Engineer
	C. Richter, City Attorney
	J. Replinger, PE, Transportation Consultant
Applicants	Rick Givens, Consultant
	Mark Handris, ICON
	Darren Gusdorf, ICON
	Dan Serres, Owner
	Mike Robinson, Attorney
ODOT	Avi Tayar, PE, Development Review Team Leader
	Seth Brumley, Planner
OC School District	Wes Rogers, Director of Operations

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PA-16-57: These notes are intended to update the Pre-application Conference Notes for two annexations which are under review and which are being revised to include formal requests for zone change.

One of the proposed zone changes is for the annexation of approximately 92 acres in the Park Place Concept Plan area (AN-16-0005) which is south of Holcomb Blvd. Prior pre-app number PA 16-40.

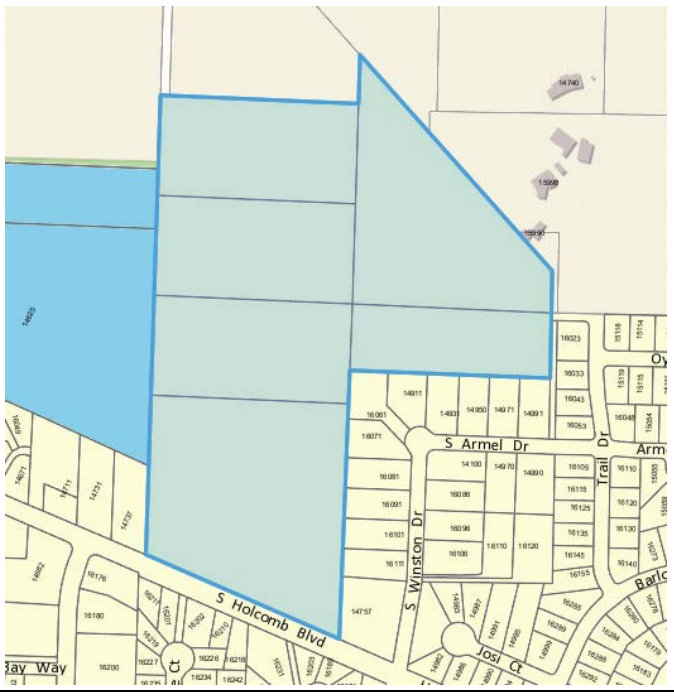
The other zone change is for the annexation of approximately 35 acres that is north of Holcomb Blvd (AN-16-0004). This area is not within the PPCP area. Prior pre-app number PA 16-20.

Please note that AN-16-0004 is under review by the Planning Commission which has continued the public hearing to January 9, 2017. The City Commission hearing will be continued to February 1st, 2017.

Please note that AN-16-0005 has been deemed incomplete as of the date of the pre-application conference and the applicant also needs to address the items listed in the City's determination of incompleteness for AN-16-0005.

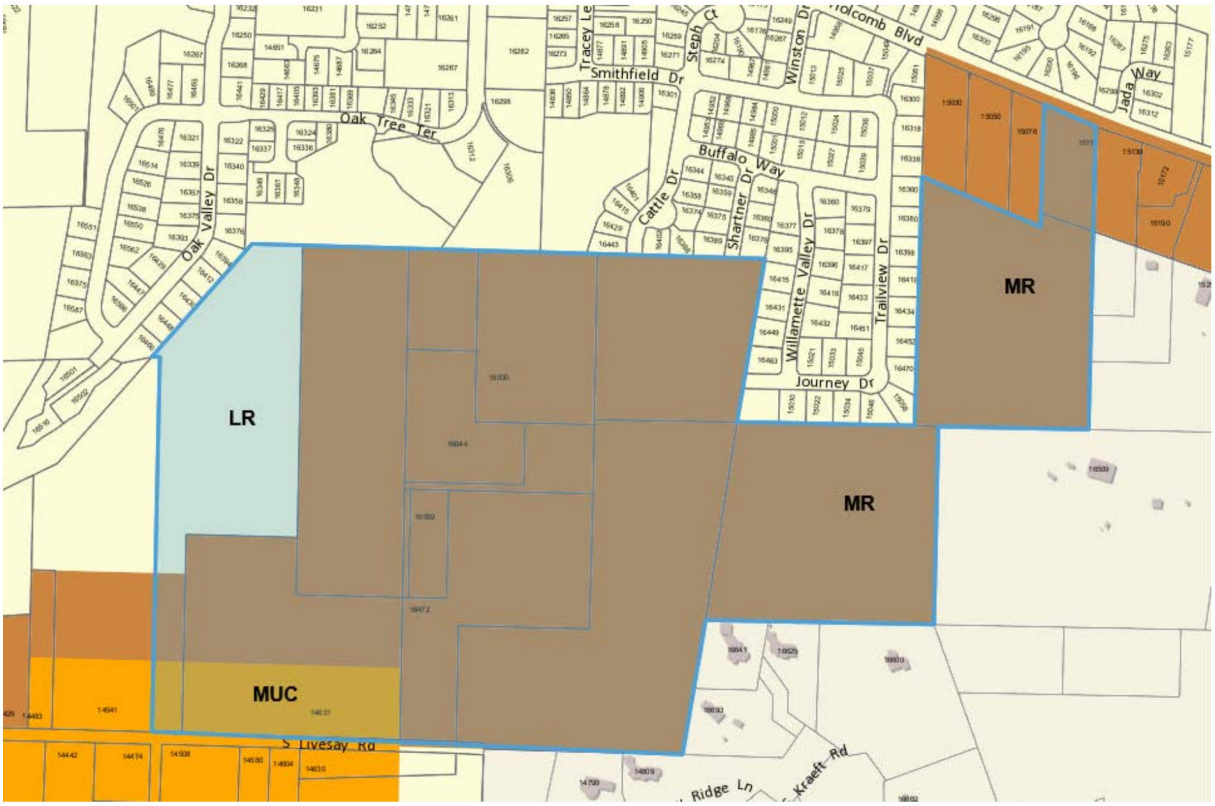
Comprehensive Plan Designations

The Comprehensive Plan designations for the subject properties are shown below.
AN-16-0004 –all Low Density Residential



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AN-16-0005 – has three Comp. Plan Designations: LR, MR and MUC



Approval Criteria to Address in Narrative:

The items required to be submitted for annexation were covered in the prior two pre-application conferences and are not repeated here. The following items are required in order to supplement the submitted annexation materials and to address the zone change.

1. Zone Change

Staff understands that the applicant is proposing to revise the annexation applications to include a separate zone change. The submitted pre-application materials do not specify the specific zone district(s) that the applicant intends to apply for, however staff anticipates that the Serres Farm application AN-16-0004 will be for a change from the County FU-10 zone to the City R-10 Single-Family Zone.

The application for the zone change should address the following code sections.

- *OCMC 17.06.030 - Zoning of annexed areas.*

Applicant should address section (A) which provides that a public hearing be held by both the planning commission and city commission in accordance with the procedures outlined in Chapter 17.68 (except for the provisions of Section 17.68.025) for those instances in which more than one zoning designation carries out a city plan classification.

Table 17.06.030

CITY LAND USE CLASSIFICATIONS	
Residential Plan Classification	*City Zone*
Low-Density Residential	*R-10, R-8, R-6*
Medium-Density Residential	*R-3.5, R-5*
High-Density Residential	*R-2*
Commercial Plan Classification	*City Zone*
General Commercial	*C*
Mixed-Use Downtown	*MUD, WFDD*
Mixed-Use Corridor	*MUC I, MUC 2, NC, HC*
Mixed-Use Employment	*MUE*
Industrial Plan Classification	*City Zone*
Industrial	*CI, GI*

In those cases where only a single city zoning designation corresponds to the comprehensive plan designation and thus the rezoning decision does not require the exercise of legal or policy judgment on the part of the community development director, Chapter 17.68 shall control. The decision in these cases shall be a ministerial decision of the community development director made without notice or any opportunity for a hearing.

A. A public hearing shall be held by both the planning commission and city commission in accordance with the procedures outlined in Chapter 17.68 (except for the provisions of Section 17.68.025) for those instances in which more than one zoning designation carries out a city plan classification.

- *OCMC 17.68 - Zoning Changes and Amendments*
- *OCMC 17.68.025 - Zoning changes for land annexed into the city.*

A. Notwithstanding any other section of this chapter, when property is annexed into the city from the city/county dual interest area with any of the following comprehensive plan designations, the property shall be rezoned upon annexation to the corresponding city zoning designation as follows:

Plan Designation	*Zone*
Low-Density Residential	*R-10*
Medium-Density Residential	*R-5*
High-Density Residential	*R-2*
General Commercial	*C*
Industrial	*CI-Campus Industrial*
Mixed-Use Downtown	*MUD*
Mixed-Use Employment	*MUE*
Mixed-Use Commercial	*- NC*
Future Urban	*FU-10*

- *OCMC 17.50 Administration and Procedures*

  With respect to compliance with other titles of the code, the applicant should address *OCMC 17.50.230 – Interpretation* and how the proposed rezoning will address the separate requirements of *OCMC chapter 12.04.205 – Mobility Standards*.

17.68.020 - Criteria.
The criteria for a zone change are set forth as follows:
A. The proposal shall be consistent with the goals and policies of the comprehensive plan.

- Address the Park Place Concept Plan – See Item 2 below.
- Address the following goals and policies of the Oregon City Comprehensive Plan.
  - Goal 1: Citizen Involvement
    - Goal 1.1 - Policy 1.1.1, Goal 1.4 - Policy 1.4.1
  - Goal 2: Land Use
    - Goal 2.1 – Policy 2.1.3
    - Goal 2.4 – Policy 2.4.1, 2.4.2, 2.4.3, 2.4.4
    - Goal 2.5 – Policy 2.5.1, 2.5.2, 2.5.3, 2.5.4, 2.5.5 (applies along Livesay Road, design standards implemented by OCMC 17.21)
    - Goal 2.7 – Policy 2.7.2
  - Goal 5: Open Spaces, Scenic and Historic Areas, and Natural Resources
    - Goal 5.1 – Policies 5.1.1, 5.1.2

- Goal 5.2 – Policy 5.2.1, 5.2.2
- Goal 5.3 – Policy 5.3.3, 5.3.8
- Goal 5.4 – Policy 5.4.1, 5.4.5, 5.4.9, 5.4.12, 5.4.13, 5.4.16, 5.4.18

- Goal 6: Quality of Air, Water, and Land Resources
  - Goal 6.1- Policy 6.1.1
  - Goal 6.2 – Policy 6.2.1, 6.2.2
  - Goal 6.3 – Policy 6.3.2
  - Goal 6.4 – Policy 6.4.1
- Goal 7: Natural Hazards
  - Goal 7.1 – Policy 7.1.1, 7.1.8, 7.1.9, 7.1.11
- Goal 8: Parks and Recreation
  - Goal 8.1 – Policy 8.1.1, 8.1.5, 8.1.6, 8.1.9, 8.1.12, 8.1.14
- Goal 10: Housing
  - Goal 10.1 – Policy 10.1.1, 10.1.3, 10.1.4, 10.1.7
  - Goal 10.2 – Policy 10.2.2
- Goal 11: Public Facilities
  - Goal 11.1 – Policy 11.1.1, 11.1.2, 11.1.3, 11.1.5, 11.1.6
  - Goal 11.2 – Policy 11.2.4
  - Goal 11.3 – Policy 11.3.3
  - Goal 11.4 – Policy 11.4.1, 11.4.2, 11.4.4, 11.4.5
- Goal 12: Transportation
  - See also Transportation System Plan Goals and Policies
  - Goal 12.1 – Policy 12.1.1, 12.1.2, 12.1.3, 12.1.4
  - Goal 12.3 – Policy 12.3.1, 12.3.2, 12.3.3, 12.3.4, 12.3.5, 12.3.6, 12.3.9
  - Goal 12.6 – Policy 12.6.1, 12.6.2, 12.6.3, 12.6.4
- Goal 13 – Energy
  - Goal 13.1 – Policy 13.1.2
  - Goal 13.2 – Policy 13.2.1, 13.2.2, 13.2.3
- Goal 14 – Urbanization
  - This should already have been covered in the Annexation narrative, but the applicant should cross reference or repeat those sections here.

B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed by the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.

- The applicant should address the existing and proposed public facilities and services to serve the proposed zoning.

C. The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.

- The applicant should address the existing and proposed transportation facilities to serve the proposed zoning.

D. Statewide planning goals shall be addressed if the comprehensive plan does not contain specific policies or provisions which control the amendment.

Comments:

- Consider and address provisions relating to zone changes upon annexation set forth in OCMC 17.06.030 and 17.68.025, and the zone change criteria of OCMC 17.68.020.
- An application for zone change will at some point need to show compliance with the Transportation Planning Rule by the time it becomes effective. The applicant should address this in responding to OCMC 12.04.205.
- Address in more detail the off-site improvements that are required in order to serve and develop the properties and their surroundings in the long term.
- Address water system concerns related to fire flow pressure issues discussed by Clackamas River Water at pre-application conference (PA-16-0040)
- Address timing of water system improvements associated with development of Nielson property (TP-16-0001).

2. Park Place Concept Plan (PPCP) Goals and Policies (AN-16-0005)

The proposed zone change for AN-16-0005 should address the following:

- Address Vision, Goals and Policies
- Specifically address how the Zone Change is consistent with the North Village concept
- Specifically address how this Zone Change is consistent with the conceptual transportation network in the PPCP.
- Address how the Zone Change will implement the Core Values and Concept Plan Elements.

3. Transportation

- Traffic Impact Analysis is required. John Replinger reviewed the pre-applications PA-16-20 and 16-40 and had the following comments;

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Community Development Department

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For the proposed annexation (PA 16-40), it appears the following actions will be necessary to fully develop the property:

- Annexation process
- Rezoning of the parcels from their existing (County) zoning to city zoning consistent with the Comprehensive Plan
- Transportation analyses for 1) a specific development as required by city code and 2) showing compliance with the Transportation Planning Rule (TPR)

For annexation alone – without a zone change – neither a transportation impact analysis nor an analysis of compliance with the TPR will be required.

For most land use actions involving a specific development proposal, such as creation of a subdivision, a transportation impact analysis consistent with Oregon City's *Guidelines for Transportation Impact Analysis* will be required. For development to occur at the densities specified in the Comprehensive Plan, the parcels will need to be changed from county to city zoning. To support this zone change, an analysis indicating compliance with the TPR will be required in addition to the required transportation impact analysis consistent with Oregon City's *Guidelines for Transportation Impact Analysis*. The argument in support of the zone change should include information about consistency between the planned land use and the development assumptions in Oregon City's *Transportation System Plan* (TSP). Showing that the planned development was accounted for in the development assumptions of the TSP is important, but is not likely to be considered sufficient to demonstrate compliance with the TPR.

One particular issue that must be addressed in any zone change is the impact on the intersections specified in OCMC 12.04.205(D) [I-205 / OR 99E Interchange; I-205 / OR 213 Interchange; and OR 213 / Beavercreek Road intersection.] Under OCMC 12.04.205, these three specified locations are exempted from the TSP mobility standards, but only for development that is permitted, either conditionally, outright, or through detailed development master plan approval.

The applicant should also address 12.04.205(D)(2) which states:

> Development which does not comply with the mobility standards for the intersections identified in [Section] 12.04.205.D shall provide for the improvements identified in the Transportation System Plan (TSP) in an effort to improve intersection mobility as necessary to offset the impact caused by development. Where required by other provisions of the Code, the applicant shall provide a traffic impact study that includes an assessment of the development's impact on the intersections identified in this exemption and shall construct the intersection improvements listed in the TSP or required by the Code.

4. Fees (will apply to each zone change proposed)

2016 Planning Fee Schedule

Zone Change / Text Amendment	$2,764
Mailing Labels	$15

2017 Planning Fee Schedule

Zone Change / Text Amendment	$2,798
Mailing Labels	$15

5. Neighborhood Association Meeting Required

Per OCMC 17.50.055 - Neighborhood association meeting. Documentation of the meeting with the Park Place Neighborhood Association is required for a complete application. See http://www.orcity.org/community/park-place-neighborhood-association for contact and meeting information.

Code Responses and Narrative

Staff can provide you with previous annexation Staff Reports and electronic versions of the applicable plans, policies and approval criteria above to assist in the preparation of your application.

Checklists and Application Forms

Land Use Application Form (682 KB)
Planning Fee Schedule (482 KB)

17.50.050 - Preapplication conference.

A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.

B. A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the city will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

PARK PLACE NEIGHBOORHOOD ASSOCIATION

SIGN IN SHEET

DATE: 06-07-2016 Special

NAME	ADDRESS	PHONE	E-MAIL
TROY LAVOIE	15114 OYER	503 744 0007	TroyLAVoie@Gmail.com
Torey Lamm	16285 Barlow	808-499-5491	torey.lamm@live.com
Danyelle Lamm	16285 Barlow	808-499-9182	danyelle.lamm@live.com
Bill + Marcy Erickson	15740 Harley Ave	503 656 6566	—
Jerry + Molly BAUCK	14456 Ames St	503-722-9354	mollybauck@q.com
Shlo & Jennifer Rotstein	16415 Willamette Valley Dr	503-539-2413	jdrite@gmail.com
John Andoosan	16179 Widmer Ct		
Nick Dieckmann	16273 Barlow Dr		
Gary + Marti Mooij	16551 OAK TREE Tr	503 305 8010	MartiL97223@gMail.com
FRANK DURKEE	15817 PASTURE WAY	5038163098	durkee4@gmail.com
KATHY HAYDON	14991 ARMEL DR	503 722 7083	
Steve + Lorna Miller	15875 Altona Lane	(503)387-5544	dvonemiller@gmail.com
Jamie VanDomelen	15831 Stables Pl	503-710-5564	Vandomelen6966@comcast.net
DARREN GUSDORF	1742 19th St. W.L.	503-657-0466	
GARY MARTIN	15893 Altona Ln	503 881 4156	Martingl@comcast.net
JOHN & ARMIJO	16081 WINSTON DR	5036569990	-

PARK PLACE NEIGHBOORHOOD ASSOCIATION

SIGN IN SHEET

DATE: 06-07-2016

NAME	ADDRESS	PHONE	E-MAIL
LISA NOVAK	14234 HOLCOMB BLVD	847-340-4422	novak0929@gmail.com
Mary DeWall	16466 Oak Valley Dr	503-723-9054	
John Bacevich	16359 Wayne Dr.	503-709-2859	JBacevich@comcast.net
MIKE MARCHIONE	16061 WINSTON DR	503-413-0503	MMKE@COMCAST.NET
Shaileen Reed	16025 Hunter Ave	503 998-9323	
Josh Surenik	16432 Willamette Valley Dr.	9715067586	joshrok@yahoo.com
Mike & Jan Grady	15021 Journey Dr	503-557-2993	myg1976@msn.com
Russ & Sue Romas	16071 Apperson Blvd.	503-235-5754	russellromas@msn.com
Greg & Marie Teela	15033 Journey Dr	503-756-6969	GregTeela@Comcast.net
Bob Tershel	~~5933~~ 14024 Livesay	503-244-3077	bobtershel@comcast.net
Shirley & Bill Hall	16633 Trail Dr	503-655-0839	(OR P.O. BOX 190 Beaverton 97004 (mail
Starla Neuhart Hoeye	16340 Oak Valley Dr	503/722-2391	carol.hoeye@iamwho.com
Nancy Ide	16333 Oaktree Ter	5037586363	nancyide@hotmail.com
Michelle & Kirk Tolstrup			
Michelle Riddle	15990 Ames St.	503 [illegible]	michelleriddle2@comcast.net

PARK PLACE NEIGHBOORHOOD ASSOCIATION

SIGN IN SHEET

DATE: 6-7-16

NAME	ADDRESS	PHONE	E-MAIL
Lori Larson	14911 SARMEL DR		uncledaddy2@msn.com
DAVID LARSON	14911 S Armel Dr		uncledaddy2@msn.com
Amy Willhite	GLNA		
Don Slach	16163 Winn Ct		
Della Riggs	16251 Swan Ave.		dellariggs2@outlook.com
Darrel Valemount	14986 Issi CT		
Mary Ann Valemount	"		
Bill & Sue Rother	14950 S. Armel Dr		
Mike + Susan Ziolko	16091 S. Winston Dr		sziolk@comcast.net
Bob & Connie Warren	16106 Winston Dr		conwar49@comcast.net
Steve & Linda Van Haverbeke	PO Box 2526		
Pete Walter	Oregon City Planning		
Tim Charriere	15998 So. Amber Creek Lane		
MARK HANDRIS	1980 Willamette Falls Dr WEST LINN		MARK@ICONCONSTRUCTION.NET
Paulette Merrill	16390 S Hiram Ave		pam66@comcast.net
Bryant Fraley	15798 Cherokee Court		bgfraley@gmail.com
Mark & Victoria Wechter	13727 N Holcomb Blvd.		Victoriawechter@hotmail.com
Ann Jensen	14666 S Holcomb Blvd	503-656-3744	

Oregon City Public Schools

Learning to be our Best

P.O. Box 2110 (1417 12TH St.), Oregon City, Oregon 97045-5010
Wesley Rogers, Director of Operations • Telephone: (503) 785-8426 • FAX: (503) 657-2492

March 13, 2017

Planning Commission
City of Oregon City
625 Center Street
Oregon City, OR 97045

Re: File AN-16-0004, ZC-16-0001

Members of the Planning Commission,

The Oregon City School District was contacted via e-mail by Pete Walter, AICP, Planner to respond to testimony and exhbits presented at the February 27, 2017 Planning Commission meeting concerning File AN-16-0004/ZC-16-0001, annexation of 35.65 acres north of Holcomb Boulevard. I believe the Planning Commission has requested the District formally respond to "perceived capacity of Holcomb Eelementary and schools in Park Place." Pete included in his e-mail 3 attachments as follows: a letter dated February 24, 2017 from Rick Givens to myself (Attachment A); a copy of the Holcomb Elementary webpage that includes enrollment info (Attachment B); and a copy of the District's 2012 Enrollment Forecast (Title page Attachment C). Let me respond.

We have recently completed our annual enrollment forecast update by the Center for Population Research at Portland State University. The above mentioned 2012 Enrollment Forecast has now been updated with the 2017 Enrollment Forecast. However the 2017 Enrollment Forecast does not include either Park Place/Holcomb annexation request presently before the City of Oregon City.I have listed current enrollment/capacity information for Holcomb Elementary:

Current March 10, 2017 Enrollment	498
Current Total Capacity (2016 study)	564
2021-22 Forecasted Enrollment (2017 Study)	483
2026-27 Forecasted Enrollment (2017 Study)	534

As shown without consideration of the annexation requests, Holcomb Elementary will not exceed capacity in the next 10 years.

As to the impact of the 35.65 acre annexation request File AN-16-0004/ZC-16-0001, the grade level district-wide average ratio information contained in Attachment A Givens letter was reviewed by our demographer and found to be accurate for forecasting purposes. The district has adequate secondary school enrollment capacity to accomodate the forecasted middle and high school students generated by this annexation. However, in 2026-27, assuming 35 new elementary students, Holcomb Elementary would be slightly above capacity at 569. For impact of current developments on Holcomb Elementary I can share that the school has yet to enroll any students from the almost completed Sunnybrook Ridge development to the west of the school. This is why annual

With high expectations for all, we engage all students in meaningful learning activities that prepare them for a successful life.

updates to our enrollment forecasts are so important so as to reflect current trends.

As to the larger 92 acre Park Place/Holcomb annexation mentioned by Mr. Givens but is not a direct part of this file, the District has always known that as the Park Place Concept Plan was significantly developed, additional elementary and middle school capacity would have to constructed. Currently the elementary school of attendance for this area would be Redland Elementary.

Forecasted enrollment growth is not new to the District and the Oregon City School Board and administration have been studying facility needs for the past several years. Although well maintained, District facilities do not support current educational practice and all District facilities are in need of serious renovation or replacement and in some cases minor expansion. Preliminary plans to ask for a school construction bond have not been finalized but the current draft scenario shows that the District (with voter support) would have additional middle school capacity within 5 years and additional elementary school capacity within 5-10 years. In the meantime the District has several other tools to help with over capacities by installing semi-permanent buildings and/or redrawing attendance boundaries.

Sincerely,

Wes Rogers
Director of Operations
Oregon City School District
PO Box 2110
Oregon City, OR 97045
503-785-8426

OREGON CITY

Police Department

320 Warner Milne Road | PO Box 3040 | Oregon City OR 97045
Ph (503) 657-4964 | Fax (503) 655-0530| Non Emergency Police Dispatch: (503) 655-8211

January 31, 2018

The Oregon City Police Department appreciates the opportunity to comment on the Park Place Annexation. OCPD already provides police services within and adjacent to the area.

When land within the Park Place Annexation area is annexed to Oregon City, the properties will be removed from the jurisdiction of the Clackamas County Enhanced Law Enforcement District and served by the Oregon City Police Department.

Currently our officer force is 47 and our reserve officer force is 3, providing a ratio of 1.31 officers/per 1000 population.

OCPD does not anticipate any problems being able to patrol and serve this area with police officers as development occurs. We anticipate that as urbanization occurs, our response times will remain within acceptable industry standards.

OCPD already works closely with the Planning Division to review new development applications to assure continued public safety.

Sincerely,

Jim Band, Chief
Oregon City Police Department

City of Oregon City
Planning Commission meeting of February 12th, 2018

RE: AN 17-0004 Annexation 92 Acres
ZC 17-0005 Zone Change

2018 FEB -2 PM 1:36
RECEIVED

Testimony of: Christine Kosinski, Unincorporated Clackamas County

I remain concerned over the City's plan to consider annexation of 92 acres, South of Holcomb Blvd and North of S. Livesay Road in the Park Place area due to unstable slopes, poor soil conditions, a plethora of landslides existing on slopes of as little as 5%, the homeowners inability to understand they are living in a landslide risk area where landslide insurance will be extremely difficult to obtain. Lastly, weak City regulations over steep slopes and landslides.

I have been an active participant in the Park Place Concept Plan from the beginning. I attended the PAC meetings, the Urban-Rural Reserve meetings, City and County meetings and so many others. I've personally testified to the City on numerous occasions, trying my best to represent the many concerns of the people of Holly Lane where many homeowners have lived here more than 50-60 years and had hoped to remain in their homes on Holly Lane to live out the rest of their lives. Their concerns are well known to you, through hundreds of testimonies from myself and from the people who live here. They remain highly concerned about the safety and livability for the people of Holly Lane. As the city has developed, these people have endured several years of heavy and speeding traffic, the area is noisy with traffic where the people find it difficult to have the peace and serenity in their lives that they once had here, after all, this is why they moved here.

As I have testified in the past, the land is unstable here, filled with many landslides and sink holes. Homes have been destroyed or heavily damaged on Holly Lane due to landslides, placing heavy financial burdens on some.

Please understand, the landslides on Holly Lane occurred on **Only 11% Slope!** . Several landslides, within the boundary of the 92 acres you propose to annex are only **10-15% Slope**, the Street of Dream homes, in close proximity to these 92 acres, occurred on as little as 5% and some on less, per DOGAMI. The entire Park Place Plan area contains quite a few landslides of only **5-10-15-20%**, and yet the City **Only regulates steep slopes of 25% or greater!** I ask, why isn't the City regulating slopes that are less than 25%? It makes one wonder if the City truly wants to regulate landslides.

Following is information to help you understand our concerns for considering these 92 acres for annexation and future development of as many as 522 homes.

See **Exhibit 1**, news article from 2003 about 20 acres Mark Handris tried to develop. The developer was fined for continuing to work without taking adequate steps to stop the slides, and as well, the project was shut down by Oregon City due to all of the slopes failing and slipping. This project is close to the 92 acres you are considering for annexation. Can the City have trust in this same developer for 92 acres and is the proposed Park Place Plan also in a same area of failing and slipping slopes?

See **Exhibit 2 Marked Draft Report** GRI Geotechnical and Environmental Consultants report of their "Preliminary geologic and geotechnical evaluation for proposed Park Place Concept Plan".

See **Exhibit 3 GRI Report – Not Marked**

One of GRI's reports has been stamped **DRAFT** while the other report has not. On Page 5 of the draft report, second paragraph under Conclusions and recommendations, it is stated "We also recommend that the City require a geotechnical evaluation/investigation as part of any future development in areas **with slopes of 15% or steeper.**

Now compare to the report that is not marked "draft." (exhibit 3) On the second page, first paragraph, it is stated "we also recommend that the City require a geotechnical evaluation/investigation as part of any future development in areas **with slopes of 25% or steeper.**
I ask, **which report is correct** and why didn't the City change it's hazard regulations to regulate slopes of 15% or steeper if this is the correct report from GRI?

In the Draft report, see Page 2 under Previous Work "This report identified **slopes of 10% to more than 50% within the study area".** Also, see Page 4, first paragraph of this report, "Several small roads intersect Redland Road and extend northward into residential developments. These residential developments are generally low density and established on **slopes of 5 to 15%".**

This validates previous remarks "that slopes in both the Park Place Plan and Holly Lane" are much less than the 25% slopes that the City is currently regulating.

In this same Draft report, see Page 4, third paragraph from the top, "development has occurred immediately outside the study area, in the Oak Valley area. Evidence of **soil creep** observed during the reconnaissance includes tilted and bowed trees around the perimeter slopes of the development".
In this area, on Oak Tree Terrace, a new home was purchased in 2004. A few years later the back yard of this home began to sink, drifting towards a cliff. The value of the home took a huge drop until repairs were done, the home went back on the market at a much lower cost. This continues the concerns for the instability of this area for development, and when considering the fact that homeowners will find it almost impossible to get landslide insurance, should the government allow development in such a hazardous area, **Goal 7 says NO!**

The City cannot meet the **requirements of Land Use Goal 7,** as your current regulations "Do not protect people and property from natural hazards". As well, the City has not formally adopted Goal 7 requirements.

Planning Commissioners: I am enclosing the complete GRI Geotechnical and Environmental Consultants Preliminary Geologic and Geotechnical Evaluation for your review (Draft Report). I have highlighted sections of the report that I feel are extremely important.

See Exhibit 4 – Within the boundaries of the 92 acres, proposed for annexation, please note that the largest percentage of land is comprised of Slopes of 0-10 and 10-25% and yet the City only regulates slopes of 25% or more. I ask why?

See Exhibit 5 – There were a series of e-mails exchanged by the people of Holly Lane and Nancy Kraushaar. Question, was the second stage of the Geologic Hazards code ever re-written? If not, will these be in place before approving the 92 acre annexation for the Park Place Plan and will the template from the City of Salem be used (as developed by FEMA)?

See Exhibit 6 - For your review, I am enclosing the most important pages from an "Application for Landslide Insurance". On the first page you will note the question "Is the building in a known landslide area or have there been any incidents of landslide within 1 mile of the property?". It really does not matter if the applicant answers Yes or No since the underwriting agency uses Lidar Landslide maps to locate whether your property is within 1 mile of a previous slide. Therefore, every homeowner on Holly and every prospective buyer of a new home in the Park Place Concept Plan, will probably be denied Landslide Insurance and therefore will have to bear all losses personally. There are so many exclusions that these plans virtually do not pay. Again, I have highlighted important sections. I have included this exhibit in my testimony as I feel it is very important that our Planning Commission understand that landslide insurance pretty much does not exist, and yet Oregon City continues to build in these hazardous areas knowing the homeowners are purchasing homes in an area that is risking their lives and the lives of their families. Oregon City has the DOGAMI Lidar Maps, they know what lies beneath the ground homes are built on. The new homeowner does not have this knowledge, they cannot see beneath their new homes, but you can. Where is your responsibility to these homeowners?

See Exhibit 7 – Landslide in 2008 in Burlingame. First picture shows home before it slid down a slope onto another home and was destroyed. Although the homeowners took legal action, none of their insurance coverage would pay and they were not covered by Landslide Insurance. Total losses.

See Exhibit 8 - "Insurance won't pay" for landslide damage in Corvallis, OR home. Please see Pg 2. The homeowners had $2 million dollars worth of insurance, it won't do any good as standard insurance will not cover landslides. Also, see Pg 2, last paragraph, "Homeowners insurance covers a whole lot of stuff, but earth movement isn't in there". This is stated by Oregon's own, Ron Fredrickson who manages the consumer advocacy team for the Oregon Insurance Division. "It's specifically excluded, as are earthquake and flood". Pg 3, first paragraph, Mr. Fredrickson states "landslide insurance is almost unheard of, it can be purchased only from highly specialized carriers and it's liable to come with a hefty premium. I've yet to come across anybody who has it!".

Professor Scott Burns was interviewed by KUOW News after the devastating OSO, WA landslide. Dr. Burns states "It is rare that people will get landslide insurance. You can buy it through Lloyd's of London. They're the ultimate insurers, but it's so expensive, a minimum of $1000 a year and it goes up from there. All those people who lost their houses in the Oso landslide have **lost everything, and there's NO INSURANCE covering them. We lost lives. That is the worst thing. But then property is the second thing".**

These are just a few examples to help you understand the huge financial losses, and losses of life, people endure after landslides hit their homes. I have many, many more cases, just like these that I can give to you if you want to read more. I also have news articles from other States showing that homeowners are beginning to take local governments to task. They are asking, why weren't we told? They state the developer didn't warn them, sellers and real estate agents also never disclosed landslide problems.

There is much for the Planning Commission to consider regarding this proposal to annex and change zoning in an area where "susceptibility for landslides is "HIGH" and likely to occur", per DOGAMI Lidar Mapping. Consider as well that a home on Holly Lane remains **condemned due to landslides** and this is in an area where the City proposes to build the Swan Rd extension! Consider that in the Country Village Estates, some homes have been removed where water and mud invaded. Certain parts of Country Village are banned from future development. I also want you to consider the City's Hazard/Landslide regulations. Many other communities are strictly regulating steep slopes and landslide areas. **There is a City not too far from Oregon City** with a larger population. It's interesting to read their Landslide Regulations which are, for slopes of 25% or more, there will be absolutely no development. They regulate slopes of 15% and greater and they have in their regulations that their City supports the requirements of Goal 7 and that protecting their citizens is of the utmost importance to their government. Even Portland regulates slopes of 20% or more, so why is Oregon City only regulating slopes of 25% or more.

I do not believe Oregon City can continue to develop in hazardous landslide areas until their regulations are changed. Regulating slopes of 25% or more places the City in great jeopardy. Oregon City's topography is very difficult, there will be more landslides, will the homeowners take the City to task? Will they ask you, why weren't we told our property is in a landslide area and why weren't we told, before signing final papers, that we should check with our Insurance Agent to see if we would be covered for losses due to landslides?

For all the reasons I have given to you, for the protection and safety of the people and their families, for not meeting the requirements of **Goal 7**, for putting people and their property in harm's way, I cannot find it within myself to support this 92 acre annexation and zone change located in a dangerous and unsafe landslide area, where State Land Use **Goal 7** clearly states "Local governments shall adopt comprehensive plans to reduce risk to people and property from natural hazards." This cannot be accomplished by just regulating slopes of 25% or more when landslides are occurring on 5-10-15-20% and by withholding landslide information from the people.

Enclosing Exhibits 1-8
Enclosing my **denial for landslide insurance** because my property is within one mile of previous landslides

From: Jackie Goodman <jackie@huggins.com>
To: britenshin <britenshin@aol.com>
Subject: RE: Landslide and earthquake quote
Date: Wed, Oct 28, 2015 11:20 am

Hello Christine and John,

I received a response from the Underwriter and I am sorry to tell you that your application has been denied. Unfortunately you are ineligible for landslide coverage at this time. The comments from the Underwriter indicate the risk is surrounded by 6 large landslides and a recent fan of debris. The Catcoverage.com market is the only market that we have available for this type of coverage.

I am so sorry that I am unable to assist you. If you have any questions or concerns, please let me know.

Kindly,

Jackie Goodman
Account Manager
Huggins Insurance Services
jackie@huggins.com

South

MetroSouth News Bureau 503-656-0083
Calendar and information 503-294-5913
News tips 503-294-5920
Fax 503-656-2417
E-mail ..... south@news.oregonian.com
Newspaper delivery 503-221-8240
Classified ads 503-221-8000
On the Web ..... www.oregonlive.com/oregonian

Oregon City halts Holcomb Ridge project

The city stops construction at the subdivision because of landslides; the developer says he's making fixes

By STEVE MAYES
THE OREGONIAN

OREGON CITY — Concerns about erosion and landslides have prompted the city to shut down construction at a controversial subdivision.

The city issued a stop-work order on the 20-acre Holcomb Ridge subdivision on Nov. 25 and fined developer Mark Handris for continuing work without taking adequate steps to stop the slides or cover dirt piles.

Last summer, critics of the project warned that clearing trees and plants, cutting into hillsides and developing the sloped site could be risky. The 40-lot project is on South Holcomb Boulevard near South Longview Way.

"Pretty much all the slopes have started to fail," said John Burrell, Oregon City associate engineer.

When the project was approved earlier this year — over the objections of the Park Place Neighborhood Association — the city imposed conditions intended to limit erosion.

Handris complied, but the measures proved insufficient.

On Nov. 20, the city notified Handris that he needed to address the landslides and dirt piles, which had started to wash into a small creek.

When the work wasn't done by Nov. 25 and more slides appeared, the city shut down the project, said Burrell, who estimated about a half-mile of slope could slip.

Handris said the city has blown the situation out of proportion. The problem is "insignificant," he said.

Some people who live nearby don't see it that way.

"It's gone over the barrier and into the creek in some spots," said Tam Seasholtz, a neighbor who counted seven Holcomb Ridge landslides from her kitchen window.

The hillsides are stable, Handris said. The recent earth movement resulted largely from a loose layer of dirt, grass and plant material that a contractor spread on top of compacted dirt, he said.

"Some of our silt fencing and jute netting on some of our slopes has started to wash away, so that's being repaired," Handris said.

Handris said the city-required work should be done by the end of the week. "We're out there making a heck of an effort to correct the problem," he said.

The city has fined Handris $3,600, said Nancy Busch, an Oregon City code enforcement officer. Handris said he will fight the penalty.

Those who live around the project are skeptical that fences, matting and straw can stop the soil movement.

"It's not terrible yet, but there's still another four months of rain," said Tim Williams, who has lived in the neighborhood since 1990.

Oregon City Commissioner Doug Neeley said he has been concerned about the development since he first viewed the site last summer.

"I thought, 'Man, that was a steep area they've scooped out,' " Neeley said.

"I was hoping the developer would take appropriate erosion-control actions. Apparently, that didn't happen," said Neeley, who wants the city to adopt stricter standards for development on some slopes.

◆

Steve Mayes: 503-294-5916; stevemayes@news.oregonian.com

EXH 1

GRI
Geotechnical & Environmental Consultants
9725 SW Beaverton Hillsdale Hwy, Ste 140
Portland, Oregon 97005-3364
PHONE 503/641/3478 FAX 503/644/8034

February 7, 2007

4584 PRELIM GEOTECH EVALUATION

SERA Architects
338 NW 5th Avenue
Portland, OR 97209

DRAFT

Attention: David Berniker

SUBJECT: **Preliminary Geologic and Geotechnical Evaluation**
Park Place Concept Plan
Oregon City, Oregon

At your request, GRI has completed a preliminary geologic and geotechnical evaluation for the proposed Park Place Concept Plan project in Oregon City, Oregon. This evaluation addressed the Park Place study area, which is shown on the Vicinity Map, Figure 1. The Park Place Concept Plan is being developed to identify the preferred long-term land use of the study area. The Concept Plan was developed by the design team and local community during a design charrette and series of community meetings.

The purpose of the evaluation was to identify, on a preliminary basis, the potential geologic hazards within the study area and provide geotechnical considerations for future development, to be included in the Concept Plan document for the City of Oregon City (City). This includes recommendations for site-specific geotechnical evaluations prior to development and general slope hazard management. The conclusions and recommendations provided in this report are based on a review of the previous work completed in the study area by others and other sources of information described herein.

The evaluation consisted of limited field reconnaissance; review of published geologic reports and maps, readily available geotechnical reports and subsurface information, and water well records on file with the Oregon Water Resources Department (OWRD); and examination of aerial photographs. The intent of this document is to serve as a practical guide to assist the City in their understanding and management of the short- and long-term geologic risks associated with future development in the Park Place Concept Plan study area.

PROJECT DESCRIPTION

The study area is located in Clackamas County, Oregon, east of Highway 213 and south of Redland and Holcomb roads. The total study area is approximately 470 acres; 180 acres of the study area are located immediately adjacent to Oregon City limits in the vicinity of Livesay Road, but have not been annexed as part of the City, and 300 acres were brought into the Urban Growth Boundary in 2002. The study area is composed of 138 individual property owners. The largest property under one ownership is approximately 48 acres, and nearly half the parcels in the study area are 1 acre or less.

EXH 2

The Park Place Concept Plan was developed to identify the preferred long-term land use of the study area. The Concept Plan identifies the general areas of different housing densities, commercial and industrial land uses, parks, open spaces, and schools.

The study area includes existing residential developments and a public middle school, but is generally rural and distinguished by steep slopes, several creeks, marsh areas, and wooded areas. The general topography of the study area is shown on the Slope Map, Figure 2, and the Landslide Geomorphology Map, Figure 3. The long-term development outlined in the proposed Concept Plan includes new mixed-use and residential development, new roads between Holly Lane and Highway 213 and Redland and Holcomb roads, and improvements to existing roadways. We understand the proposed Concept Plan has identified open space areas located in conjunction with environmentally constrained and natural areas, which will serve as undeveloped parks and natural resource areas for the study area. These open spaces include all areas with slopes of 25% or steeper within the Concept Plan study area.

GEOLOGIC SETTING

The study area is located in the Abernathy Creek drainage of the Willamette Valley. The Abernathy Creek drainage consists of a narrow meandering creek, fed by Newell and Holcomb creeks, which flows directly into the Willamette River immediately northwest of the study area. The drainage is characterized by steep canyons subject to ongoing slope processes. The local geology is dominated by the fine-grained facies of the Missoula Flood deposits (Madin, in press) primarily comprised of silt, sand, and gravel of late Pleistocene age, as shown on the Geologic Map, Figure 4. These deposits generally form terraces at the lower extent of the local creeks and mantle slopes up to about elevation 200 to 250 ft. In the low-lying areas within the floodplain of Abernathy Creek is alluvium and Pleistocene-age Willamette Silt, which consists of fine-grained sands, silt and clay with scattered lenses of fine- to medium-grained sand. At the north edge of the study area (along Holcomb Road, at the south end along Holly Lane and at the southwest edge, adjacent to Newell Creek Canyon), mudstone, claystone, and sandstone of the Troutdale Formation are present, typically in steep canyons and ridges. Geomorphic and geologic evidence indicates these tributary canyons of Abernathy Creek have been modified by ongoing, large-scale landslides. The Oregon Department of Geology and Mineral Industries' (DOGAMI) preliminary geologic map of the area indicates an inferred trace of the Oatfield Fault may extend into the northwest portion of the study area; however there is no direct evidence that the fault exists in this area (Madin, in press).

PREVIOUS WORK

Due to the presence of landslides in the Oregon City area, a number of geologic maps and geotechnical studies have been completed in the vicinity of the Concept Plan study area. DOGAMI Bulletin 99, "Geology and Geologic Hazards of Northwestern Clackamas County, Oregon," documents the initial study focusing on the geology and geologic hazards of the area (Schlicker & Finlayson, 1979). This report identified slopes of 10 to more than 50% within the study area. The report also identified hazards associated with flooding along Abernathy Creek and the potential for a high water table near Ogden Middle School, west of Holly Lane. Bulletin 99 did not identify landslide-specific hazards within the Concept Plan study area, but

identified landslide topography, local slumping, earthflow, mudflow, and debris flow in Newell Creek Canyon, immediately west of the study area, and in canyons on both sides of Holly Lane, south and east of the study area. Most of the landslide topography identified on the Bulletin 99 "Geologic Hazards Map of the Canby and Oregon City Quadrangles, Oregon" occurs on slopes of 10 to 20%.

Subsequent to Bulletin 99, Portland State University (PSU) evaluated geologic constraints for future development of Newell Creek Canyon (Burns and others, 1993). The study area included in this report is immediately adjacent to the Concept Plan study area, to the west. The report included evaluation of geologic, soil, and groundwater conditions within the canyon and included a landslide susceptibility map for the canyon, which identified existing landslides as high risk, and exposures of Troutdale Formation with slopes of 8° or more as having a moderate risk of landslides. The report identified over 50 existing landslides in Newell Creek Canyon and noted that 73% of the project area was at moderate risk for landslides. Several other site-specific geologic and geotechnical investigations have been conducted within Newell Creek Canyon to assess landslide hazards associated with residential development. In addition, two studies have been published following storm-induced landslides in 1996 and 1997, documenting landslides immediately adjacent to the study area (Burns and others, 1998; Hofmeister, 2000).

In 2006, DOGAMI developed a map identifying landslide geomorphology in the vicinity of Oregon City, including the Concept Plan study area, using light detection and ranging (LIDAR) surveys and air photos (Madin and Burns, 2006). This map identifies over 35 existing landslides and debris fans within the Concept Plan study area, as shown in Figure 3. DOGAMI is currently completing a geologic map of the Oregon City vicinity (Madin, in press). A draft version of this map is shown on Figure 4. At this time, the 2006 map is the most up-to-date source of information concerning landslides in the study area.

SITE RECONNAISSANCE

Methodology

A certified engineering geologist (CEG) and registered geologist (RG) from GRI conducted a general reconnaissance of the study area on November 29, 2006. The ground-level reconnaissance consisted of viewing the majority of the study area from roadway rights-of-way. Visual reconnaissance was limited to areas and facilities that were readily observable from streets or other public areas.

Study Area Observations

The study area lies on both sides of Redland Road, extending north toward Holcomb Road and south toward Maple Lane, primarily along adjacent creek canyons. Redland Road bisects the study area from east to west, and Holly Lane extends from Redland to the south end of the study area. There are no north-south connecting roads from Redland Road to Holcomb Boulevard. Between Redland Road and Holcomb Boulevard there are a number of separate residential developments with discontinuous streets. Significant portions of the study area include steep, wooded creek canyons and generally rural property.

Redland Road is a two-lane, minor arterial linking Highway 213 to residential areas to the east of Oregon City. Redland Road transects the Abernathy Creek valley and crosses Abernathy Creek four times within the study area. As shown on Figure 2, the slopes at creek crossings are typically steeper than 25%. We observed localized slumping and raveling along these stream banks. In addition, slopes greater than 25% were observed along much of Redland Road, as road cuts on the north side of the road and sloping toward the creek on the south side of the road. Several small roads intersect Redland Road and extend northward into residential developments. These residential developments are generally low density and established on slopes of 5 to 15%. Readily apparent and obvious indications of recent large-scale, deep seated slope instability were not observed in these developments.

Holly Lane is a local street that runs south from Redland Road to Maplelane Road and has steep grades and very narrow shoulders. There is a steep canyon to the east of Holly Lane and steep slopes (greater than 25%)along Holly Lane between Redland Road and Donovan Lane. Based on personal communication with property owners, GRI understands that localized slope failures have occurred at residential properties on the south east side of Holly Lane, just outside the Concept Plan study area (Moxley, personal communication, 2006).

There are no connecting roads between Redland Road and Holcomb Boulevard in the north portion of the study area. Development in this area is composed of isolated residential developments that have been constructed over the past 50 years. Swan Avenue and Livesay Road are residential streets that extend east-west through this portion of the study area. These residential developments occur on the relatively flat plateau above Redland Road. We did not observe any development adjacent to the canyon at the north edge of the study area; however, development has occurred immediately outside the study area, in the Oak Valley area. Evidence of soil creep observed during the reconnaissance includes tilted and bowed trees around the perimeter slopes of the development.

SUBSURFACE CONDITIONS

To provide a preliminary characterization of subsurface materials and conditions within the study area, GRI reviewed water well logs available through OWRD and available boring logs for sites adjacent to the project area. There are limited well logs available for the study area, as shown on Figures 2 through 4. Review of well logs indicates the study area is generally mantled with silt, which is underlain by weathered sedimentary rocks. This characterization is consistent with the conditions described in boring logs included in the study by PSU (1993) and in the preliminary mapping by Madin (in press).

Groundwater

It is anticipated that the groundwater level in low-lying areas of the study area, in the Abernathy Creek drainage, will fluctuate according to seasonal rainfall and may occur near the ground surface during wet, winter and spring months and during periods of prolonged or intense rainfall, and within several feet of the ground surface during drier months.

It is anticipated the regional water table occurs at depth in areas of higher elevation; however, shallow perched water can occur in and over the weathered sedimentary rock and fine-grained soil, particularly following intense and/or prolonged precipitation.

CONCLUSIONS AND RECOMMENDATIONS

Landslides have occurred within the study area and in adjacent areas with similar topography, geology, and groundwater conditions. With regard to slope instability, most of the known slope instability has occurred on the steeper slopes on ravines along streams and drainages. We understand the recommended Concept Plan developed by the design team identifies areas with slopes of 25% or more as open space that will remain undeveloped. Limiting development in these areas is an appropriate measure to limit the risk of slope instability and landslides impacting future development. In addition, for the purpose of this Concept Plan, GRI recommends further site-specific study be conducted for future developments, in accordance with the City's municipal code Chapter 17.44, for managing geologic hazards and in accordance with following recommendations.

It would be prudent for the City to expand the definitions included in the City of Oregon City Municipal Code, Chapter 17.44.020, to include the Portland State University study, "Landslides in the Portland, Oregon, Metropolitan Area Resulting from the Storm of February 1996: Inventory Map, Database and Evaluation" (Burns and others, 1998); the DOGAMI Open File Report O-06-27, "Map of Landslide Geomorphology of Oregon City, Oregon, and Vicinity Interpreted from LIDAR Imagery and Aerial Photographs" (Madin and Burns, 2006); and the upcoming "Preliminary Geologic Map of the Oregon City Quadrangle, Clackamas County, Oregon" (Madin, in press), as references for identifying "landslide areas," "unstable slopes," "unstable soils," and debris fans. We also recommend that the City require a geotechnical evaluation/investigation as part of any future development in areas with slopes of 15% or steeper. This would include all new construction, including additions to existing homes such as swimming pools and retaining walls, installation of underground utilities, new access driveways and/or roadways, and similar types of projects that require significant earthwork. The geotechnical evaluation/investigation should address the slope hazards in the development and specifically address how the proposed development will limit the risk of future slope instability, prior to issuing a building permit. The geotechnical evaluation/investigation should also address setbacks from existing slopes and recommendations for cut and fill and on-site stormwater management, as described in more detail below. In addition, the City should require special inspection by the geotechnical engineer during construction of soil- and foundation-related elements and a summary letter of compliance upon completion of the work.

The actual scope of the geotechnical evaluation/investigation will depend somewhat on the location within the study area and the proposed development. For example, for development in areas that will likely require little if any earthwork, a reconnaissance-level site evaluation may be adequate prior to issuing a building permit. However, if the new development requires cuts deeper than about 5 ft into the existing hillsides, the geotechnical engineer may need to consider performing subsurface explorations, such as test pit excavations and/or shallow borings, as part of their evaluation/investigation. For any

development within or adjacent to mapped landslide areas or debris fans, or any development that requires excavations deeper than about 10 ft into the existing hillside, it would be prudent to perform a more-detailed, comprehensive geotechnical investigation prior to issuing a building permit. An engineering geologist should provide site-specific geologic input for any development with proposed cuts deeper than about 10 ft and all evaluations within the limits of mapped landslide areas and debris fans.

To assist the City, GRI has prepared the following geotechnical-related considerations for future development in the Park Place Concept Plan area.

1) Require a development- and/or lot-specific evaluation/investigation and report by a Professional Engineer, registered in the State of Oregon, who by training, education, and experience is qualified in the practice of geotechnical engineering. The engineer should be assisted in the evaluation of mapped landslide areas and debris fans by a Certified Engineering Geologist (CEG) certified in the State of Oregon. The evaluation/investigation and report should include, but not be limited to, the following type of considerations, as appropriate for the type of proposed development:

   General earthwork considerations, including recommendations for temporary and permanent cut and fill slopes and placement of structural fill,

   Location of residence on lot,

   Building setbacks from slopes,

   Subdrainage and/or management of groundwater seepage,

   Foundations,

   Embedded/retaining walls,

   Management of surface water and irrigation water, and

   Impact of the development on the slope stability of the lot and the adjacent properties

2) The geotechnical engineer of record should review final grading, drainage, and foundation plans and specifications and confirm in writing that they are in conformance with the recommendations provided in their report.

3) For large complex developments on sites with challenging conditions, at the City's discretion, it may be appropriate to obtain a peer review of the geotechnical evaluation/investigation report for the development and/or

lot plans. Based on the finding of the peer review, the applicant's geotechnical engineer will need to respond to written comments provided by the City's peer review prior to issuance of building permit.

4 The applicant's geotechnical engineer should provide special inspection during construction to confirm that the subsurface conditions/assumptions made as part of their geotechnical evaluation/investigation are appropriate. This will allow for timely design changes if site conditions are encountered that are different from those anticipated. In addition, prior to issuing an occupancy permit, the City should require the geotechnical engineer to prepare a summary letter stating that the soils- and foundation-related project elements were accomplished in substantial conformance with their recommendations.

Concluding Remarks and Limitations

This report has been prepared to identify geologic hazards and geotechnical considerations associated with future development in the Park Place Concept Plan study area.

The opinions and recommendations stated in this report are based on a review of the previous work completed in the study area by others and other sources of information described herein. With respect to the work performed by others, GRI did not participate in the implementation of the work and did not independently verify the accuracy or completeness of the information provided. GRI makes no representations or warranty regarding instruments of service completed by others. The information presented in this report was developed by GRI in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions. No other warranty, expressed or implied, is made.

It is important to note that GRI's work evaluated the study area as a whole and did not address individual properties. For this reason, property owners/developers should retain qualified engineers and geologists to assist in the evaluation of specific properties and to prepare associated development plans and designs.

This evaluation has been prepared to aid SERA Architects in the completion of the Park Place Concept Plan. The scope is limited by the fact that the actual plans for the study area are indefinite; hence, only preliminary opinions are presented.

Submitted for GRI,

GRI Geotechnical & Environmental Consultants
9725 SW Beaverton Hillsdale Hwy, Ste 140
Portland, Oregon 97005-3364
PHONE 503/641/3478 FAX 503/644/8034

February 7, 2007

4584 PRELIM GEOTECH EVALUATION
(ISSUED 3-28-07)

SERA Architects
338 NW 5th Avenue
Portland, OR 97209

Attention: David Berniker

SUBJECT: Preliminary Geologic and Geotechnical Evaluation
Park Place Concept Plan
Oregon City, Oregon

At your request, GRI has completed a preliminary geologic and geotechnical evaluation for the proposed Park Place Concept Plan project in Oregon City, Oregon. This evaluation addressed the Park Place study area, which is shown on the Vicinity Map, Figure 1. The Park Place Concept Plan is being developed to identify the preferred long-term land use of the study area. The Concept Plan was developed by the design team and local community during a design charrette and series of community meetings.

The purpose of the evaluation was to identify, on a preliminary basis, the potential geologic hazards within the study area and provide geotechnical considerations for future development, to be included in the Concept Plan document for the City of Oregon City (City). This includes recommendations for site-specific geotechnical evaluations prior to development and general slope hazard management. The conclusions and recommendations provided in this report are based on a review of the previous work completed in the study area by others and other sources of information described herein.

The evaluation consisted of limited field reconnaissance; review of published geologic reports and maps, readily available geotechnical reports and subsurface information, and water well records on file with the Oregon Water Resources Department (OWRD); and examination of aerial photographs. The intent of this document is to serve as a practical guide to assist the City in their understanding and management of the short- and long-term geologic risks associated with future development in the Park Place Concept Plan study area.

PROJECT DESCRIPTION

The study area is located in Clackamas County, Oregon, east of Highway 213 and south of Redland and Holcomb roads. The total study area is approximately 470 acres; 180 acres of the study area are located immediately adjacent to Oregon City limits in the vicinity of Livesay Road, but have not been annexed as part of the City, and 300 acres were brought into the Urban Growth Boundary in 2002. The study area is composed of 138 individual property owners. The largest property under one ownership is approximately 48 acres, and nearly half the parcels in the study area are 1 acre or less.

EXH 3

It would be prudent for the City to expand the definitions included in the City of Oregon City Municipal Code, Chapter 17.44.020, to include the Portland State University study, "Landslides in the Portland, Oregon, Metropolitan Area Resulting from the Storm of February 1996: Inventory Map, Database and Evaluation" (Burns and others, 1998); the DOGAMI Open File Report O-06-27, "Map of Landslide Geomorphology of Oregon City, Oregon, and Vicinity Interpreted from LIDAR Imagery and Aerial Photographs" (Madin and Burns, 2006); and the upcoming "Preliminary Geologic Map of the Oregon City Quadrangle, Clackamas County, Oregon" (Madin, in press), as references for identifying mapped landslides and landslide materials, "landslide areas," "unstable slopes," "unstable soils," and debris fans. We also recommend that the City require a geotechnical evaluation/investigation as part of any future development in areas with slopes of 25% or steeper and within a 200-ft setback of the crest and toe of these slopes, and in areas previously mapped as landslides. This would include all new construction, including additions to existing homes such as swimming pools and retaining walls, installation of underground utilities, new access driveways and/or roadways, and similar types of projects that require significant earthwork. The geotechnical evaluation/investigation should address the slope hazards in the development and specifically address how the proposed development will limit the risk of future slope instability, prior to issuing a building permit. The geotechnical evaluation/investigation should also address setbacks from existing slopes and recommendations for cut and fill and on-site stormwater management, as described in more detail below. In addition, the City should require special inspection by the geotechnical engineer during construction of soil- and foundation-related elements and a summary letter of compliance upon completion of the work.

The actual scope of the geotechnical evaluation/investigation will depend somewhat on the location within the study area and the proposed development. For example, for development in areas that will likely require little if any earthwork, a reconnaissance-level site evaluation may be adequate prior to issuing a building permit. However, if the new development requires cuts deeper than about 5 ft into the existing hillsides, the geotechnical engineer may need to consider performing subsurface explorations, such as test pit excavations and/or shallow borings, as part of their evaluation/investigation. For any development within or adjacent to mapped landslide areas or debris fans, or any development that requires excavations deeper than about 10 ft into the existing hillside, it would be prudent to perform a more-detailed, comprehensive geotechnical investigation prior to issuing a building permit. An engineering geologist should provide site-specific geologic input for any development with proposed cuts deeper than about 10 ft and all evaluations within the limits of mapped landslide areas and debris fans.

To assist the City, GRI has prepared the following geotechnical-related considerations for future development in the Park Place Concept Plan area.

1) Require a development- and/or lot-specific evaluation/investigation and report by a Professional Engineer, registered in the State of Oregon, who by training, education, and experience is qualified in the practice of geotechnical engineering. The engineer should be assisted in the evaluation of mapped landslide areas and debris fans by a Certified Engineering Geologist (CEG) certified in the State of Oregon. The evaluation/investigation and report should include, but not be limited to, the following type of considerations, as appropriate for the type of proposed development:

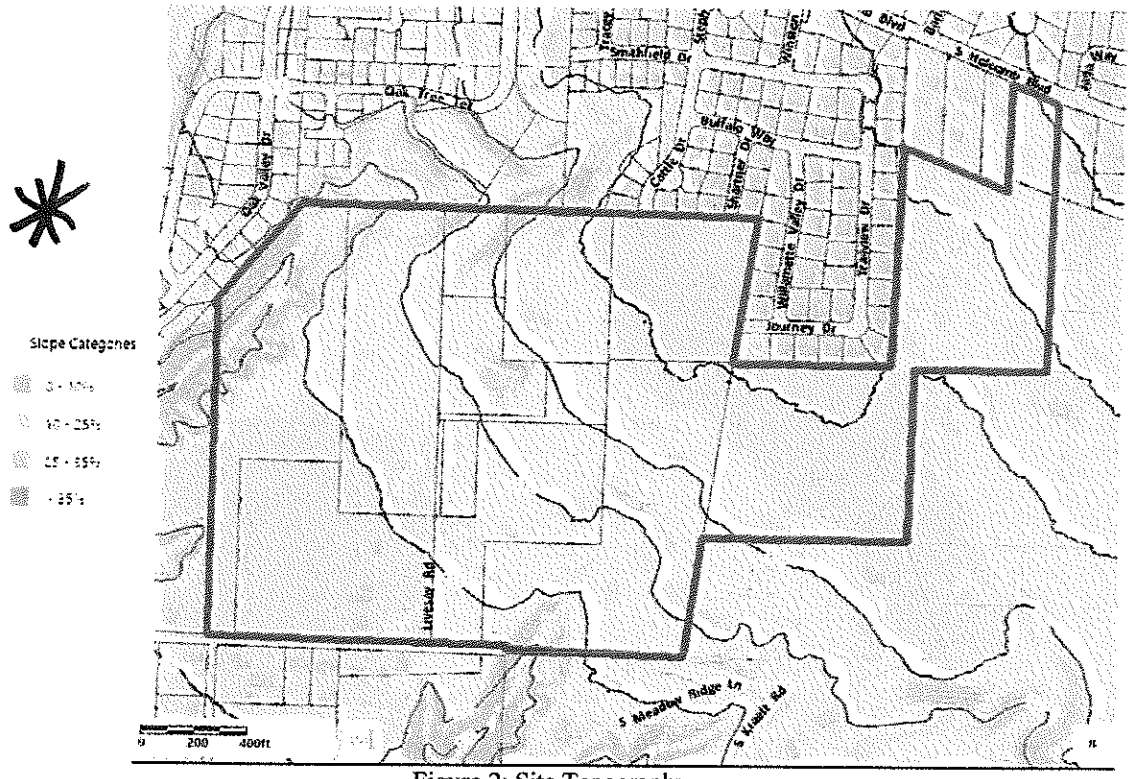


Figure 2: Site Topography

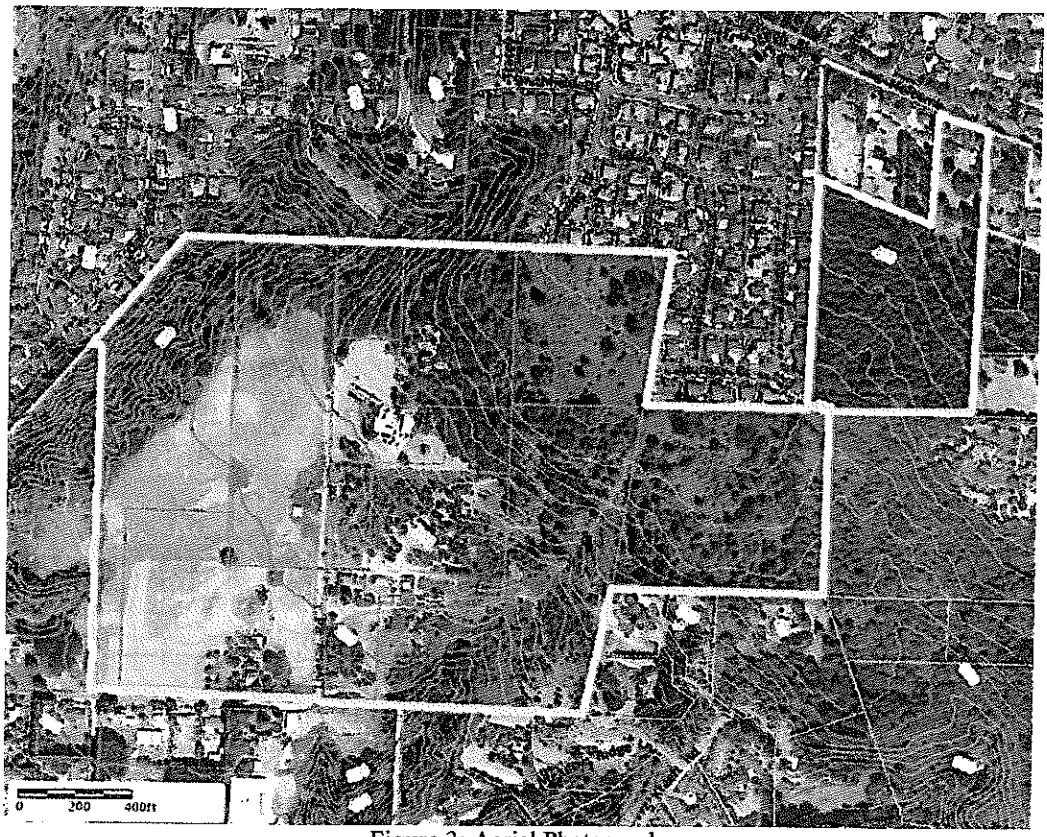


Figure 3: Aerial Photograph

EXH 4

Nancy J.T. Kraushaar, PE
City Engineer/Public Works Director
City of Oregon City
320 Warner Milne Road, PO Box 3040
Oregon City, OR 97045

Phone: 503-496-1545
Fax: 503-657-7892
E-mail: nkraushaar@ci.oregon-city.or.us

From: Britenshin@aol.com [mailto:Britenshin@aol.com]
Sent: Tuesday, February 19, 2008 4:29 PM
To: Nancy Kraushaar; Alice Norris; Damon Mabee; Daphne Wuest; Trent Tidwell; Doug Neeley; Larry Patterson; Pete Walter; Christina Robertson-Gardiner; Tony Konkol; Dan Drentlaw; kat2kami@yahoo.com; rodmoxley@comcast.net; bigcozz@comcast.net; bobn2b@msn.com; gardengifts@juno.com; paintfx@juno.com; tgeil@comcast.net; steve@vanhaverbeke.org; Britenshin@aol.com; pauloedgar@qwest.net; HOGANSBLUFF@aol.com; rlp@hevanet.com; shaz@earthlink.net; johnwilliams38@gmail.com
Subject: Steep Slope/Landslide Regulations

Nancy: Citizens of our neighborhood would like to be updated on the proposed policy changes for Steep Slopes and Landslides. When do you anticipate the new policy to be finalized and in effect, and will the new regulations be city wide?

We had hoped these would be in place prior to the adoption of the Concept Plan as it is felt difficult by the community to pass the Plan without having the knowledge of these new regulations. The City of Salem's Hazard/Steep Slope/Landslide policy (adopted in conjunction with FEMA) is considered to be the most comprehensive in the State if not in the entire Nation. A question I have.....Would it save you work to simply adopt these same criteria and codes thus keeping continuity within the State and being in alignment with FEMA regulations? Your Thoughts please.

Thank You
Christine Kosinski
Holly Lane
e-mail:britenshin@aol.com

Delicious ideas to please the pickiest eaters. Watch the video on AOL Living.

EXH 5

Subj: **RE: Steep Slope/Landslide Regulations**
Date: 2/20/2008 11:34:39 A.M. Pacific Standard Time
From: nkraushaar@ci.oregon-city.or.us
To: Britenshin@aol.com, anorris@ci.oregon-city.or.us, dmabee@ci.oregon-city.or.us, dwuest@ci.oregon-city.or.us, ttidwell@ci.oregon-city.or.us, dneeley@ci.oregon-city.or.us, lpatterson@ci.oregon-city.or.us, pwalter@ci.oregon-city.or.us, crobertson@ci.oregon-city.or.us, tkonkol@ci.oregon-city.or.us, ddrentlaw@ci.oregon-city.or.us, kat2kami@yahoo.com, rodmoxley@comcast.net, bigcozz@comcast.net, bobn2b@msn.com, gardengifts@juno.com, paintfx@juno.com, tgeil@comcast.net, steve@vanhaverbeke.org, pauloedgar@qwest.net, HOGANSBLUFF@aol.com, rlp@hevanet.com, sha-z@earthlink.net, johnwilliams38@gmail.com

Christine:

Below you will find a summary of what staff *will be proposing* to the City Commission for their adoption. What is finally adopted may look a little different, but I have no way of knowing that now. What the City Commission ultimately adopts is their decision.

The public should expect two stages of code changes that will govern Geologic Hazards (or Steep Slopes).

The first stage will be included in the packet of code language changes that Planning has been working on. The primary revision to our existing code for Geologic Hazards (OCMC 17.44) will be to redefine "geologic hazard areas" to include area within 200 feet of the crest or toe of a slope that is 25% or greater. This expands the areas for which an approved permit is required before development is authorized. The permit could be obtained after a developer has submitted geotechnical and geologic reports and comprehensive documentation pertaining to the proposed development and the site geology. Another significant change to the existing code will be that the reports and documentation for the development will be subject to peer review. The peer reviewer will be selected by the City and shall have expertise in regional and Oregon City geology, slope stability analysis, landslides, and engineering mitigation for hazardous sites.

The second stage will be a re-write of the Geologic Hazards code to implement the new risk-based maps that DOGAMI is developing. We will be using the City of Salem's code as the template for our code. I agree that Salem's code will provide a very good model for us to use. We will not be able to propose this code for adoption until the DOGAMI maps are complete and can be adopted by the City Commission.

Regarding the DOGAMI maps - I met with Bill Burns about two weeks ago and he showed me the work he has completed so far. We are preparing to provide an in-house review of the work he has completed. He will also have others reviewing his work (I believe others from DOGAMI and Scott Burns).

Let me know if you have additional questions regarding this information.

Thank you for your inquiry.

-Nancy

Nancy J.T. Kraushaar, PE
City Engineer/Public Works Director
City of Oregon City
320 Warner Milne Road, PO Box 3040
Oregon City, OR 97045

Phone: 503-496-1545
Fax: 503-657-7892
E-mail: nkraushaar@ci.oregon-city.or.us

NCIP

NATURAL CATASTROPHE INSURANCE PROGRAM

Coverage Underwritten by Certain Underwriters at Lloyd's, London B1180D150591

Earthquake, Landslide Application
Application No. NCIP435439

Building Information

Foundation Type:	Crawl Space
Dwelling Type:	Owner Occupied Primary Residence
Year Built:	1971
Roof Update:	1998
Construction Type:	Wood Frame
Dwelling Value Declared at 100% Replacement Cost:	$200,000.00
Total Square Footage:	1,410
Do you own this property?	Yes
Select the option that best describes the building:	Single-Family
Is this a split level home?	No

General Questions

Does the building have additions or extensions supported by posts, piers, or beams?	No
Is there existing cracking of wall or foundation?	No
Is there a garage attached to the building?	Yes
Is the sill plate permanently bolted to the foundation of the building?	No
What year was the roof last updated?	1998

Earthquake Questions

Have any buildings or personal property located on the premises been damaged from an incident of Earthquake Shock?	No

Landslide Questions

Is the building in a known landslide area or have there been any incidents of landslide within 1 mile of the property?	Yes
Have any buildings or personal property located on the premises been damaged from an incident of landslide, earth movement, or land subsidence?	No

EXH 6

POULTON ASSOCIATES, INC. | State License Number: 230392
3785 South 700 East, Second Floor, Salt Lake City, Utah 84106
Phone: 801-268-2600 Opt# 2 | Fax: 801-268-2674 | icservice@poulton.com

Surplus Lines Disclosure

The Insurance policy that you have purchased or are applying to purchase is being issued by Certain Underwriters at Lloyd's, London (Lloyd's). Lloyd's is a Nonadmitted Surplus Lines Alien Insurer. A Nonadmitted insurer is an insurance company is licensed and domiciled outside of the boarders of state where the subject of insurance is located.

The Nonadmitted Insurance title of the Dodd-Frank Wall Street Reform and Consumer Protection Act, identifies Nonadmitted insurers domiciled outside the U.S. as eligible and otherwise approved to conduct business in any state in the U.S. so long as they are shown on National Association of Insurance Commissioners (NAIC) Quarterly Listing of Alien Insurers. Dodd-Frank Act, Title V, Subtitle B (§§ 511 et seq.)

In accordance with state law we are obliged to inform you that:

This evidence of insurance was procured and developed under the Oregon Surplus Lines laws. It is NOT covered by the provisions of ORS734.510 to 734.710 relating to the Oregon Insurance Guaranty Association. If the insurer issuing this insurance becomes insolvent, the Oregon Insurance Guaranty Association has no obligation to pay claims under this evidence of insurance. (ORS § 735.435)

Confirmation and Signature

By signing below, I acknowledge:

This application is for underwriting purposes only. This application is subject to final underwriting approval. Coverage will not become effective until the application has been approved by underwriting and the full total annual cost has been received by Poulton Associates, Inc. Applications approved by underwriting are valid for 30 days. The inception date of coverage may not predate payment of premium.

We reserve the right to change the rate and any resulting premium at any time. Payment of premium does not automatically attach coverage. There are waiting periods, as described in the insurance contract that applies. Coverage is not in effect until confirmed by an authorized representative. The terms of this application do not in any way alter the terms of any policy delivered. Please closely examine this application and contact your insurance producer immediately to request any needed corrections. If payment is tendered and is subsequently dishonored by the issuing financial institution, coverage will terminate on the date of inception.

To the best of my knowledge, the above questions are answered truthfully. I understand that any contract issued will be in full reliance upon statements and representations made in this application. This application will be made a part of the policy. False or misleading answers to questions could result in the policy being null and void.

Signature of Applicant	Date	Signature of Producer	Date

POULTON ASSOCIATES, INC. | State License Number: 230392
3785 South 700 East, Second Floor, Salt Lake City, Utah 84106
Phone: 801-268-2600 Opt# 2 | Fax: 801-268-2674 | icservice@poulton.com

b. Residential structures with basements that satisfy FEMA's standard published in the Code of Federal Regulations [44 CFR 60.6 (b) or (c)].

2. Limit of Liability. We will pay up to $30,000 under this coverage Increased Cost of Compliance, which only applies to policies with **building** coverage as designated on the coverage declaration. Our payment of claims is in addition to the amount of coverage shown on the coverage declarations page under **building**. But the maximum you can collect under this Policy for both **building** and Increased Cost of Compliance coverage cannot exceed the limit of liability shown for **building** coverage. A separate deductible does not apply

3. Nothing contained in this Clause shall override any Seepage and/or Pollution and/or Contamination Exclusion or any Radioactive Contamination Exclusion or any other Exclusion applicable to this Policy.

4. Any provision within this Policy (or within any Endorsement which forms part of this Policy) which insures Debris Removal is cancelled and replaced by the above.

II. Definitions

A. ACT:

1. Refers to the The National Flood Insurance Act of 1968, as amended, and The Flood Disaster Protection Act of 1973, as amended,42 U.S.C. 4001 et. seq. in effect as of the effective date of this Policy as evidenced on the Coverage Declarations.

B. Building(s) means:

1. The Dwelling where you principally reside, or your secondary residence and

2. Appurtenant Structures, being other permanent **buildings** or structures, with walls and a roof, on the **premises**.

C. Catastrophic ground collapse means geological activity that result in an abrupt collapse of ground cover causing a depression in the ground cover clearly visible to the naked eye that causes structural damage to the **building**, including the foundation.

D. Earthquake shock means physical damage caused by earth movement including landslide, mudflow, earth sinking or earth rising or shifting, only as a direct and immediate result of **earthquake shock**, but shall not include any consequential loss or damage from any other ensuing peril.

Each loss by **earthquake shock** shall constitute a single loss hereunder, provided, if more than one **earthquake shock** shall occur within any period of 72 hours commencing during the term of this Policy, such **earthquake shocks** shall be deemed to be a single earthquake within the meaning hereof. Underwriters shall not be liable for any loss caused by any **earthquake shock** occurring before the effective date and time of this Policy, nor for any loss occurring after the expiration date and time of this Policy. The insured may select the time from which any such period shall commence but no two selected periods may overlap.

E. Flood means physical damage caused by a general and temporary condition of partial or complete inundation of normally dry land areas from surface water, waves, tidal water, overflow of a body of water, mudflow or spray from any of these whether or not driven by wind arising during any one period of 72 consecutive hours during the period of this Policy. Underwriters shall not be liable for any loss caused by any **flood** occurring before the effective date and time of this Policy, nor for any loss occurring after the expiration date and time of this Policy. The insured may select the time from which any such period shall commence but no two selected periods may overlap.

F. Landslide except landslide as covered by **earthquake shock** definition above, means physical damage caused by the sudden movement of earth and/or rock ("land"), including sliding of land, mudflow except mudflow as covered by the **earthquake shock** and **flood** definitions above, land sinking, rising or shifting but excluding normal settling, gradual subsidence, gradual slippage and processes of erosion that take place over time.

G. Personal property means:

1. **Personal property** usual to the occupancy of the Dwelling and owned or used by you or permanent members of your household while such **personal property** is on the **premises**. We will also cover personal effects owned by a guest or servant while such personal effects are on the **premises**.

2. Materials, and supplies for use in the construction, structural alteration, alteration, maintenance or repair of the **premises** while such materials, and supplies are at the **premises**.

3. Foodstuffs, bedding, tack and other equipment while at the **premises**, which is used for the maintenance and care of pets and livestock, provided such pets or livestock are not kept for commercial or business purposes.

H.Premises means the real property at the address shown on the Coverage Declarations.

I. **Sinkhole** collapse means the settlement or systematic weakening of the land supporting the **building(s)**, when such settlement or systematic weakening results from movement or ravelling of soils, sediments, or rock materials into subterranean voids created by the effect of water on a limestone or similar rock formation.

III. Losses Excluded

A. This Policy does not insure against:

1. Loss or damage arising directly or indirectly out of nuclear reaction, nuclear radiation or radioactive contamination, however such nuclear reaction, nuclear radiation or radioactive contamination may have been caused.
2. Loss or damage arising directly or indirectly out of war, invasion, acts of foreign enemies, hostilities (whether war be declared or not) civil war, rebellion, revolution, insurrection, military or usurped power or martial law or confiscation or nationalization or requisition or destruction of or damage to property by or under the order of any government or public or local authority.
3. Loss, damage or increased cost arising directly or indirectly out of enforcement of any ordinance or law regulating the use, reconstruction, repair or demolition of any **building(s)** insured hereunder, nor any loss, damage, cost, expense, fine or penalty which is incurred, or sustained by or imposed on you at the order of any governmental agency, court or other authority arising from any cause whatsoever.
4. Loss or damage arising out of acts or decisions, including the failure to act or decide, of any person, group, organization or governmental body relating to faulty, inadequate or defective:
   a. Planning, zoning, development, surveying, siting;
   b. Design, specifications, workmanship, repair, construction, renovation, remodelling, grading, compaction;
   c. Materials used in repair, construction, renovation or remodelling; or
   d. Maintenance of all or part of any property on or off the **premises**.
5. Loss or damage arising out of normal settling, shrinking or expansion of land, **buildings**, structures or foundations; or erosion, gradual subsidence or the processes of erosion that take place over time, or any other gradually occurring loss or damage whether caused by **earthquake shock**, **flood** or **landslide** or not, or any loss or damage which commenced prior to the inception of this Policy.
6. Loss or damage arising out of fire regardless of any other event which contributes concurrently or in any sequence to the loss or damage.
7. Loss or damage arising out of exposure to weather conditions where any **personal property** is left in the open or not contained in **buildings** which are on permanent foundations and capable of secure storage.
8. Mysterious disappearance or inventory shortage, theft, fraud, or any kind of wrongful conversion or abstraction.
9. The costs for reconstruction of electronic data or other data.
10. Loss or damage arising out of cessation, fluctuation or variation in, or insufficiency of, water, gas or electricity supplies, or other public utility service supplying the **premises**.
11. Reduction in rental value, reduction in market value or the saleability of property insured by this Policy, or any costs or expenses related thereto.

B. Notwithstanding any provision in this Policy to the contrary (or within any Endorsement which forms part of this Policy), this Policy does not insure:

1. Any loss, damage, costs or expense, or
2. Any increase in insured loss, damage, cost or expense, or
3. Any loss, damage, cost, expense, fine or penalty, which is incurred, sustained or imposed by order, direction, instruction or request of, or by any agreement with, any court, government agency or any public, civil or military authority, or threat thereof, (and whether or not as a result of public or private litigation) which arises from "any kind of seepage or any kind or pollution and/or contamination," or threat thereof, whether or not caused by or resulting from a peril insured, or from

This exclusion applies regardless whether there is (i) any physical loss or damage to insured property; (ii) any insured peril or cause, whether or not contributing concurrently or in any sequence; (iii) any loss of use, occupancy, or functionality; or (iv) any action required, including but not limited to repair, replacement, removal, clean-up, abatement, disposal, relocation, or steps taken to address medical or legal concerns.

This exclusion replaces and supersedes any provision in the Policy that provides insurance, in whole or in part, for these matters.

I. This Policy does not cover any costs and expenses, whether preventative, remedial or otherwise, arising out of or relating to change, alteration or modification of any computer system, hardware, program or software and/or any microchip, integrated circuit or similar device in computer equipment or non-computer equipment, whether the property of the insured or not.

J. Notwithstanding any provision to the contrary within this insurance or any endorsement thereto it is agreed that this insurance excludes loss, damage, cost or expense of whatsoever nature directly or indirectly caused by, resulting from or in connection with any act of terrorism regardless of any other cause or event contributing concurrently or in any other sequence to the loss.

For the purpose of this Policy an act of terrorism means an act, including but not limited to the use of force or violence and/or the threat thereof, of any person or group(s) of persons, whether acting alone or on behalf of or in connection with any organization(s) or government(s), committed for political, religious, ideological or similar purposes including the intention to influence any government and/or to put the public, or any section of the public, in fear.

This also excludes loss, damage, cost or expense of whatsoever nature directly or indirectly caused by, resulting from or in connection with any action taken in controlling, preventing, suppressing or in any way relating to any act of terrorism.

If the underwriters allege that by reason of this exclusion, any loss, damage, cost or expense is not covered by this insurance the burden of proving the contrary shall be upon the insured.

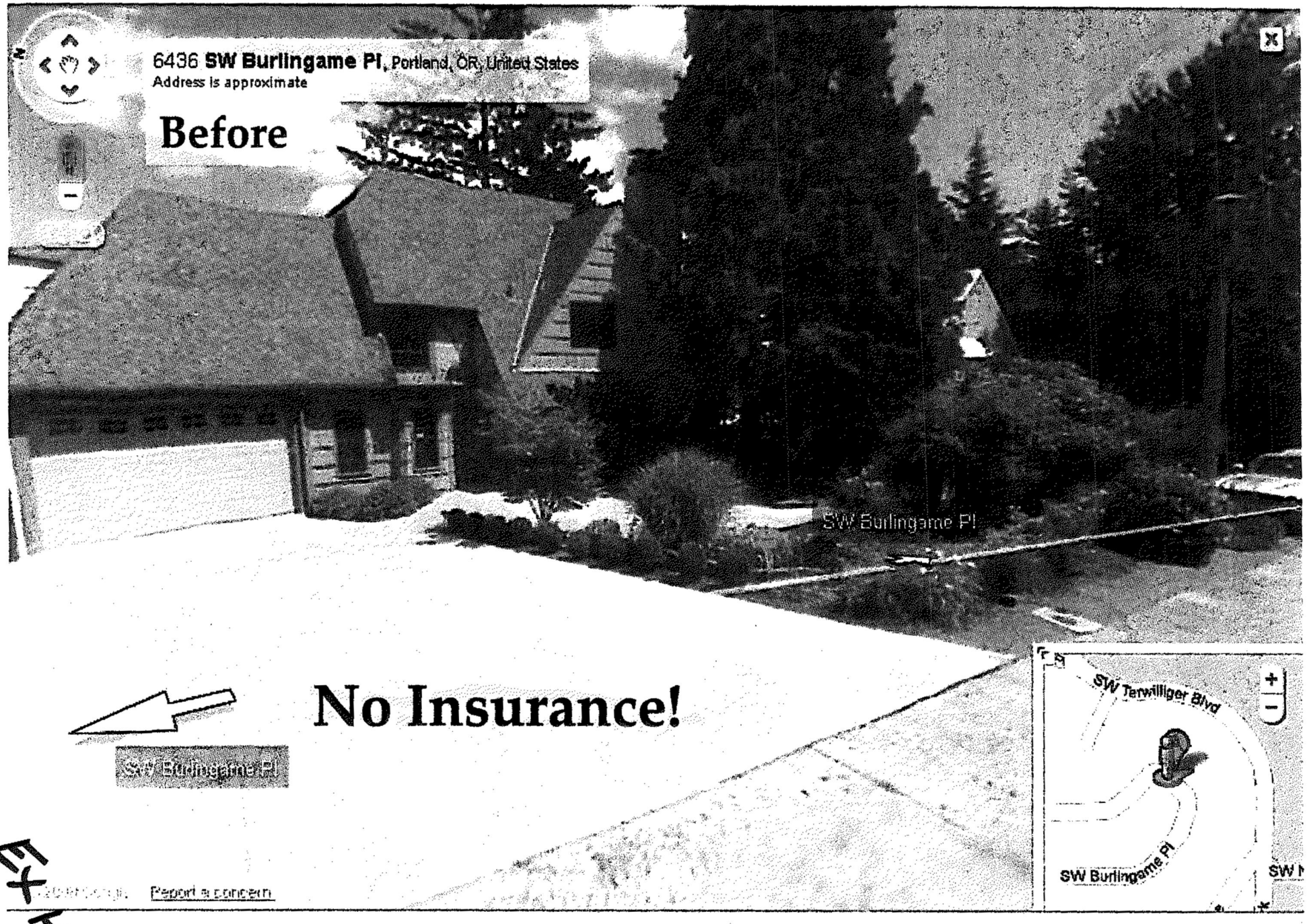
In the event any portion of this endorsement is found to be invalid or unenforceable, the remainder shall remain in full force and effect.

IV. Property Excluded

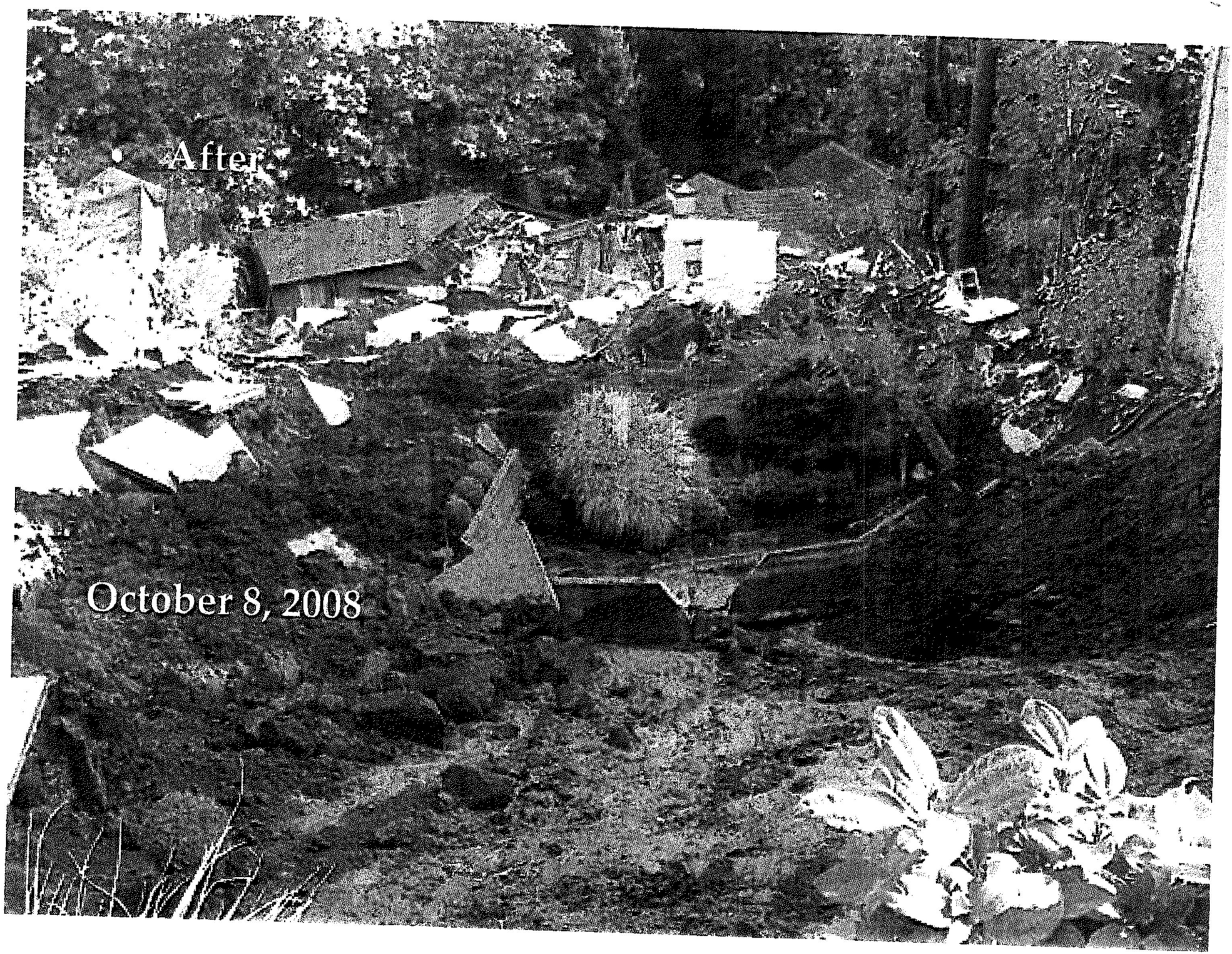
A. This Policy does not cover:

1. Land, land values, soil, water, air, or any interest or right therein.
2. **Building(s)** and other structures used in whole or in part for any commercial, farming or manufacturing purposes, other than residences on the **premises** held for rental.
3. Mobile homes; but this exclusion does not apply to modular or manufactured housing permanently attached to foundations.
4. Paved areas, including but not limited to parking lots, terraces, driveways, walkways, sidewalks, pavements, paths, curbing and swimming pools.
5. Bridges, steps and stairs; wharves, piers and jetties, unless physically attached to any **building(s)**.
6. Retaining walls whether or not necessary for the continuing stability of any part of the **premises**, and whether or not attached to any **building(s)**.
7. Fences; embankments and earthen structures, tanks, wells, ponds, dams, and dikes.
8. Trees, shrubs, lawns, plants, landscaping costs, animals, birds or fish.
9. Any aircraft or other aerial device, watercraft and their trailers, motorized and non-motorized vehicles other than motorized equipment used to maintain the **premises**.
10. Accounts, bills, currency, money, medals, notes, credit cards, securities, deeds, bullion, books of account, evidences of debt or title, manuscripts, passports, tickets, stamps and valuable papers.
11. Jewellery, watches, precious stones, precious metals, silverware, silver-plated ware, gold-ware, gold-plated ware, and pewter ware, fine art, objects d'art, firearms, sculpture and statuary, furs and garments trimmed with fur.
12. Loss or damage to the basement and/or real property and **personal property** suffering loss or damage within the basement where the basement has not been declared within the Policy Application for this insurance.

SPECIMEN


6436 SW Burlingame Pl, Portland, OR, United States
Address is approximate
Before
SW Burlingame Pl
No Insurance!
SW Burlingame Pl
SW Terwilliger Blvd
SW Burlingame Pl
Report a concern

Exh 1


After
October 8, 2008

http://www.gazettetimes.com/news/local/insurance-won-t-pay-for-landslide-damage/article_10c17900-5216-11e1-80fe-0019bb2963f4.html

Insurance won't pay for landslide damage

By Bennett Hall, Corvallis Gazette-Times Feb 8, 2012



A house on Vineyard Mountain shifted down the hillside Thursday morning. (Jesse Skoubo | Corvallis Gazette-Times)



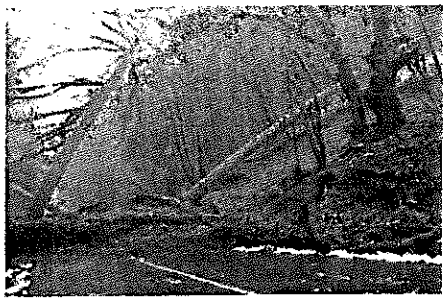
Like most homeowners, Bob and Gayna Flake had no coverage slide that wrecked their house

The owners of a Corvallis-area house knocked off its

EXH 8



Neighbors question drainage



Rains send earth moving

foundations by a landslide last month have plenty of insura but that doesn't mean they're covered.

"We have the same exclusion as everybody else," Bob Flake "At this point it looks like it's just a total loss."

Flake and his wife, Gayna, were awakened in the predawn hours of Jan. 19 by a call from their security company inforr them that a sliding glass door was broken. A quick inspectic revealed cracks in the walls, and soon the house at 5994 N.\ Rosewood Drive was breaking apart.

The couple got out before the structure failed completely, b now it's uninhabitable. The Flakes are staying at their daugh house and wondering what they're going to do next.

"We have $2 million worth of insurance, and it's not doing u any good," Bob Flake said. "And we've still got to pay the mortgage."

At first the Flakes, like many people, assumed their homeowners insurance would help them rebuild. As it turn out, however, landslides aren't covered by standard policies

"Homeowners insurance covers a whole lot of stuff, but ear movement isn't in there," said Ron Fredrickson, who manag the consumer advocacy team for the Oregon Insurance Division. "It's specifically excluded, as are earthquake and flood."

And while it's possible to buy additional coverage to protect against loss from flooding or earthquakes, landslide insurar is almost unheard of. It can be purchased only from highly specialized carriers called surplus lines companies, and it's liable to come with a hefty premium.

"I've yet to come across anybody who has it," Fredrickson sa

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The reason landslide coverage is so hard to come by — and pricey — is simple, Fredrickson said. Relatively few homeowners are ever likely to need it, but when they do, th damage is apt to be catastrophic — meaning the individual claims could be quite high.

Not the kind of odds that appeal to underwriters.

"The chance of loss is very great for a small number of peop he said.

For the Flakes, the loss has been devastating, and they've retained an attorney to explore the possibility of a lawsuit tc recover some of their investment. The couple believe Bento County should shoulder at least some of the blame for a drainage system that routed runoff from the January storm directly onto their property.

County officials say the drainage system was designed by a private developer and was built years before the county assumed responsibility for the road that runs through the

REPLINGER & ASSOCIATES LLC
TRANSPORTATION ENGINEERING

February 5, 2018

Mr. Pete Walter
City of Oregon City
PO Box 3040
Oregon City, OR 97045

SUBJECT: REVIEW OF TRAFFIC IMPACT STUDY – PARK PLACE ANNEXATION AND REZONING – AN17-04 & ZC17-05

Dear Mr. Walter:

In response to your request, I have reviewed the materials submitted in support of the proposed Park Place annexation to the city and rezoning. The relevant materials consisted of the Traffic Impact Study (TIS), dated August 2, 2017. It was prepared under the direction of Michael T. Ard, PE of Lancaster Engineering.

The proposed annexation and rezoning is for 92 acres located to the north and west of S Livesay Road and south of Holcomb Boulevard. Upon annexation, 87.5 acres of the property will be rezoned to R-5 zoning and 4.5 acres of the property will be rezoned to Neighborhood Commercial, in conformance with the city's Comprehensive Plan. The development scenario evaluated in this TIS was for 533 single-family dwellings and 49,000 of community commercial space.

The TIS provides a comparison of the future traffic operations for key intersections both with and without the proposed rezoning as a basis for assessing compliance with the Transportation Planning Rule. Current county zoning is calculated to allow 11 single-family dwellings.

The TIS provides a basis upon which the annexation and rezoning proposal can be evaluated.

Comments

1. ***Study Area.*** The study addresses the appropriate intersections. The engineer evaluated traffic patterns and traffic volumes and evaluated sixteen locations. The key intersections were:

    1. Interstate 205 (I-205) southbound ramps at McLoughlin Boulevard (OR-99E);
    2. I-205 northbound ramps at OR-99E;
    3. 15th Street at OR-99E;
    4. 14th Street at OR-99E;

5. Abernethy Road/S Holcomb Boulevard at Redland Road;
6. Abernethy Road at Washington Street;
7. 15th Street at Washington Street;
8. 14th Street at Washington Street;
9. 14th Street at Main Street;
10. I-205 southbound ramps at Trails End Highway (OR-213);
11. I-205 northbound ramps at OR-213;
12. Prairie Schooner Way/Clackamas River Drive at OR-213;
13. Redland Road at OR-213;
14. Beavercreek Road at OR-213;
15. Holly Lane at S Holcomb Boulevard (future intersection); and
16. Holly Lane at S Redland Road.

These intersections were identified for the study in consultation with city staff and the Oregon Department of Transportation (ODOT). The study area is appropriate.

2. ***Traffic Counts.*** Most of the traffic counts were conducted in January 2017 and May 2017. Some intersections were counted during 2015 and 2016 but were adjusted to 2017 conditions based on the difference observed at nearby intersections to account for regional growth during the intervening period. The adjustments appear adequate to account for base year 2017 conditions at the intersections in #1, above. Traffic counts were conducted during the AM and PM peak periods. The base year traffic volumes appear reasonable.

3. ***Trip Generation.*** The TIS presents information on trip generation under both current and proposed zoning. Under current county zoning, the engineer calculated 8 AM peak hour trips; 11 PM peak hour trips; and 104 total weekday trips. Under the proposed zoning, the engineer calculated trips from the construction of 533 new single-family dwellings and 49,000 square feet of neighborhood commercial establishments. The trip generation rates were taken from the Institute of Transportation Engineers' *Trip Generation Manual – 9th Edition.* The engineer calculated the neighborhood commercial development using the trip generation rate for shopping centers using ITE land use code 820. He accounted for internal trips (those that remain within the zone, and pass-by trips for the neighborhood commercial area. The engineer calculated the combination of residences and neighborhood commercial would produce 393 AM peak hour trips; 542 PM peak hour trips; and 5,712 total weekday trips that need to be accounted for on the major street network.

   The Oregon Department of Transportation has raised concerns that the amount and type of development analyzed for the neighborhood commercial area does not represent the reasonable worst case development scenario. Further analysis of a more intense development scenario for the 4.5 acres of neighborhood commercial land will be necessary to fully assess compliance with the Transportation Planning Rule.

4. Trip Distribution. The engineer's trip distribution shows traffic using a variety of routes and distribution to major regional facilities as follows:

- Approximately 25 percent of site trips will travel to/from the northeast along I-205;
- Approximately 15 percent of site trips will travel to/from the southwest along I-205;
- Approximately 13 percent of site trips will travel to/from the southwest along Washington Street;
- Approximately 9 percent of site trips will travel to/from the east along S Holcomb Boulevard;
- Approximately 9 percent of site trips will travel to/from the east along S Redland Road;
- Approximately 8 percent of site trips will travel to/from the north along OR-99E;
- Approximately 4 percent of site trips will travel to/from the south along S Holly Lane;
- Approximately 3 percent of site trips will travel to/from the southwest along Main Street;
- Approximately 3 percent of site trips will travel to/from the southwest along S Anchor Way;
- Approximately 2 percent of site trips will travel to/from the south along OR-213;
- Approximately 1.5 percent of site trips will travel to/from the west along Beavercreek Road;
- Approximately 1 percent of site trips will travel to/from the southwest along OR-99E;
- Approximately 0.5 percent of site trips will travel to/from the east along Beavercreek Road; and
- Approximately 6 percent of site trips will travel to/from locales within the immediate vicinity, including surrounding residential areas, Holcomb Elementary School, and other land-uses such as Steve's Marketplace and the Quick Stop Market.

For traffic to and from the subject area, Redland Road is calculated to be the most heavily utilized route with a lesser amount of traffic using Holcomb Boulevard.

The trip distribution seems reasonable.

5. Traffic Growth. The engineer calculated 2035 traffic volumes using several factors. The predicted increase in total peak hour trips specified in the Transportation System

Plan (TSP) were used to develop an annual traffic volume increase applicable to local streets. ODOT's Future Volume Tables were used to calculate increases in traffic on Highway 213 and Highway 99E. This methodology is likely to produce somewhat different future year volumes than those developed from a regional transportation model, as used in the TSP, for example, but the methodology does allow a good assessment of the impact of the proposed zone change with assumed development of the subject property.

The engineer also accounted for the effect of the North Holly Lane Extension between Holcomb Boulevard and Redland Road, project D48 in the TSP. This new facility is predicted to cause some adjustment to existing traffic patterns by allowing traffic from Holcomb Boulevard to go south to Redland Road and beyond.

It is worth noting that transportation analysis zone (TAZ) 726, which includes the subject property, is predicted in the TSP to experience an increase of 397 dwelling units prior to 2035. The development of the subject property as assumed in the TIS is somewhat more intense than assumed in the TSP.

6. ***Analysis.*** Traffic volumes were calculated for the intersections described in #1, above. At each location, the level of service (LOS), delay calculations, and the volume-to-capacity ratio (v/c) were provided to assess operations relative to the ODOT and city's operational standards. The analysis was undertaken for the AM and PM peak hours and included year 2017 existing conditions, 2035 background conditions, and year 2035 traffic conditions with the proposed zone change.

   According to the analysis, six intersections are predicted to fail to meet the applicable performance standards by 2035, the TSP planning horizon year. At some intersections, the predicted failure is attributable to growth in background traffic with minimal effect from the proposed rezoning. In other cases, some degradation in performance is significant and is attributable to the rezoning. Each of these is discussed below.

   At the I-205/99E interchange, both the northbound and southbound ramp terminals are predicted to fail to meet ODOT performance standards by 2035 with or without the proposed rezoning and development. This prediction is consistent with the TSP, which included projects to improve the southbound ramp terminal (TSP Project D75) and the northbound ramp terminal (TSP Project D76). The TIS predicts that the v/c at the southbound ramp terminal would be 1.21 during the AM peak hour and 1.13 during the PM peak hour with or without the annexation and rezoning. The TIS predicts that the v/c at the northbound ramp terminal would be 1.33 during the AM peak hour and 1.17 during the PM peak hour with or without the annexation and rezoning. With dual turn lanes and ramp widening, both ramp terminals are predicted to operate within adopted performance standards.

In its current configuration, the intersection of Highway 213/Redland Road is also predicted to fail to meet intersection performance standards during the PM peak hour in 2035 with or without the proposed rezoning. The predicted performance is worse with the rezoning. The calculated v/c during the PM peak hour is 1.19 under background conditions and 1.23 with the annexation. The TSP proposed a solution for the predicted failure to achieve operational standards at the intersection of Highway 213/Redland Road. The principal capacity-increasing feature of this project was increasing the number of through lanes on Highway 213 in both the northbound and southbound directions. The engineer calculated that the PM peak hour v/c would decrease to 0.94, easily meeting the adopted performance standard. The Highway 213/Redland Road project, identified in the TSP as project D79, was listed among the "not likely to be funded" category. It is, however, listed in the financially-constrained project list in the Regional Transportation Plan.

According to the analysis, the impact of the zone change and development of the subject property has virtually no effect on the intersection of Highway 213/Beavercreek Road. The predicted increase in traffic volumes from potential development of the 92 acres is only 15 trips during the AM peak hour and 21 trips during the PM peak hour. These volume changes are insignificant in comparison to the current volumes – over 4500 during the AM peak hour and over 6000 during the PM peak hour. The calculated v/c for the 2035 background condition and the 2035 total traffic condition with the annexation and development is the same using the standard level of precision of calculating the v/c to two decimal points, which is the customary approach. The city's *Guidelines for Transportation Impact Analyses* specify a threshold value of 20 peak hour trips to trigger analysis of an intersection. Since this value is exceeded during the PM peak hour, it is appropriate for the applicant to share in the cost of a project to improve the intersection's performance. A project to improve the operation of this intersection was identified in the 2017 Highway 213 Corridor Alternative Mobility Targets study. The project cost was estimated to be $1.5 million. Inclusion of this project in the TSP is anticipated with an amendment planned for 2018.

The intersection of Highway 99E/14th Street is also predicted to operate below adopted performance standards in 2035. Under both 2035 background conditions and 2035 with the annexation, the intersection is predicted to operate at a v/c of 1.14 during the AM peak hour. The long delays and lengthy queues impact adjacent intersections including Main Street/14th Street. Washington Street/14th Street is also predicted to fail to meet operational standard and is calculated to operate at 1.06 and 1.17 under 2035 background conditions during the AM and PM peak hours respectively. With the increased traffic associated with the annexation, the performance is expected to degrade to v/c of 1.12 and 1.26 for the AM and PM peak hours respectively. To address the operational problems at these intersections, the TSP identified Projects D7, D8, and D13. These involve reconfiguration of several streets including 14th Street and 15th Street and signal modifications.

In addition to the six intersections identified above that are predicted to fail to meet operational standards, the intersection of Abernethy/Holcomb/Redland Road was predicted to operate at a v/c of 1.08 during the PM peak hour. Since this intersection is within the regional center, the applicable v/c standard is 1.10, but motorists using intersections operating at a v/c greater than 1.0 will experience poor performance. In the TIS, the engineer explored mitigation concepts that could be used to improve the performance of the Redland Road/Holcomb Boulevard/Abernethy Road intersection. He concludes that adding an eastbound right turn lane to the Abernethy Road approach would improve the intersection's performance to a v/c of 0.93 during the PM peak hour. This offers a feasible, potential solution that would allow the intersection operate better than it would in its current configuration. Additional analysis of this concept could lead to inclusion of a project at this location in the TSP.

The engineer also analyzed two other intersections that are important: Redland Road/Holly Lane and Holcomb Boulevard/Holly Lane. The former is currently a three-leg, T-intersection; the second does not exist. Both are identified in the TSP for future roundabouts. The Redland/Holly intersection is identified as TSP Project D36; the Holcomb/Holly intersection is TSP Project D43. The engineer calculated that the Holcomb/Holly intersection would operate acceptably as a stop-controlled intersection or as a roundabout. He calculated that the Redland/Holly intersection would meet warrants for left-turn lanes on both Redland approaches and it would meet warrants for installation of a traffic signal by 2035. He also calculated that it would operate acceptably either as a signal-controlled intersection or as a roundabout as specified in the TSP.

The engineer's operational analysis and explanation of potential mitigation measures appears appropriate.

7. ***Crash Information.*** The TIS provides crash information for the five-year period from 2011 through 2015. Two intersections experienced a crash rate in excess of 1.0 crashes per million entering vehicles. These two intersections are discussed below.

   The crash history at the intersection of Highway 213/Beavercreek Road puts it in the top ten percent of high crash locations in the state. The engineer summarizes the crash history. Rear-end crashes are the most common type. The engineer recommended installation of a queue warning system and notes that the TSP includes a project (D14) that would involve a queue warning system. This project is in the likely to be funded category. The very few numbers of vehicles added to the intersection from the subject annexation and development have no measurable effect on the need for implementation of this project or any other safety mitigation measures at the Highway 213/Beavercreek Road intersection.

The intersection of Main Street and 14th Street experienced a crash rate of just under 1.5 reported crashes per million entering vehicles. The high crash rate at this intersection has been previously documented. Many of the crashes at this intersection are susceptible to correction by conversion to all-way stop-control. As noted above, TSP projects D7 and D8 would involve modification of this intersection.

The engineer supports the implementation of the queue warning system at Beavercreek/213 (TSP Project D14) and conversion of Main Street/14th Street (TSP Project D7). There is no reason to expect that the proposed annexation would have a disproportionate effect on the safety of the transportation system.

8. ***Transportation Planning Rule Analysis.*** Because the proposed annexation also involves rezoning of the property to R-10, a TPR analysis is also included. The analysis is predicated on the development of the land at a density that would allow 533 single-family dwellings and 4.5 acres of neighborhood commercial establishments. The engineer states that the proposal does not change the functional classification of any existing or planned transportation facility and does not alter the standards for implementing the functional classification system.

   As discussed in #6, above, the annexation and development of the subject property is predicted to degrade the performance at key intersections such that these intersections would not meet applicable performance standards. The applicant's participation in the funding of projects identified in the TSP or from other analyses area proposed to mitigate for these impacts.

   A new analysis of a more intense development scenario will be needed to adjust the applicant's share for funding of projects. A more intense development scenario can be expected to slightly increase the applicant's share of projects needed to serve the development.

9. ***Conclusions and Recommendations.*** As stated in the TIS, several intersections are predicted to fail to meet applicable performance standards. The engineer recognizes that conditions may be necessary to limit development to that allowed under current zoning or development agreements provide for mitigation in proportion to the development's impacts.

Conclusions Recommendations

I find that the TIS provides an adequate basis upon which to assess the impacts of the proposed annexation and rezoning. I agree that the proposal does not cause the need for change in the functional classification of any existing or planned facility. I concur with the engineer's analysis concluding that key intersections will fail to meet adopted performance standards at the following intersections:

- I-205/99E Northbound Ramp Terminal
- I-205/99E Southbound Ramp Terminal
- Highway 213/Redland Road
- Highway 99E/14th Street
- 14th Street/Washington Street
- Beavercreek/Highway 213

Two intersections critical to the development of the subject property will need to be created or significantly modified to serve their role in the city's transportation network: Holcomb Boulevard/Holly Lane and Redland Road/Holly Lane.

In addition, poor operating performance is predicted at the intersection of Redland Road/Holcomb Boulevard/Abernethy Road. The engineer's analysis indicates that the addition of an eastbound right-turn lane would significantly improve the performance of the intersection.

Recommendations

To verify the engineer's conclusion that the proposed action is in compliance with the TPR, the applicant needs to revise and update the TIS using a more intense development scenario that in ODOT's judgment represents a reasonable worst case development scenario for the 4.5 acres of neighborhood commercial land.

With regard to the proposed annexation and zone change, I recommend that as a condition of approval the following be included:

> At such time as a detailed development plan is prepared or in connection with development of a master plan, the applicant will need to submit additional materials to address specific requirements outlined in the city's *Guidelines for Transportation Impact Analyses*. These include, but are not limited to requirements associated with intersection spacing and sight distance. The applicant will also need to address trip generation associated with the specific uses proposed in such developments, especially as it relates to the 4.5-acre community commercial property, which for this TIS was evaluated using the generic "shopping center" category.

With regard to the mitigation for off-site transportation impacts of proposed development, I recommend the following conditions of approval:

> At the time that a General Development Plan or Detailed Development Plan for the subject property is approved the following conditions shall apply:

The developer shall participate in the funding of improvements for the I-205/OR-99E ramp terminal projects (TSP Projects D75 and D76) in proportion to the development's traffic volumes as a percentage of total year 2035 intersection volumes from the TSP. The project cost for D75 is $3,000,000. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 0.76 percent of the 2035 volume and the development's share of the project is $22,800. The project cost of D76 is $3,000,000. The development accounts for 0.70 percent of the 2035 volume and the development's share is $21,000.

The developer shall participate in the funding of improvements for the Main Street/14th Street improvements (TSP Projects D7 and D8) in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume at the intersection calculated in the TSP. The higher cost option in the TSP is listed at $670,000. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 2.98 percent of the 2035 volume and the development's share of the project is $19,966.

The developer shall participate in the funding of improvements for the Abernethy/Holcomb/Redland intersection in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume. No project is currently identified in the TSP. The project concept is to provide an additional lane on the eastbound approach; it may involve restriping or widening and signal modifications. No project cost is available at this time. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 13.34 percent of the 2035 volume.

The developer shall participate in the funding of improvements for the intersection of OR213/Redland Road (TSP Project D79) in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume at the intersection calculated in the TSP. The TSP project cost is listed at $10,060,000. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 3.58 percent of the 2035 volume and the development's share of the project is $360,148.

The developer shall participate in the funding of improvements for the Holly Lane/Holcomb Boulevard intersection (TSP Project D43) in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume. Project D43 is a roundabout with an estimated project cost in the TSP of $505,000. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 22.67 percent of the 2035 volume and the development's share of the project is $114,484.

The developer shall participate in the funding of improvements for the Holly Lane/Redland Road intersection (TSP Project D36) in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume. Project D36 is a roundabout with an estimated project cost in the TSP of $515,000. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 21.33 percent of the 2035 volume and the development's share of the project is $109,850.

The developer shall participate in the funding of improvements for the Highway 213/Beavercreek Road intersection in proportion to the development's traffic volume as a percentage of the predicted 2035 traffic volume. A project to add a right-turn lane on westbound Beavercreek Road and a merge lane on northbound Highway 213 was identified in the July 2017 Highway 213 Corridor Alternative Mobility Study. The project's cost was estimated at $1.5 million. Inclusion of this project in the TSP is anticipated by an amendment planned during 2018. Based on this methodology and the preliminary PM peak hour trip generation from the proposed development, the development accounts for 0.30 percent of the 2035 volume and the development's share of the project is $4,500.

The applicant's preliminary proportionate share for project listed above as conditions of approval are based on the assumption that the 4.5 acre commercial development is developed as a shopping center. A more intense development is likely to increase the applicant's share of projects as calculated above.

The applicant's final share of project costs may be modified as necessary when a Master Plan is approved to reflect any a modification of the development's trip generation or a change in project costs resulting from revisions to project costs associated with an updates to the City's Transportation System Plan or Capital Improvement Program.

If you have any questions or need any further information concerning this review, please contact me at replinger-associates@comcast.net.

Sincerely,



John Replinger, PE
Principal

Oregon City\2017\AN17-04v3

AN 16-05 Fiscal impact to provide public services, over typical project cost

Note: The easterly off-site sewer mains shown on the map below (12" & 21") are NOT needed to serve the annexation area. Those costs would be borne by the future annexation of property south of Livesay Road.

SANITARY SEWER:

Oregon City Sanitary Master Plan 2014 and Park Place Concept Plan

Green = mains to be constructed per master plan
Yellow = AN 16-05
Red dotted line = approximate total boundary of basin to lower convergence point on Redland Road

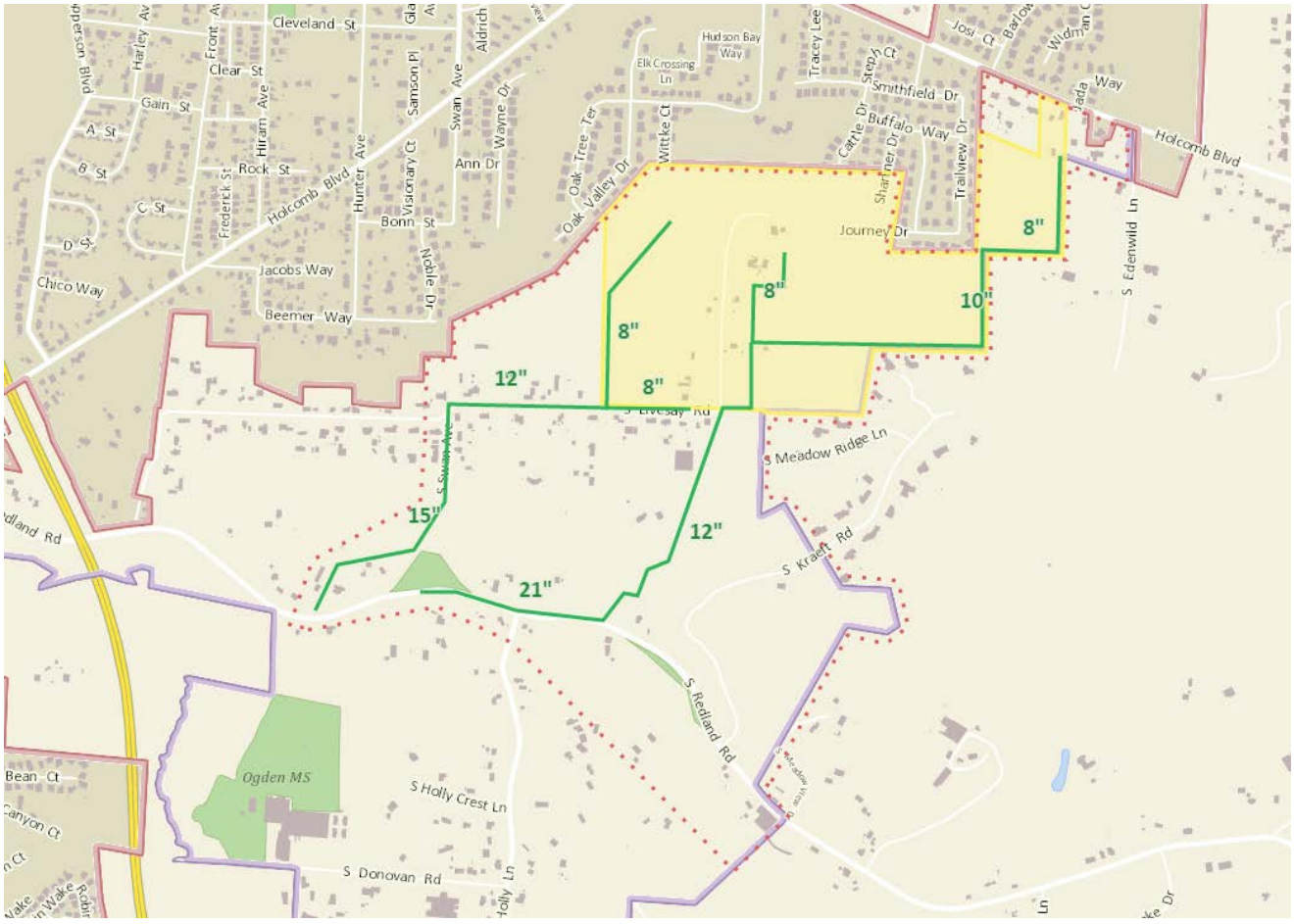
1. Within Site Boundary: In yellow area, AN 16-05 derives 100% of benefit from sanitary mains lying within boundaries. These mains are the minimum size needed to serve the development, and should not be included in the fiscal impact figure.

2. Offsite Improvements: Outside yellow area, within red dotted line, AN 16-05 derives a portion of the benefit from sanitary mains lying between site boundary and total basin boundary, or 91 acres/265 acres = 34%
   _3,000_ LF x $225 /LF x 34% = $ 229,500

3. Offsite easement or right-of-way: _30,000_ SF x $_2.50_/SF land acquisition cost = $_75,000_

4. No SDC Credits anticipated at this time.

5. **Approximate fiscal impact of providing public sanitary service, over typical project cost = $**_304,500__



WATER:
Oregon City Water Master Plan 2012 and Park Place Concept Plan

Red dashed area = approximate limits of AN 16-05

- Proposed annexation area appears to be located within the Park Place Intermediate pressure zone, Park Place Upper pressure zone, and Park Place Livesay Road pressure zone.
  - Upper Zone is served by Clackamas River Water (CRW) through HOPP Agreement.
  - Intermediate zone is served by Oregon City.
  - Livesay Road Zone is a sub-zone that will be rezoned with the development of the annexation area.
- Water Infrastructure required:
  - 12”-inch waterline required through annexation area providing transmission/distribution main from Holcomb Boulevard to Livesay Road.
  - One pressure reducing valve station between Park Place Intermediate zone and Park Place Lower zone.
  - Removal of one water pump station at Livesay Road when Livesay Road zone is rezoned to Intermediate zone.

Within limits of annexation Site Boundary: AN 16-05 needs 100% of 12” water main from Holcomb Boulevard to Livesay Road, one pressure reducing valve station, and removal of one water pump station.

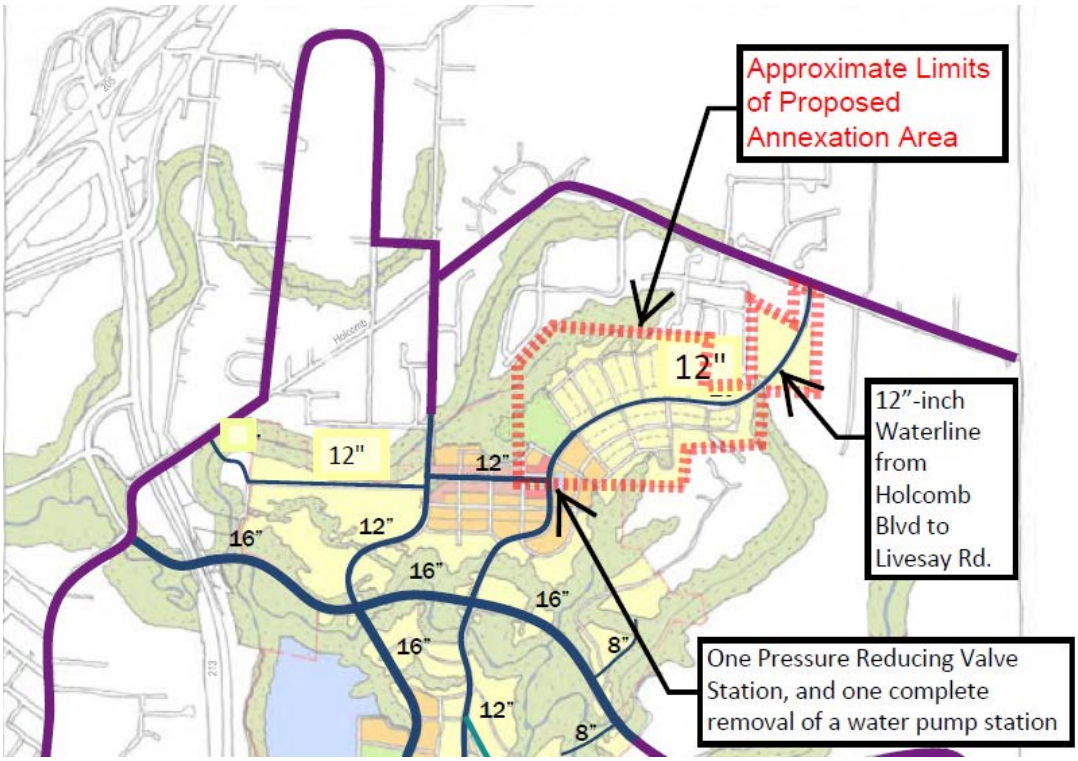
1. (4,000 LF of 12-inch waterline and all appurtenances) x $_170_/LF x 100% = $__680,000____

2. (one pressure reducing valve station) x $20,000_ Lump Sum x 100% = $20,000___

3. (one complete removal of water pump station) x $15,000 Lump Sum x 100% = $15,000____

4. No SDC Credits anticipated at this time.

5. **Approximate fiscal impact of providing public water service, over typical project cost = $715,000**



Tri City Service District Annexation Packet

Contact: Rob Hungerford
Technical Services Specialist
Water Environment Services
150 Beavercreek Road
Oregon City, OR 97045

Ph# 503-742-4576
Dept. Ph# 503-742-4567

Revised June 2017

ANNEXATION FEES

The elections office will require two checks with boundary change applications: one to Clackamas County for the application fee, and the second to Metro for the "mapping fee". The former will be deposited by the County, and the latter sent along to Metro's Boundary Commission's agent with the application materials.

ANNEXATION OR WITHDRAWAL FROM THE SEWER DISTRICT INSIDE THE REGIONAL URBAN GROWTH BOUNDARY:

(Check payable to Clackamas County)

1. Consisting of 1 acre or less…….$225
2. Consisting or more than 1 acre, but less than 2 acres…….$395
3. Consisting of at least 2 acres, but less than 5 acres…… $605
4. Consisting of at least 5 acres, but less than 10 acres……. $895
5. Consisting of at least 10 acres, but less than 20 acres…… $1160
6. Consisting of at least 20 acres, but less than 40 acres…… $1535
7. Consisting of 40 acres or more……...$1835

MAPPING FEE

(An additional mapping fee will be charged for all applications according to the schedule below, check payable Metro 3/15/2000).

1. Single tax lot of less than 1 acre…….$150
2. 1 – 5 acres……...$250
3. 5 – 40 acres……..$300
4. Greater than 40 acres……..$400

Annexation Instruction Information

Water Environment Services
A Department of Clackamas County
(On Behalf of Tri City Service District)
150 Beavercreek Road
Oregon City, Oregon 97045
PHONE: 503-742-4567
FAX: 503-742-4565

The Annexation Packet needs to be filled out in order to process the annexation request.

You need to fill out the following forms:

- ❑ (1) PETITION OF ALL LAND OWNERS (Please include Exhibit A with legal description and Exhibit B with map of proposed area if possible)
- ❑ (2) PETITION for ANNEXATION of TERRITORY to TRI CITY SERVICE DISTRICT
- ❑ (5) LIST OF LANDOWNER(S)
- ❑ (6) LIST OF SURROUNDING LANDOWNER(S) & MAILING LABELS
- ❑ (7) BOUNDARY CHANGE DATA SHEET
- ❑ (8) Attachments, surveys, deeds, records, plats (if necessary)
- ❑ (9) Tax lot Map with boundary change highlighted

After you complete the above forms submit the uncompleted packet and the required checks (One to Clackamas County for the application fee and One to Metro for the mapping fee) to Water Environment Services (WES).

WES will complete forms listed below.

The District will complete the following form:

- ❑ (3) CERTIFICATION OF PETITION OF LAND OWNER(S)
- ❑ (4) CERTIFICATION OF LEGAL DESCRIPTION AND MAP
- ❑ (11) ENDORSEMENT OF ANNEXATION OF TERRITORY TO TRI CITY SERVICE DISTRICT
- ❑ (12) AFFIDAVIT OF POSTING

Once all the forms are completed, the packet is taken to Clackamas County Election Division, along with the two checks. The Election Division takes the packet and forwards the County check to County Finance, and submits the completed annexation packet along with the check made out to Metro to Clackamas County Boundary Consultant.

Annexation Checklist for WES

Date / Initials

- ☐ **1)** Petition of Landowners, with Legal Description Attached & Area Map
- ☐ **2)** Petition - Signature Form
- ☐ **3)** Certification of Property Ownership & Certification of Legal Description
- ☐ **4)** Notice List (Property Owners Info) and Mailing Labels
- ☐ **5)** Boundary Change Data Sheet
- ☐ **6)** Attachments, surveys, deeds, records, plats
- ☐ **7)** Taxlot Map with boundary change highlighted.
- ☐ **8)** WES Director's recommendation to annex

- ☐ **A)** Compliance Review (Submit to County Clerk w/ Fees)
- ☐ **B)** Public Hearing Date
- ☐ **C)** Public Hearing Notice
- ☐ **D)** Staff Report
- ☐ **E)** Public Hearing
- ☐ **F)** Board Approval / Denial

PETITION OF LAND OWNER(S)
FOR A DISTRICT ANNEXATION

PETITION FOR ANNEXATION TO THE: Tri City Service District, a district organized under ORS 451. This petition is filed pursuant to ORS 198.705 to 198.955.

TO: The Board of Commissioners of Clackamas County

We, the undersigned land owner(s) in the territory proposed to be annexed, as described below, hereby petition for, and give our consent to, annexation of the area to the Tri City Service District.

The area to be annexed is inhabited.

Other affected districts (if any), and the principal Act of each are: _____

The affected county is: Clackamas County

The proposed annexation is subject to the following terms and conditions (if any):

_____

We request that the Board of Commissioners, the governing body of Tri City Service District, undertake annexations proceedings pursuant to ORS 198.850 to 198.869.

The Chief Petitioners are: _____
(name)

_____
(name)

_____
(name)

The property to be annexed is described as follows:

See Exhibit A for description
See Exhibit B for map

ANNEXATION PETITION - LANDOWNER SIGNERS

To: The Board of Commissioners of Clackamas County

We, the undersigned land owners in the area described below, hereby petition for, and give our consent to, annexation of the area to the Tri City Service District.

Land Owner Signature(s)	Printed Name	Mailing Address	Land Address, or Taxlot No.	Date

I, _____, certify that every person who signed this petition did so in my presence.

CERTIFICATION OF LAND OWNERS

ORS 198.855(3) If the annexation petition is signed by all of the owners of all land in the territory proposed to be annexed or is signed by a majority of the electors registered in the territory proposed to be annexed and by the owners of more than half of the land in the territory, an election in the territory and district shall be dispensed with. After the hearing on the petition, if the county board approves the petition as presented or as modified or, if an election is held, if the electors approve the annexation, the county board shall enter an order describing the boundaries of the territory annexed and declaring it annexed to the district (https://www.oregonlaws.org/ors/198.855)

Petition signed by all landowners (100%)

I hereby certify that the attached petition for a proposed boundary change involving the territory described in the petition contains the names of the owners* of all land in the territory proposed to be annexed within the area described in the petition, as shown on the last available complete assessment roll.

NAME_____

TITLE_____

DEPARTMENT_____

COUNTY OF CLACKAMAS

DATE_____

*"Landowner" or "owner of land" means any person shown as the owner of land on the last available assessment roll; however, where such person no longer holds the title to the property, then the terms mean any person entitled to be shown as owner of land on the next assessment roll; or, where land is subject to a written agreement of sale, the terms mean any person shown in the agreement as purchaser to the exclusion of the seller; and the terms include any public agency owning land.

CERTIFICATION OF LEGAL DESCRIPTION AND MAP

I hereby certify that the description of the property included within the attached petition (located on Assessor's Map _____) has been checked by me and it is a true and exact description of the property under consideration, and the description corresponds to the attached map indicating the property under consideration.

NAME_____

TITLE_____

DEPARTMENT_____

COUNTY OF CLACKAMAS

DATE_____

LIST OF LAND OWNERS

(This form is NOT the petition)

LIST ALL LAND OWNERS OF PROPERTY INCLUDED IN BOUNDARY OF THE AREA PROPOSED TO BE ANNEXED.

(Only those land owners within the area of annexation)

NAME OF OWNER	ADDRESS	PROPERTY DESIGNATION (Indicate tax lot, section number township and range)
(1)		
(2)		
(3)		
(4)		
(5)		
(6)		
(7)		

(Attached additional sheets if necessary)

NOTICE LIST FOR SURROUNDING PROPERTY OWNERS

(This form is NOT the petition)

*LIST ALL LAND OWNERS OF PROPERTY WITHIN **100 FEET** OF THE OUTSIDE BOUNDARY OF THE AREA TO BE ANNEXED. IF THE TERRITORY TO BE ANNEXED IS OUTSIDE AN URBAN GROWTH BOUNDARY, THE DISTANCE IS **250-FEET**, OR **500-FEET** IF THE TERRITORY TO BE ANNEXED WITHIN A FARM OR FOREST ZONE.*

NAME OF OWNER	ADDRESS	PROPERTY DESIGNATION (Indicate township and range, section, tax lot number)
(1)		
(2)		
(3)		
(4)		
(5)		
(6)		

(Attach additional sheets if necessary)

BOUNDARY CHANGE DATA SHEET

I. EXISTING CONDITIONS IN AREA TO BE ANNEXED OR WITHDRAWN

A. General location _____

B. Land Area: Acres ___ or Square Miles _____

C. General Description of Territory. (Include topographic features such as slopes, vegetation, drainage basins, floodplain areas, which are pertinent to this proposal.)

_____

_____.

D. Describe land uses on surrounding parcels. Use tax lots as reference points.

North: _____

East: _____

South: _____

West: _____

E. Existing Land Use:

Number of single family units:_____ Number of multi-family units:_____

Number commercial structures:_____ Number industrial structures:_____

Public facilities or other uses:_____

What is the current use of the land proposed to be annexed:

_____

F. Current year total Assessed Value: $_____

G. Total existing population: _____

II. REASON FOR BOUNDARY CHANGE

A. The County Board is required to utilize the criteria spelled out in ORS 199.462 to determine if the area can be benefited by annexation to the District. That statute says the County " . . . . shall consider local comprehensive planning for the area, economic, demographic, and sociological projections pertinent to the proposal, and past and prospective physical developments of land that would directly or indirectly be affected by the proposed boundary change **. . .** " The Metro Code spells out additional criteria for consideration (Metro Code 3.09.050):

1. Consistency with directly applicable provisions in an urban service provider agreement or annexation plan adopted pursuant to ORS 195.065. [Urban service provider agreements are agreements between various service providers about who will provide which services where. Annexation plans are timelines for annexation, which can only be done after all required 195 agreements are in place and which must have been voted on by the City residents and the residents of the area to be annexed.]
2. Consistency with directly applicable provisions of urban planning or other agreements, other that agreements adopted pursuant to ORS 195.065, between the affected entity and a necessary party.
3. Consistency with specific directly applicable standards or criteria for boundary changes contained in comprehensive land use plans and public facility plans.
4. Consistency with specific directly applicable standards for boundary changes contained in the Regional Framework Plan or any functional plan.
5. Whether the proposed boundary change will promote or not interfere with the timely, orderly and economic provision of public facilities and services.
6. The territory lies within the Urban Growth Boundary.
7. Consistency with other applicable criteria for the boundary change in question under state and local law.

You may wish to provide additional information on all or any of these considerations. Use additional pages if necessary.

III. LAND USE AND PLANNING

A. If the property to be served is entirely or substantially undeveloped, what are the plans for future development? Be specific. Describe type (residential, industrial, commercial, etc.), density, etc.

_____

_____

_____

B. Is the subject territory inside or outside the Metro Regional Urban Growth Boundary? _____

C. Do agreements pursuant to ORS 195.065 exist for this area and if so how does this proposal measure up to those agreements?

_____

D. What is the applicable County Planning Designation?_____ Or City Planning Designation?_____
Does the proposed development comply with applicable regional, county or city comprehensive plans? Please describe.

_____

_____

E. What is the zoning on the territory to be served?

_____

F. Can the proposed development be accomplished under current county zoning?

☐ Yes ☐ No

If No, ---has a zone change been sought from the county either formally or informally.

☐ Yes ☐ No

G. Please describe outcome of zone change request if answer to previous question was Yes.

_____

H. Is the proposed development compatible with the city's comprehensive land use plan for the area?

☐ Yes ☐ No ☐ City has no Plan for the area

Has the proposed development been discussed either formally or informally with any of the following? (Please indicate)

☐ City Planning Commission ☐ City Planning Staff
☐ City Council ☐ City Manager

Please describe the reaction to the proposed development from the persons or agencies indicated above.

_____

_____

I. Please indicate all permits and/or approvals from a City, County, or Regional Government that will be needed for the proposed development. If already granted, please indicate date of approval and identifying number:

APPROVAL	PROJECT FILE#	DATE OF APPROVAL	FUTURE REQUIREMENT
Metro UGB Amendment			
City or County Plan Amendment			
Pre-Application Hearing (City or County)			
Preliminary Subdivision Approval			
Final Plat Approval			
Land Partition			
Conditional Use			
Variance			
Sub-Surface Sewage Disposal			
Building Permit			

Please submit copies of proceedings relating to any of the above permits or approvals which are pertinent to the annexation.

J. If a city and/or county-sanctioned citizens' group exists in the area of the annexation, please list its name and the name and address of the contact person.

_____

_____

IV. SERVICES AND UTILITIES

A. Please indicate the following:

1. Location and size of nearest water line which can serve the subject area.

_____

_____

2. Location and size of nearest sewer line which can serve the subject area.

_____

_____

3. Proximity of other facilities (storm drains, fire engine companies, etc.) which can serve the subject area.

_____

_____

4. The time at which services can be reasonably provided by the district.

_____

5. The estimated cost of extending such facilities and/or services and what is to be the method of financing? (Attach any supporting documents.)

_____

_____

6. Availability of the desired service from any other unit of local government. (Please indicate the government.)

_____

7. What other assurances exist that demonstrate that urban services are now or can be made available?

_____

B. If the territory described in the proposal is presently included within the boundaries of or being served extraterritorially or contractually by any of the following types of governmental units, please so indicate by stating the name or names of the governmental units involved:

City _____ Rural Fire Dist. _____

County Service Dist._____ Sanitary District _____

Hwy Lighting Dist. _____ Water District _____

Grade School Dist._____ Drainage District _____

High School Dist. _____ Diking District _____

Library Dist. _____ Park & Rec District _____

Special Road Dist._____ Other Dist. Supplying Water Service_____

C. If any of the above units are presently servicing the territory (for instance, are residences in the territory hooked up to a public sewer or water system), please so describe.

_____

_____

_____

APPLICANT'S NAME: _____

MAILING ADDRESS: _____

_____

TELEPHONE NO.: _____(work)

_____ (Res.)

REPRESENTING: _____

DATE: _____

City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Staff Report

File Number: PC 18-019

Agenda Date: 2/12/2018

Status: Agenda Ready

To: Planning Commission

Agenda #: 3b.

From: Community Development Director Laura Terway

File Type: Planning Item

SUBJECT:

LE 17-02 Legislative Amendment to Adopt the McLoughlin-Canemah Trail Plan, Amending the Transportation System Plan, Trails Master Plan, and Parks Master Plan

RECOMMENDED ACTION (Motion):

Staff recommends that the Planning Commission accept testimony and recommend approval of file LE 17-02 to the City Commission.

BACKGROUND:

The applicant proposed to update and amend the Oregon City Transportation System Plan (2013), the Parks Master Plan (2008), and Trails Master Plan (2004) by adopting the McLoughlin-Canemah Trail Plan. These plans are Ancillary Documents to the Oregon City Comprehensive Plan. These plans envision a trail connection between McLoughlin Promenade and Old Canemah Park, with links to Canemah Children's Park through the Canemah Historic District. The McLoughlin-Canemah Trail Plan is a concept plan that would refine the existing projects identified in the Transportation, Trails, and Parks plans.

In 2016, the City of Oregon City, in partnership with the Oregon City Trail Alliance, the McLoughlin Neighborhood Association, and the Clackamas County Historical Society, was granted a Nature in Neighborhoods grant of $25,000 to fund a planning effort for the McLoughlin-Canemah Trail (MCT), a segment of the larger Oregon City Loop Trail. The objective of the grant-funded trail plan project was to determine an alignment for a permanent trail, and to identify an interim trail alignment and safety upgrades.

Three trail alignments were considered by an appointed Community Advisory Group. The group's recommendation includes an interim and long term permanent trail alignment. Full details are available in the attached report: McLoughlin-Canemah Trail Plan: Alignment Feasibility and Evaluation Report.

The plan has been slightly revised after additional meetings and decisions by the Advisory Group subsequent to the first Planning Commission hearing in November 2017. These changes are described in the attached issues matrix.

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

STAFF REPORT AND RECOMMENDATION
Updated February 2, 2017

FILE NO.:	LE 17-02: McLoughlin-Canemah Trail Plan
APPLICANT:	City of Oregon City 625 Center Street, Oregon City, Oregon 97045
REQUEST:	Amend the Oregon City Transportation System Plan, Parks Master Plan, and Trails Master Plan to include a plan for the McLoughlin-Canemah Trail.
LOCATION:	Corridor between McLoughlin Promenade, Old Canemah Park, and Canemah Children's Park.
RECOMMENDATION:	Approval
REVIEWER:	Kelly Reid, AICP, Planner

17.50.170 - Legislative hearing process.
A. Purpose. Legislative actions involve the adoption or amendment of the city's land use regulations, comprehensive plan, maps, inventories and other policy documents that affect the entire city or large portions of it. Legislative actions which affect land use must begin with a public hearing before the planning commission.
B. Planning Commission Review.
1. Hearing Required. The planning commission shall hold at least one public hearing before recommending action on a legislative proposal. Any interested person may appear and provide written or oral testimony on the proposal at or prior to the hearing. The community development director shall notify the Oregon Department of Land Conservation and Development (DLCD) as required by the post-acknowledgment procedures of ORS 197.610 to 197.625, as applicable.
2. The community development director's Report. Once the planning commission hearing has been scheduled and noticed in accordance with Section 17.50.090(C) and any other applicable laws, the community development director shall prepare and make available a report on the legislative proposal at least seven days prior to the hearing.
3. Planning Commission Recommendation. At the conclusion of the hearing, the planning commission shall adopt a recommendation on the proposal to the city commission. The planning commission shall make a report and recommendation to the city commission on all legislative proposals. If the planning commission recommends adoption of some form of the proposal, the planning commission shall prepare and forward to the city commission a report and recommendation to that effect.
C. City Commission Review.
1. City Commission Action. Upon a recommendation from the planning commission on a legislative action, the city commission shall hold at least one public hearing on the proposal. Any interested person may provide written or oral testimony on the proposal at or prior to the hearing. At the conclusion of the hearing, the city commission may adopt, modify or reject the legislative proposal, or it may remand the matter to the planning commission for further consideration. If the decision is to adopt at least some form of the proposal, and thereby amend the city's land use regulations, comprehensive plan, official zoning maps or some component of any of these documents, the city commission decision shall be enacted as an ordinance.
2. Notice of Final Decision. Not later than five days following the city commission final decision, the community development director shall mail notice of the decision to DLCD in accordance with ORS 197.615(2).

Proposed Project

The proposal is to update and amend the Oregon City Transportation System Plan (2013), the Parks Master Plan(2008), and Trails Master Plan (2004) by adopting the McLoughlin-Canemah Trail Plan. These plans are Ancillary Documents to the Oregon City Comprehensive Plan. These plans currently include a proposed trail linking the McLoughlin Promenade to Canemah Children's Park, represented by various TSP Project Projects, and Trail Project #L19.

Figure 1: Adopted Transportation System Plan Projects within Project Area (2013)

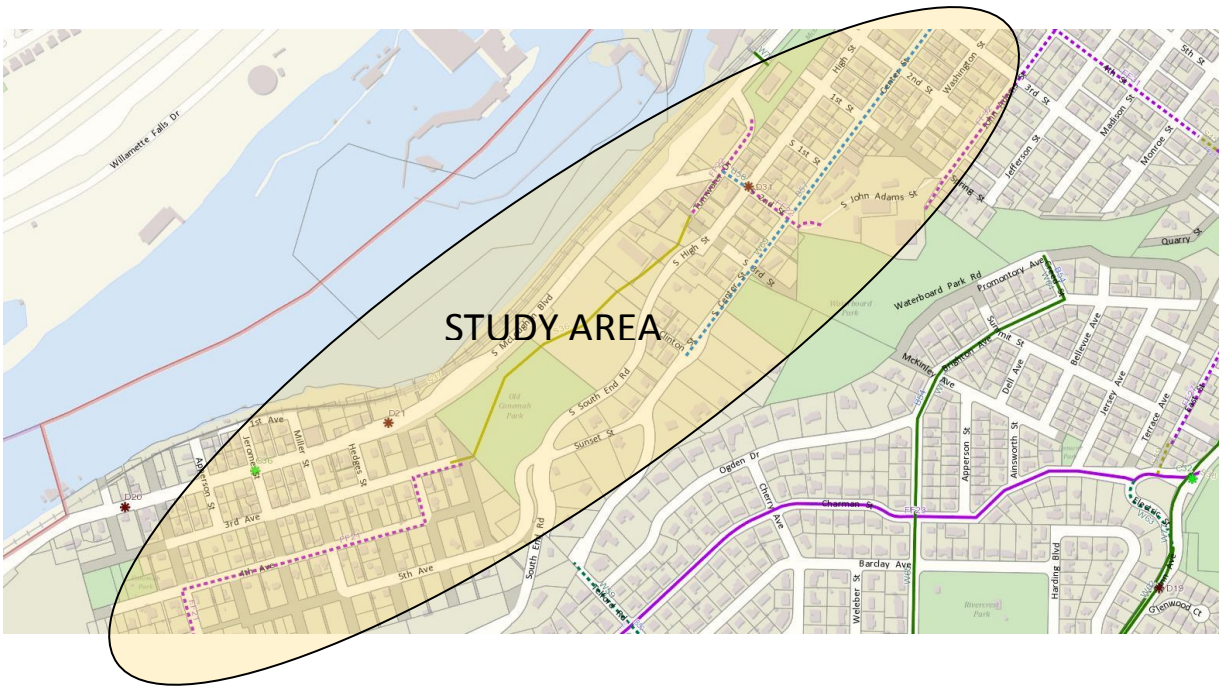
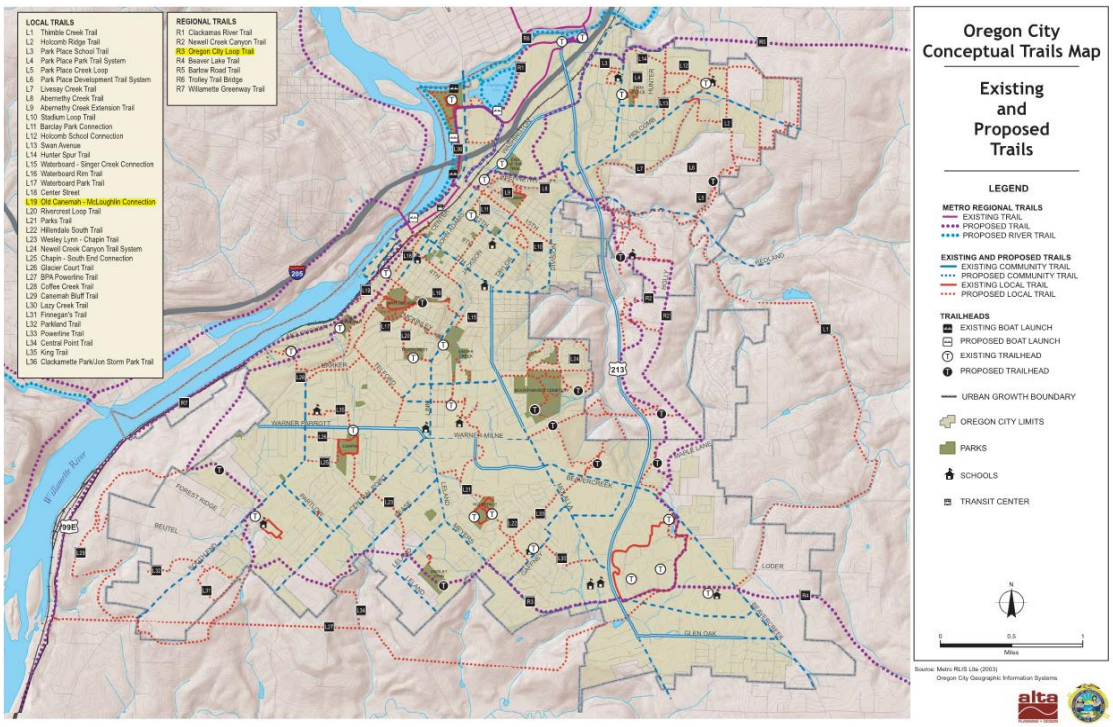


Figure 2: Adopted Trails Master Plan Map



In 2016, the City of Oregon City, in partnership with the Oregon City Trail Alliance, the McLoughlin Neighborhood Association, and the Clackamas County Historical Society, was granted a Nature in Neighborhoods grant of $25,000 to fund a planning effort for the McLoughlin-Canemah Trail (MCT), a segment of the larger Oregon City Loop Trail. The objective of the grant-funded trail plan project was to determine an alignment for a permanent trail, and to identify an interim trail alignment and safety upgrades.

Proposed Trail Alignment

During a robust community process that involved dozens of stakeholders, three trail alignments were considered. The recommendation includes an interim and long term permanent trail alignment. It is recommended that the interim trail improvements be constructed in a timely manner, because permanent trail improvements are dependent upon redevelopment and may be far into the future. When permanent alignment improvements are constructed, the trail signage would then direct users to the permanent route rather than the interim route. See Exhibit 2 for complete trail maps and alignments.

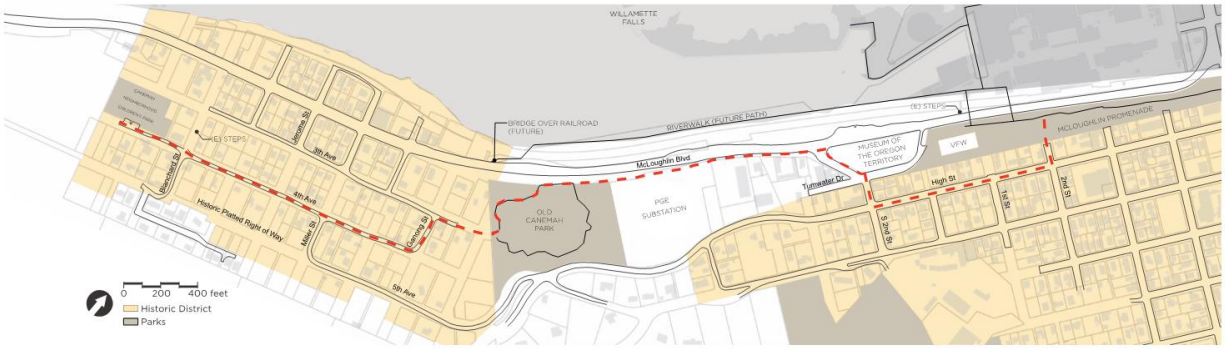
INTERIM ALIGNMENT RECOMMENDATION

The Interim trail alignment recommendation begins at the McLoughlin Promenade and connects via 2nd Street to High Street. From there, the trail turns onto S. 2nd Street and continues west to McLoughlin Blvd/Hwy 99E, or users may cross at High Street and walk along the south side of S. 2nd Street. Using the existing traffic signal crossing, the trail continues on the east side of McLoughlin Blvd/Hwy 99E until reaching the Portland General Electric (PGE) substation entrance.

From the PGE entrance, the Interim and Permanent trail recommended alignments are identical. The trail connects between the PGE substation and McLoughlin Blvd/Hwy 99E, enters Old Canemah Park, and connects to the Canemah National Register District neighborhood.

The route through the neighborhood follows 3rd Avenue west/southwest, turns onto Ganong Street, and follows 4th Avenue until reaching the Canemah Neighborhood Children's Park.

INTERIM TRAIL RECOMMENDATION



DESIGN ASSUMPTIONS – INTERIM TRAIL

Design assumptions include the following recommended physical improvements to create a safe route for people walking and biking:

- Wayfinding and shared use signage and pavement markings between the Promenade, 2nd Street and McLoughlin Blvd
- Safety improvements along McLoughlin Blvd that create a buffer between trail users and vehicles
- An improved pathway in front of the PGE substation
- Traffic calming, signs, and pavement markings for shared Family Friendly Street on 3rd Ave, Ganong St, and 4th Ave.
- Reinforcement at the top of basalt cliff along McLoughlin Blvd

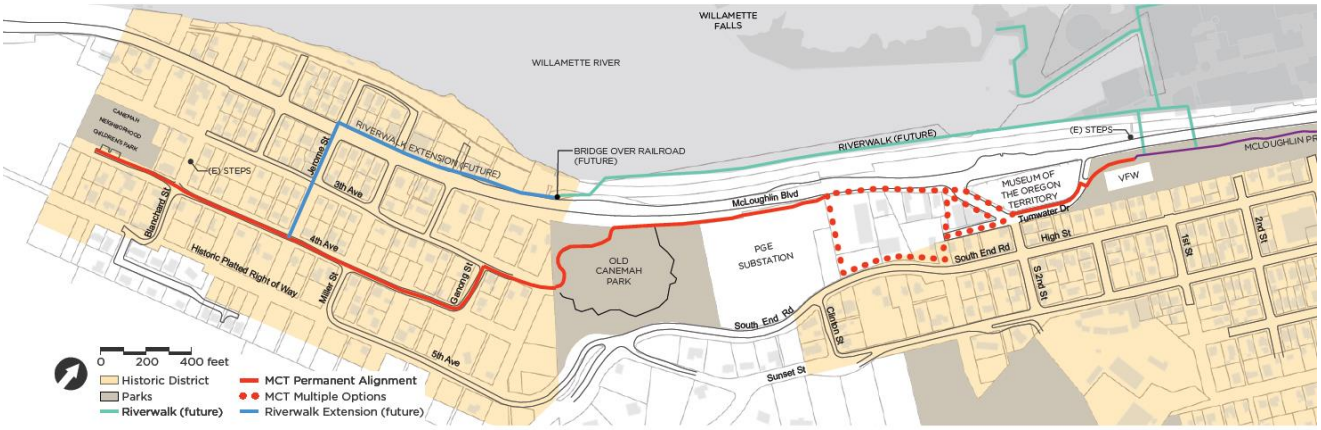
PERMANENT TRAIL ALIGNMENT RECOMMENDATION

The Permanent trail alignment recommendation begins at the McLoughlin Promenade and connects to Tumwater Drive via the Three Rivers VFW Post 1324 parking lot and a dedicated non-motorized path adjacent to the existing driveway. From there, the trail alignment is dependent on the results of future studies and private development patterns. There are several options that the trail could take to cross S 2nd St. and lead to the Portland General Electric (PGE) substation property, shown in the graphic below.

From the PGE entrance, the Interim and Permanent trail recommended alignments are identical. The trail connects between the PGE substation and McLoughlin Blvd/Hwy 99E, enters Old Canemah Park, and connects to the Canemah National Register District neighborhood.

The route through the neighborhood follows 3rd Avenue west/southwest, turns onto Ganong Street, and follows 4th Avenue until reaching the Canemah Neighborhood Children's Park.

Permanent Trail Alignment Recommendation



DESIGN ASSUMPTIONS – PERMANENT TRAIL

Design assumptions include the recommended physical improvements to create a safe route for people walking and biking.

• Dedicated ped-bike connection from VFW parking lot to Tumwater Dr. Left turn from McLoughlin Blvd/Hwy 99E onto Tumwater is permanently closed.
• Widen sidewalk to shared use path width along Tumwater Dr
• Intersection crossing of S 2nd re-designed for safety, location TBD

• Re-development of parcels between McLoughlin Blvd and Tumwater Dr south/southwest of S. 2nd Avenue, with trail alignment either along McLoughlin Blvd or tucked behind properties at bottom of bluff.
• Widen trail through Old Canemah Park
• Traffic calming, signs, and pavement markings for shared Family Friendly Street on 3rd Ave, Ganong St, and 4th Ave. Speed limit in Canemah neighborhood reduced to 20MPH.
• Cost estimate includes reinforcement at top of basalt cliff over McLoughlin Blvd.

Public Involvement and Public Comment
The creation of the McLoughlin-Canemah Trail Plan provided opportunities for public involvement in the Legislative decision making process through the community advisory group, Greenway for a Day event, online surveys, public hearing process, multiple project mailings, newspaper noticing, meetings with the Transportation Advisory Committee, Parks and Recreation Advisory Committee, Historic Review Board and Citizen Involvement Committee. A full description of the public engagement process is included in the application narrative and the full Trail Plan Report (Exhibits 2 and 3).

The City brought together a Community Advisory Group for the trail planning process that included many of the stakeholders and partners listed above. The 16 member Community Advisory Group's purpose was to guide the process to establish project goals, evaluate alternatives, and provide a recommendation to the City Commission for the final trail alignment. The recommended trail alignments reflect the near-consensus of the Advisory Group, with one member unable to support the recommendation.

The McLoughlin-Canemah Trail Plan has been available for review on the Oregon City website at the following address: https://www.orcity.org/planning/mcloughlin-canemah-trail-plan.

At the November 13, 2017 public hearing, the Planning Commission requested specific motions or votes from the Transportation Advisory Committee and the Parks and Recreation Advisory Committee. In addition to this, the project staff also held additional meetings which resulting in slight changes to the proposed plan. The additional meetings included:

- Meeting with VFW: November 27, 2017
- Advisory Group Meeting #4: December 14, 2017
- Natural Resources Committee: January 10, 2017
- Transportation Advisory Committee: January 16, 2017
- Clackamas County Historical Society: January 22, 2017
- Parks and Recreation Advisory Committee: January 25, 2017

Public Comments

Public Comments were received prior to and at the first hearing on November 13, and after the November 13th hearing. A summary table of comments and how they have been addressed is below:

Date	Commenter	Comment Topic	How Comment is Addressed
11/1/17	Matthew Carlson, Tiffany Carlson, Dr. Carl Michael Secor,	In general support of the idea of a McLoughlin-Canemah Trail, but strongly opposed to the City of Oregon	The permanent trail alignment has been modified to show multiple options, some of which do not call for

	and Tamara Secor, owners of the property at 324 Tumwater Drive	City engaging in any taking, transfer, or development of our property without our involvement and explicit consent.	use of this property. Property acquisition is not proposed at this time. The permanent trail alignment would only be implemented in the event of redevelopment of private properties in the area.
11/2/17	Paul Edgar, Canemah resident and Advisory Group member	Objection to recommendation to cross at 99E or Tuwmater Drive, concerns about the effect of a Tumwater crossing on traffic in the area. Also supports of use of High Street, South End Rd, and 5th Avenue for the trail alignment.	Permanent trail alignment has been revised to call for further study of S 2nd crossing location. Proposed TSP project C37 has been revised to reflect this as well.
11/3/17	ODOT	General support of proposed alignment	N/A
11/3/17	PGE	Appreciate opportunity to participate, propose a license agreement to manage access	N/A
11/13/17	Paul Edgar, Canemah resident and Advisory Group member	The trail should cross South 2nd at High Street where a future signal is planned	Permanent trail alignment has been revised to call for further study of S 2nd crossing location. Proposed TSP project C37 has been revised to reflect this as well.
11/13/17	Will Rasmussen on behalf of Bud's Towing	Objection to bisecting of the Bud's Towing property at 126 S McLoughlin Blvd.	The permanent trail alignment has been modified to show multiple options, based on a decision by the Advisory Group on December 14, 2017. A representative from Bud's Towing attended that meeting and participated in the group discussion of the permanent trail alignment. The options show using the very front or rear of the property, rather than bisecting the property.
Testimony at 11/13/17 hearing	Multiple Commenters	Multiple topics; see attached issues matrix that addresses each of the comments in detail	See attached issues matrix that addresses each of the comments in detail
1/16/18	Metro	General support of proposed alignment	N/A
1/16/18	James Nicita	Submitted materials regarding the City acquisition of the Budwin property in Canemah.	No changes are recommended. The Advisory Group discussed this property and recommends that the Parks and Rec Advisory Committee conduct a review of the trails master plan to determine how this property could be best utilized.

Public Notice

Notice of the first Planning Commission and City Commission public hearing dates was published in the newspaper on October 25, 2017. Notice of the public hearings was mailed to affected property owners and residents within 300 feet of the corridor plan area on October 21, 2017.

In accordance with ORS 197.610 and OAR 660-018-0020, a Notice of Proposed Amendment to the Oregon City Comprehensive Plan was provided to the Oregon Department of Land Conservation and Development 35 days prior to the first noticed Evidentiary Hearing).

Notice of the proposed amendment was provided to a variety of affected agencies including: South Fork Water Board (SFWB), Clackamas River Water (CRW), Clackamas County, Clackamas Fire District #1, Oregon City School District, Tri-City Services District, Metro, TriMet, and Oregon Department of Transportation (ODOT).

DECISION-MAKING CRITERIA:

Transportation System Plan

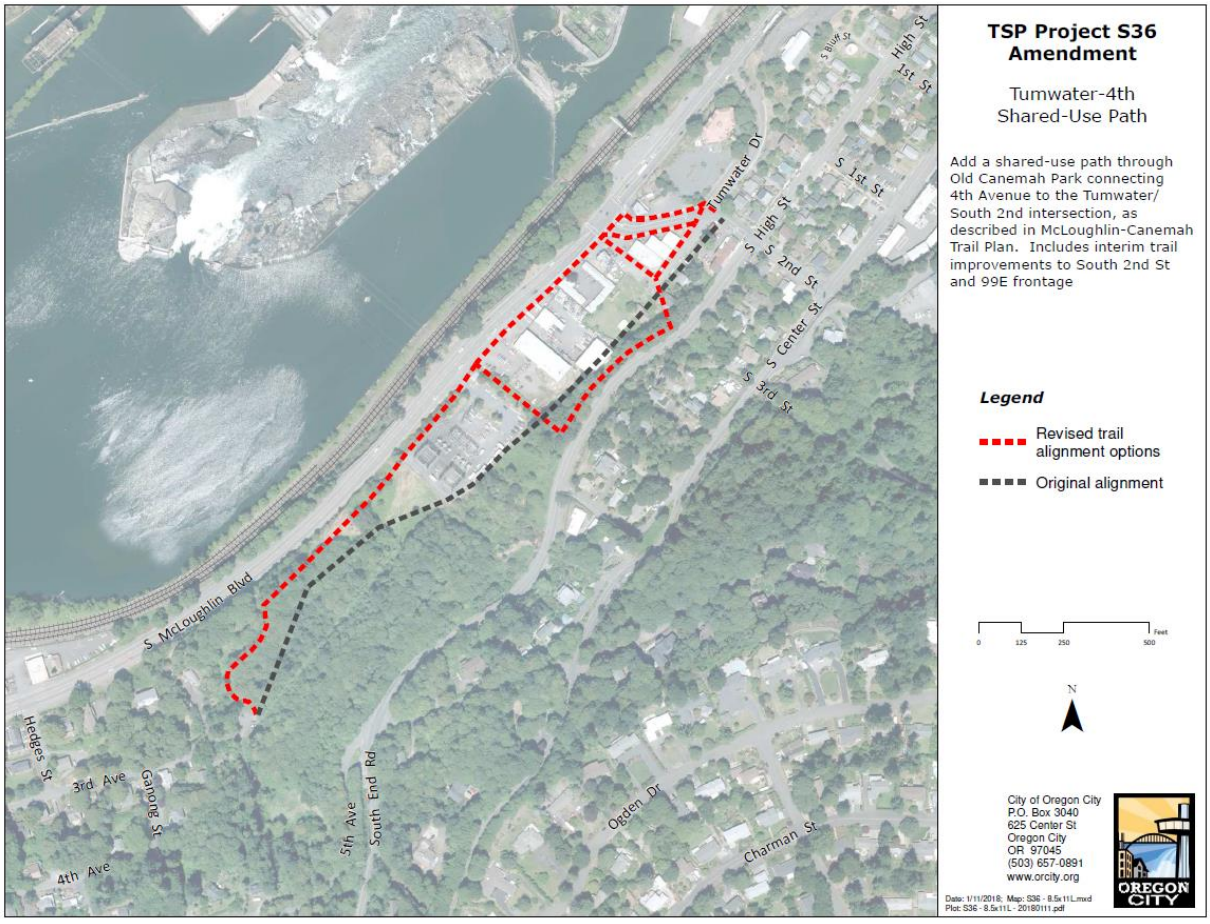
Finding: Complies as Proposed. The Transportation System Plan was used as the source to identify the improvement projects recommended in the plan. The McLoughlin-Canemah Trail Plan was previously identified as a group of three TSP projects linked together. These were S36, FF21, and FF22.
The McLoughlin-Canemah Trail Plan proposes the following TSP Project changes shown as redlines:

Project Number	Project Name	Project Extent	Description	Priority	Cost Estimate	Likely to be Funded
S36	Tumwater-4th Shared-Use Path	Tumwater Drive to 4th Avenue	Add a shared-use path through Old Canemah Park connecting 4th Avenue to the Tumwater/South 2nd intersection, as described in McLoughlin-Canemah Trail Plan. Includes interim trail improvements to South 2nd St. and 99E frontage.	~~Long-term~~Short Term	~~$590,000~~ $1,702,000	Yes
B57	Center/High Street Shared Roadway	Clinton Street to 5th Street	Add wayfinding and shared lane markings on Center Street and on a segment of High Street between 2nd St and S 2nd St.	~~Long Term Phase 3~~Short Term	~~$18,500~~ $22,200	~~No~~Yes
D96	Tumwater Drive turn closure	99E/Tumwater Drive	Close the left turn from 99E onto Tumwater Drive.	Short Term	$10,000	Yes
C37	Pedestrian/Bike Crossing of South 2nd St	South 2nd St between High Street and 99E	Improve safety of crossing; may include refuge island and pedestrian activated flasher. Traffic study to determine best location for crossing.	Long Term	$231,000	No
FF21	Canemah Family Friendly Route	~~Old Canemah Park to Cemetery Road~~Throughout Canemah Historic District	~~This site is located within the Canemah National Register District.~~ Add wayfinding, traffic calming, and shared lane	~~Long-term Phase 4~~ Short Term	~~$595,000~~ $50,000	Yes

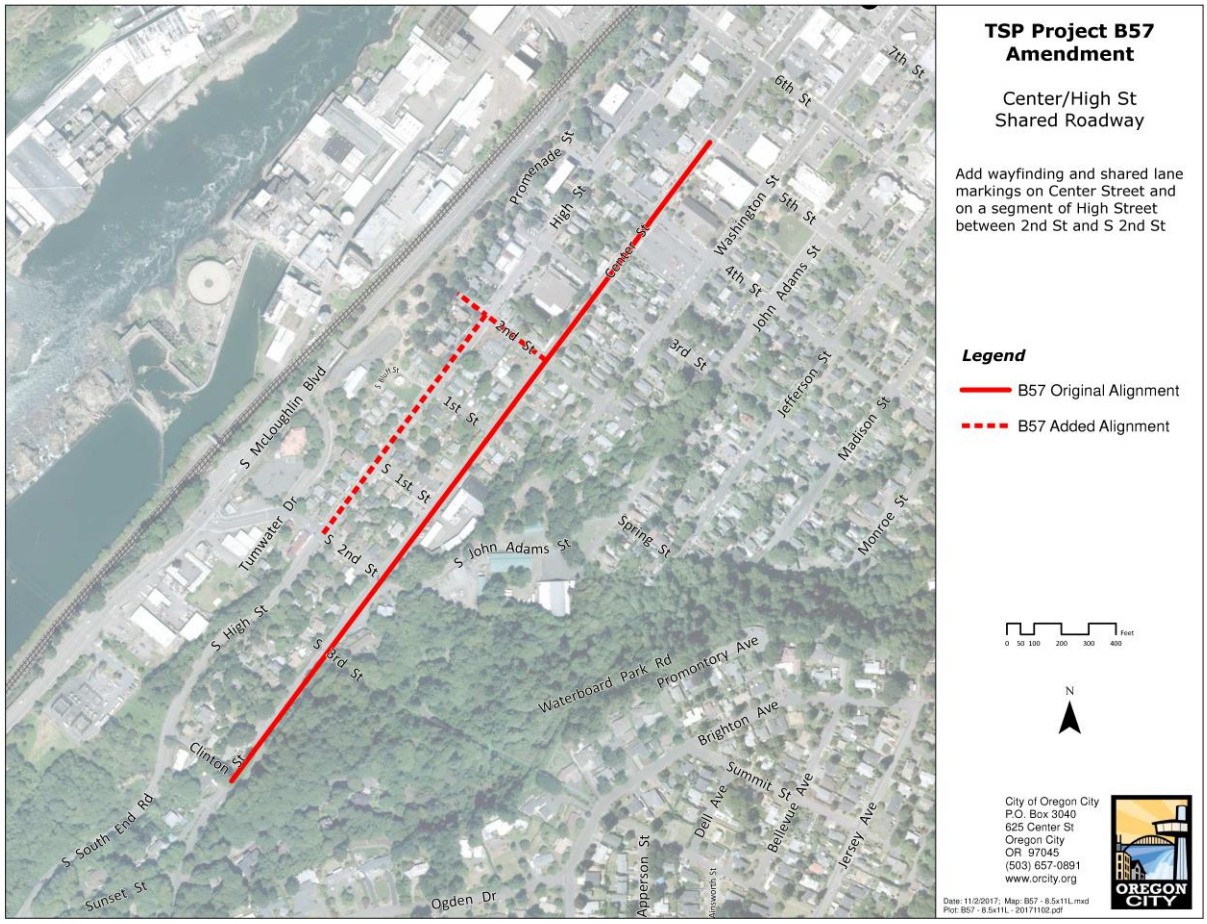
			markings~~. Add a walking path on one side of the street, if approved by the Historic Review Board.~~ on ~~Route via~~ 5th Avenue, ~~Blanchard~~ Miller Street, 4th Avenue, Ganong Street and 3rd Avenue			
FF22	Tumwater~~-South 2nd~~ Family Friendly Route	~~Waterboard Park to~~ Tumwater-4th Shared-Use Path to McLoughlin Promenade	Add sidewalks on both sides of the street. Add wayfinding and shared lane markings. Route via VFW parking lot and Tumwater Drive~~, South 2nd Street and Waterboard Park Road~~	Long-term Phase 4	~~$117,000~~ $110,000	No
FF34	Waterboard Park Family Friendly Route	Tumwater Dr to Waterboard Park	Add sidewalks, wayfinding, and shared lane markings. Route via South 2nd Street and Waterboard Park Road	Long Term Phase 4	$20,000	No

Description and Analysis of Proposed Project Amendments:

Project S36 is shown in the existing TSP as cutting through private property including the PGE substation. This proposal is to modify the alignment to show the various alignment options selected by the Advisory Group, including a change to route in front of the PGE substation. Discussions with PGE and the community advisory group identified options of going behind the fenced substation or in front of it, but for security reasons it is not recommended to go behind the substation, where the trail would be hidden and could be a potential security risk.



Project B57 is proposed to be expanded to include a segment of High Street from 2nd to South 2nd, to allow for safer bicycle use of the interim trail alignment. The High Street segment of Project B57 is planned to be completed in conjunction with planned resurfacing of the street in 2018.

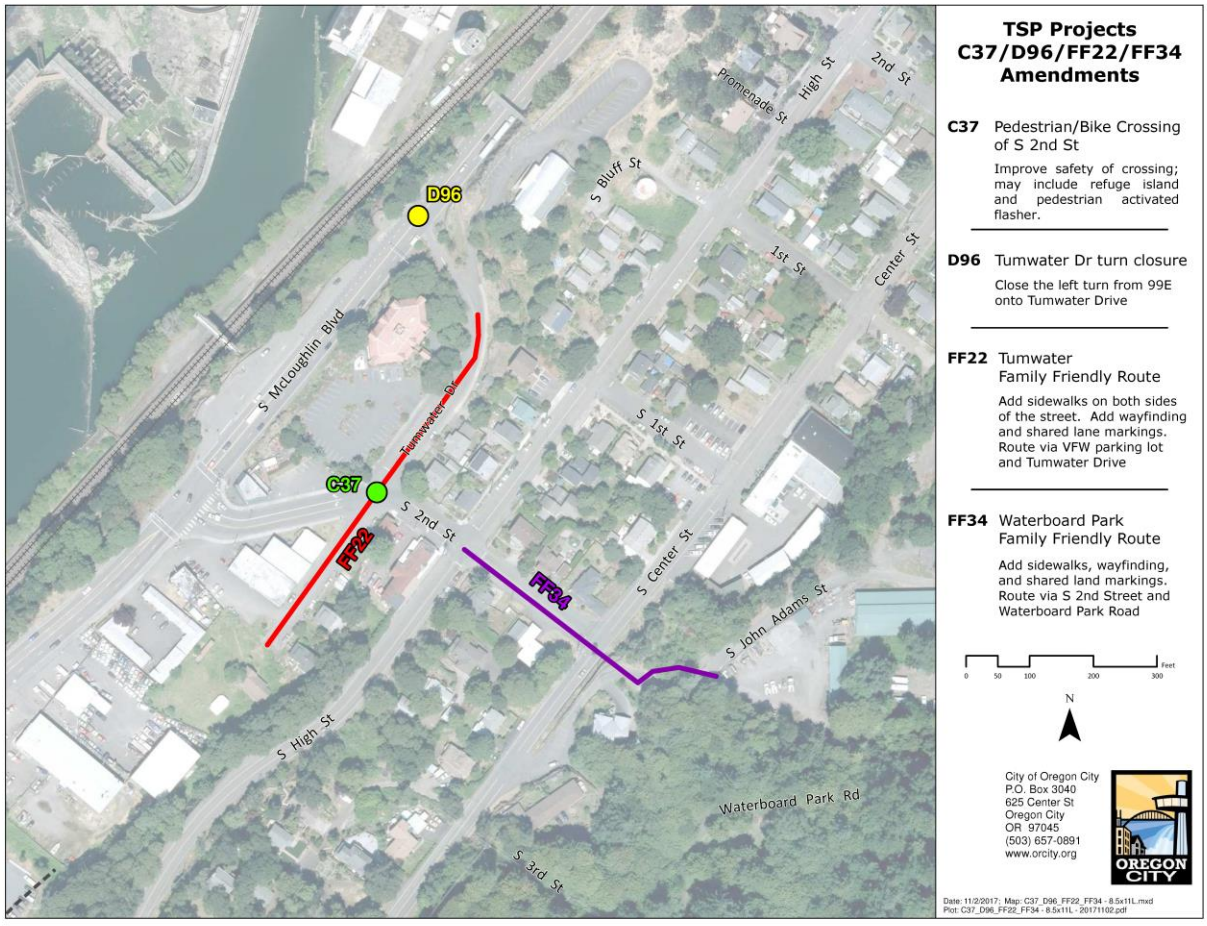


Project D96 and C37 are new projects that reflect the refined trail plan.

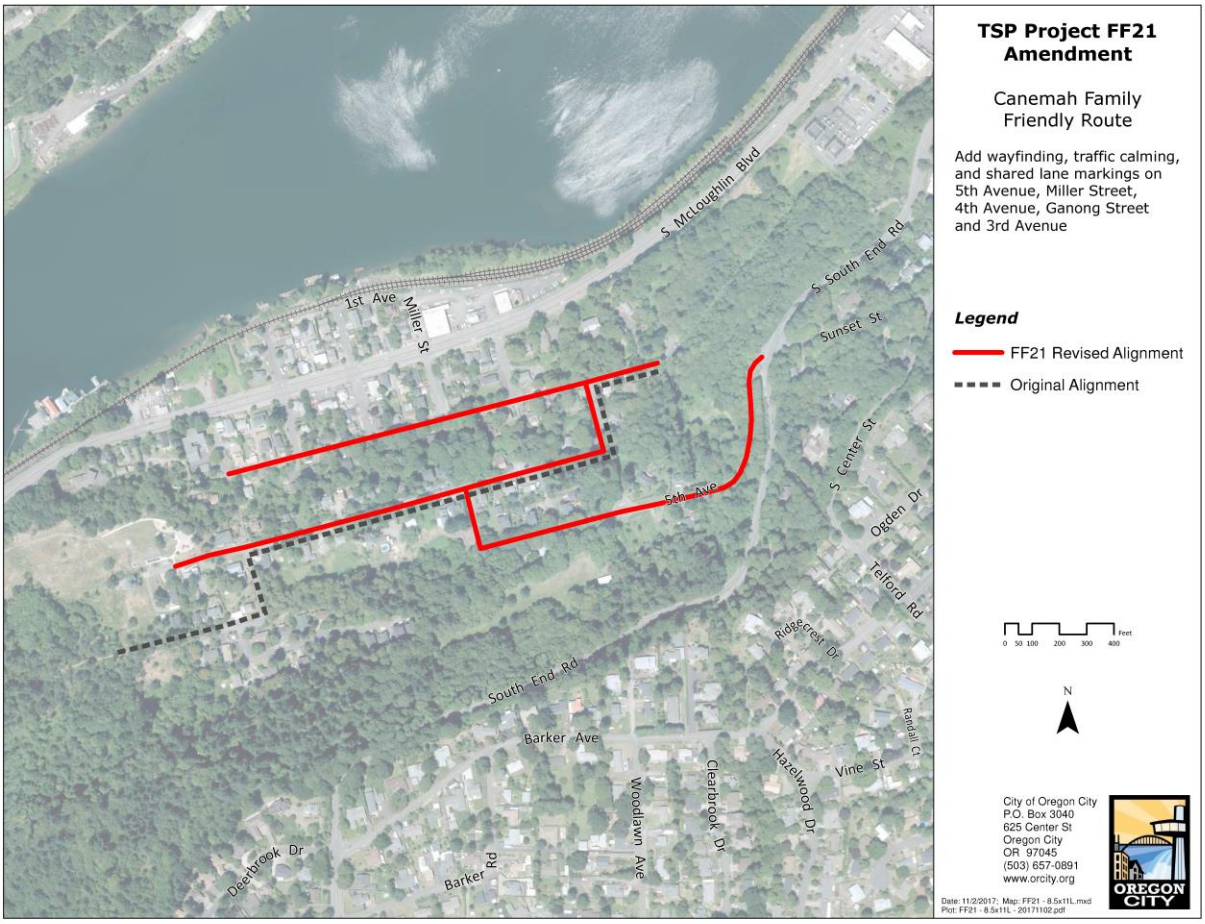
Project D96 will be a joint effort with ODOT. ODOT has completed an evaluation on Tumwater Drive left turn and recommends closure.

Project C37 would allow the permanent trail to cross South 2nd St at High Street, Tumwater Drive, or 99E with a safer crossing design. Further study is needed to determine the best location for the crossing. A conceptual sketch of what the crossing could look like at Tumwater Drive is included in the Trail Plan report (Exhibit 2).

Project FF34 is a new project resulting from the separation of the Waterboard Park segment of Project FF22. FF34 is not part of the scope of the McLoughlin-Canemah Trail, so it has been separated out from the Tumwater portion. Now, project FF22 only includes Tuwmater and is fully part of the trail plan.



Project FF21 is proposed to be expanded to include additional streets within Canemah. Because Canemah lacks sidewalks and the historic status and existing development pattern make sidewalk installation extremely unlikely, it is recommended to include the typical vehicle route through Canemah as a family friendly route to make it safer for people who are walking and biking in the neighborhood. Currently, residents are deterred from walking and biking within their own neighborhood due to the lack of facilities and speeding traffic. Project FF21 includes the installation of traffic calming, shared street markings and wayfinding signage on 3rd Avenue, 4th Avenue, and 5th Avenue in Canemah, including the connecting streets. Paired with a reduced speed limit of 20MPH, it is expected that these measures will create a safer environment for residents who want to walk and bike, for school children walking to their bus stops, and for people using the McLoughlin-Canemah Trail.



Cost estimates that have been revised in the table above are based on planning-level cost estimates from 2017 from ALTA Planning + Design. This amendment does not amend the System Development Charge (SDC) rates; but does include updated cost estimates. SDC rates may be updated through a separate ordinance in the future.

Trails Master Plan and Parks Master Plan:

Finding: Complies as Proposed. The Trails Master Plan, adopted in 2004, includes the McLoughlin-Canemah Trail as project L19, and the Oregon City Loop Trail as project R3. The Parks Master Plan was last updated in 2008.

Amendments to these plans are proposed as follows:

1. Adopt McLoughlin- Canemah Trail Plan Report as Ancillary document to the Trails Master Plan
2. Add project to Parks Master Plan to modify or expand the existing driveway to Promenade parking lot (next to VFW) for pedestrian and bike use
3. Add project to parks Master Plan to connect Promenade to 2nd Street with paved walking path
4. Amend Trails Master Plan Project List (complete table with redlines shown in Exhibit 3):

ID	Trail	From - To	Type	Description	Acquisition/Easement	Length (miles)	Lead Responsibility	Trail Costs
L19	McLoughlin-Canemah Trail	Promenade to Canemah Children's Park	Paved Trail, sidewalk, on-street	An on-street trail would extend through the Canemah neighborhood to a paved trail through Old Canemah Park to the PGE substation. The shared used path would continue across S 2nd to the VFW and Promenade.	Easements needed to cross PGE property to McLoughlin Blvd. Acquisition or dedication of private property between PGE and S 2nd St.	0.95	Oregon City Parks and Recreation, Oregon City Public Works	$2,100,124
R3	Oregon City Loop Trail	Beavercreek Rd. - Hwy. 213 (excludes Newell Creek Canyon Trail section) to Willamette Greenway Trail	Shared Use path, on-street, boardwalk	Regional trail would generally follow the Oregon City UGB on a collection of local roads, through new development, along powerline right-of-way, and down the bluff to link up with the Promenade and riverwalk in downtown Oregon City. Includes multiple TSP projects and the McLoughlin-Canemah Trail.	New development, easements on Canemah Bluff	11.2	Oregon City, Clackamas County, Metro	$2,469,331

Project L19 is proposed to be revised to include the full trail alignment, including streets within Canemah. The project overlaps with the Transportation System Plan projects and is consistent with them.

Project R3 is proposed to be revised to include the McLoughlin-Canemah trail in order to ensure full connectivity to the Willamette Greenway Trail and the Willamette Falls riverwalk. This change results in Project L19 officially becoming a segment of the Oregon City Loop Trail and corrects inconsistencies between Oregon City's local plans and the Regional Trails Plan.

Chapter 17.68: Zone Changes and Amendments

17.68.020 Criteria.

The criteria for a zone change are set forth as follows:

A. The proposal shall be consistent with the goals and policies of the Comprehensive Plan.

Oregon City Comprehensive Plan

According to the 2004 Oregon City Comprehensive Plan (Introduction, "Implementing the Plan" Page 4): "Ancillary Plans are adopted by the City Commission for such things as parks and recreation, transportation systems, water facilities, and sewer facilities. Usually prepared by City departments through a public process, ancillary plans are approved by the City Planning Commission and adopted by the City Commission to provide operational guidance to city departments in planning for and carrying out city services. These plans are updated more frequently than the Comprehensive Plan."

The McLoughlin-Canemah Trail Plan is a special purpose plan which will be adopted as an ancillary document to the Oregon City Trails Master Plan and Transportation System Plan (TSP). The TSP is an adopted ancillary document to the Oregon City Comprehensive Plan. The TSP is both a technical document and a conceptual guide that requires regular review.

Chapter O. Comprehensive Plan Maintenance and Update

Regular Review and Update. Another method of Plan maintenance and updating is a continuous technical review of the Plan by the Planning staff. This review and any subsequent recommendations for Plan updating should be presented to the Neighborhood Associations, Planning Commission and City Commission for input and discussion in the same manner as requested Plan changes. The continuous review should consider:

- ***Plan implementation process;***

Finding: Complies as Proposed. The McLoughlin-Canemah Trail Plan is a special purpose plan that is part of the City's Transportation System Plan, an adopted Ancillary Document to the Oregon City Comprehensive Plan. The TSP is both a technical document and a conceptual guide that requires regular review in order to maintain and update it. The applicant, City of Oregon City, has presented the update for input by the residents, affected agencies, property owners, the Parks and Recreation Advisory Committee, the Historic Review Board, Transportation Advisory Committee, Natural Resources Committee, Neighborhood Associations, Planning Commission and City Commission in accordance with the recommended method described in the Comprehensive Plan and pursuant to the applicable process described in Oregon City Municipal Code section 17.50.170. The plan implementation process is consistent with the Comprehensive Plan.

- ***Adequacy of the Plan to guide land use actions, including an examination of trends.***

Finding: Complies as Proposed. The McLoughlin-Canemah Trail Plan provides an analysis of existing conditions and provides direction for future development, funding and needs. A review of the Natural Resources Overlay District and reconnaissance level wetlands review has shown that the trail may impact regulated natural resources and will be required to follow permitting requirements.

- ***Whether the Plan still reflects community needs, desires, attitudes and conditions. This shall include changing demographic patterns and economics.***

Finding: **Complies as Proposed.** The McLoughlin-Canemah Trail Plan was created through a robust public engagement process in order to reflect community needs, desires, attitudes, and conditions.

- ***Addition of updated factual information including that made available to the City by regional, state and federal governmental agencies.***

Finding: **Complies as Proposed.** The McLoughlin-Canemah Trail Plan includes an analysis of existing conditions including reconnaissance of natural resources and slopes, ODOT plans and conditions, Willamette Falls riverwalk plans, and all updated master plans adopted by the City.

Section 1 Citizen Involvement

Goal 1.2 Community and Comprehensive Planning
Ensure that citizens, neighborhood groups, and affected property owners are involved in all phases of the comprehensive planning program.
Policy 1.2.1 - Encourage citizens to participate in appropriate government functions and land-use planning.
Goal 1.3 Community Education - Provide education for individuals, groups, and communities to ensure effective participation in decision-making processes that affect the livability of neighborhoods.
Goal 1.4 Community Involvement - Provide complete information for individuals, groups, and communities to participate in public policy planning and implementation of policies.
Policy 1.4.1 - Notify citizens about community involvement opportunities when they occur.
Goal 1.5 Government/Community Relations -Provide a framework for facilitating open, two-way communication between City representatives and individuals, groups, and communities.

Finding: Complies as Proposed. The City brought together a Community Advisory Group for the trail planning process that included many of the stakeholders and partners listed above. The 16-member Community Advisory Group's purpose was to guide the process to establish project goals, evaluate alternatives, and provide a recommendation to the City Commission for the final trail alignment. The City also hosted Greenway for a Day to engage the larger community, and held an online survey available to all. The event was advertised to all residents and property owners in the vicinity of the trail, and was covered in the local media.

Letters were mailed to property owners along the potential trail routes three times during the process: at the beginning of the process, for the Greenway event, and as part of the land use notice requirements.

This application was noticed by mailings to all properties within 300 feet of the three alternative trail alignments and notice in the newspaper.

Section 2: Land Use

Goal 2.1 Efficient Use of Land
Ensure that property planned for residential, commercial, office, and industrial uses is used efficiently and that land is developed following principals of sustainable development
Policy 2.1.3 Encourage sub-area master planning for larger developments or parcels, including re-development, where it may be feasible to develop more mixed uses, or campus-style industrial parks, with shared parking and landscaping areas. Allow development to vary from prescriptive standards if planned and approved under this provision.
Policy 2.1.4 Use redevelopment programs such as urban renewal to help redevelop underutilized commercial and industrial land.
Goal 2.6 Industrial Land Development
Ensure an adequate supply of land for major industrial employers with family-wage jobs.
Policy 2.6.7 Establish priorities to ensure that adequate public facilities are available to support the desired industrial development.

Finding: Complies as Proposed. No change to land uses are proposed. The trail aims to connect residents to commercial areas.

Goal 2.4: *Neighborhood Livability - Provide a sense of place and identity for residents and visitors by protecting and maintaining neighborhoods as the basic unit of community life in Oregon City while implementing the goals and policies of the other sections of the Comprehensive Plan.*

Policy 2.4.2 Strive to establish facilities and land uses in every neighborhood that help give vibrancy, a sense of place, and a feeling of uniqueness; such as activity centers and points of interest.

Finding: Complies as Proposed. The trail aims to connect residents to commercial areas, and to provide connections between unique neighborhood amenities such as Old Canemah Park, the McLoughlin Promenade, and the Museum of the Oregon Territory. The trail will add to the vibrancy of the area by creating a safer environment for people to travel within their neighborhoods on foot and by bicycle.

Section 5: Natural Resources

Goal 5.4 Natural Resources

Identify and seek strategies to conserve and restore Oregon City's natural resources, including air, surface and subsurface water, geologic features, soils, vegetation, and fish and wildlife, in order to sustain quality of life for current and future citizens and visitors, and the long-term viability of the ecological systems.

Policy 5.4.1 - Conserve and restore ecological structure, processes and functions within the city to closely approximate natural ecosystem structure, processes, and functions.

Policy 5.4.2 - Cooperate with Clackamas County, Metro and other agencies to identify and protect wildlife habitat, distinctive natural areas, corridors and linkages and other ecological resources within the Urban Growth Boundary and incorporate the information into the Urban Growth Management Agreement with Clackamas County.

Policy 5.4.4- Consider natural resources and their contribution to quality of life as a key community value when planning, evaluating and assessing costs of City actions.

Policy 5.4.8 - Conserve natural resources that have significant functions and values related to flood protection, sediment and erosion control, water quality, groundwater recharge and discharge, education, vegetation and fish, and wildlife habitat.

Policy 5.4.9 - Protect and enhance riparian corridors along streams in Oregon City to increase shade, reduce streambank erosion and intrusion of sediments, and provide habitat for a variety of plants, animals, and fish.

Policy 5.4.12 - Use a watershed-scale assessment when reviewing and planning for the potential effects from development, whether private or public, on water quality and quantity entering streams.

Finding: Complies as Proposed. The trail plan included an analysis and on-the-ground reconnaissance of natural resources. Areas with wetlands and streams were considered in the alternatives, but ultimately ruled out. Creating safe travel corridors for pedestrian and bikes will allow more people to avoid driving, which will better preserve and protect natural resources. When permits are sought for trail construction, any applicable land use review for Natural Resource Overlay District and Geologic Hazard Overlay District will be required.

Section 6: Quality of Air, Water and Land Resources

Goal 6.1 Air Quality -Promote the conservation, protection and improvement of the quality of the air in Oregon City.

Policy 6.1.2 -Ensure that development practices comply with or exceed regional, state, and federal standards for air quality.

Policy 6.3.3 Employ practices in City operations and facilities, including street lighting, which increases safety and reduces unnecessary glare, light trespass, and light pollution.

Finding: Complies as Proposed. The trail plan included an analysis and on-the-ground reconnaissance of natural resources. Areas with wetlands and streams were considered in the alternatives, but ultimately ruled out. Creating safe travel corridors for pedestrian and bikes will allow more people to avoid driving, which will better preserve and protect natural resources. When permits are sought for trail construction, any applicable land use review for Natural Resource Overlay District and Geologic Hazard Overlay District will be required.

Goal 7.1: Natural Hazards

Protect life and reduce property loss from the destruction associated with natural hazards.

Finding: Complies as Proposed. The trail plan included an analysis and on-the-ground reconnaissance of geologic hazards, including landslide areas within Canemah. The basalt cliff near PGE and Old Canemah

Park will need to be reinforced to ensure safety. Trail alignment options that included significant new disturbance in landslide areas, such as Alignment option C, were not recommended.

Goal 5.2: Scenic Views & Scenic Sites
Protect the scenic qualities of Oregon City and scenic views of the surrounding landscape.
Policy 5.2.1 -Identify and protect significant views of local and distant features such as Mt. Hood, the Cascade Mountains, the Clackamas River Valley, the Willamette River, Willamette Falls, the Tualatin Mountains, Newell Creek Canyon, and the skyline of the city of Portland, as viewed from within the city.
Finding: Complies as Proposed. One of the goals for the trail plan established by the Community Advisory group was to include views of Willamette Falls. The recommended trail alignment through Old Canemah Park provides stellar views above the Falls.

Goal 5.3: Historic Resources
Encourage the preservation and rehabilitation of homes and other buildings of historic or architectural significance in Oregon City.
Finding: Complies as Proposed. The trail involves both the McLoughlin-Promenade, a National Register landmark, and the Canemah National Register Historic District. Before any physical changes are made to these resources, plans will be reviewed by the Historic Review Board. Major infrastructure changes in Canemah are not recommended; instead, painted street markings and wayfinding signage are preferred.

Goal 5.4: ***Natural Resources***
Identify and seek strategies to conserve and restore Oregon City's natural resources, including air, surface and subsurface water, geologic features, soils, vegetation, and fish and wildlife, in order to sustain quality of life for current and future citizens and visitors, and the long-term viability of the ecological systems.
Policy 5.4.4 - Consider natural resources and their contribution to quality of life as a key community value when planning, evaluating or assessing costs of city actions.
Policy 5.4.7 - The city shall encourage preservation over mitigation when making decisions that affect wetlands and a "no net loss" approach to wetland protection.
Policy 5.4.17 - Protect and maintain groundwater recharge through conservation and enhancement of wetlands and open space.
Finding: Complies as Proposed. The trail plan included an analysis and on-the-ground reconnaissance of natural resources. Areas with wetlands and streams were considered in the alternatives, but ultimately ruled out. When permits are sought for trail construction, any applicable land use review for Natural Resource Overlay District and Geologic Hazard Overlay District will be required.

Goal 8.1: Developing Oregon City's Park and Recreation System
Maintain and enhance the existing park and recreation system while planning for future expansion to meet residential growth.
Policy 8.1.5 - Identify and construct a network of off-street trails throughout the city for walking and jogging.
Policy 8.1.7 - Seek out opportunities to coordinate and partner with other departments, agencies, and jurisdictions to fulfill the aims of the Parks and Recreation Master Plan.
Finding: Complies as Proposed. The trail plan directly implements these goals and policies by refining plans for new trails and coordinating with the other departments and agencies. The trail will connect the City's existing park assets, including the Promenade, Old Canemah Park, and Canemah Children's Park.

Section 11: Public Facilities
Goal 11.1 Provision of Public Facilities
Serve the health, safety, education, welfare, and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.
Policy 11.1.1
Ensure adequate public funding for the following public facilities and services, if feasible:
• Transportation infrastructure

Policy 11.1.2
Provide public facilities and services consistent with the goals, policies and implementing measures of the Comprehensive Plan, if feasible.
Policy 11.17
Develop and maintain a coordinated Capital Improvements Plan that provides a framework, schedule, prioritization, and cost estimate for the provision of public facilities and services within the City of Oregon City and its Urban Growth Boundary.
Finding: Complies as Proposed. The trail plan is a refinement of several projects found in the City's adopted Transportation System Plan. The plan includes prioritization and cost estimates for trail elements.

Goal 11.6 Transportation Infrastructure
Optimize the City's investment in transportation infrastructure.
Policy 11.6.1
Make investments to accommodate multi-modal traffic as much as possible to include bike lanes, bus turnouts and shelters, sidewalks, etc., especially on major and minor arterial roads, and in regional and employment centers.
Finding: Complies as Proposed. The McLoughlin-Canemah Trail Plan includes solutions to create a safer and more connected environment for walking and biking. It includes a shared use path on 99E, which currently lacks bicycle and pedestrian facilities within the corridor. It will better connect residential areas to the regional center by connecting with the McLoughlin Promenade, which allows direct access to downtown via the elevator.

Section 12: Transportation
Goal 12.1 Land Use-Transportation Connection
Ensure that the mutually supportive nature of land use and transportation is recognized in planning for the future of Oregon City.
Policy 12.1.1 - Maintain and enhance citywide transportation functionality by emphasizing multi-modal travel options for all types of land uses.
Policy 12.1.4 - Provide walkable neighborhoods. They are desirable places to live, work, learn and play, and therefore a key component of smart growth.
Finding: Complies as Proposed. Implementation of the plan will result in a more complete transportation system with a variety of multi-modal travel options. The plan will create a more walkable environment within the Canemah and McLoughlin Neighborhoods through the use of traffic calming, addition of shared use paths, and signage.

Goal 12.3 Multi-Modal Travel Options
Develop and maintain a transportation system that provides and encourages a variety of multi-modal travel options to meet the mobility needs of all Oregon
City residents.
Policy 12.3.1 -Provide an interconnected and accessible street system that minimizes vehicle miles traveled and inappropriate neighborhood cut through traffic.
Policy 12.3.2 -Provide an interconnected and accessible pedestrian system that links residential areas with major pedestrian generators such as employment centers, public facilities, and recreational areas.
Policy 12.3.3 - Provide a well-defined and accessible bicycle network that links residential areas, major bicycle generators, employment centers, recreational areas, and the arterial and collector roadway network.
Policy 12.3.4 -Ensure the adequacy of pedestrian and bicycle connections to local, county, and regional trails.
Policy 12.3.5 -Promote and encourage a public transit system that ensures efficient accessibility, mobility, and interconnectivity between travel modes for all residents of Oregon City.
Policy 12.3.6 -Establish a truck route network that ensures efficient access and mobility to commercial and industrial areas while minimizing adverse residential impacts.
Policy 12.3.8 -Ensure that the multi-modal transportation system preserves, protects, and supports the environmental integrity of the Oregon City community.

Policy 12.3.9 -Ensure that the city's transportation system is coordinated with regional transportation facility plans and policies of partnering and affected agencies.

Finding: Complies as Proposed. The McLoughlin-Canemah Trail Plan provides opportunities to facilitate increased travel opportunities for pedestrians and bicyclists by providing a complete travel facility. Implementation of the plan will result in a more complete transportation system with a variety of multi-modal travel options. The trail connects important destinations (parks, schools, residences, and employment) with multiple modal options.

Goal 12.5 Safety

Develop and maintain a transportation system that is safe.

Policy 12.5.1 -Identify improvements that are needed to increase the safety of the transportation system for all users.

Policy 12.5.2 -Identify and implement ways to minimize conflict points between different modes of travel.

Policy 12.5.3 -Improve the safety of vehicular, rail, bicycle, and pedestrian crossings.

Finding: Complies as Proposed. The plan will increase safety along the corridor by providing a safe place for bicyclists and pedestrians to travel along the corridor. The plan includes the following improvements that will reduce conflicts:

- Closure of Left Turn from 99E to Tuwmater Drive
- Addition of a path to the existing VFW driveway from the trail alignment.
- Improved safety for crossing of South 2nd
- Reduced speed limits, traffic calming designs, and street markings within the Canemah Historic District to create a safer shared street. Due to the historic designation, it is not appropriate to add sidewalks, curbs, and gutters within Canemah.

Goal 12.7 Sustainable Approach

Promote a transportation system that supports sustainable practices.

Policy 12.7.4 - Promote multi-modal transportation links and facilities as a means of limiting traffic congestion.

Finding: Complies as Proposed. The plan will increase safety along the corridor by providing a safe place for bicyclists and pedestrians to travel along the corridor. The plan also includes crossings to assist pedestrians and bicyclists in crossing. The trail will give local residents more choices about how they travel, which can alleviate traffic by reducing vehicle trips.

Goal 12.8 Implementation/Funding

Identify and implement needed transportation system improvements using available funding.

Policy 12.8.1 - Maximize the efficiency of the Oregon City transportation system, thus minimizing the required financial investment in transportation improvements, without adversely impacting neighboring jurisdictions and facilities.

Finding: Complies as Proposed. The proposed projects in the plan will maximize the efficiency of the transportation system by providing multi-modal connectivity throughout the corridor and the surrounding areas. The preferred alignment is the least costly of the three alternative alignments that were evaluated. The project can be funded with multiple sources, including grants and private contributions. By placing some of the trail alignment within private property that has redevelopment potential, the City will be able to partner with future developers to build a segment of the trail, reducing the need for costly right of way acquisition.

17.68.020.B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed by the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.

Finding: Not Applicable. No zone change is proposed.

17.68.020.C. The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.

Finding: Not Applicable. No zone change is proposed.

17.68.020.D. Statewide planning goals shall be addressed if the comprehensive plan does not contain specific policies or provisions which control the amendment.

CONSISTENCY WITH STATEWIDE PLANNING GOALS

STATEWIDE PLANNING GOAL 1:

To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

Finding: Complies as Proposed. This goal is implemented through the applicable Goals and Policies in Section 1 of the Oregon City Comprehensive Plan: Citizen Involvement. Development of the plan included an extensive public involvement effort. Oregon City has presented the project to the public at a series of meetings including the Parks and Rec advisory Committee, Transportation Advisory Committee, Neighborhood Associations, Historic Review Board, Planning Commission and City Commission. Documentation produced with the corridor plan has been posted on the project website throughout the duration of the project and comments have been integrated into the final product. The product will be reviewed through the Legislative approval process.

STATEWIDE PLANNING GOAL 2:

To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.

Finding: Complies as Proposed. This goal is implemented through the applicable Goals and Policies in Section 2 of the Oregon City Comprehensive Plan: Land Use. Because the plan is an ancillary document to the City's Transportation System Plan and Comprehensive Plan, the application was processed pursuant to the legislative hearing process outlined in Section 17.50.170 of the Oregon City Municipal Code.

STATEWIDE PLANNING GOAL 5:

To protect natural resources and conserve scenic and historic areas and open spaces.

Finding: Complies as Proposed. This goal is implemented through the applicable Goals and Policies in Section 5 of the Oregon City Comprehensive Plan: Open Spaces, Scenic and Historic Areas, and Natural Resources. The Oregon City Municipal Code contains review criteria for uses within overlay districts to assure that designated Goal 5 resources are appropriately considered when development is proposed. In particular, the Natural Resource Overlay District designation: "provides a framework for protection of Metro Titles 3 and 13 lands, and Statewide Planning Goal 5 resources within Oregon City. The Natural Resource Overlay District (NROD) implements the Oregon City Comprehensive Plan Natural Resource Goals and Policies, as well as Federal Clean Water Act requirements for shading of streams and reduction of water temperatures, and the recommendations of the Metro ESEE Analysis. Trails, paths,

and roads are permitted either outright or with restrictions in the Natural Resource Overlay District as identified in OCMC 17.49.150 as part of a Type II or Type III review process.

STATEWIDE PLANNING GOAL 6:
To maintain and improve the quality of the air, water and land resources of the state.
Finding: Complies as Proposed. This goal is implemented through the applicable Goals and Policies in Section 6 of the Oregon City Comprehensive Plan: Quality of Air, Water and Land Resources. By planning system improvements based on projected demand and land use patterns, the plan will ensure that land suited for development will be served efficiently.

The improvements recommended in the plan will result in less pollution by providing a safe opportunity for pedestrian and bicycle travel.

STATEWIDE PLANNING GOAL 11:
To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.
Finding: Complies as Proposed. This goal is implemented through the applicable Goals and Policies in Section 11 of the Oregon City Comprehensive Plan: Public Facilities. As stated in Section 11, the transportation infrastructure in Oregon City is governed by the Oregon City Transportation System Plan (Oregon City TSP). The relevant Public Facilities goals and policies and findings are discussed in greater detail above.

STATEWIDE PLANNING GOAL 12:
To provide and encourage a safe, convenient and economic transportation system.
Finding: Complies as Proposed. This goal is implemented at the local level through the applicable Goals and Policies in the updated TSP, Section 2 (The Vision). This goal is also implemented at the state level through the Transportation Planning Rule (TPR), OAR 660-012. The plan will increase safety along the corridor by providing a safe place for bicyclists and pedestrians to travel along the corridor. The plan also includes crossings to assist pedestrians and bicyclists in crossing streets.

STATEWIDE PLANNING GOAL 13: To conserve energy.
Land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles.
Finding: Complies as Proposed. This goal is implemented through the applicable Goals and Policies in Section 13 of the Oregon City Comprehensive Plan: Energy Conservation. The multimodal transportation system and improvements proposed will support efficient use of land and encourage walking and biking by providing a cohesive transportation system for a variety of modes.

Oregon Transportation Plan (2006)

The Oregon Transportation Plan (OTP) is the state's long-range multimodal transportation plan. The OTP is the overarching policy document among a series of plans that together form the state transportation system plan (TSP). A TSP must be consistent with applicable OTP goals and policies. Findings of compatibility will be part of the basis for TSP approval. The most pertinent OTP goals and policies for city transportation system planning are provided below.

POLICY 1.2 – Equity, Efficiency and Travel Choices
It is the policy of the State of Oregon to promote a transportation system with multiple travel choices that are easy to use, reliable, cost-effective and accessible to all potential users, including the transportation disadvantaged.

Finding: Complies as Proposed. The plan will increase safety along the corridor by providing a safe place for bicyclists and pedestrians to travel along the corridor. The plan also includes crossings to assist pedestrians and bicyclists in crossing intersections. It is designed to be as flat as possible to be accessible to people in wheelchairs and pushing strollers.

POLICY 4.1 - Environmentally Responsible Transportation System

It is the policy of the State of Oregon to provide a transportation system that is environmentally responsible and encourages conservation and protection of natural resources.

Finding: Complies as Proposed. The plan will increase safety along the corridor by providing a safe place for bicyclists and pedestrians to travel along the corridor. The plan also includes crossings to assist pedestrians and bicyclists in crossing. The trail will give local residents more choices about how they travel, which can alleviate traffic by reducing vehicle trips.

POLICY 5.1 – Safety

It is the policy of the State of Oregon to continually improve the safety and security of all modes and transportation facilities for system users including operators, passengers, pedestrians, recipients of goods and services, and property owners.

Finding: Complies as Proposed. The plan will increase safety along the corridor by providing a safe place for bicyclists and pedestrians to travel along the corridor. The plan also includes crossings to assist pedestrians and bicyclists in crossing intersections. It is designed to be as flat as possible to be accessible to people in wheelchairs and pushing strollers.

POLICY 7.1 – A Coordinated Transportation System

It is the policy of the State of Oregon to work collaboratively with other jurisdictions and agencies with the objective of removing barriers so the transportation system can function as one system.

Finding: Complies as Proposed. The City worked with ODOT throughout the process. ODOT was represented on the community advisory group. Clackamas County was consulted during the process as well, and provided comments to the City.

POLICY 7.3 – Public Involvement and Consultation

It is the policy of the State of Oregon to involve Oregonians to the fullest practical extent in transportation planning and implementation in order to deliver a transportation system that meets the diverse needs of the state.

Finding: Complies as Proposed. Development of the plan included an extensive public involvement effort. Oregon City has presented the project to the public at a series of meetings including the Parks and Rec advisory Committee, Transportation Advisory Committee, Neighborhood Associations, Historic Review Board, Planning Commission and City Commission. Documentation produced with the corridor plan has been posted on the project website throughout the duration of the project and comments have been integrated into the final product. The product will be reviewed through the Legislative approval process.

POLICY 7.4 – Environmental Justice

It is the policy of the State of Oregon to provide all Oregonians, regardless of race, culture or income, equal access to transportation decision-making so all Oregonians may fairly share in benefits and burdens and enjoy the same degree of protection from disproportionate adverse impacts.

Finding: Complies as Proposed. The planning process was advertised to all neighbors equally and meetings were held in accessible locations at convenient times. The plan will be reviewed through the Legislative approval process.

<u>Oregon Highway Plan</u>

The 1999 Oregon Highway Plan (OHP) establishes policies and investment strategies for Oregon's state highway system over a 20-year period and refines the goals and policies found in the OTP. Policies in the

OHP emphasize the efficient management of the highway system to increase safety and to extend highway capacity, partnerships with other agencies and local governments, and the use of new techniques to improve road safety and capacity. These policies also link land use and transportation, set standards for highway performance and access management, and emphasize the relationship between state highways and local road, bicycle, pedestrian, transit, rail, and air systems. The policies applicable to the Oregon City TSP are addressed below.

Policy 1G *(Major Improvements) requires maintaining performance and improving safety by improving efficiency and management before adding capacity. ODOT works with regional and local governments to address highway performance and safety.*
Finding: Complies as Proposed. The McLoughlin-Canemah Trail Plan will improve both safety and efficiency of the corridor by addressing the needs of alternative transportation users with paths, sidewalks and bicycle lanes and construction of intersection improvements.

Policy 2F *(Traffic Safety) improves the safety of the highway system.*
Finding: Complies as Proposed. The McLoughlin-Canemah Trail Plan is aligned along state highway 99E. It includes improvements for bicycles and pedestrian along that segment of 99E which currently lacks facilities.

OAR 660 Division 12 Transportation Planning Rule (TPR)
The purpose of the TPR is "to implement Statewide Planning Goal 12 (Transportation) and promote the development of safe, convenient and economic transportation systems that are designed to reduce reliance on the automobile so that the air pollution, traffic and other livability problems faced by urban areas in other parts of the country might be avoided." A major purpose of the Transportation Planning Rule (TPR) is to promote more careful coordination of land use and transportation planning, to ensure that planned land uses are supported by and consistent with planned transportation facilities and improvements.
Finding: Complies as Proposed. The McLoughlin-Canemah Trail Plan is in compliance with the TPR through its improvement of non-vehicular travel options and compliance with the Goals and Policies of the Comprehensive Plan. No traffic studies are required for adoption of the plan.

Regional Transportation Plan
The Regional Transportation Functional Plan (RTFP) directs how Oregon City should implement the RTP through the TSP and other land use regulations. The RTFP codifies existing and new requirements which local plans must comply with to be consistent with the RTP. If a TSP is consistent with the RTFP, Metro will find it to be consistent with the RTP.
Finding: Complies as Proposed. The McLoughlin-Canemah Trail Plan includes identified projects listed in the TSP. The TSP is consistent with and implements the policies within the RTFP.

RECOMMENDATION
Based on the findings identified above, the McLoughlin-Canemah Trail Plan complies with the review criteria. Staff recommends approval of Planning file L 17-02.

EXHIBITS
1) Planning Commission Issues Matrix in response to November 13, 2017 hearing
2) McLoughlin-Canemah Trail Plan Alignment Feasibility and Evaluation Report - Revised
3) Legislative Application
4) Public Comments

Planning Commission Issues Matrix for February 12, 2018 Hearing

Addressing concerns heard during and after November 13, 2017 hearing

L 17-02 McLoughlin to Canemah Trail Plan

Issue	Description	Specific Concerns	How Concern Is Addressed in Amended Plan
1.	Committee Recommendations	• PRAC and TAC did not specifically make a recommendation regarding the plan	Staff presented the plan to NRC on January 10, TAC on January 16, and PRAC on January 25. All three committees voted to recommend approval of the plan. Videos of the meetings can be found here: Natural Resources Committee January 10 Meeting Transportation Advisory Committee January 16 Meeting Parks and Recreation Advisory Committee January 25 Meeting
2.	Trail impact on private properties	• Bud's Towing property is bisected • Trail could affect future redevelopment opportunities • Some commenters preferred keeping the trail along the state highway	The Advisory Group for the trail plan held a fourth meeting in December 2017 and invited private property owners. Attendees included owners of Falls View Tavern, Bud's Towing, Gerber Collision, and the Highland Stillhouse. The Advisory Group discussed options for the trail alignment through these private properties. Owners were open to utilizing the space just at the bottom of the cliff below High Street, or utilizing the site frontage along the state highway. Although some members were less supportive of the state highway alignment due to safety concerns, the group voted to retain multiple options for alignment in this area to include both state highway frontage and rear property alignment. The permanent trail recommendation graphic and TSP project description were revised accordingly after the December meeting.
3.	VFW driveway	• The recommendation to potentially move the VFW vehicular access to 1st Street off of High Street was questionable related to cost, feasibility, and need.	Staff met with VFW representatives on site to discuss the driveway options. The VFW preferred to keep the existing driveway location and expand it or add a path next to it to accommodate the trail. The VFW also requested that construction activities related to the trail be coordinated with them and minimize impact on their access as much as possible. The advisory group discussed this item at the December meeting and voted

Issue	Description	Specific Concerns	How Concern Is Addressed in Amended Plan
			to remove the idea for driveway relocation to First Street, instead keeping the existing driveway as desired by VFW members. The permanent trail recommendation graphic and Parks Master Plan project description were revised accordingly after the December meeting.
4.	Crossing of South 2nd	• Crossing at High Street instead of at 99E is safer • Concerns about traffic flow if a crossing is added at Tumwater	The Advisory Group held a fourth meeting in December and heard these ideas. The group voted not to modify the alignment maps, but to revise the language in the plan to reflect that additional engineering study is needed to determine the best crossing location and design. Proposed TSP Project C37 has been revised accordingly.
5.	Additional pathways and trail options through city owned property	• City owned property in Canemah adjacent to the Metro owned Canemah bluff property should be considered for inclusion in the plan • The plan could include connections from High Street to the upper trail in Old Canemah Park	The Advisory Group held a fourth meeting in December and heard these ideas. The group voted against including them in this particular trail plan, but did recommend that the Parks and Rec Advisory Committee look at potential updates to the Trails Master Plan.
6.	Bar traffic on Tumwater near Falls View Tavern	• Bar traffic is unsafe • Lots of parking in areas not necessarily intended for parking use • Concern for safety of trail users	This concern is noted and will be addressed through detailed design for permanent trail at a later date, if the alignment on Tumwater is selected. The traffic safety and parking concerns have been relayed to OCPD.

Planning Commission Issues Matrix for February 12, 2018 Hearing

Addressing concerns heard during and after November 13, 2017 hearing

L 17-02 McLoughlin to Canemah Trail Plan

Issue	Description	Specific Concerns	How Concern Is Addressed in Amended Plan
7.	Stormwater issues near Gerber Collision	• Water leak/outfall floods a portion of property behind Gerber Collision	Public Works Operations staff confirmed that the storm outfall is not a city-owned outfall and suggested to the property owner to work with neighboring owners. This concern is noted and will be addressed through detailed design for permanent trail at a later date, if the alignment through the property is selected.
8.	Plan for boardwalk/99 E option to be long term	• The alignment on the river side of 99E should be retained as a long term option for a future loop	The Advisory Group held a fourth meeting in December and heard this issue. The group agreed to include a recommendation for a long term connection to the riverwalk via the sidewalk on 99E and Jerome Street crossing in Canemah. The group also agreed that better speed control is needed on 99E, with some calling for reduced speed limits. The permanent trail recommendation graphic and TSP project description were revised accordingly after the December meeting.
9.	License agreement with PGE	• A license agreement is risky and can be rescinded more easily than an easement	Staff investigated similar agreements with Tualatin Hills Parks and Rec District. A license agreement can provide the City with enough certainty in this circumstance and is more easily amended through agreement of both parties. The Community Services Department is amenable to such an agreement with PGE.
10.	Proximity to home at 320 Tumwater Dr	• After trail alignment revisions were made in December, the owners of 320 Tumwater objected to the potential alignment next to their house • They are in the process of requesting a permanent right of way obstruction permit for a deck attached to their home	The plan shows one of the potential permanent trail alignments in the unimproved City right-of-way adjacent to 320 Tumwater Drive. The deck location does not appear to physically conflict with the potential trail alignment. There are multiple options for permanent trail alignment in this area, and the City will need to work with property owners in the area on design details and decisions in the future. The timeframe for the permanent alignment is unknown. No changes are recommended, but the concern is noted and the City will work with all property owners in the future when conversations about the permanent trail alignment occur.



MCLOUGHLIN-CANEMAH TRAIL PLAN

Alignment Feasibility & Evaluation Report

Prepared by Alta Planning + Design
with Northwest Geotech, Inc and Pacific Habitat Services, Inc
For the City of Oregon City, Oregon

January, 2018









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ACKNOWLEDGMENTS



Many thanks to all who took part in this trail planning effort, including:

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I.

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

OVERVIEW

In 2016, the City of Oregon City, in partnership with the Oregon City Trail Alliance, the McLoughlin Neighborhood Association, and the Clackamas County Historical Society, was granted a Nature in Neighborhoods grant of $25,000 to fund a planning effort for the McLoughlin-Canemah Trail (MCT), a segment of the larger Oregon City Loop Trail. The objective was to determine Permanent and Interim trail alignments and safety upgrades to create a safer pedestrian and bicycle route between two neighborhoods while connecting city amenities along the way.

Goals for this trail were developed based on the results of a survey taken by the project's Community Advisory Group members, and from conversations with group members and City staff.

GOALS: The McLoughlin-Canemah Trail should:

- Provide an attractive route of travel for people walking and biking between the McLoughlin Promenade and Canemah Children's Park that connects residential areas, parks, and businesses.
- Strive to provide facilities that serve all ages and abilities, including people with disabilities or mobility limitations.
- Minimize risk and conflicts between automobile traffic, bicycle traffic, and pedestrians.
- Provide a trail design that is context-sensitive, particularly to the Canemah National Register Historic District, McLoughlin Promenade, and the McLoughlin Conservation District.
- Provide experiences and views of Willamette Falls
- Celebrate experiences of nature while protecting and enhancing native vegetation and habitat within the corridor.
- Discourage criminal activity and provide a secure environment for all users.
- Responsibly utilize public funds to provide a high-quality trail experience both now and into the future.
- Avoid use of private property in the Canemah National Register Historic District.

PROJECT STUDY AREA

The MCT study area includes just over 100 acres bounded by 2nd Street to the north, McLoughlin Blvd/Hwy 99E to the west, S. High St to the east, and the Canemah Neighborhood Children's Park to the south. Alignment alternatives connect and include portions of the McLoughlin Conservation District with the Canemah National Register Historic District between the McLoughlin Promenade and Canemah Neighborhood Children's Park.

PARTNERS, STAKEHOLDERS & PUBLIC ENGAGEMENT

The project team engaged with a number of partners, stakeholders, and members of the community throughout all phases of this project. Partners included Portland General Electric and the Oregon Department of Transportation.

A Community Advisory Group was assembled with representative from several stakeholders who helped to define project goals, evaluate alignment alternatives, and select the Interim and Permanent alignments.

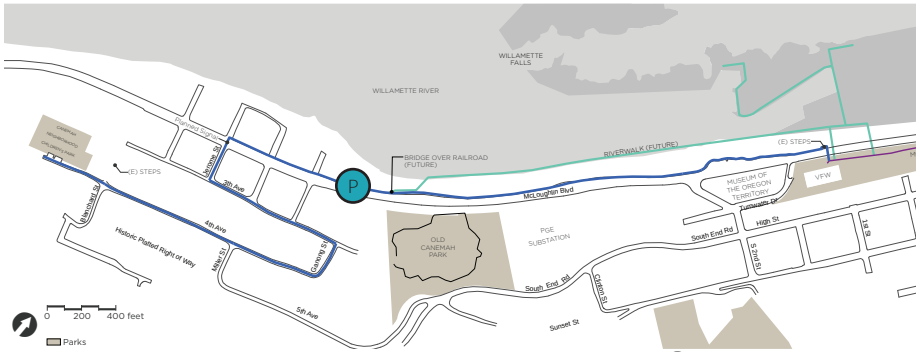
The local community was engaged in the project primary through a Greenway for Day event, which attracted 70-80 participants during a four hour event that included walking a portion of the alignment and responding to a series of Design Toolkit poster boards showing traffic calming strategies.

The project team also received 56 survey responses from the community emphasizing the value of Old Canemah Park, views of Willamette Falls, and the challenges associated with 99E, steep grades, traffic calming, and wayfinding.

TABLE 1. ALIGNMENT ALTERNATIVES - EVALUATION MATRIX

○ Not Advisable ◔ Major Constraint ◑ Moderate Constraints ◕ Minor Constraints ● Optimal

	QUALITY			SAFETY		PROPERTY			CONSTRAINTS		OVERALL EVALUATION		RECOMMENDATIONS	
	QUALITY OF EXPERIENCE	WILLAMETTE FALLS VIEWS	ALL AGES & ABILITIES	VEHICLE CONFLICT RISK	CRIME RISK	HISTORIC DISTRICT	CANEMAH IMPACTS	PROPERTY IMPACTS	GEOTECH CONSTRAINTS	ENVIRONMENTAL IMPACTS	OVERALL SCORE	ORDER OF MAGNITUDE COST	INTERIM RECOMMENDATION	PERMANENT RECOMMENDATION
ALIGNMENT ALTERNATIVE - A	◔	●	○	◔	●	☑	●	●	◑	●	◑	$6.0 - $6.5 M	Not Recommended	Not Recommended
ALIGNMENT ALTERNATIVE - B	◕	●	◑	◕	◕	☑	●	◕	◕	◕	◕	$2.1 - $2.6 M	☑	☑
ALIGNMENT ALTERNATIVE - C	◑	○	◑	◑	◑	☑	◕	◑	◑	◑	◑	$2.6 - $3.0 M	Not Recommended	Not Recommended

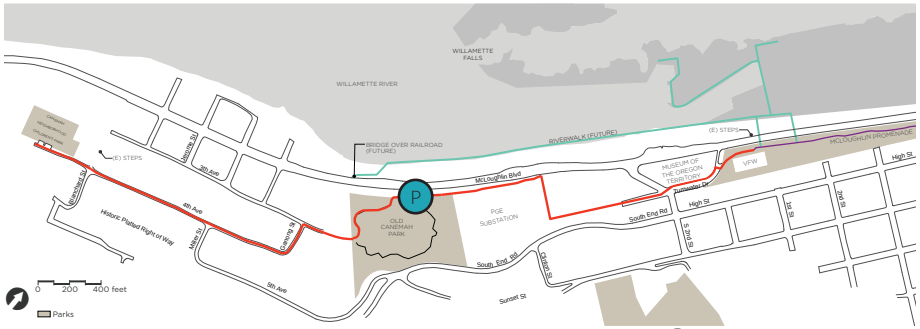


Alignment Alternative A

Photo Location



McLoughlin Blvd boardwalk, looking north

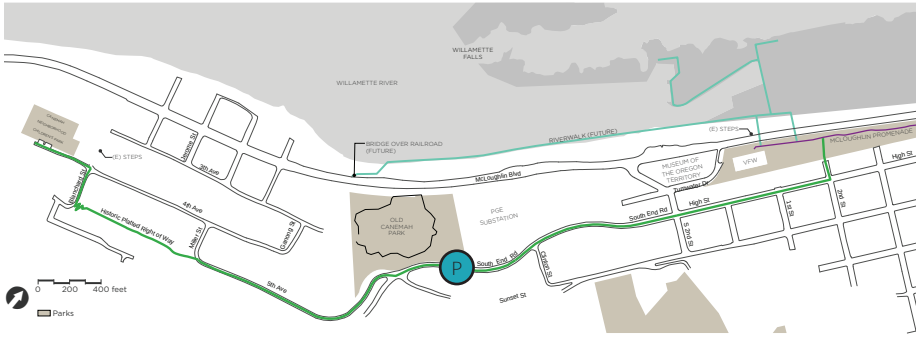


Alignment Alternative B

Photo Location



Old Canemah Park Trail, looking north



Alignment Alternative C

Photo Location



S. High Street, existing shoulder, looking south

ALIGNMENT ALTERNATIVES EVALUATION

The three Alignment Alternatives were evaluated and compared based on criteria derived from the Project Goals: Quality of Experience, Willamette Falls Views, Access for All Ages and Abilities, Vehicle Conflict Risk, Crime Risk, Impacts to Canemah National Register District, General Property Impacts, Geotechnical Constraints, Environmental Constraints, and Cost Estimates (Table 1).

The evaluations were based on findings from field reconnaissance, terrain analysis, geotechnical evaluation, environmental evaluation, and ongoing dialogue throughout the project between the project team, key partners, the Community Advisory Group, and the general public. Summaries of opportunities and constraints associated with each alignment alternative are listed below:

ALIGNMENT A - OPPORTUNITIES

- Boardwalk offers an intimate connection with Willamette Falls
- Alignment along roadway is highly visible

ALIGNMENT A - CONSTRAINTS

- The experience along McLoughlin traffic can be uncomfortable
- Would require widening sidewalk and boardwalk within constrained ODOT right of way

ALIGNMENT B - OPPORTUNITIES:

- Offers direct connections between neighborhoods and parks
- High quality views of Willamette Falls

ALIGNMENT B - CONSTRAINTS:

- Segment along McLoughlin Blvd has significant roadway width constraint
- Alignment using the existing VFW driveway assumes a modified automobile entrance to the VFW to/from S 1st St.

ALIGNMENT C - OPPORTUNITIES

- Most slopes are comfortable for people walking and biking
- Provides access on South End Rd for people walking and biking

ALIGNMENT C - CONSTRAINTS

- Doesn't connect neighborhoods to Old Canemah Park
- Width constraints along S. High Street could be cost-prohibitive



INTERIM ALIGNMENT RECOMMENDATION

The Interim trail alignment recommendation begins at the McLoughlin Promenade and connects via 2nd Street to High Street. From there, the trail turns onto S. 2nd Street and continues west to McLoughlin Blvd/Hwy 99E. Using the existing traffic signal crossing, the trail continues on the east side of McLoughlin Blvd/Hwy 99E until reaching the Portland General Electric (PGE) substation entrance.

From the PGE entrance, the Interim and Permanent trail recommended alignments are identical. The trail connects between the PGE substation and McLoughlin Blvd/Hwy 99E, enters Old Canemah Park, and connects to the Canemah National Register District neighborhood. The route through the neighborhood follows Marshall Street and 3rd Avenue west/southwest , turns onto Ganong Street, and follows 4th Avenue until reaching the Canemah Neighborhood Children's Park.

DESIGN ASSUMPTIONS - INTERIM

- Wayfinding and shared use signage and pavement markings between 2nd Street and McLoughlin Blvd
- New multi-use path along edge of PGE substation property
- Traffic calming, signs, and pavement markings for shared Family Friendly Street on 3rd Ave, Ganong St, and 4th Ave.
- Reinforcement at top of basalt cliff along McLoughlin Blvd

PERMANENT ALIGNMENT RECOMMENDATION

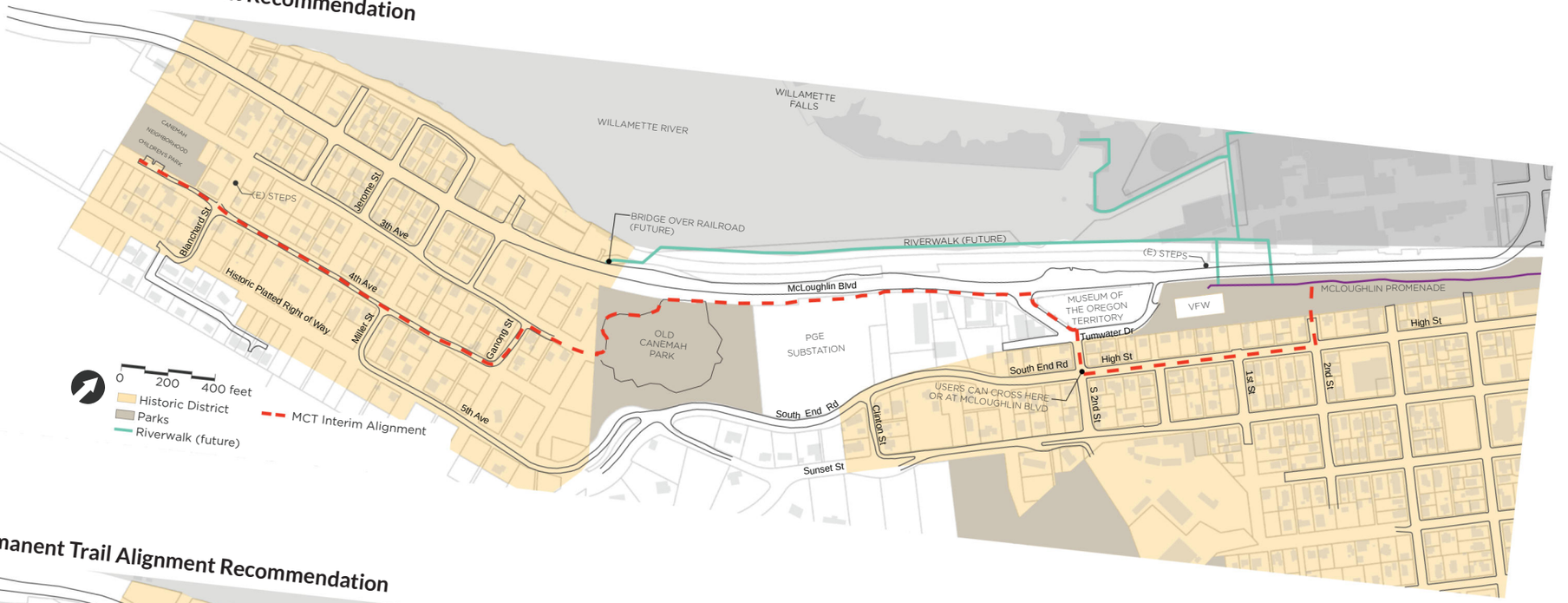
The Permanent trail alignment recommendation begins at the McLoughlin Promenade and connects to Tumwater Drive via the Three Rivers VFW Post 1324 parking lot and a dedicated non-motorized path down the existing driveway. From there, the trail follows Tumwater Drive, crosses at S. 2nd Street, and continues south/southwest either along McLoughlin Blvd/ Hwy 99E or along the back edge of private property until reaching Portland General Electric (PGE) substation property.

From the PGE entrance, the Interim and Permanent trail recommended alignments are identical. The trail connects between the PGE substation and McLoughlin Blvd/Hwy 99E, enters Old Canemah Park, and connects to the Canemah National Register District neighborhood. The route through the neighborhood follows 3rd Avenue, turns onto Ganong Street, and follows 4th Avenue until reaching the Canemah Neighborhood Children's Park.

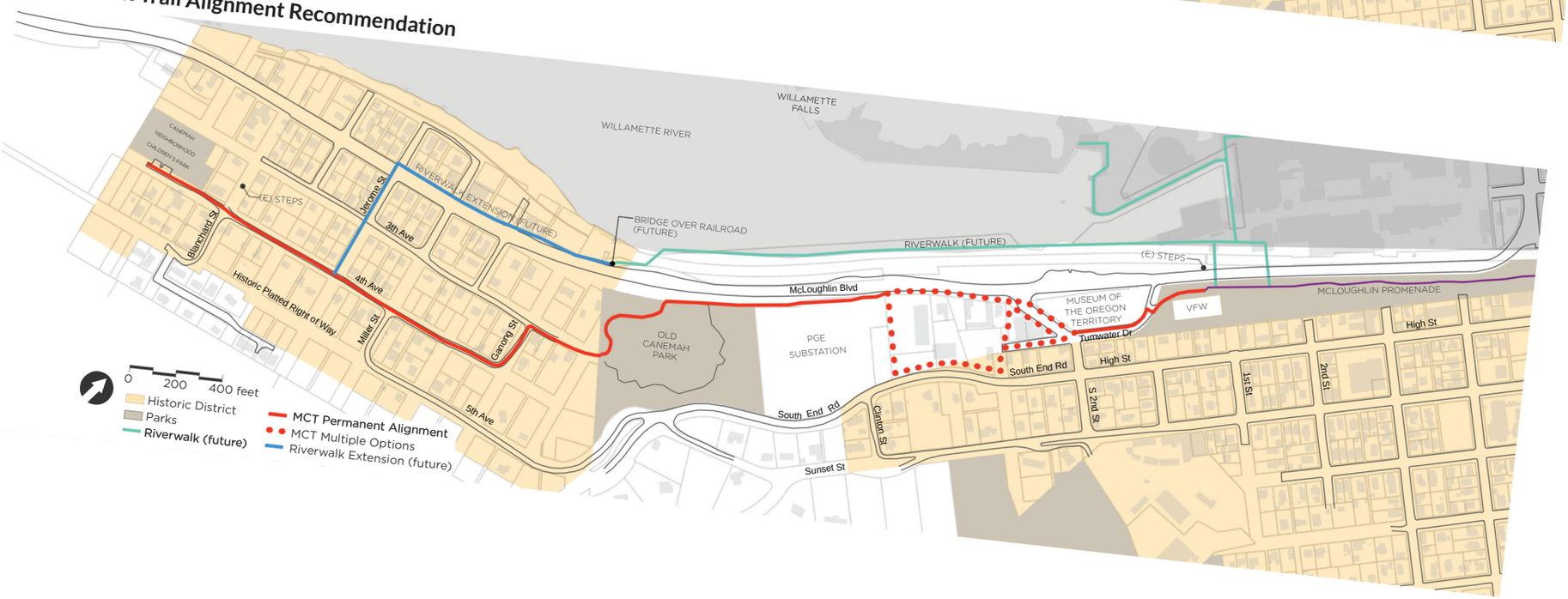
DESIGN ASSUMPTIONS - PERMANENT

- Modification of existing VFW driveway allows dedicated ped-bike connection to Tumwater Dr. Left turn from McLoughlin Blvd onto Tumwater Dr to be closed.
- Widen sidewalk to shared use path width along Tumwater Dr
- Intersection crossing of S 2nd Ave at Tumwater Drive or 99E re-designed for safety
- Trail can be installed along with future/expected development
- License agreement for use of PGE substation property
- Traffic calming, signs, and pavement markings for shared Family Friendly Street on 3rd Ave, Ganong St, and 4th Ave. Speed limit reduced to 20 MPH.
- Cost estimate includes reinforcement at top of basalt cliff.

Interim Trail Alignment Recommendation



Permanent Trail Alignment Recommendation



II.

INTRODUCTION

Project Goals and Objectives

For many years, Oregon City has envisioned safer connections between the Canemah and McLoughlin neighborhoods, the Willamette River and Willamette Falls, and celebrated parks that attract residents and visitors of all ages and abilities.

Currently, there are no safe and viable pedestrian or bicycle connections between the Canemah Neighborhood and the McLoughlin Promenade including to points north such as Jon Storm Park, Clackamette Park, and Downtown Oregon City. The McLoughlin-Canemah Trail (MCT) will provide these much needed pedestrian and bicycle connections for the community.

In 2016, the City of Oregon City, in partnership with the Oregon City Trail Alliance, the McLoughlin Neighborhood Association, and the Clackamas County Historical Society, was granted a Nature in Neighborhoods grant of $25,000 to fund a planning effort for the MCT, a segment of the larger Oregon City Loop Trail. The City provided a local match through funding significant staff time and volunteer hours. The objective of the grant-funded trail plan project was to determine an alignment for a permanent trail, and to identify an Interim trail alignment and safety upgrades. While each entity in the partnership had priorities and reasons for supporting the project, the overall objectives were to create a safer pedestrian and bicycle route between two neighborhoods while connecting city amenities along the way.

Goals for this trail were developed based on the results of a survey taken by the project's Community Advisory Group members, and from conversations with group members and City staff. The Community Advisory Group approved the goals after its first meeting in July 2017. These goals were used to develop the trail alternatives and to evaluate the alternatives against each other. Goals are listed to the right.

Site Setting

Located in Oregon City approximately 15 miles southeast of downtown Portland, the McLoughlin-Canemah Trail study area northern trail-head is located approximately half a mile south of Downtown Oregon City.

Oregon City was established on the east bank of the Willamette River at Willamette Falls, the furthest upstream extent for tidal influence on the river, a historic fishing location for native peoples, and a major terminus for water-based navigability.

The local MCT study area includes just over 100 acres bounded by 2nd Street to the north, McLoughlin Blvd/Hwy 99E to the west, S. High St to the east, and the Canemah Neighborhood Children's Park to the south. Alignment alternatives connect and include portions of the McLoughlin Conservation District with the Canemah National Register Historic District between the McLoughlin Promenade and Canemah Neighborhood Children's Park.

Much of the study area is characterized by steep topography including basalt bluffs that line McLoughlin Blvd/Hwy 99E to the south. Willamette Falls lies to the northwest and offers high quality views to local residents and visitors, soon to become more accessible with the Willamette Falls Legacy Project.

There are several notable destinations nearby. Near the center of the study area, between the two historic districts, are located Three Rivers VFW Post 1324, the Museum of the Oregon Territory, and a Portland General Electric (PGE) substation. Old Canemah Park is also near the center of the study area and includes viewpoints of Willamette Falls, a rich forested area, interesting and variable topography, and opportunities for small gatherings.

Project Goals

The McLoughlin-Canemah Trail should...

- Provide an attractive route of travel for people walking and biking between the McLoughlin Promenade and Canemah Children's Park that connects residential areas, parks, and businesses.
- Strive to provide facilities that serve all ages and abilities, including people with disabilities or mobility limitations.
- Minimize risk and conflicts between automobile traffic, bicycle traffic, and pedestrians.
- Provide a trail design that is context-sensitive, particularly to the Canemah National Register Historic District, McLoughlin Promenade, and the McLoughlin Conservation District.
- Provide experiences and views of Willamette Falls.
- Celebrate experiences of nature while protecting and enhancing native vegetation and habitat within the corridor.
- Discourage criminal activity and provide a secure environment for all users.
- Responsibly utilize public funds to provide a high-quality trail experience both now and into the future.
- Avoid use of private property in the Canemah National Register Historic District.

Regional Context

By providing a safe and attractive connection to the McLoughlin Promenade, the MCT will also connect to the Willamette River Greenway Trail, McLoughlin Historic District Trail, Trolley Trail, Willamette Terrace walkway, and other destinations and points of interest in Oregon City.

Another connection that will be made possible as a result of the MCT is with the Willamette Falls Legacy Project and Riverwalk trail, which connects Oregon City to Willamette Falls.

Together, these trails will provide rich transportation and recreational opportunities for residents and visitors alike. In addition, just south of the Canemah Neighborhood Children's Park is Metro's 332 acre Canemah Bluff Natural Area. This natural area includes trails, overlooks, and captivating views of the Willamette River and Willamette Falls.

Environmental and Geotechnical Considerations

Approximately 40% of the study area is included in Oregon City's Natural Resources Overlay District (NROD), which is intended to protect habitats and associated functions of streams, riparian corridors, wetlands and the regulated wildlife found in the City. NROD provides a framework for the protection of Metro Titles 3 and 13 lands and addresses Stateside Planning Goal 5 within the City. Wetlands are the most notable element within the study area.

Nearly 85% of the study area is mapped by the Oregon Department of Geology and Mineral Industries (DOGAMI) as having potential geological hazards because of past landslides or steep slopes. These potential hazards are not a grave concern for many of the alternative alignment segments which follow existing paved roads. However, geotechnical and slope stability concerns are highest where new path construction would require fill on the downhill side of slopes over historic landslide deposits.

Relevant Projects and Plans

The City of Oregon City adopted a Trails Master Plan in 2004. That plan identified dozens of planned and proposed trails to create a trail network throughout the City. The Oregon City Loop Trail was identified as a regional trail within the Master Plan. As a regional trail, the Oregon City Loop Trail was envisioned as a wide shared use path to serve people walking and bicycling, people using mobility devices, and in some cases, equestrians. In the Master Plan, the McLoughlin-Canemah Trail (MCT) was also identified as a shared use path and links the Loop Trail to trails in the downtown area. The adoption process for this plan will update the Loop Trail concept to officially include the MCT and other connections.

In 2014, the City conducted an analysis identifying gaps in the sidewalk and trail network between the Promenade and the Canemah Children's Park. This internal work set the stage for the public planning process for the MCT.

The concept plan for the Willamette Falls Riverwalk, which will provide public access to Willamette Falls from downtown Oregon City, was finalized in June 2017. The Riverwalk includes a pedestrian bridge from the old Blue Heron Mill site up to the McLoughlin Promenade. While the concept plan presents several options for the exact location of that pedestrian bridge, all of them are located near the VFW building on the bluff. Adopted plans show the MCT connecting to the Promenade and the pedestrian bridge.

The Oregon City Transportation System Plan, adopted in 2013, includes two shared use paths and family friendly routes within the MCT corridor, along with crossing improvements that could be part of the trail. The following TSP Projects are within the vicinity of the MCT.

Table 1. Oregon City 2013 TSP Projects within MCT Project Area

PROJECT NUMBER	PROJECT NAME	PROJECT EXTENT	DESCRIPTION	PRIORITY
S36	Tumwater-4th Shared-Use Path	Tumwater Dr to 4th Ave	Add a shared-use path through Old Canemah Park connecting 4th Ave to the Tumwater/South 2nd intersection	Long-term
S37	OR 99E (south of Railroad Avenue) Shared-Use Path	Railroad Ave to UGB	Add a shared-use path along the north side of the street. Rehabilitate existing boardwalk between South 2nd Street and Hedges Street	Long-term Phase 2
C36	Pedestrian Crossing at Jerome St & 99E	OR 99E at Jerome St	Install crosswalk and pedestrian activated flasher on OR 99E in Canemah	Long-term Phase 2
FF21	Canemah Family Friendly Route	Old Canemah Park to Cemetery Rd	This site is located within the Canemah National Register District. Add wayfinding and shared lane markings. Add a walking path on one side of the street, if approved by the Historic Review Board. Route via 5th Avenue, Blanchard Street, 4th Avenue, Ganong Street and 3rd Avenue	Long-term Phase 4
FF22	Tumwater-South 2nd Family Friendly Route	Waterboard Park to Tumwater and 4th St Shared Use Path to McLoughlin Promenade	Add sidewalks on both sides of the street. Add wayfinding and shared lane markings. Route via Tumwater Drive, South 2nd Street and Waterboard Park Road	Long-term Phase 4

Regional plans that include the MCT and/or the Oregon City Loop Trail include the Metro Regional Transportation Plan and Regional Trails Plan.

Important Agencies and Partners

Metro, the region's elected government agency, provides trails grants through its Parks and Nature department. Grants are funded through the bond measure that voters approved to create better access to nature and protect healthy habitat in and near the region.

Portland General Electric (PGE) operates a substation on its property within the trail corridor. The substation is located next to Old Canemah Park and there are existing pedestrian desire paths that cross through the PGE property to connect into the park .

The Oregon Department of Transportation (ODOT) owns and maintains McLoughlin Blvd/99E, which runs parallel to part of the trail corridor.

Clackamas County maintains much of the area's infrastructure including South End Road within the project area. Oregon City is the county seat.

Stakeholder and Public Engagement Summary

The McLoughlin-Canemah Trail will pass through an urban area with many neighbors and stakeholders. These include:

- The Three Rivers Veterans of Foreign Wars Post 1324 (VFW) building is located on the bluff at the junction with the McLoughlin Promenade, Willamette Falls Riverwalk, and McLoughlin-Canemah Trail.
- Clackamas County Historical Society (CCHS) operates the Museum of the Oregon Territory, which sits at the end of the Promenade next to the VFW and is an important destination along the future trail.
- The McLoughlin and Canemah neighborhoods both boast active neighborhood associations. McLoughlin encompasses the historic Promenade and includes some of Oregon City's oldest homes. Canemah encompasses the Canemah National Register Historic District, Old Canemah Park, Canemah Children's Park, and the Canemah Bluff Natural Area.
- Oregon City Trail Alliance (OCTA) is a nonprofit advocacy organization whose purpose is to support a strong network of walking and biking trails to expand options for walking, running, and cycling.
- The Oregon City Parks Foundation is a nonprofit formed to support maintenance and enhancement of Oregon City's parks and trails.
- Local businesses in the trail corridor are located along 99E near S. 2nd Street and include The Highland Stillhouse, Falls View Tavern, Bud's Towing, and Gerber Collision & Glass.
- Local residents in the area are potential future trail users and will be affected by the trail alignment and design.
- The City's standing committees for Historic Review, Natural Resources, Parks and Recreation, Transportation, and Citizen Involvement all have an interest in various facets of the trail plan.
- Downtown Oregon City Association (DOCA) is the stakeholder-steward of Downtown Oregon City, and aims to stimulate economic vitality and investment in the downtown and in Oregon City. DOCA sees trails and nature as an important part of the economic vitality of Oregon City.

Neighborhood and Committee Presentations

Project staff presented trail information and gathered input at meetings of the McLoughlin Neighborhood Association, Canemah Neighborhood Association, Parks and Recreation Advisory Committee, Transportation Advisory Committee, and the Historic Review Board.

Public Engagement Process

Table 2. Public Engagement Summary

PUBLIC EVENT OR MEETING	DATE	APPROXIMATE NUMBER OF ATTENDEES
Site Walk	06/27/2017	18
PGE Meeting	06/27/2017	8
ODOT Meeting	06/27/2017	6
Advisory Group Meeting #1	07/11/2017	18
Greenway for a Day	07/29/2017	80
Online Survey	07/29 – 08/07	56
Advisory Group Meeting #2	08/15/2017	18
Advisory Group Meeting #3	09/21/2017	15
McLoughlin Neighborhood Assoc.	09/07/2017	25
Canemah Neighborhood Assoc.	09/14/2017	15
Parks & Rec Advisory Committee	09/28/2017	10
Transportation Advisory Committee	10/17/2017	10
Historic Review Board	10/24/2017	10
Advisory Group Meeting #4	12/14/2017	25

Community Advisory Group

The City brought together a Community Advisory Group for the trail planning process that included many of the stakeholders and partners listed above. The 18-member Community Advisory Group's purpose was to guide the process to establish project goals, evaluate alternatives, and provide a recommendation to the City Commission for the final trail alignment.

The Community Advisory Group began its work with a site walk on June 27, 2017. The group began at the VFW and crossed S 2nd St, walked along 99E, behind the PGE substation, and into Old Canemah Park, taking 4th Avenue to the Canemah Children's Park. They returned to the VFW using the Canemah staircase, 3rd Avenue, crossing 99E, and walking on the 99E boardwalk to the traffic light at S 2nd St. Along the way, the group stopped to discuss the opportunities and challenges of the various trail alignment options.



Advisory Group Meetings

Over the course of three meetings, the Community Advisory Group crafted project goals, reviewed community input, evaluated various trail alignments, and arrived at consensus for a preferred trail alignment recommendation. Meeting notes are included in the Appendix.

Greenway for a Day

To gather input from residents and other future trail users, the project team organized a temporary trail event called Greenway for a Day on Saturday, July 29. The event invited citizens to experience existing conditions within the McLoughlin-Canemah Trail project corridor, to walk one of the trail alignment alternatives, and to provide comments about their experience and preferences.

Participants traveled from the Museum of the Oregon Territory to Canemah Children's Park, following the one-mile temporarily marked trail alignment. The event attracted approximately 70-80 participants over the four-hour event.

Stations were set up at the Museum of the Oregon Territory and Canemah Children's Park with surveys, games, refreshments, maps of the alignment alternatives, and design toolbox boards showing a range of design strategies that could be employed within the trail corridor.

The project team received 56 survey responses which included the following highlights.

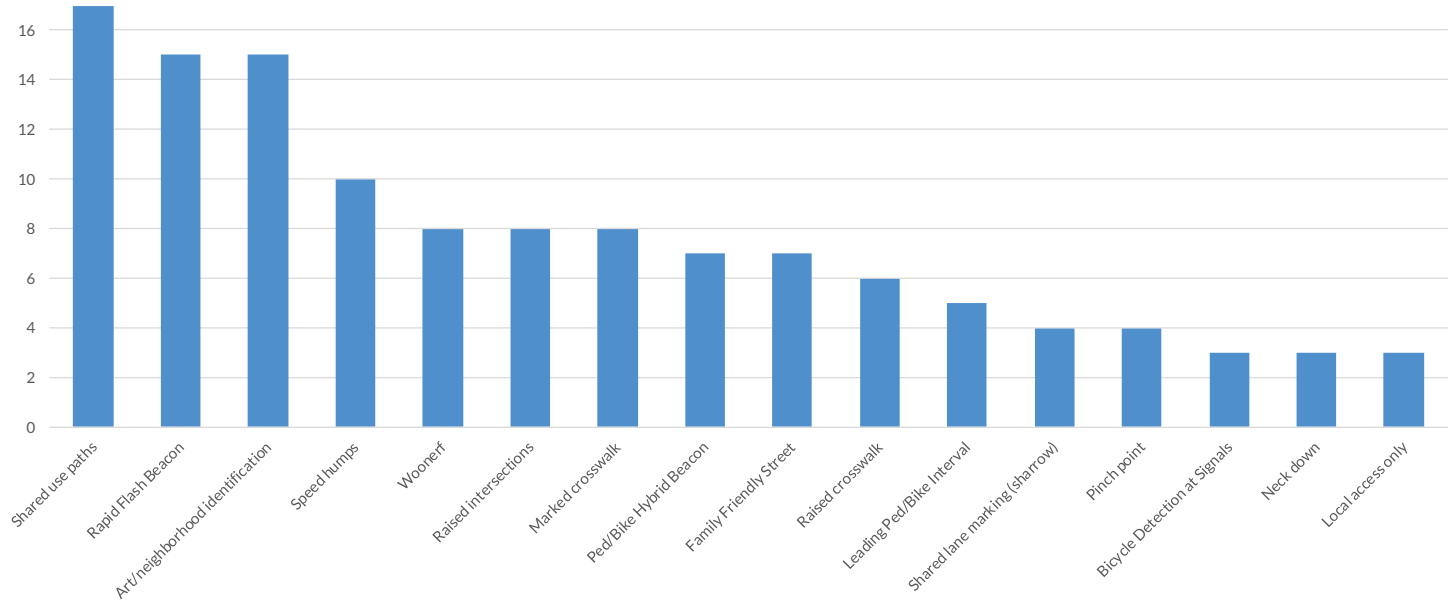
- Most participants reported that the best part of the trail experience was Old Canemah Park.
- People liked the access to nature and the view of Willamette Falls from the heavily wooded park.
- Many people identified the least favorite part of the experience as being the portion along 99E. Some comments mentioned the existing gravel path, others mentioned the traffic, and others mentioned concern for safety of that segment.
- Participants pointed out that there is currently not a safe and reasonable route for riding a bicycle between the Canemah Historic District/Children's Park and the Museum of the Oregon Territory area. This is a critical need especially as more families who want to commute to downtown Oregon City move to the neighborhood. The steep grades on Ganong Street between 3rd and 4th are challenging for cyclists and McLoughlin Blvd is unsafe in its current condition. South End Road potentially offers the best route for cyclists but only if width could be increased, traffic calmed, and travel speeds significantly decreased to provide safe facilities for cycling.
- Many participants mentioned a need for traffic calming on sections where people walking and biking would share the roadway with vehicles. Many felt uncomfortable walking adjacent to McLoughlin Blvd without any kind of protection or buffer.
- Participants mentioned that there is a general need for trail and park wayfinding in Oregon City and that wayfinding for this project (with its many alignment jogs) will need special consideration. Specifically, people noted that a sign would be needed at Ganong Street to direct users to 4th Street to avoid the stairway on 3rd Street. The stairway entrance should also be better defined, if it is to be part of the trail alignment.

The graph below summarizes participants support for safety toolkit options presented at Greenway for a Day (Figure 1). Full survey results from the Greenway for a Day can be found in the Appendices of this report.

Advisory Group Roster

- Canemah Neighborhood Association
- McLoughlin Neighborhood Association
- Portland General Electric
- Oregon Dept. Of Transportation
- Metro
- Veterans of Foreign Wars (VFW)
- Citizen Involvement Committee
- Natural Resources Committee
- Transportation Advisory Committee
- Parks and Rec Advisory Committee
- Oregon City Trail Alliance or local trail advocate
- Area Property Owners/Residents (multiple)

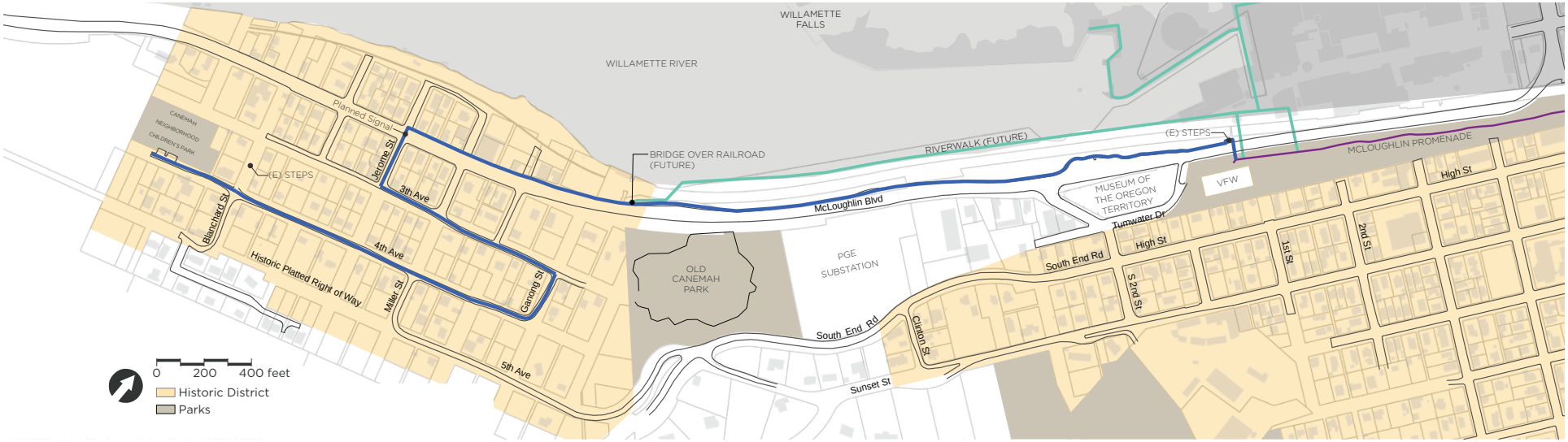
Figure 1. Public Support for Selected Traffic Calming Strategies



III.

ALIGNMENT ALTERNATIVES EVALUATION

ALIGNMENT ALTERNATIVES EVALUATION - DESCRIPTION - "A"



SUMMARY DESCRIPTION

Alignment - A (1.25 miles) begins at the McLoughlin Promenade, crosses the pedestrian bridge from the VFW over McLoughlin Blvd, and follows the McLoughlin Blvd sidewalks and boardwalk southwest to Jerome St. After crossing Jerome St, the trail continues into the Canemah Neighborhood via 3rd and 4th avenues.

DESIGN ASSUMPTIONS

- Requires expanding the existing sidewalk and boardwalk on the west side of McLoughlin Blvd from Jerome St to South 2nd St
- Traffic calming, signs, and pavement markings for Family Friendly Street on Jerome St, 3rd Ave, Ganong St, and 4th Ave
- Cost estimates do not include ROW acquisition or McLoughlin pedestrian bridge improvements at the VFW

OPPORTUNITIES

- Boardwalk offers an intimate connection with Willamette Falls
- Alignment along roadway is highly visible
- Minimizes environmental impacts

CONSTRAINTS

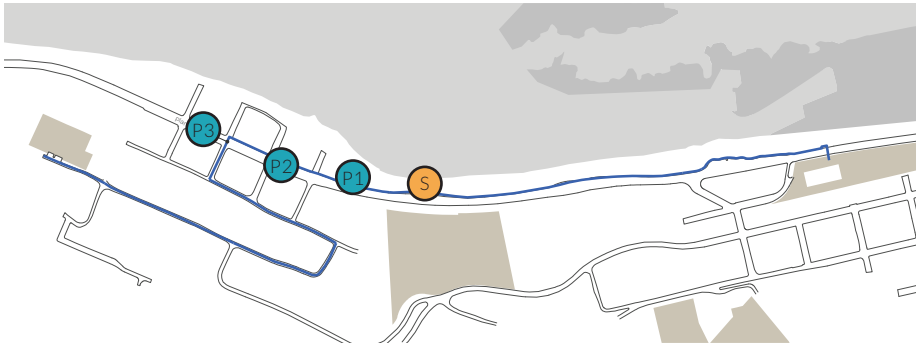
- Lacks a direct connection to Old Canemah Park
- Existing boardwalk is in disrepair, expensive to re-construct
- The experience along McLoughlin traffic can be uncomfortable
- Would require widening sidewalk within constrained ODOT right of way
- Out of direction travel

EVALUATION MATRIX

○ Not Advisable ◔ Major Constraint ◑ Moderate Constraints ◕ Minor Constraints ● Optimal

QUALITY			SAFETY		PROPERTY			CONSTRAINTS		OVERALL EVALUATION		RECOMMENDATIONS	
QUALITY OF EXPERIENCE	WILLAMETTE FALLS VIEWS	ALL AGES & ABILITIES	VEHICLE CONFLICT RISK	CRIME RISK	HISTORIC DISTRICT	CANEMAH IMPACTS	PROPERTY IMPACTS	GEOTECH CONSTRAINTS	ENVIRONMENTAL IMPACTS	OVERALL SCORE	ORDER OF MAGNITUDE COST	INTERIM RECOMMENDATION	PERMANENT RECOMMENDATION
◔	●	○	◔	●	☑	●	●	◑	●	◑	$4.0 - $4.5 M	Not Recommended	Not Recommended

ALIGNMENT ALTERNATIVES EVALUATION - EXISTING CONDITIONS - "A"



Key Map

P *Photo Location*

S *Cross Section*



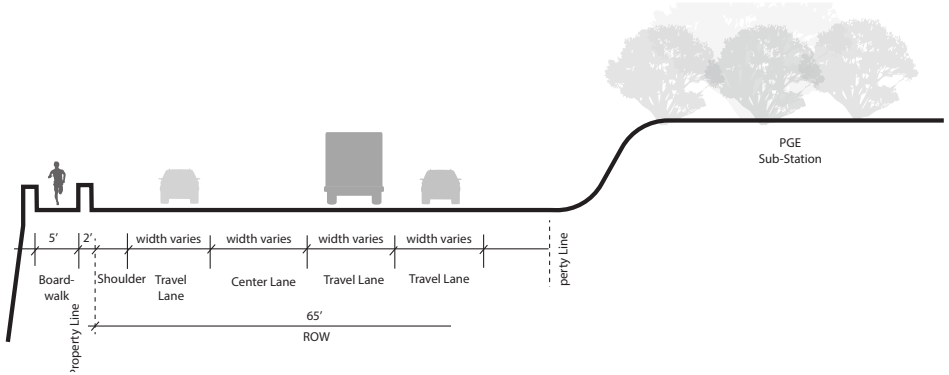
P-1 | McLoughlin Blvd boardwalk, looking north



P-2 | McLoughlin Blvd sidepath, looking north

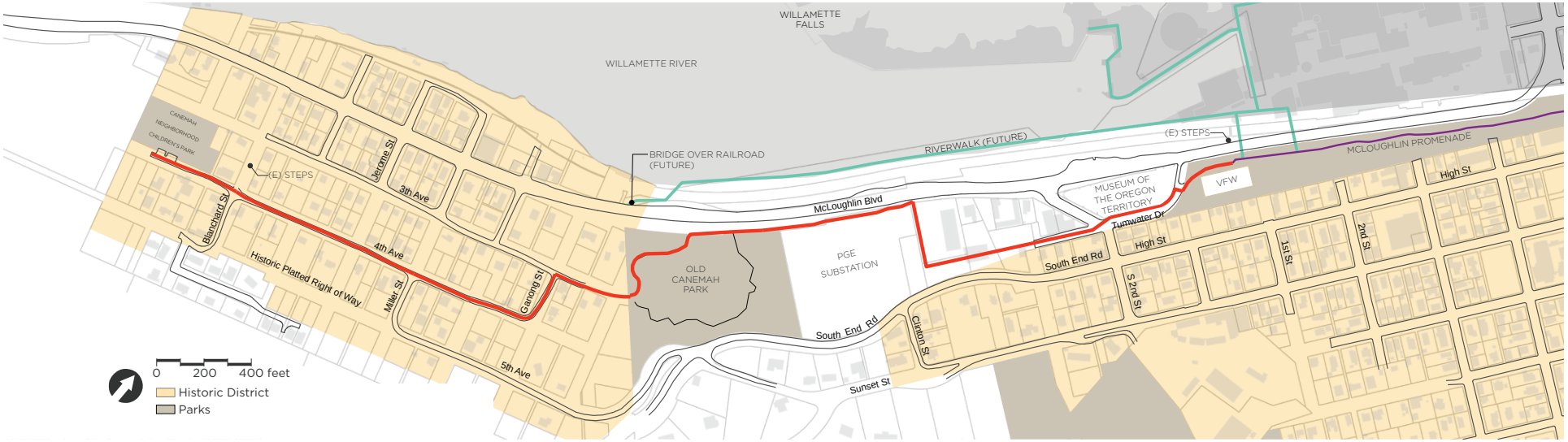


P-3 | McLoughlin Blvd crossing at Jerome St, looking south



Existing Cross Section

ALIGNMENT ALTERNATIVES EVALUATION - DESCRIPTION - "B"



SUMMARY DESCRIPTION

Alignment - B (0.95 miles) begins at the McLoughlin Promenade and connects to Tumwater Drive via the Three Rivers VFW Post 1324 parking lot and a dedicated non-motorized path down the existing driveway. From there, the trail follows Tumwater Drive, crosses at S. 2nd Street, and continues south/southwest either along McLoughlin Blvd or along the back edge of private property until reaching Portland General Electric (PGE) substation property. From PGE, the trail connects to Old Canemah Park and into the Canemah National Register District neighborhood. The route follows 3rd Avenue, turns onto Ganong Street, and follows 4th Avenue until reaching the Canemah Neighborhood Children's Park.

DESIGN ASSUMPTIONS

- Widen sidewalk to shared use path width along Tumwater Dr
- Intersection crossing at S 2nd Ave and Tumwater Drive re-designed for safety
- New multi-use path along edge of PGE substation property
- Traffic calming, signs, and pavement markings for shared Family Friendly Street on 3rd Ave, Ganong St, and 4th Ave
- Cost estimate includes reinforcement at top of basalt cliff

OPPORTUNITIES:

- Offers direct connections between neighborhoods and parks
- High quality views of Willamette Falls
- Few environmental impacts

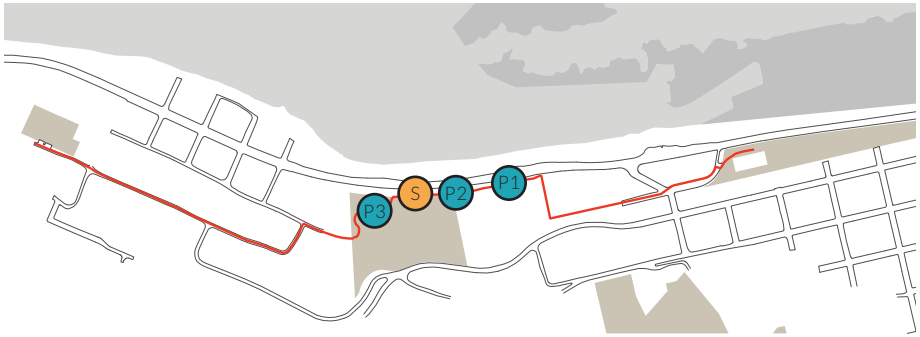
CONSTRAINTS:

- Segment along McLoughlin Blvd has significant roadway width constraint
- Alignment using the existing VFW driveway assumes a modified automobile entrance to the VFW to/from S 1st St

EVALUATION MATRIX

○ Not Advisable ◔ Major Constraint ◑ Moderate Constraints ◕ Minor Constraints ● Optimal

QUALITY			SAFETY		PROPERTY			CONSTRAINTS		OVERALL EVALUATION		RECOMMENDATIONS	
QUALITY OF EXPERIENCE	WILLAMETTE FALLS VIEWS	ALL AGES & ABILITIES	VEHICLE CONFLICT RISK	CRIME RISK	HISTORIC DISTRICT	CANEMAH IMPACTS	PROPERTY IMPACTS	GEOTECH CONSTRAINTS	ENVIRONMENTAL IMPACTS	OVERALL SCORE	ORDER OF MAGNITUDE COST	INTERIM RECOMMENDATION	PERMANENT RECOMMENDATION
◕	●	◑	◕	◕	☑	●	◕	◕	◕	◕	$2.1 - $2.6 M	☑	☑



Key Map

P *Photo Location* S *Cross Section*



P-1 | McLoughlin Blvd, between S. 2nd and PGE Substation

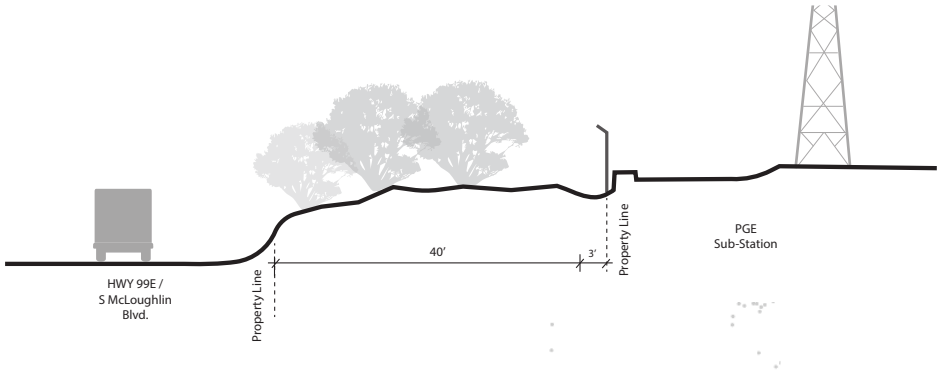


P-2 | Willamette Falls view from Old Canemah Park



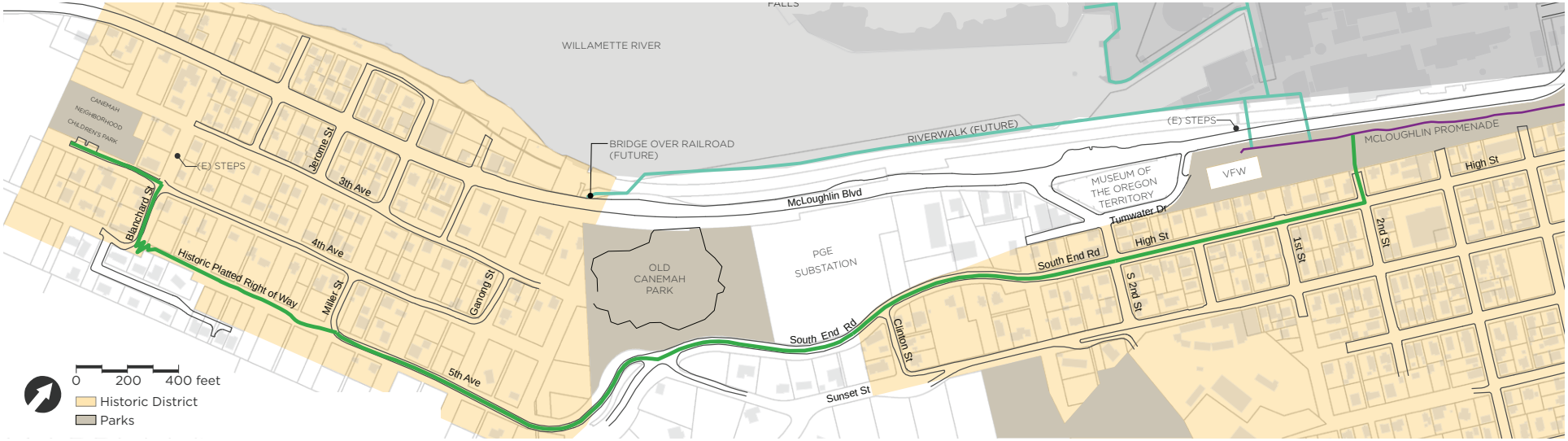
P-3 | Old Canemah Park trail

Existing Cross Section



West Edge of PGE Property
Existing Conditions
Looking North

ALIGNMENT ALTERNATIVES EVALUATION - DESCRIPTION - "C"



SUMMARY DESCRIPTION

Alignment - C (1.1 miles) begins at the McLoughlin Promenade at 2nd St and follows S High St to the southwest as High Street transitions to South End Road. It continues on 5th Ave, includes a historic Right of Way extension between Miller St and Blanchard St, and connects to Canemah Neighborhood Children's Park via 4th Ave.

DESIGN ASSUMPTIONS

- Shared roadway for cyclists on High St between 2nd St and S 2nd St
- Widens High St (S 2nd to Sunset St) to provide minimum side path width
- Traffic calming, signs, and pavement markings for shared Family Friendly Street on 5th Ave to Miller St and from Blanchard St to Canemah Neighborhood Children's Park
- Shared use path on City right of way between Miller St and Blanchard St
- Cost estimates include retaining wall and minor basalt excavation; does not include traffic signal at S 2nd St

OPPORTUNITIES

- Most slopes are comfortable for people walking and biking
- Provides access on South End Rd for people walking and biking

CONSTRAINTS

- Doesn't connect neighborhoods to Old Canemah Park
- Few or no views of Willamette Falls
- Width constraints along S. High Street could be cost-prohibitive
- Segment between Miller St and Blanchard St to be built on former land slide area with geotechnical concerns

EVALUATION MATRIX

○ Not Advisable ◔ Major Constraint ◑ Moderate Constraints ◕ Minor Constraints ● Optimal

QUALITY			SAFETY		PROPERTY			CONSTRAINTS		OVERALL EVALUATION		RECOMMENDATIONS	
QUALITY OF EXPERIENCE	WILLAMETTE FALLS VIEWS	ALL AGES & ABILITIES	VEHICLE CONFLICT RISK	CRIME RISK	HISTORIC DISTRICT	CANEMAH IMPACTS	PROPERTY IMPACTS	GEOTECH CONSTRAINTS	ENVIRONMENTAL IMPACTS	OVERALL SCORE	ORDER OF MAGNITUDE COST	INTERIM RECOMMENDATION	PERMANENT RECOMMENDATION
◑	○	◑	◑	◑	☑	◕	◑	◑	◑	◑	$2.6 - $3.0 M	Not Recommended	Not Recommended

ALIGNMENT ALTERNATIVES EVALUATION - EXISTING CONDITIONS - "C"

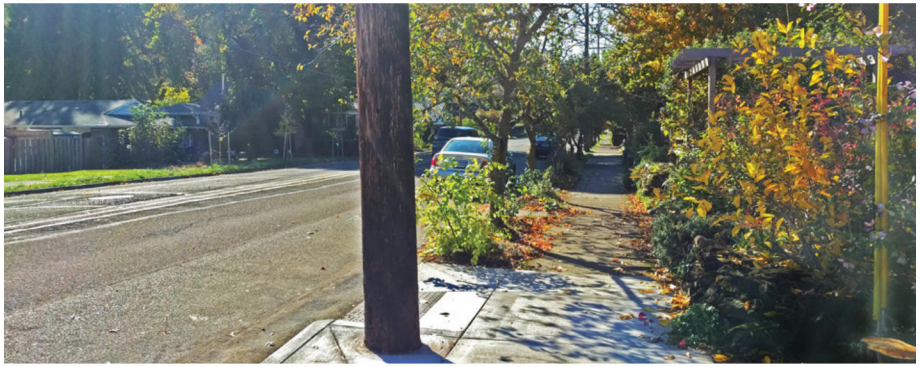


Key Map

P *Photo Location* S *Cross Section*



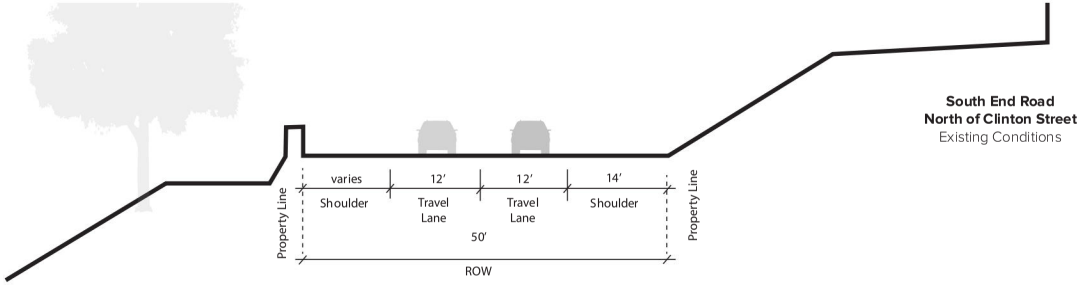
P-1 | 2nd Ave connection from McLoughlin Promenade



P-2 | S High Street, south of 2nd Ave



P-3 | S. High Street, existing shoulder



Existing Cross Section

IV.

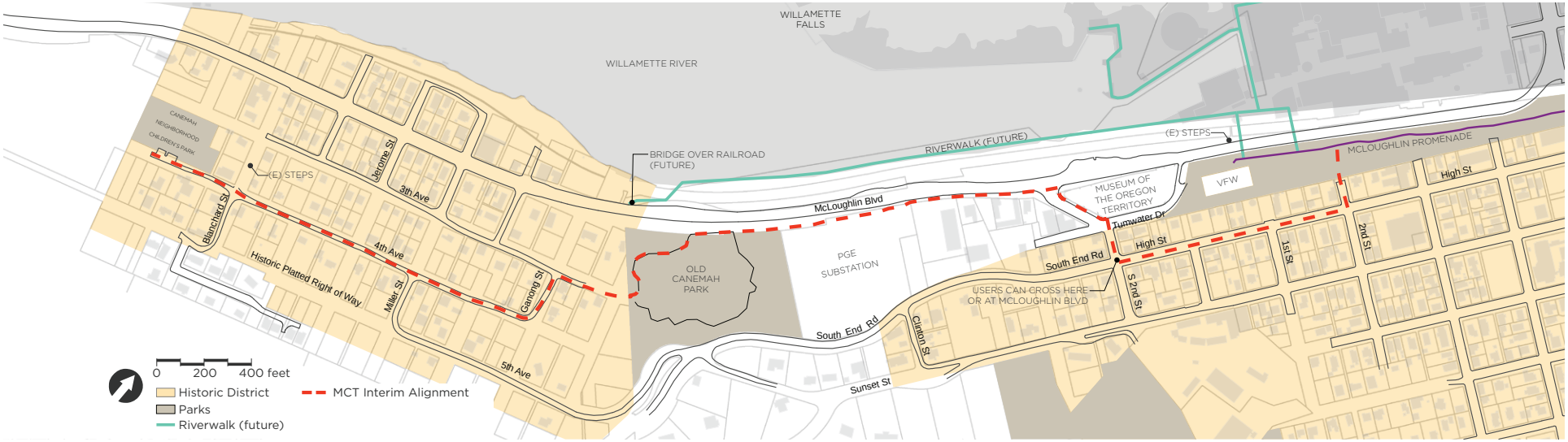
PREFERRED TRAIL ALIGNMENT

THE PREFERRED ALIGNMENT FOR THE MCLOUGHLIN-CANEMAH TRAIL

INCLUDES BOTH AN INTERIM ALIGNMENT AND A PERMANENT ALIGNMENT,

SHOWN ON THE FOLLOWING PAGES

Interim Trail Alignment Recommendation



SUMMARY DESCRIPTION

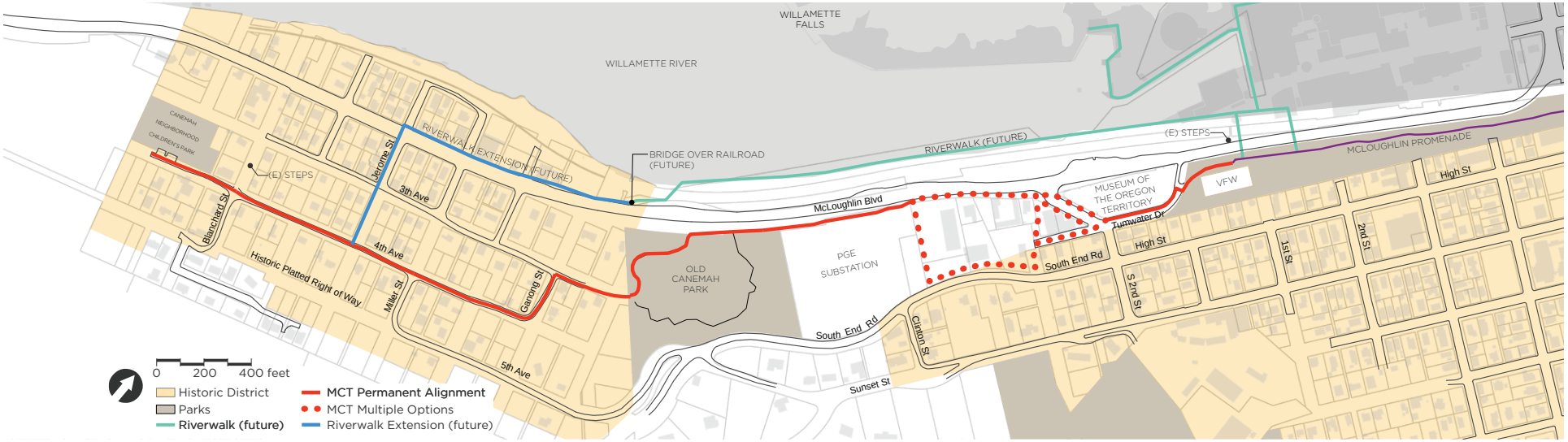
The Interim trail alignment recommendation begins at the McLoughlin Promenade and connects via 2nd St to High St. From there, the trail turns onto S. 2nd St and continues west to McLoughlin Blvd/Hwy 99E. Using the exiting traffic signal crossing, the trail continues on the east side of McLoughlin Blvd/Hwy 99E until reaching the Portland General Electric (PGE) substation entrance.

From the PGE entrance, the Interim and Permanent trail recommended alignments are identical. The trail connects between the PGE substation and McLoughlin Blvd/Hwy 99E, enters Old Canemah Park, and connects to the Canemah National Register District neighborhood. The route through the neighborhood follows 3rd Ave west/southwest , turns onto Ganong St, and follows 4th Ave until reaching the Canemah Neighborhood Children's Park.

DESIGN ASSUMPTIONS

- Wayfinding, shared use signage and pavement markings on High St
- Widen sidewalk on South 2nd St from High St to McLoughlin Blvd, and on McLoughlin Blvd between the PGE substation and South 2nd St
- New multi-use path along edge of PGE substation property
- Traffic calming, signs, and pavement markings for shared Family Friendly Street on 3rd Ave, Ganong St, and 4th Ave.
- Reinforcement at top of basalt cliff along McLoughlin Blvd
- Add connection between McLoughlin Promenade and High St

Permanent Trail Alignment Recommendation



SUMMARY DESCRIPTION

The Permanent trail alignment recommendation begins at the McLoughlin Promenade and connects to Tumwater Drive via the Three Rivers VFW Post 1324 parking lot and a dedicated non-motorized path down the existing driveway. From there, the trail follows Tumwater Drive, crosses at S. 2nd Street, and continues south/southwest either along McLoughlin Blvd or along the back edge of private property until reaching Portland General Electric (PGE) substation property. A standard Geotechnical Investigation should be completed to support the design phase of the project with focused attention where the trail follows the base of slope between S. 2nd Street and the PGE substation.

From the PGE entrance, the recommended Interim and Permanent trail alignments are identical. The trail connects between the PGE substation and McLoughlin Blvd/Hwy 99E, enters Old Canemah Park, and connects to the Canemah National Register District neighborhood. The route through the neighborhood follows Marshall Street and 3rd Avenue west/southwest , turns onto Ganong Street, and follows 4th Avenue until reaching the Canemah Neighborhood Children's Park.

In the long term, when the Riverwalk is extended to Canemah, an additional trail segment should be considered to link the Riverwalk to Canemah and complete a loop. This segment would include a Jerome Street crossing. Speed control along McLoughlin Blvd/Hwy 99E is recommended as well.

DESIGN ASSUMPTIONS

- Modification of existing VFW driveway allows dedicated ped-bike connection to Tumwater Dr. Left turn from McLoughlin Blvd onto Tumwater Dr to be closed.
- Widen sidewalk to shared use path width along Tumwater Dr
- Intersection crossing of S 2nd Ave at Tumwater Drive or 99E re-designed for safety
- Trail can be installed along with future/expected development
- License agreement for use of PGE substation property
- Traffic calming, signs, and pavement markings for shared Family Friendly Street on 3rd Ave, Ganong St, and 4th Ave. Speed limit reduced to 20 MPH.
- Cost estimate includes reinforcement at top of basalt cliff.

V.

TYPICAL CROSS SECTIONS & DESIGN FEATURES

TYPICAL CROSS SECTIONS & DESIGN FEATURES

KEY MAP: Typical Cross Sections & Design Features



TYPICAL CROSS SECTIONS & DESIGN FEATURES

The McLoughlin-Canemah Trail passes through several unique areas with diverse existing conditions that each require specific trail design treatments and approaches. In the following pages, typical cross sections are shown for several of these locations as well as Design Intent level plans showing recommended on and off street intersection or crossing improvements.

Typical Cross Sections

- A Tumwater Drive (north of S. 2nd Street) - Typical Section
- B Tumwater Drive (south of S. 2nd Street) - Typical Section
- C McLoughlin Blvd/99E - Typical Section
- D Old Canemah Park Trail - Typical Section

Detail Plans - Intersection/Crossing Improvements

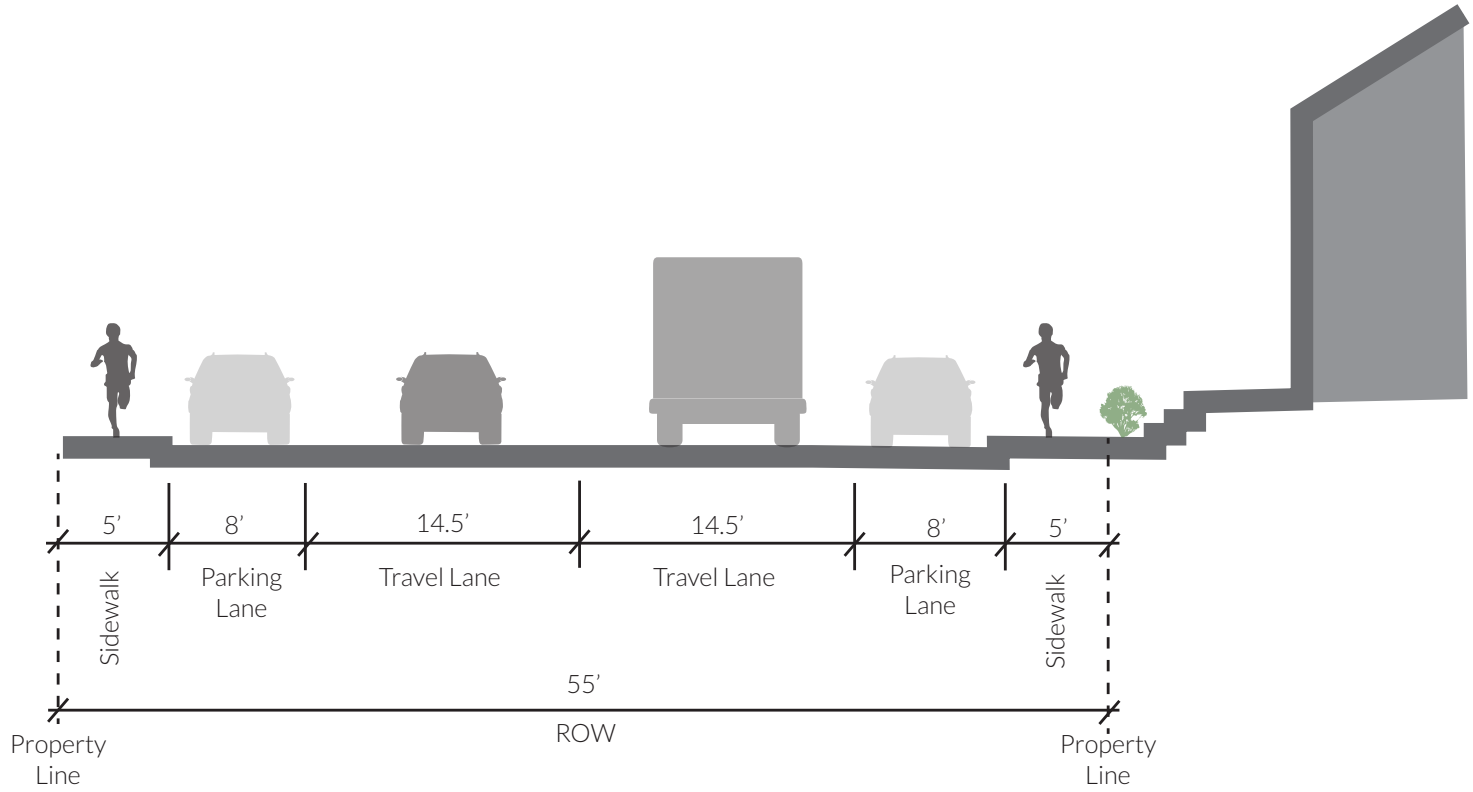
- 1 S. 2nd Street & Tumwater Intersection Treatment - Plan
- 2 Old Canemah Park West Entrance Crossing - Plan



A

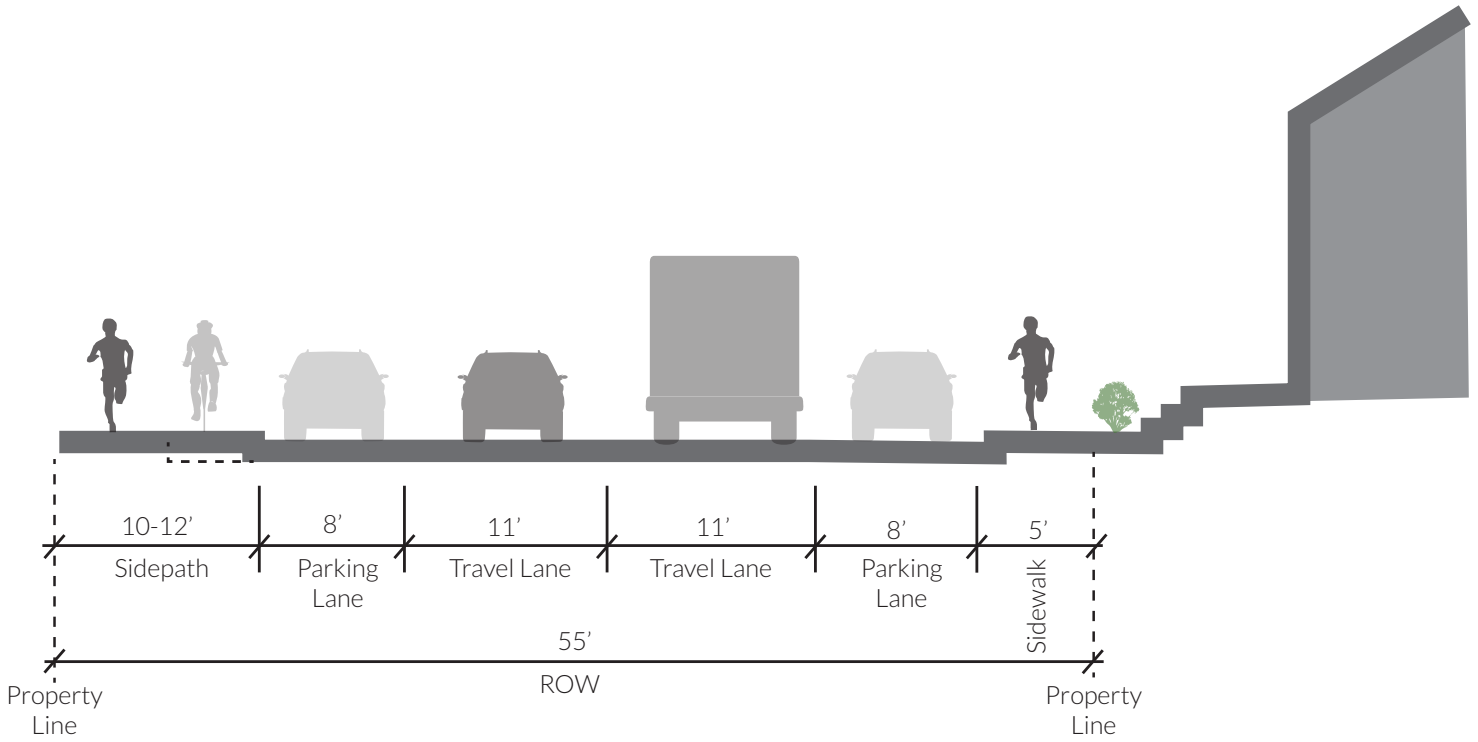
Tumwater Drive (north of S. 2nd Street), Existing Conditions

Tumwater Drive consists of a 55' right-of-way with substantial (14.5') travel lanes, two parking lanes, and two 5' sidewalks. There is a commercial property to the west side of the street and residential to the east.



Tumwater Drive (north of S. 2nd Street), Proposed Design

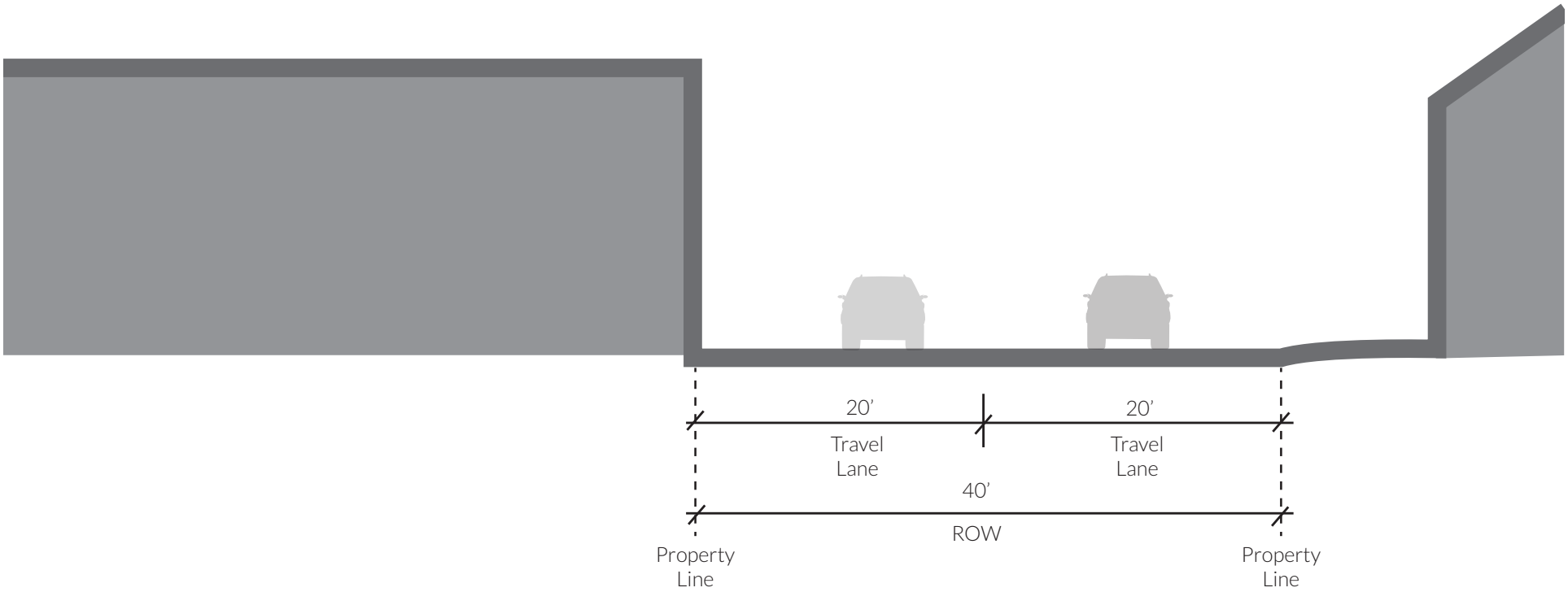
The proposed design for Tumwater Drive narrows the travel lanes to 11' to provide space for a 12' elevated side-path on the west side of the street. This new multi-use side-path allows space for both pedestrians and bicyclists.



B

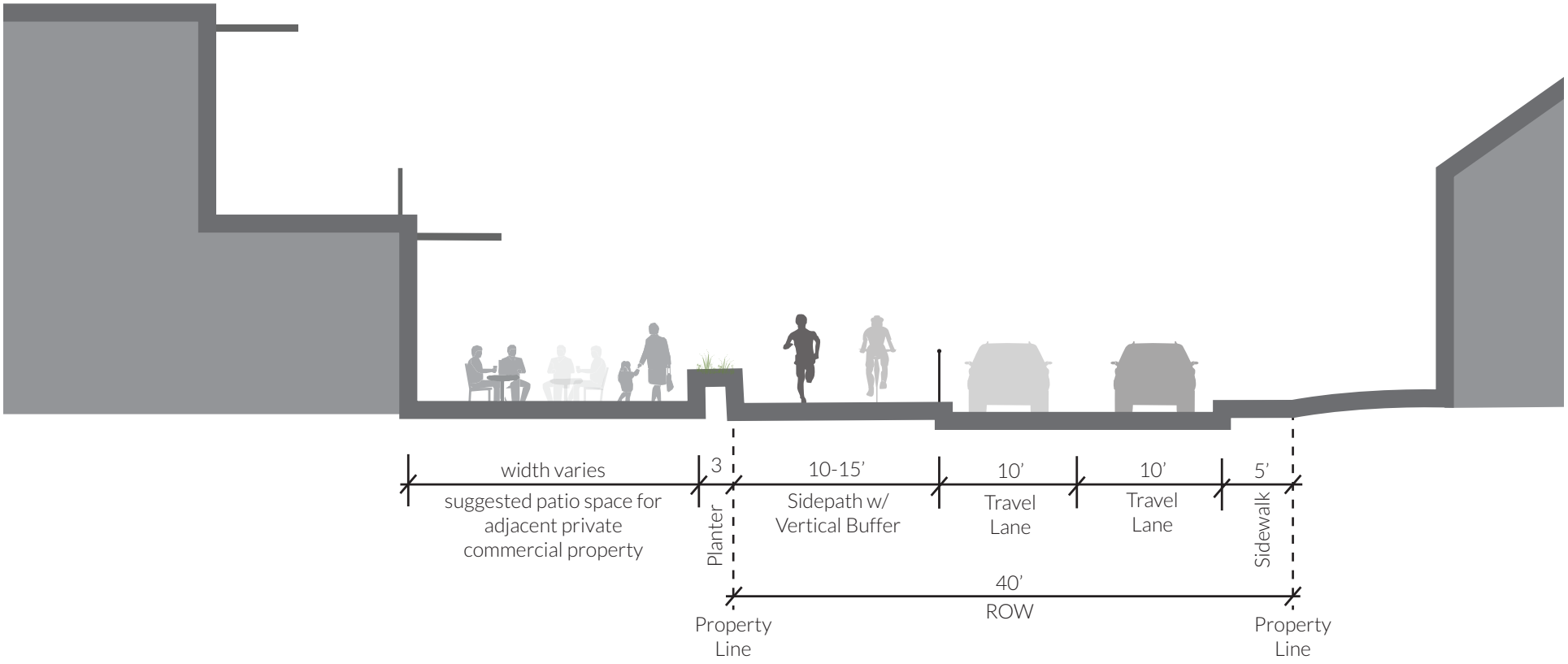
Tumwater Drive (south of S. 2nd Street), Existing Conditions

The southern end of Tumwater Drive consists of a 40' right-of-way with two substantial (20') travel lanes. There is an industrial property on the west side of the street and residential lots to the east.



Tumwater Drive (south of S. 2nd Street), Proposed Design

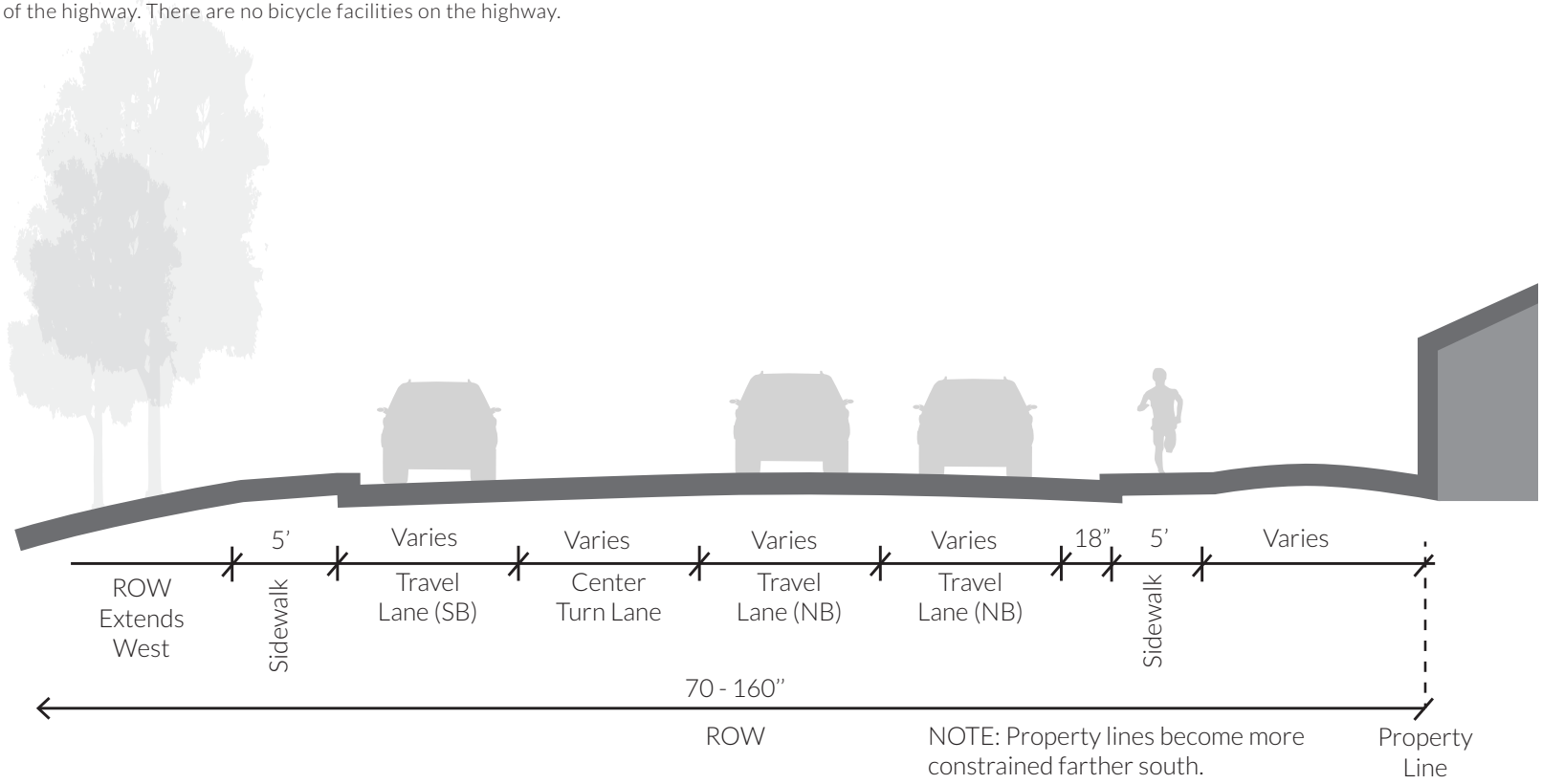
If there is future redevelopment of parcels between McLoughlin Blvd and Tumwater Drive, south of S. 2nd Street, travel lanes could be narrowed to 10' in both directions with a 5' sidewalk on the east side of the street. The MCT is shown here as a 15" side-path with a vertical buffer. Commercial land uses would ideally "face"Tumwater Drive by orienting entrances, windows, and seating space toward the trail and roadway.



C

McLoughlin Blvd/99E, Existing Conditions

McLoughlin Blvd/99E consists of a 140' right-of-way with a landscaped buffer to the west and commercial property to the east. There are two 5' sidewalks, one south-bound travel lane, a center turn lane, and two north-bound travel lanes. Distance varies between the sidewalk and the property line on the east side of the street. The sidewalk ends at 102 S McLoughlin Blvd and there are no pedestrian facilities continuing south along the upland side of the highway. There are no bicycle facilities on the highway.

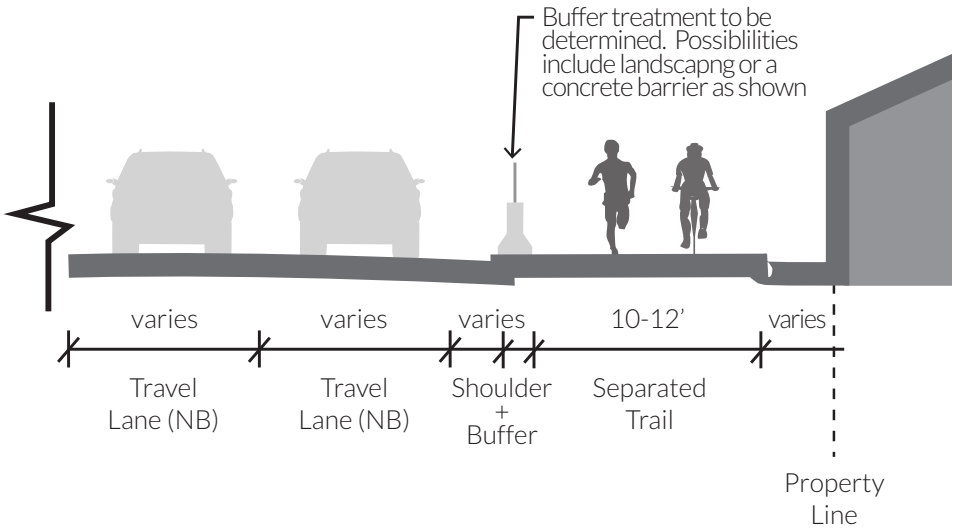


McLoughlin Blvd/99E, Proposed Design

The proposed design for McLoughlin Blvd/99E protects MCT users by providing a buffer of landscaping or potentially a vertical barrier, such as a concrete jersey barrier, between the travel lanes and the trail. The 10-12' trail replaces the existing sidewalk (depending on location). The design will require further refinement and a design exception(s) from ODOT standards.



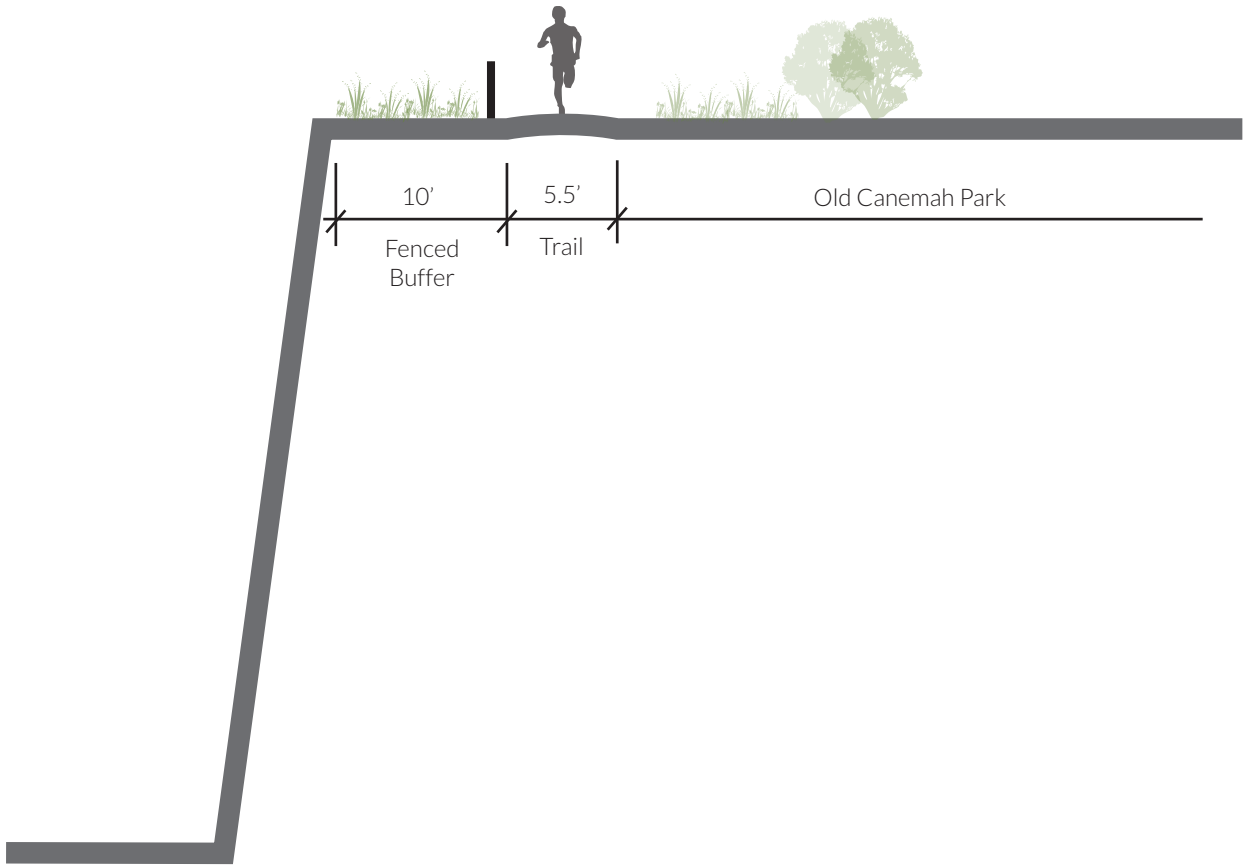
ODOT facility near Portland Expo Center showing protected sidepath w/ shoulder and concrete barrier. A similar facility could potentially be provided along McLoughlin Blvd.



D

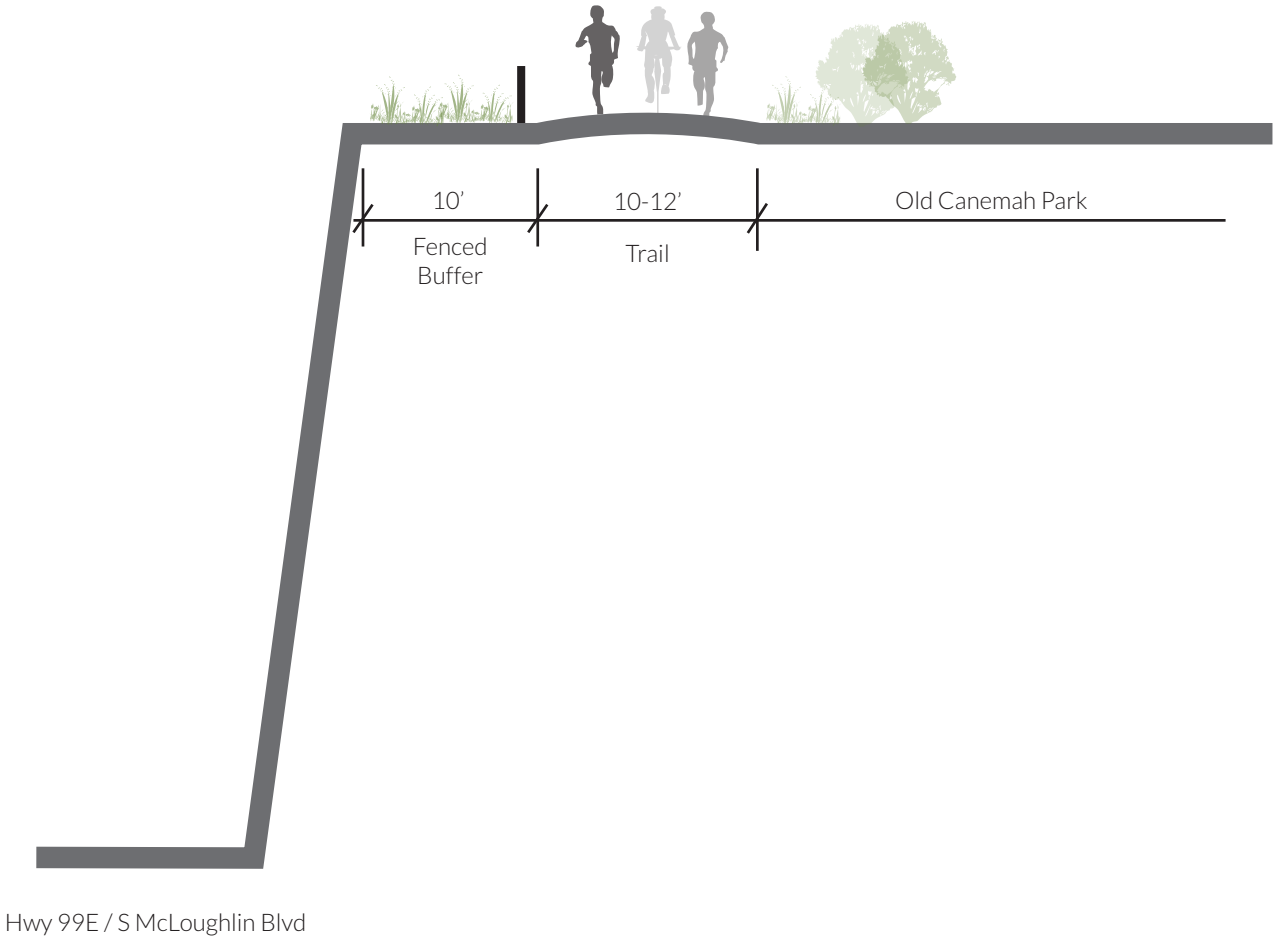
Old Canemah Park Trail, Existing Conditions

Old Canemah Park currently has a 5'-6" paved trail that weaves through the park. Along the basalt cliffs above McLoughlin Blvd/99E, the trail is buffered by a fence and vegetation.



Old Canemah Park Trail, Proposed Design

The McLoughlin-Canemah Trail would expand the existing path to the southeast to provide a 10-12' multi-use trail. The existing fence and vegetated buffer are maintained.



1

S. 2nd & Tumwater Intersection Treatment



To provided an adequate trail facility for the **Interim Alignment** that connects between Tumwater Dr and McLoughlin Blvd, it is recommended that the right turn lane on S. 2nd St be reduced (re-striped) from 15' to 11'. This would allow the 6' sidewalk on the north side of S. 2nd St to be widened to 10'.

Because S. 2nd St is a bus route, it is important that any design changes made to accommodate the McLoughlin-Canemah Trail not interfere with bus operations.

Analysis using AutoTurn within an AutoCAD Civil 3D environment suggests that reducing the right turn lane width to 11' would not prevent buses from making the right turn from S. 2nd Street onto McLoughlin Blvd. However, Trimet should be engaged as a project stakeholder early in the MCT implementation process to test any proposed design in the field using an actual bus.

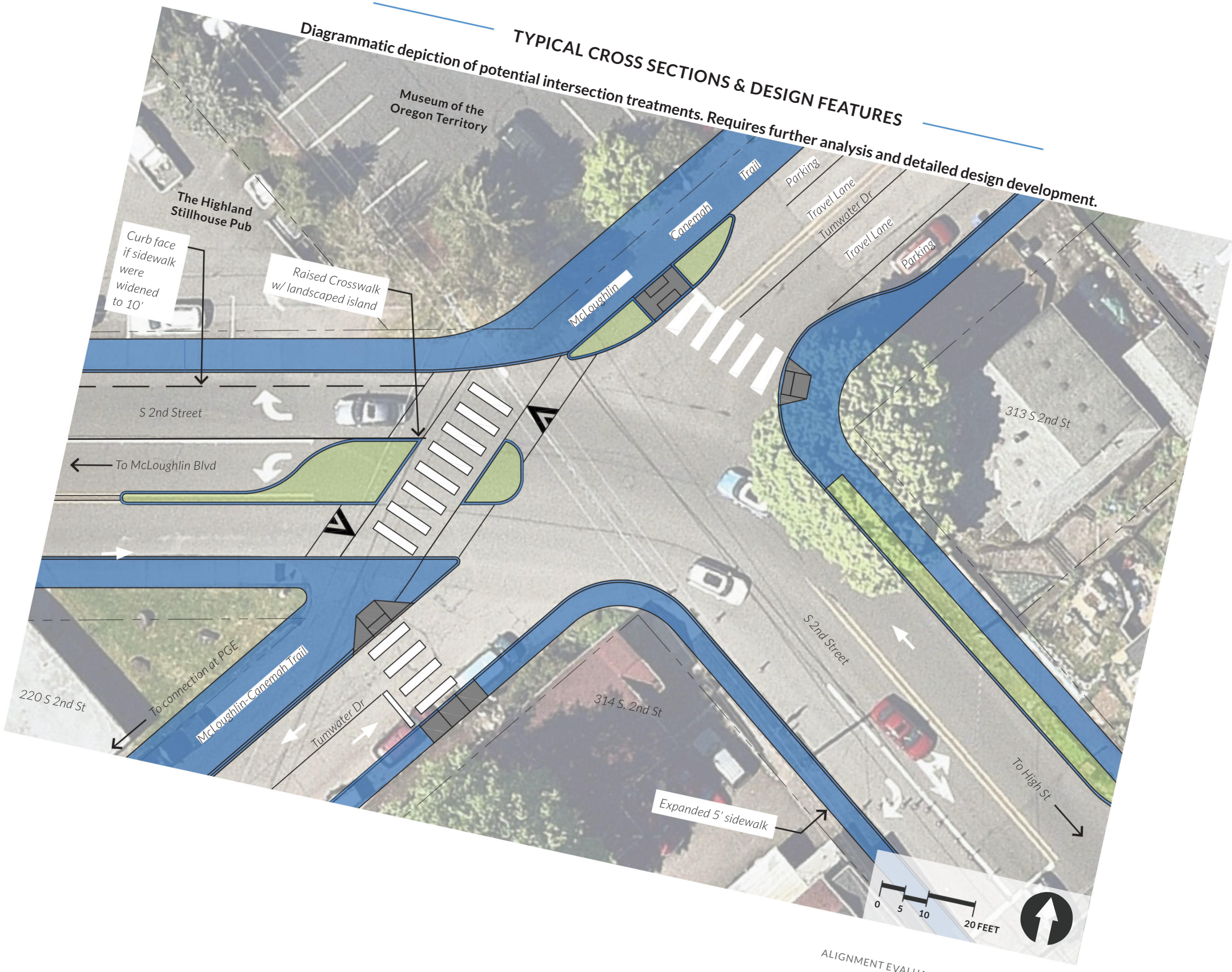
As part of the **Permanent Alignment** implementation, the intersection at S. 2nd Street and Tumwater Drive requires safety improvements.

Assuming a single paved path on the west/north side of Tumwater Drive along the Museum of the Oregon Territory parking lot, the following intersection design treatments are recommended:

- Raised crosswalk with a landscaped island on S. 2nd Street. This will calm traffic, serve as a gateway threshold for traffic calming into the city from McLoughlin Blvd/Hwy 99E, and will shorten the crossing distance for trail users.
- Curb ramps with a marked crosswalk on the south segment of Tumwater Drive.

TYPICAL CROSS SECTIONS & DESIGN FEATURES

Diagrammatic depiction of potential intersection treatments. Requires further analysis and detailed design development.



2

Old Canemah Park Trail, West Entrance and Canemah Neighborhood



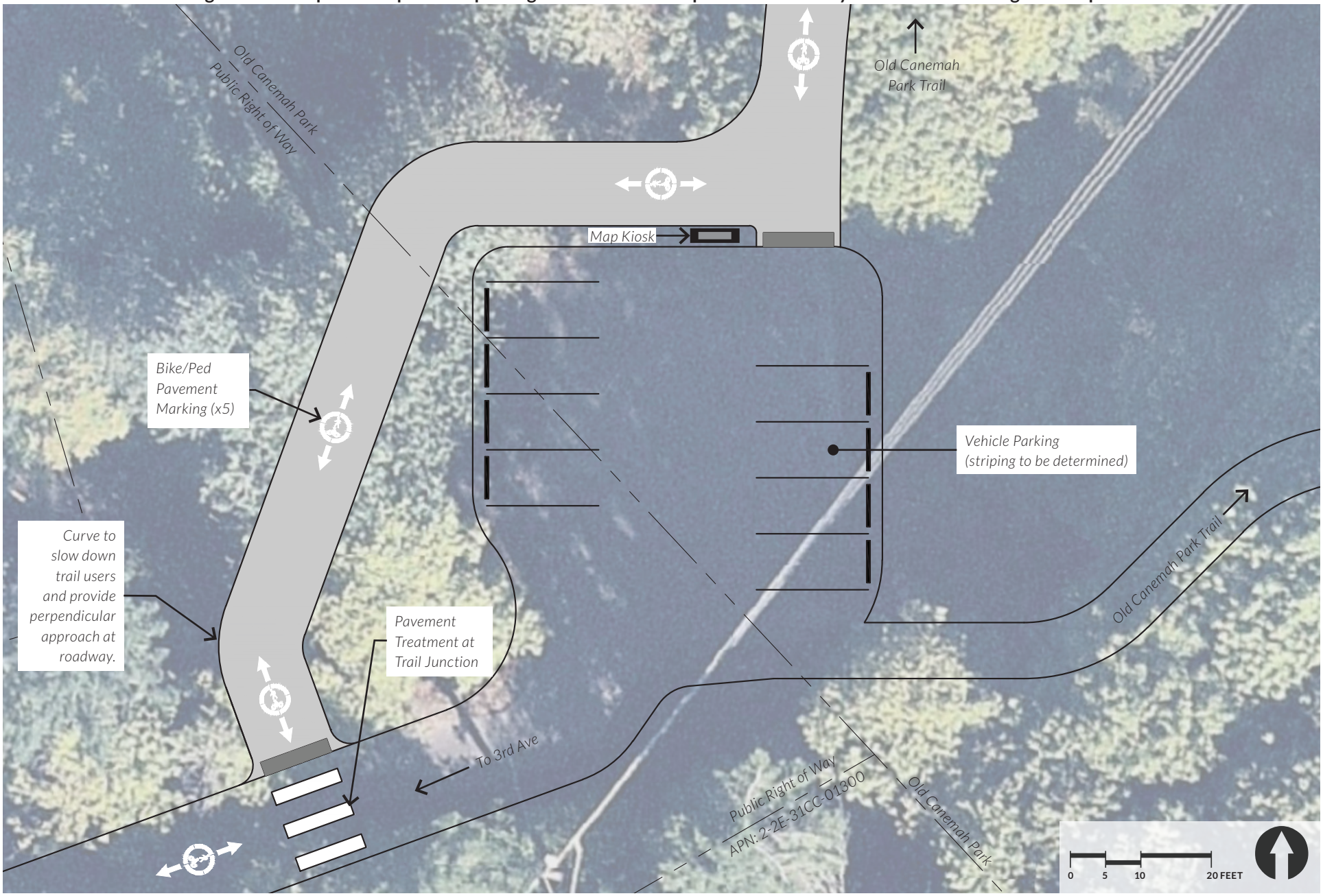
The following treatments are recommended to increase comfort, safety, and accessibility for trail users as they pass through the parking lot of Old Canemah Park:

- Design the 10-12' path offset from the western edge of the parking lot to connect the park trail segment with 3rd Ave while avoiding vehicle conflicts.
- While a conceptual path is shown here, future detailed design should respond to the approximate 20% cross slopes, NROD overlays, and geotechnical constraints present in this area.
- Pedestrian/bicycle pavement markings placed at decision points communicate intended use of the space to both trail users and motorists. Dashed white lines delineate shared space for trail users and motorists on the roadway.
- A wayfinding map kiosk located close to the trail will serve to inform visitors about the larger trail network and its connections, help guide trail users along the correct route, and highlight potential destinations that trail users might be interested in.

As the MCT continues through the Canemah Neighborhood along 3rd Ave, Ganong St, and 4th Ave, similar approaches are recommended to delineate space including shared-use pavement markings, shared-use signage, and wayfinding signage.

TYPICAL CROSS SECTIONS & DESIGN FEATURES

Diagrammatic depiction of potential parking lot treatments. Requires further analysis and detailed design development.



Next Steps and Implementation

The adoption of the McLoughlin-Canemah Trail Plan will amend the City's Parks Master Plan, Trails Master Plan, and Transportation System Plan to reflect the trail plan and add and refine capital project lists. The adoption process includes meetings with the Transportation Advisory Committee (TAC), Parks and Recreation Advisory Committee (PRAC), and hearings before the planning Commission and City Commission.

City staff, with the help of stakeholders, will identify internal resources and apply for additional grant funds to implement the trail. Potential funding sources include Parks System Development Charges, Transportation System Development Charges, and state grants such as Connect Oregon and ODOT Enhance. Next steps are described in the table below.

The MCT Advisory Group also recommends that the PRAC review and update the overall Trails Master Plan, which was originally adopted in 2004.



Table 3. Implementation Priorities

NO.	TASK	PRIORITY / TIMEFRAME	RESPONSIBILITY
1	Pursue 20 MPH speed limit in Canemah neighborhood	1	Planning, Public Works
2	Design/implement Tumwater Drive closure	1	Planning, Public Works, ODOT
3	Explore interim improvements to 99E	1	Planning, Public Works, ODOT
4	Outreach to Canemah neighbors, add street markings within Canemah	1	Planning, Public Works, Historic Review Board
5	High Street bike route striping	1 (with 2018 resurfacing)	Planning, Public Works
6	Obtain a survey of the trail alignment area	2	Parks and Rec with coordination from PGE
7	Conduct study of S. 2nd Street pedestrian crossing options	2	Public Works, Planning, ODOT
8	Develop a trail signage plan	2	Parks and Rec, Public Works
9	Apply for grants for trail construction	2	All stakeholders, especially groups with nonprofit status
10	Construct interim trail improvements	2	Parks and Rec, Public Works, stakeholder volunteers, with coordination from PGE and ODOT
10	Explore and design VFW driveway changes	2	Parks and Rec, VFW
11	Construct permanent trail improvements	3	Parks and Rec, Public Works, with coordination from PGE and private development

VI.

APPENDIX 1 - GEOTECHNICAL REPORT

Northwest Geotech, Inc.
9120 SW Pioneer Court, Suite B, Wilsonville, Oregon 97070 | ph: 503.682.1880 fax: 503.682.2753 | www.nwgeotech.com

TECHNICAL MEMORANDUM



To: Mary Stewart / Alta Planning and Design

From: Alan P. Bean / Northwest Geotech, Inc.

Date: October 17, 2017

Subject: Geotechnical Reconnaissance Level Study

Project: McLoughlin – Canemah Trail Alignment Alternatives
NGI Project No. 3214.1.1

The purpose of this memorandum is to provide a reconnaissance level geotechnical assessment of potential alignment alternatives. Our scope of work was limited to geologic research, a brief reconnaissance of the proposed alignments and review of preliminary cross section sketches. This memorandum focusses on portions of the alignment where either economic risk due to challenging construction conditions may be present and/or land and rock slope stability risks are interpreted to be present.

General

The attached Figure 1 provides a reference for alignments discussed herein and was provided to NGI on August 16th, 2017. Previously we had assisted Alta with acquiring mapped historic landslides which have been overlain on the attached drawing. While we are not aware of any recent activity/movement of the large ancient landslides, the steep slopes formed by the scarps are marginally stable and smaller localized slumps/slides are common, especially where grading has been performed. The most notable examples are the series of slides along South End Road between 5th Avenue and the top of the plateau, where presumably historic road fill construction techniques were insufficient to maintain long term stability. While this area of South End Road is outside of the proposed trail alignment alternatives, it is representative of challenges posed when constructing alignments along these ancient landslide scarps.

Alignment A

Alignment A for the most part is along existing developed right of way but has a relatively long section (A-02) of boardwalk that is constructed as a bridge and/or viaduct for much of its length. In order to expand the width to dual use trail standards we would anticipate that all of the deck and outer rail would require reconstruction. We estimate at least 50% of the foundations and possibly all would need to be reconstructed and some retrofitted with rock anchors in a difficult cliff side construction environment above the active rail line. Further, and to provide for a longer-term design life, complete reconstruction of the boardwalk with materials other than wood should be anticipated. In general, the boardwalk appears to be near the end of its intended design life. This section of the basalt cliff appeared to be relatively stable other than periodic rockfall.

N:\3200-3299\3214.1.1 Mclouglin - Canemah Trail Plan\3214.1.1 McLoughlin-Canema Trail Geotech Reconnaisance Memo Revised 10.17.2017.docx

At the southern end of the boardwalk (Section A-03), widening via a retaining wall or even extension of the boardwalk may also be necessary. The remainder of Alignment A has few constraints and from a geotechnical prospective the primary focus where it connects to shared alignments would be evaluating and controlling surface water collection to move water off the potentially sensitive slopes.

Alignment B

This alignment is relatively flat prior to Section B-02 which will require widening/infilling of the highway ditch adjacent to the PGE substation where at highway grade. Near the southern end of the PGE substation the trail would ramp upward requiring a retaining wall. At this location which can also be described as the northern terminus of the old Canemah Park basalt face, the trail should be aligned such that it is directed away from the cliff and with a setback of roughly 20 feet. This portion of the cliff that is approximately 180 feet long is considered less stable than most of the remainder of the face to the south. Heading southward, the existing fence barrier at the top of slope represents an acceptable setback for a view point somewhere along this section. We recommend reviewing the rock face in more detail such that less stable portions can be identified and avoided when selecting the location of a viewpoint. Currently the protective wire netting is anchored approximately 10 feet from the face and therefore represents the minimum setback distance for an overlook/view point. We understand that ODOT may be making some improvements to the netting and anchorage in the summer of 2018 which may provide an opportunity to install three to six rock bolts through the upper basalt block to help protect a viewpoint long term. At a minimum, the ODOT project may allow a window and equipment/lane closure to map and evaluate the rock face below potential viewpoints.

In heavily treed areas, budgeting for trail sections should provide for construction of 5 inches of reinforced concrete over 8 inches of aggregate base. Open meadow areas of the trail could be constructed of 2.5 inches of Asphaltic Concrete (AC) over 8 inches of aggregate base that extends 12 inches beyond the edge of the AC.

If paving improvements and nominal widenings are included in the shared portions of the alignment, some drainage control improvements may be prudent such as small AC berms to direct flows away from homes and driveways to catch basins or natural drainage ways.

Alignment C

Within Section C-1, between 2nd Street and 5th Avenue, there are just a couple of pinch points along South High Street that would require cutting the soil or rock face on the uphill side back to the ROW line. The most obvious one is on South High Street approximately 500 feet south of S. 2nd Avenue, which would presumably take the form of a near vertical rock cut. Rock excavation can be performed using drilling and jacking methods that are typically more expensive than conventional blasting which is not an option in the urban environment. Residential stairways may be impacted in this area. The second location is approximately 300 to 400 feet north of the intersection with Sunset Street and depending on conditions may require a retaining wall if sound rock is not present on the uphill side. Widening on the downhill side is generally not feasible with the exception of the relatively short mound of bedrock located just south of Clinton Street which should be cut back even if only to improve site distance.

Section C-02 would represent a new trail alignment and we see no major geotechnical related issues with this alignment other than the first section that loops around the bedrock mound. The steep side slope in this location would require that the trail section be primarily constructed by cutting into the presumed rock mound, i.e., constructing fill wedges in steep terrain are not advised.

Section C-03 pavements are in very poor condition and an overlay should be assumed for the full width of the road.

Section C-05 represents a new overland alignment roughly 850 feet long and located within the undeveloped 5th Street ROW. The cross slope in the area increases to the South. As a result, when constructing trails along slopes exceeding 3H:1V the trail construction process would likely require two benches, one on the cut (uphill side) of the trail, and one for the downhill side. After removing the cut soils from the alignment, the lower bench would then be filled with imported granular material to create a stable pathway section. The downhill bench cut may be in the range of 2 to 4 feet in depth to create a necessary width and limit the uphill cut slope to just a few feet to avoid uphill slope instability. Some form of retention of this uphill cut (such as a 3'x3' gabion block) may be assumed where cross slopes approach 2H:1V. This appears to be the case in roughly the last 300 feet of the alignment and thus earthwork costs per foot of trail for this last portion of this Section would be relatively high, and the downhill side of the trail may also need retention and/or have a relatively steep edge fall off. The last 85' of the alignment would require relatively tight turns and switchbacks, with short walls on both downhill and uphill sides.

Limitations

The opinions and discussions herein are intended for alignment alternatives planning studies and should not be construed as geotechnical design recommendations. Once an alignment is selected we recommend a standard Geotechnical Investigation be conducted to support the project design phase.

If you have any questions please feel free to contact our office.

Attachments: Figure 1 – Vicinity Map

VII.

APPENDIX 2 - ENVIRONMENTAL REPORT

PACIFIC HABITAT SERVICES, INC.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070
(800) 871-9333 ● (503) 570-0800 ● Fax (503) 570-0855

Date: **October 25, 2017**

To: **Mary Stewart, ALTA Planning and Design**

From: **John van Staveren**

Re: **Natural Resource Considerations for the McLoughlin-Canemah Trail Plan**
PHS #6243

Pacific Habitat Services (PHS) reviewed habitat conditions along the proposed trail alignments for the McLoughlin-Canemah Trail Plan. The project area is bordered by the Three Rivers Veterans of Foreign Wars (VFW) Post 1324 in the east and the Canemah Neighborhood Children's Park in the west. Between these two areas, Alta Planning + Design has proposed several trail alignment options. The purpose of this memorandum is to review potential natural resource impacts along the proposed trail alignments.

Overview

As stated above, the study area extends from Three Rivers VFW Post 1324 in the east and the Canemah Neighborhood Children's Park in the west. To the north, the study area extends along the bluff overlooking the Willamette River. At this location there is an existing wooden boardwalk maintained by ODOT between the edge of the bluff and Highway 99E. To the south, the study area is defined by S. High Street to the east and 5th Avenue to the west.

One factor that may play a role in the alignment of trails is the City of Oregon City's Natural Resource Overlay District (NROD) (Chapter 17.49). The purpose of the NROD is to protect habitats and associated functions of streams, riparian corridors, wetlands and the regulated wildlife habitat found in the City. It provides a framework for protection of Metro Titles 3 and 13 lands, and Statewide Planning Goal 5 resources within the City.

Figures 1 through 3 show the extent of NROD within the study area. Approximately 3,463 feet of Alignment A is within an area mapped as NROD (2,680 feet if paved roads are excluded). Approximately 2,403 feet (519 feet if paved roads are excluded) and approximately 1,685 feet of Alignment C is within the NROD (197 feet if paved roads are excluded).

It is possible that trail construction could be exempt if the criteria described in Section 17.49.80F are met. The following uses are allowed within the NROD and do not require the issuance of an NROD permit if all of the following criteria are met:

1. Construction shall take place between May 1 and October 30 with hand held equipment;

2. Widths shall not exceed forty-eight inches and trail grade shall not exceed twenty percent;
3. Construction shall leave no scars greater than three inches in diameter on live parts of native plants;
4. Located no closer than twenty-five feet to a wetland or the top of banks of a perennial stream or ten feet of an intermittent stream;
5 No impervious surfaces; and
6. No native trees greater than one-inch in diameter may be removed or cut, unless replaced with an equal number of native trees of at least two-inch diameter and planted within ten feet of the trail.

If these criteria cannot be met, the minimization of impacts and mitigation will be required.

Natural Resource Review

The natural resource review conducted by PHS was divided into three main areas: Area 1 - Three Rivers VFW Post 1324 to PGE Substation; Area 2 – PGE Substation to Miller Street; and Area 3 – Miller Street to Canemah Neighborhood Children's Park.

Area 1 - Three Rivers VFW Post 1324 to PGE Substation

Natural resources are generally not an important factor in siting the trail within Area 1 (the eastern portion of the study area). Options for trail alignments between the VFW Post and the PGE Substation are generally restricted to existing paved surfaces. The only area of NROD in this area is along the banks of the Willamette River, which extends across Highway 99E.



The area immediately to the southeast of the PGE Substation was found to have an excavated ditch along the base of a steep slope (see photograph to the right). The slope is contributing groundwater and surface runoff into the ditch, which has formed hydric (i.e. wetland) soils in its bed and which is dominated by a variety of wetland plants, such as such as cattail, American speedwell, small-fruited bulrush, and manna grass.

Although probably manmade and excavated to capture runoff from the slope, the ditch will likely be regulated by both the Oregon Department of State Lands (DSL) and the US Army Corps of Engineers (Corps). Siting the trail in this area will likely impact the ditch. If greater than 50 cubic yards of fill material is used, a permit from DSL will be required. Any amount of fill in the ditch (which would be classified as a wetland) will require a permit from the Corps. Unavoidable impacts

to the ditch will require mitigation, which will likely be the purchase of wetland mitigation credits from the Mud Slough Wetland Mitigation Bank.

A wetland is also located to the west of the PGE Substation. This wetland has no trees or shrubs and is dominated by reed canarygrass and tall fescue (both non-native grasses). Like the ditch, the wetland will likely be regulated by DSL and the Corps and permits will likely be required if impacts cannot be avoided. The wetland is likely supported by a shallow seasonal groundwater table. During an investigation in August, 2017, the wetland was dry, with no shallow groundwater table visible to at least 16 inches below the ground surface; however, indicators of wetland hydrology in the soil were present.

The PGE Substation and the approximate location of the ditch and the wetland are shown in the aerial photograph below.



If the trail is to be located near these features, a wetland delineation using the required criteria and methodologies of the Corps of Engineers *Wetland Delineation Manual Technical Report Y-87-1* (Environmental Laboratory, 1987) and the *Western Mountains, Valleys and Coast Region* regional supplement to the 1987 Manual should be conducted. These manuals provide the guidelines and methodology for defining the limits of any wetlands.

Area 2 – PGE Substation to Miller Street

As one moves farther west away from the PGE Substation, natural resource issues become more important. The area to the west of the substation includes Old Canemah Park, which is a forested area dominated by big leaf maple and with an understory of sword fern, hazelnut, snowberry, Cascara, vine maple and Indian plum. Oak trees are present, but they are growing closer to the bluff where there appears to be shallower soils, more light, and less competition from other tree species. Very little of the park is overlaid with an NROD designation. A trail through this area should be sited to minimize impacts to native vegetation and trees. The proposed 12-foot wide path would require a combination of 1) removal of some trees and understory vegetation and 2) careful site work around other existing trees. In those cases, the removal of lower tree limbs and the pruning of roots should be conducted under the supervision of a qualified arborist to minimize impacts. It is further recommended that mature and native trees be surveyed prior to design the path alignment and that path widening occur opposite of such trees whenever possible.

To the west of Old Canemah Park is the historic district of Canemah. Within this area, trail alignments generally run along existing roads and little impact to natural resources is likely. Portions of this area are mapped with an NROD overlay based on the presence of mapped drainages. These drainages, which were not observed, should be delineated prior to final siting.

Area 3 – Miller Street to Canemah Neighborhood Children's Park

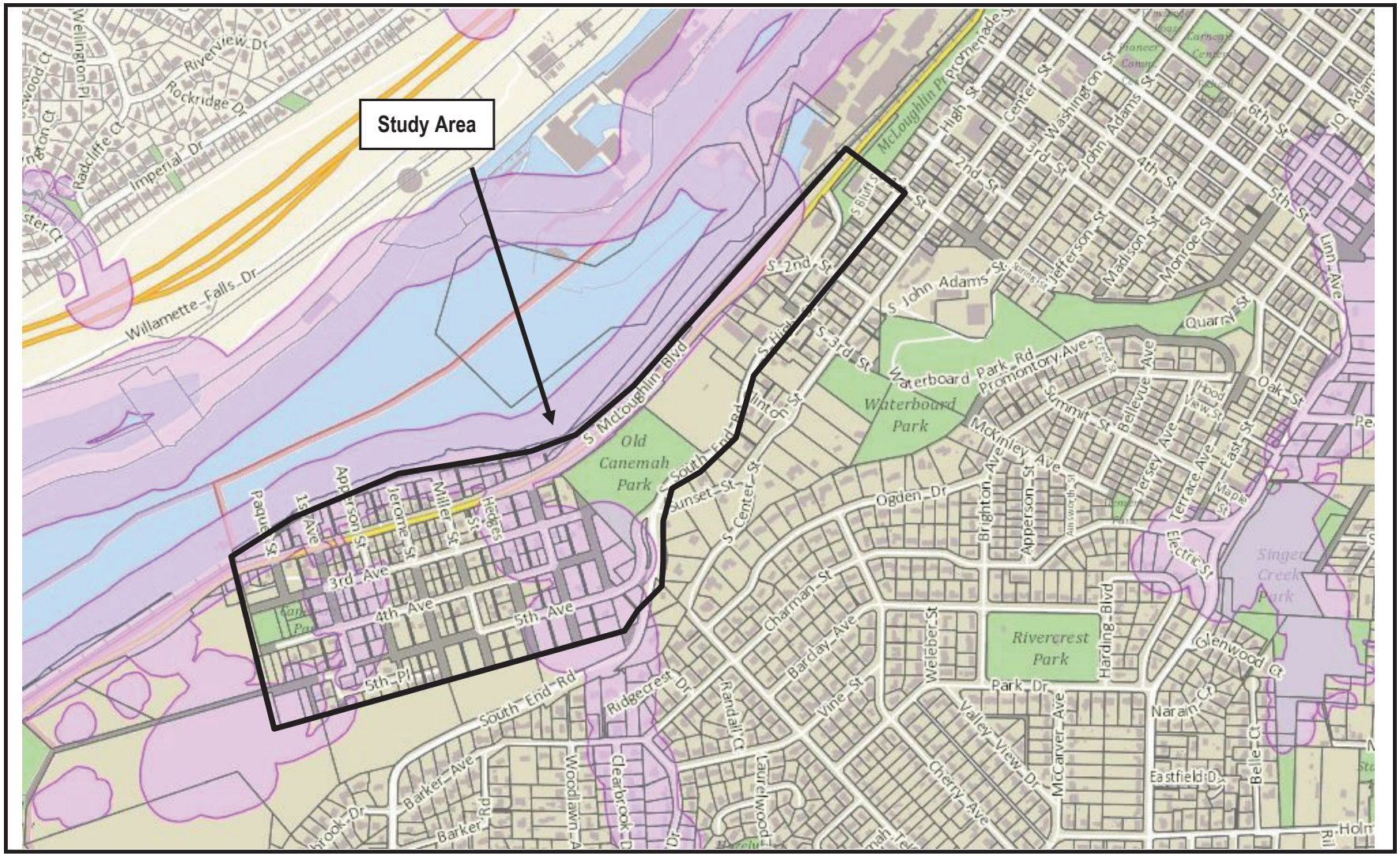
Between Miller Street and Blanchard Street is an undeveloped area dominated by big leaf maple and with an understory that contains non-natives such as Himalayan blackberry and Scot's broom, but also native species such as hazelnut and willow. In 2016, a wetland delineation identified a wetland north of the 5th Avenue right-of-way and west of Miller Street. It is recommended that a wetland delineation be conducted within the eastern portion of the alignment (west of Miller Street) to ensure that the location of any wetlands in this area is understood. As stated previously, 197 feet of this alignment (if paved roads are excluded) is within an area mapped as NROD. Construction of the trail would require extensive retaining walls and switchbacks to traverse the steep hillside. As with the other forested areas, care should be taken to site the trail, so that trees are not impacted.

Plants observed within the entire study area:

Common Name	**Botanical Name**
Trees	
Big leaf maple	*Acer macrophyllum*
Douglas fir	*Pseudotsuga menziesii*
Oregon white oak	*Quercus garryana*
Red alder	*Alnus rubra*
Willow sp.	*Salix sp.*
Shrubs	
Beaked hazelnut	*Corylus cornuta*

Common Name	Botanical Name
Cascara	*Rhamnus purshiana*
Himalayan blackberry	*Rubus armeniacus***
Indian plum	*Oemleria cerasiformis*
Madrone	*Arbutus menziesii*
Multi-flora rose	*Rosa multiflora***
Scot's broom	*Cytisus scoparius***
Snowberry	*Symphoricarpos albus*
Vine maple	*Acer circinatum*
Western serviceberry	*Amelanchier alnifolia*
Woody Vines	
English ivy	*Hedera helix***
Ground Cover	
American speedwell	*Veronica americana*
Catchweed bedstraw	*Galium aparine*
Cattail	*Typha latifolia*
Common tansy	*Tanacetum vulgare***
Common vetch	*Vicia sativa***
Few-seed bittercress	*Cardamine oligosperma*
Manna grass	*Glyceria elata*
Oxeye daisy	*Leucanthemum vulgare***
Red clover	*Trifolium pratense*
Red-tinge bulrush	*Scirpus microcarpus*
Reed canarygrass	*Phalaris arundinacea***
Robert's geranium	*Geranium robertianum***
Spotted cat's ear	*Hypochaeris radicata***
Sword fern	*Polystichum munitum*
Sweetclover	*Melilotus alba***
Tall fescue	*Schedonorus arundinaceus***
Teasel	*Dipsacus fullonum***
Thistle	*Cirsium sp.***
Velvet grass	*Holcus lanatus***
Watson's Willow Herb	*Epilobium watsonii*

** Oregon City Nuisance Plant List:
https://www.orcity.org/sites/default/files/fileattachments/planning/page/3266/nuisanceplantlist.pdf



#6243
9/11/2017

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Natural Resource Overlay District
Canemah Trail - Oregon City, Oregon
https://maps.orcity.org/Html5Viewer_2_9_0/index.html?viewer=OCWebMaps.OCWebMaps

FIGURE
1



#6243
9/11/2017

PHS

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Natural Resource Overlay District
Canemah Trail - Oregon City, Oregon
https://maps.orcity.org/Html5Viewer_2_9_0/index.html?viewer=OCWebMaps.OCWebMaps

FIGURE
2



#6243
9/11/2017

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Natural Resource Overlay District
Canemah Trail - Oregon City, Oregon
https://maps.orcity.org/Html5Viewer_2_9_0/index.html?viewer=OCWebMaps.OCWebMaps

FIGURE
3



#6243
9/11/2017

Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Natural Resource Overlay District
Canemah Trail - Oregon City, Oregon
https://maps.orcity.org/Html5Viewer_2_9_0/index.html?viewer=OCWebMaps.OCWebMaps

FIGURE
4

VIII.

APPENDIX 3 - GREENWAY FOR A DAY PUBLIC EVENT SUMMARY

GREENWAY FOR A DAY PUBLIC EVENT SUMMARY

The Greenway for a Day event attracted approximately 70-80 participants over the four-hour event. Participants traveled from the Museum of the Oregon Territory to Canemah Children's Park, following the one-mile temporarily marked trail.

Many people began at the museum, but others began elsewhere along the path. Most people were walking, but a few people biked the trail, and one family pulled their kids in a bike trailer.

Participants were invited to take a survey after they completed the trail and to review the draft trail alignment options and Safety Toolkit ideas. Over 40 surveys were filled out at the event and dozens of people completed the green dot activity to give feedback on the Safety Toolkit options. The online survey gained an additional 16 responses. Detailed survey and green-dot activity results are included in this Appendix.



What was your favorite part of the walk?

- Access to downtown area made known. Enjoyed the field area with river views.
- ALL OF IT!!!
- All of it. I didn't know this area was here and I have lived in OC 38 years
- Old Canemah Park
- Discovering new parts of Oregon City and separate bike and walking tail in Canemah Park
- Discovering the picnic tables overlooking the river - what a great lunch spot!
- Going up and down hills
- Grassy area overlooking the river
- Having a destination for the kids (park). Shaded areas were awesome to have
- Path through Canemah Park
- Portions west of the substation
- Riding in the bike trailer
- Riding through Old Canemah Park
- River views
- Seeing the river and meeting other neighbors
- Stairs (Canemah neighborhood)
- The off road
- The organization
- The park and the view
- The part around the Power Lines to make it more useful
- The scenery is great.
- The scenic walk through Old Canemah, as well as the exercise.
- The stairs and walking through the treed areas and the views
- The stairs, good exercise and good walkway
- The swings
- The view of the river and falls
- The views from the ridge above 99e
- The walk through Old Canemah Park
- Trails above children's park
- Walking through the Old Canemah Park. It was quiet and rather peaceful and the views of the falls were great.
- Well marked and scenic

What was your least favorite part?

- 99E by collision/body shop
- Along 99E - I wouldn't use this route you've done, too narrow there old Canemah they the neighborhood wouldn't appreciate the invasion of their peace and quiet.
- Beginning going by collision repair shop & PGE sub station. Need to go out on boardwalk
- Cars were kinda scary, but I was OK
- Dogs
- End St too hilly for biking
- Getting bit breaking up a dog fight due to another's dog off leash and ran up to my dog):
- Going home
- Gravel surface
- I enjoyed the whole walk
- It's hot
- Liked it all
- Lots of cars
- Mcloughlin Stretch
- Need landscaping at 2nd St.
- No complaints - beautiful day, nice stroll, helpful people & I saw a dragonfly
- Non
- Path along 99E
- Path along PGE fence
- PGE/McLoughlin walk
- Poison oak along trails at the children's park
- Portions east of the substation
- Power plant area
- Stairs
- Steep terrain
- The amount of traffic worries me as a cyclist with kids.
- The commercial area by 99
- The potential for poison oak.
- The small area on the highway
- The stairs
- The stairs, poison ivy.
- The street
- The walk across 99
- The walk through Canemah streets and up a hill (but really no big)
- Traffic on highway 99
- Walking along 99
- Walking along the power station
- Walking along the south side of McLoughlin/99E. Without a barrier of some type it seems risky!
- Walking through the grass at the power plant

Survey Results: Comments on Alignments

- #7 & 8 are where it feels unsafe
- #27 a crossing here would be wonderful!!
- #28 & 29 sidewalk improvements would be great, it feels unsafe with traffic so close
- #33 we have tried this path and it seems unsafe with the traffic that goes by so fast and the path gets so narrow
- 5th St seems like a bad option
- -A1/A2 preferred
- -Flat biking trails preferred
- Clearly mark where to go for stairs or path for baby's strollers & no stairs
- Family friendly streets.
- Good idea for the community, marked pedestrian paths are preferred
- I don't like to take trails which share traffic areas.
- I really like the County trail that circles Stonecreek Golf Course. This type would draw me to the city.
- I would just drive to Canemah Park with kids - they enjoy the hike to the cemetery
- I would like to preserve parking but want a trail to downtown OC. I bike from our neighborhood all week
- Include 3rd Ave alternative with lighting on the stairs :)
- Just do it!
- Leave out walking/biking between Old Canemah Park to children's park
- Like the idea of developing the walk along 99 - the boardwalk
- Looks good
- McLoughlin on riverside seems easier, but A1 alignment through Old Canemah would be nice as well.
- Need a couple of ped crossings across Mcloughlin
- No, Great job!
- Really love cycle across as neither 99E or South End save for peds/cycles to travel Canemah -> downtown
- Try to keep off McLoughlin
- You're doing GREAT

Other comments and safety suggestions

- A crossing at Jerome would improve safety and any traffic calming in the Canemah neighborhood would be helpful. As it is now, people tend to drive too fast in the neighborhood
- A safe crossing at 99E, a bike parking, Traffic calming
- Add crossings on 99E; Master plan for Oregon City Loop Trail
- All of the above and slower traffic signs for S High St. Keep drivers from using gravel road from Tumwater up to S High
- Bike improvements are my priority
- If you want me to visit the city to walk / bike then I need a public parking area and a map of the trails for the entire city.
- Just keep it near the falls, and trim some of those maples!
- Lighting and police patrol
- Lower speed limits. Could even be 30 MPH for a portion of 99E if a portion of the trail must be on that highway.
- More shade
- Ped Crossings! Yes
- Safe crossing at 99E is a great idea
- These sound great! Making easy access to Main Street area is welcome and wanted! We are residents of Canemah and REALLY want access directly to downtown/main area. We were disappointed the railway connection was removed from Phase I, but hopeful access will come.
- Would love bike lane on South End
- Yes to a safe crossing of 99E and yes to traffic calming measures... Traffic going too fast in neighborhood. Bike path on streets please!

IX.

APPENDIX 4 - STAKEHOLDER EVALUATION MATERIALS

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STAKEHOLDER EVALUATION MATERIALS

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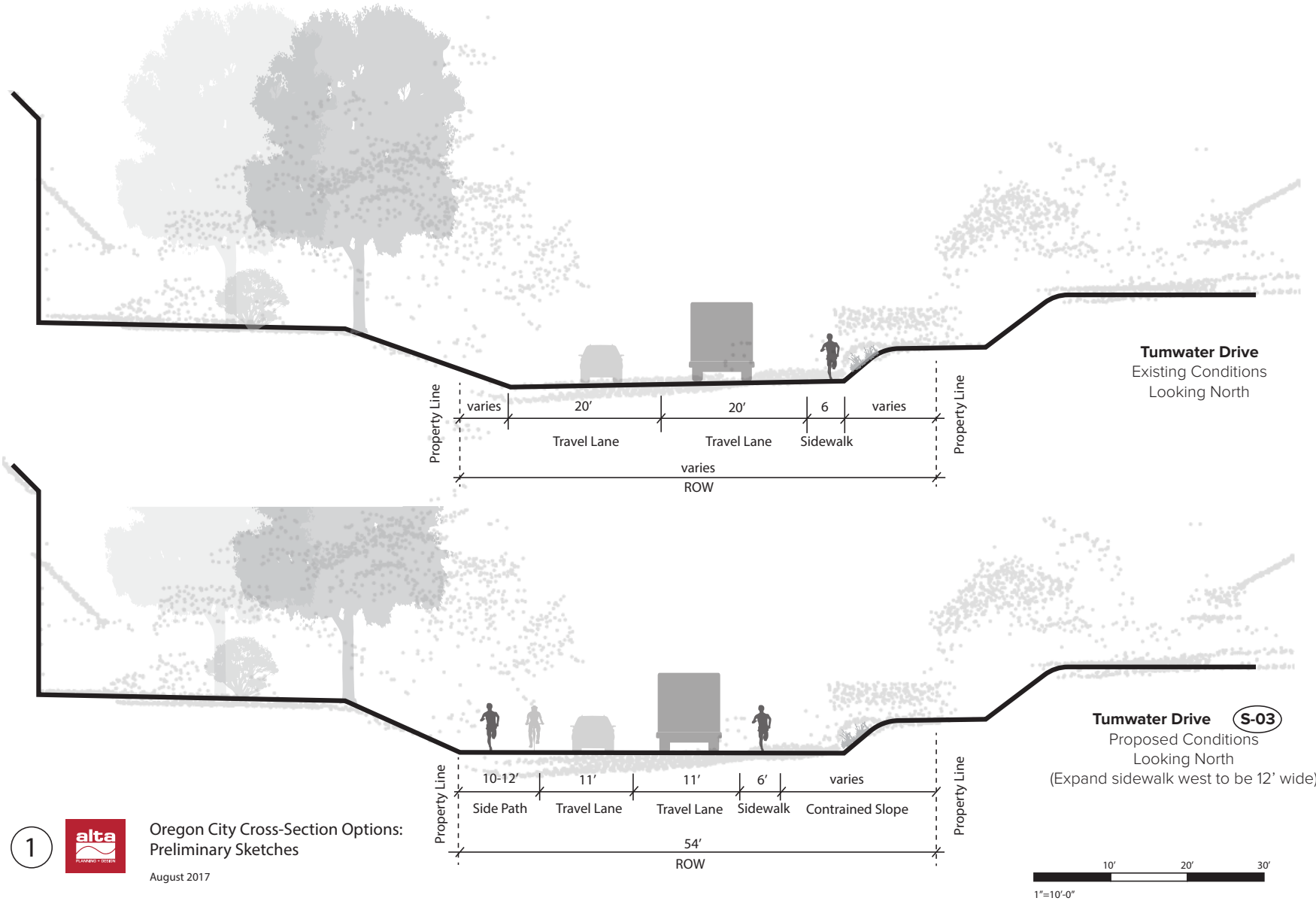
McLoughlin-Canemah Trail - Alternative Trail Alignments Evaluation Matrix DRAFT

	GOAL: Provide an attractive route of travel for people walking & biking between the McLoughlin Promenade & Canemah Children's Park that connects residential areas, parks, & businesses.		GOAL: Strive to provide facilities that serve all ages and abilities, including people with disabilities or mobility limitations		GOAL: Minimize risk and conflicts with between automobile traffic, bicycle traffic, and pedestrians.		GOAL: Provide a trail design that is context-sensitive, particularly to the Canemah NRHD, McLoughlin Promenade, and the McLoughlin Conservation District.		GOAL: Provide experiences and views of Willamette Falls.	GOAL: Celebrate experiences of nature while protecting and enhancing native vegetation and habitat within the corridor		GOAL: Discourage criminal activity and provide a secure environment for all users		GOAL: Responsibly utilize public funds to provide a high-quality trail experience both now and into the future		GOAL: Avoid use of private property in the Canemah National Register Historic District.		Geotechnical Constraints		Recommended Interim Alignment	Recommended Permanent Alignment
SEG ID	METRIC: Quality of experience		METRIC: Limitations for all ages and abilities facility		METRIC: Vehicle conflict risk		METRIC: Historic District		METRIC: Views of Willamette Falls	METRIC: Environmental impacts		METRIC: Environmental crime risk		METRIC: Cost		METRIC: Canemah NRHD property impacts	METRIC: Other Property Impacts		METRIC: Geotechnical constraints		Recommendation for interim trail alignment	Recommended for permanent trail alignment
S-1	◑	Pleasant residential street	●		◑	Shared use, low speed/volume	☑	McLoughlin Cons Dist.		●	No impact	●	High visibility/low risk	$	Signage and pavement marking w/ minimal construction, new paved connection to promenade	●	◕	Close proximity to residence	●	No impacts	☑	TBD
S-2	◔	Parking lot and driveway, residential/museum frontage street	◑	Steep slope on VFW driveway	◔	Shared driveway and low visibility	☑	McLoughlin Cons Dist.		●	No impact	●	High visibility/low risk	$	Signage and pavement marking w/ minimal construction	●	●	None	●	No impacts		TBD
S-3	◔	Curb-tight sidewalk, no street trees	●		◑	Cross at 99E				●	No impact	●	High visibility/low risk	$$	Widen sidewalk	●	◕	Close proximity to residence	●	No impacts	☑	TBD
S-4	◔	Curb-tight sidewalk, no street trees	●		◑	Cross at 99E				●	No impact	●	High visibility/low risk	$	Signs & pvmt markings w/min const	●	◕	Close proximity to residence	●	No impacts		TBD
S-5	◔	Curb-tight sidewalk, no street trees	◑	Moderate slope (S 2nd)	◑	Cross at 99E or High St.	☑	McLoughlin Cons Dist.		●	No impact	●	High visibility/low risk	$	Signs & pvmt markings w/min const	●	◕	Close proximity to residence	●	No impacts	☑	TBD
A-1	◑	Close to river and highway	○	Stairs	◕	Full Separation			●	●	No impact	●	High visibility/low risk	$	Signs & pvmt markings w/min const	●	◕	PGE and ODOT ROW	●	No impacts		TBD
A-2	◑	Close to river and highway	●		◑	Moderate	☑	Canemah Hist Dist.	●	●	No impact	●	High visibility/low risk	$$	New Boardwalk	●	◕	PGE and ODOT ROW	◑	Boardwalk modification may require stabilization		TBD
A-3	◑	Close to river and highway	◑	Moderate slope + pinch point	◑	Moderate. Assume RFB at Jerome	☑	Canemah Hist Dist.	●	●	No impact	●	High visibility/low risk	$$$	New Boardwalk and Hwy 99 crossing	●	◕	PGE and ODOT ROW	◑	Boardwalk modification may require stabilization		TBD
B-1	◑	Views but close to highway	●		◑	Adjacent to 99E with + driveway crossings.			●	●	Medium impact	◕	Moderate	$$	New sidewalk/trail construction	●	◕	PGE and ODOT ROW	◕	Requires cut/fill w/min impacts	☑	TBD
B-2	●	Access to nature	●		●	No vehicle interaction			●	◕	Medium impact	◑	Moderate	$$	New trail construction	●	●	Close proximity to residence	◕	May require cliff face stabilization	☑	TBD
B-3	◕	Semi attractive pending development	●		●	Potential for no vehicle interaction	☑	McLoughlin Cons Dist.		●	No impact	●	No impact	$	Improvements packaged into re-development	●	◕	Commercial Parcels	●	No impacts		TBD
C-1	◕	Close to nature, views	◑	low-moderate slope + pinch point	◑	Assumes curb separation	☑	McLoughlin Cons Dist.	●	●	No impact	●	High visibility/low risk	$$	Extend pavement, signage and pavement marking. May need blasting	●	●	Close proximity to residence	●	No impacts		TBD
C-2	●	Access to nature	◔	very steep slope	●	No vehicle interaction				◕	Medium impact	◑	Isolated	$$	Extend pavement, signage and pavement marking	●	◑	PGE	◕	Requires cut/fill w/min impacts		TBD
C-3	◑	Close to nature	◑	low-moderate slope	◑	Assumes curb separation	☑	Canemah Hist Dist.		●	No impact	●	High visibility/low risk	$$	Extend pavement, signage and pavement marking	●	◕	Close proximity to residence	●	No impacts		TBD
C-4	◑	Pleasant residential street	◑	moderate slope	◕	Low speed/volume	☑	Canemah Hist Dist.		●	No impact	●	High visibility/low risk	$	Signage and pavement marking w/ minimal construction	●	◕	Close proximity to residence	●	No impacts		TBD
C-5	●	Access to nature	◔	very steep slope	◕	Unimproved ROW; driveways	☑	Canemah Hist Dist.		◑	NROD impact	◕	Isolated	$$	New trail construction	●	◕	Close proximity to residence	◔	Landslide potential		TBD
S-6	◑	Pleasant residential street	◔	moderate slope (3rd Ave)	◕	Low speed/volume	☑	Canemah Hist Dist.		●	No impact	●	High visibility/low risk	$	Signs & pvmt markings w/min const	●	◕	Close proximity to residence	●	No impacts	☑	TBD
S-7	◑	Pleasant residential street	◑	moderate slope (3rd Ave)	◕	Low speed/volume	☑	Canemah Hist Dist.		●	No impact	●	High visibility/low risk	$	Signs & pvmt markings w/min const	●	◕	Close proximity to residence	●	No impacts	☑	TBD
S-8	◑	Pleasant residential street	○	Stairs	◕	Low speed/volume	☑	Canemah Hist Dist.		●	No impact	●	High visibility/low risk	$	Signs & pvmt markings w/min const	●	◕	Close proximity to residence	●	No impacts	☑	TBD
S-9	◑	Pleasant residential street	◔	steep slope (Ganong)	◕	Low speed/volume	☑	Canemah Hist Dist.		●	No impact	●	High visibility/low risk	$	Signs & pvmt markings w/min const	●	◕	Close proximity to residence	●	No impacts	☑	TBD
S-10	◑	Pleasant residential street	●		◕	Low speed/volume	☑	Canemah Hist Dist.		●	No impact	●	High visibility/low risk	$	Signs & pvmt markings w/min const	●	◕	Close proximity to residence	●	No impacts	☑	TBD
S-11	◑	Pleasant residential street	◑	low-moderate slope	◕	Low speed/volume	☑	Canemah Hist Dist.		●	No impact	●	High visibility/low risk	$	Signs & pvmt markings w/min const	●	◕	Close proximity to residence	●	No impacts	☑	TBD
	Assumptions: Value given to access to nature, street trees, buffers from traffic, and neighborhood character.		**Assumptions:** All ages and all abilities requires slopes at or below 5%. 5-15% is less comfortable for bicyclists and other users.		**Assumptions:** Designs minimize risk associated with traffic speeds and volume. Optimal scoring assumes no interaction with vehicular traffic.		**Assumptions:** Designs will not violate any provisions of historic or conservation districts.		**Assumptions:** There is an existing view of the falls.	**Assumptions:** To be provided by environmental consultant.		**Assumptions:** Moderate risk areas are those that are isolated from both roadways and occupied structures.		**Assumptions:** As indicated above		**Assumptions**: No direct impacts within CNRHD	**Assumptions:** Direct impacts passes through private property. Indirect impacts imply close proximity.		**Assumptions**: To be provided by geotechnical consultant		**Assumptions:** Preliminary City Staff recommendation	**Assumptions:** TBD following stakeholder meetings

LEGEND

● Optimal	◕ Minor Constraints	◑ Moderate Constraints	◔ Major Constraints	○ Not advisable or feasible

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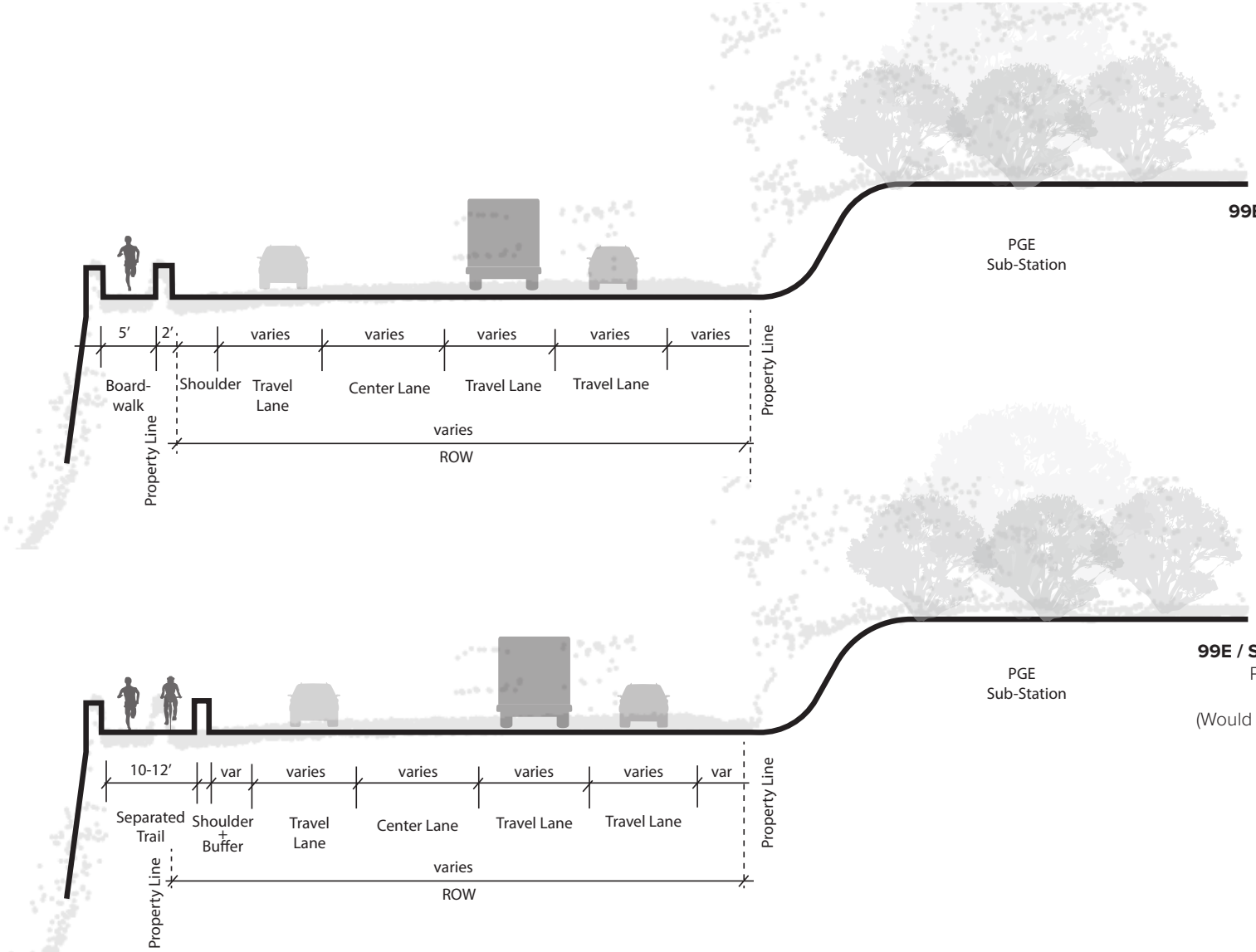


1

Oregon City Cross-Section Options:
Preliminary Sketches

August 2017

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2

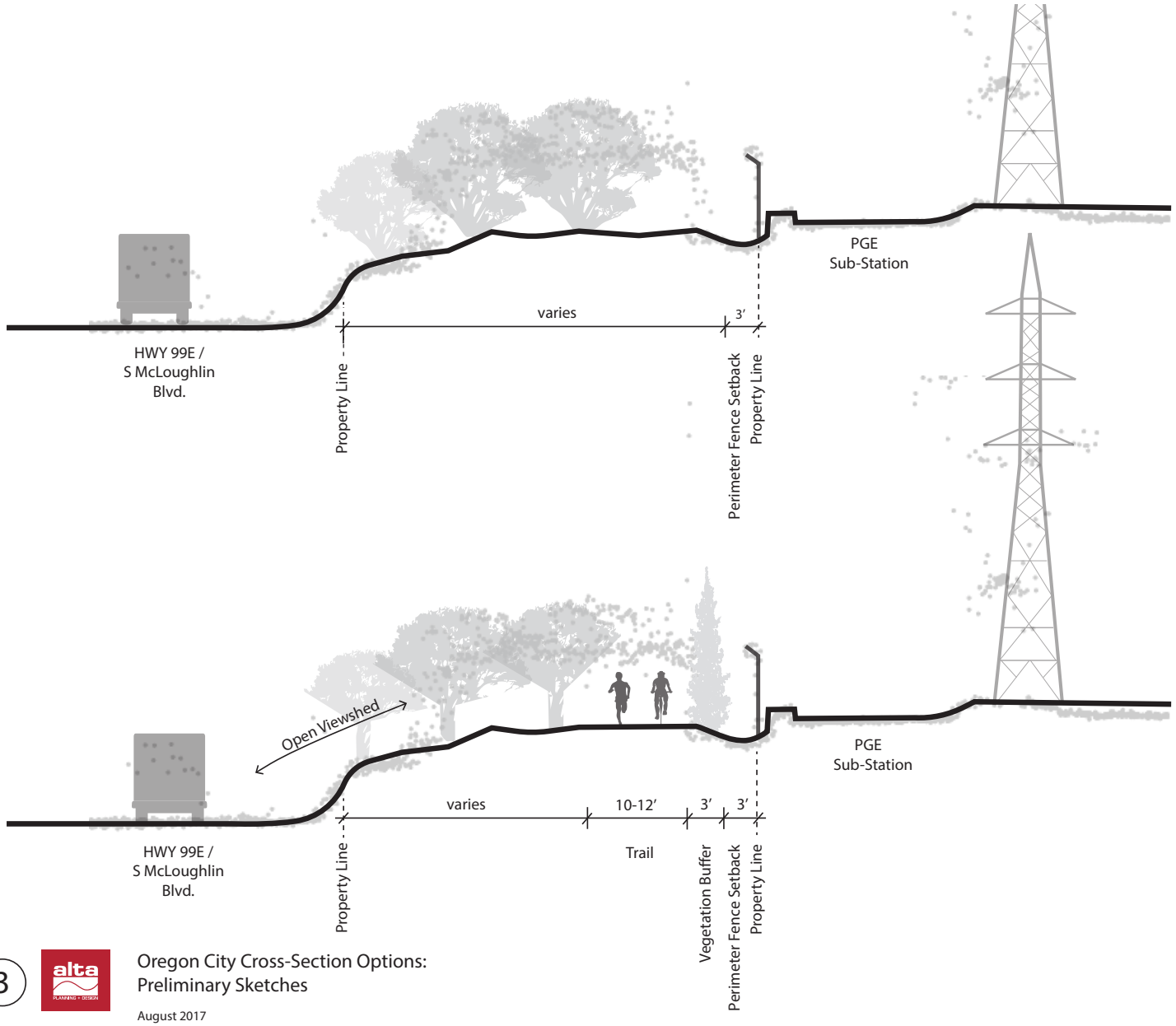
Oregon City Cross-Section Options:
Preliminary Sketches

August 2017

10′ 20′ 30′

1″=10′-0″

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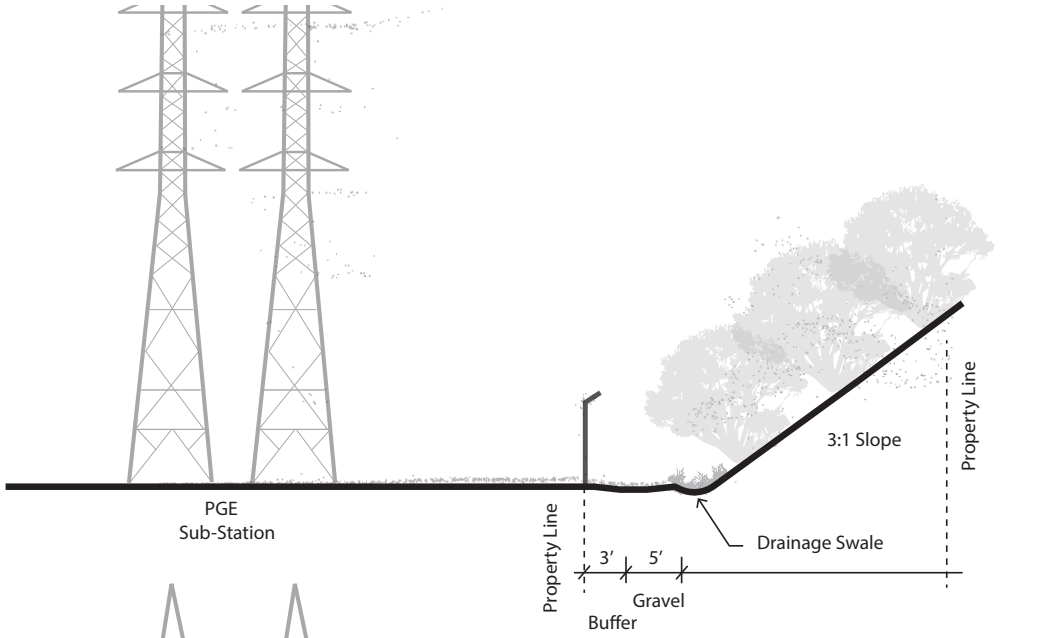
West Edge of PGE Property
Existing Conditions
Looking North

West Edge of PGE Property **B-01**
Proposed Conditions
Looking North
(In constrained condition, trail is
6’ from HWY 99 shoulder)

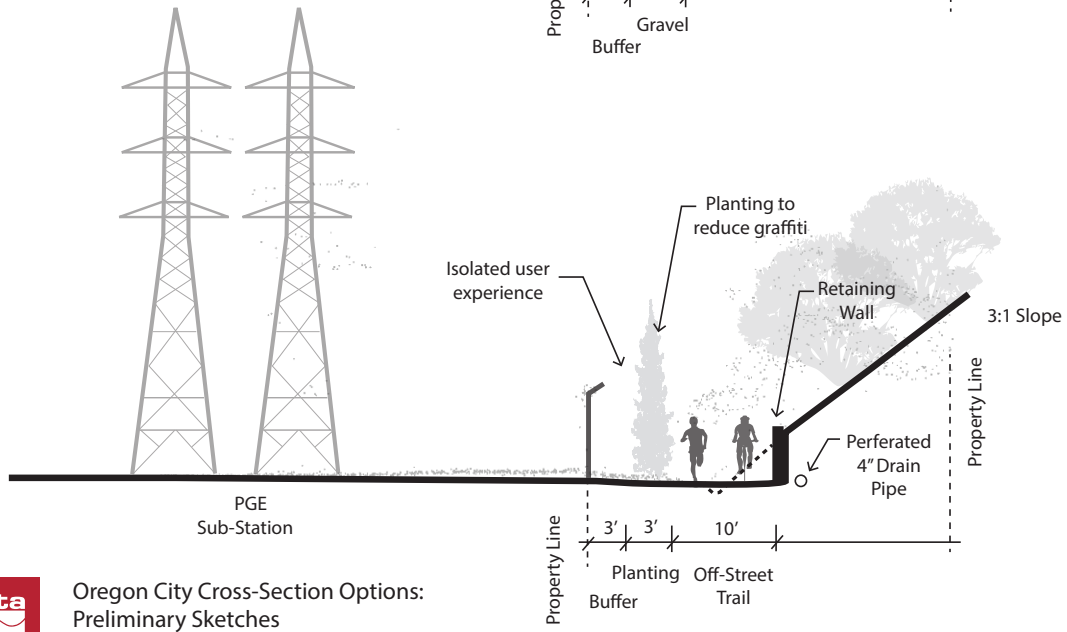
3 Oregon City Cross-Section Options:
Preliminary Sketches

August 2017

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SE Corner of PGE Property
Existing Conditions
Looking North



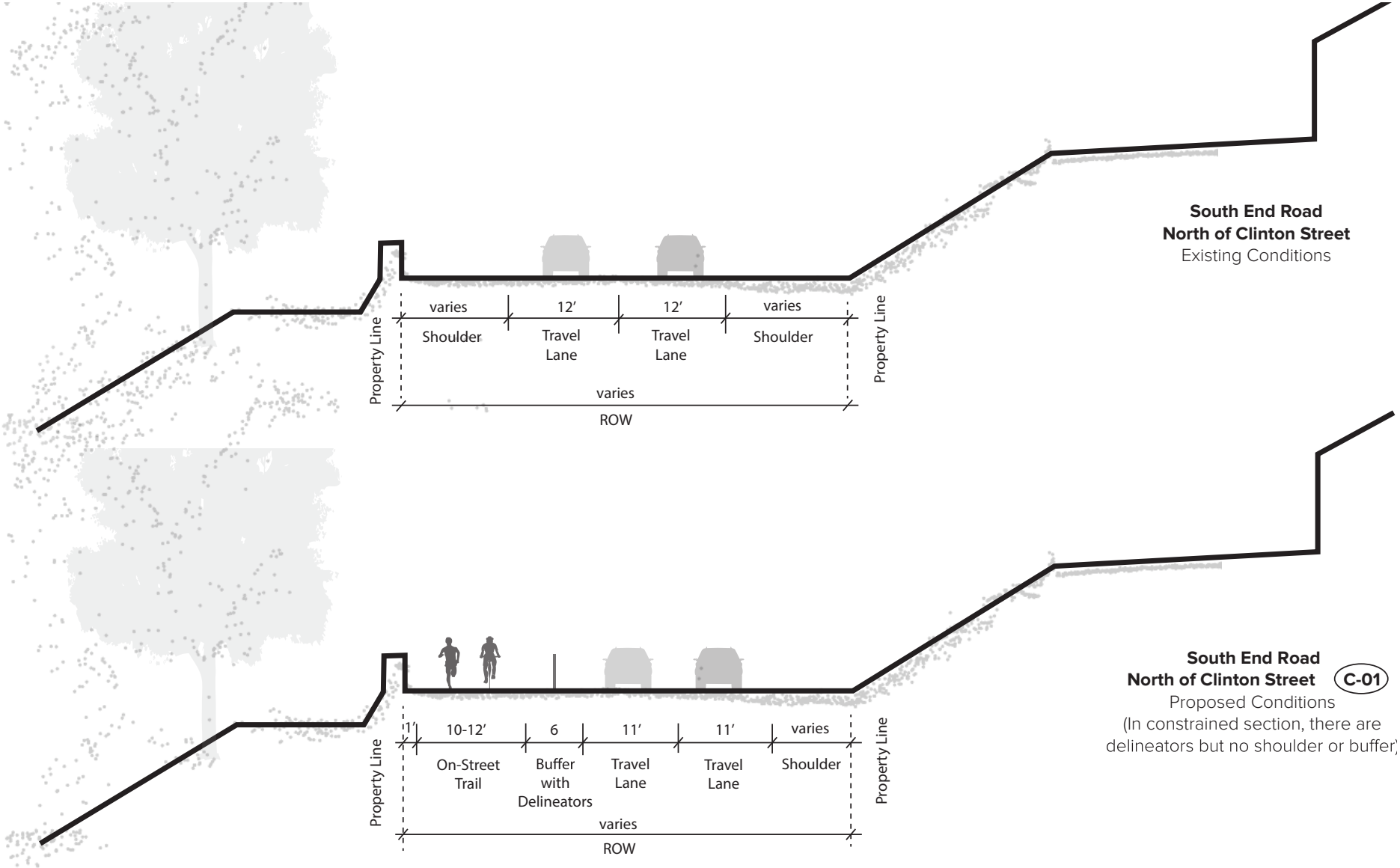
SE Corner of PGE Property **B-03**
Proposed Conditions
Looking North

10′ 20′ 30′
1″=10′-0″

4 Oregon City Cross-Section Options: Preliminary Sketches

August 2017

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South End Road
North of Clinton Street
Existing Conditions

South End Road
North of Clinton Street **C-01**
Proposed Conditions
(In constrained section, there are delineators but no shoulder or buffer)

10′ 20′ 30′
1″=10′-0″

5

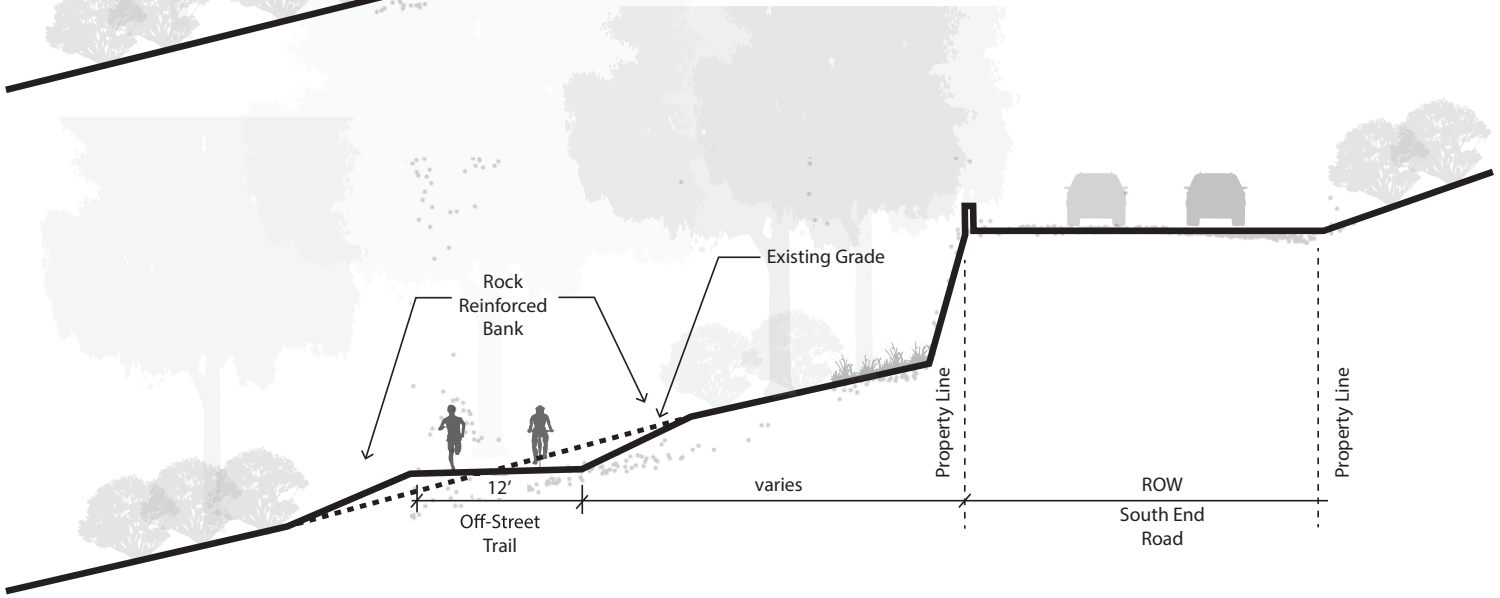
Oregon City Cross-Section Options:
Preliminary Sketches

August 2017

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South End Road
Existing Conditions
Looking North



South End Road **C-02**
Proposed Conditions
Looking North

6

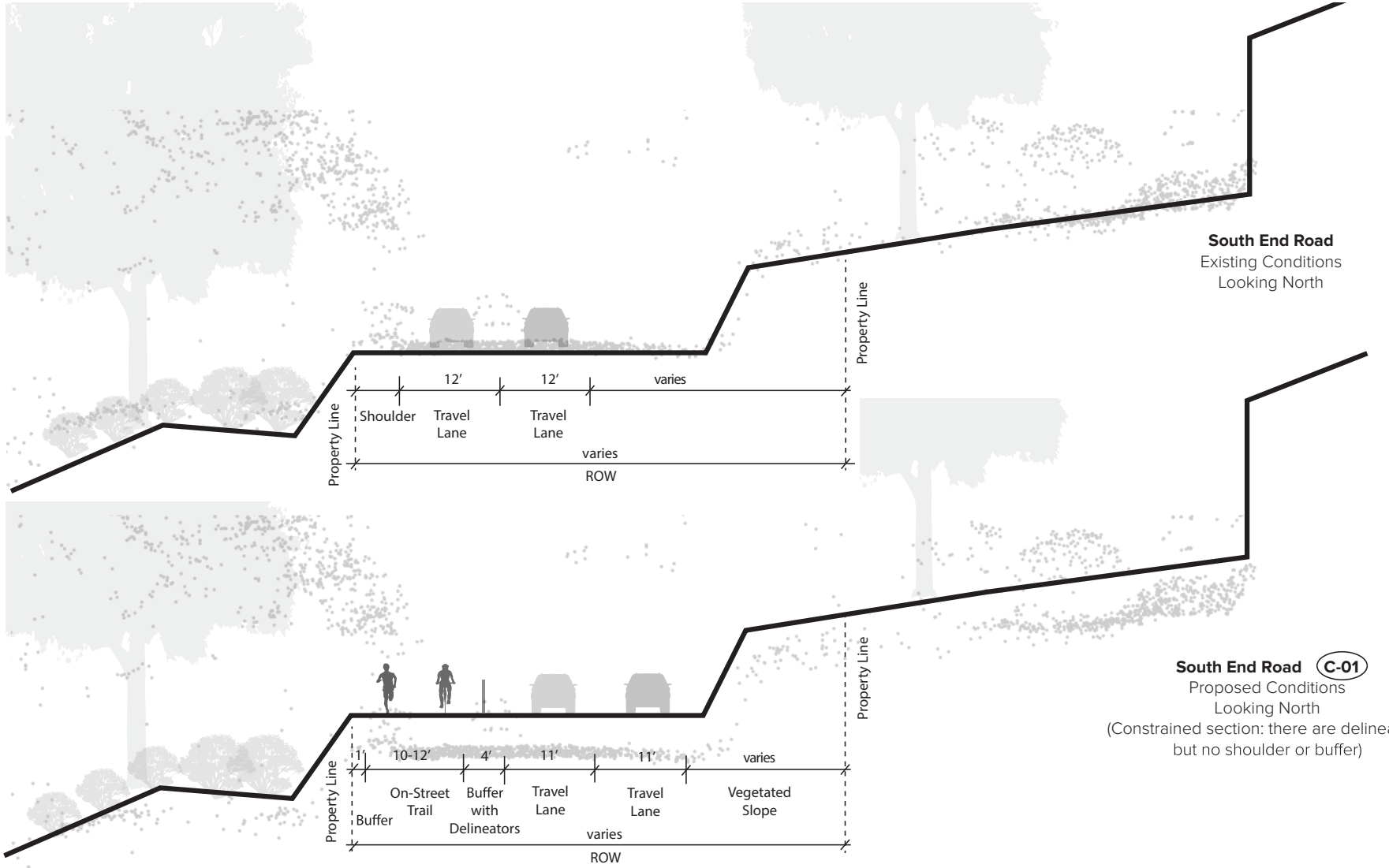
Oregon City Cross-Section Options:
Preliminary Sketches

August 2017

10′ 20′ 30′

1″=10′-0″

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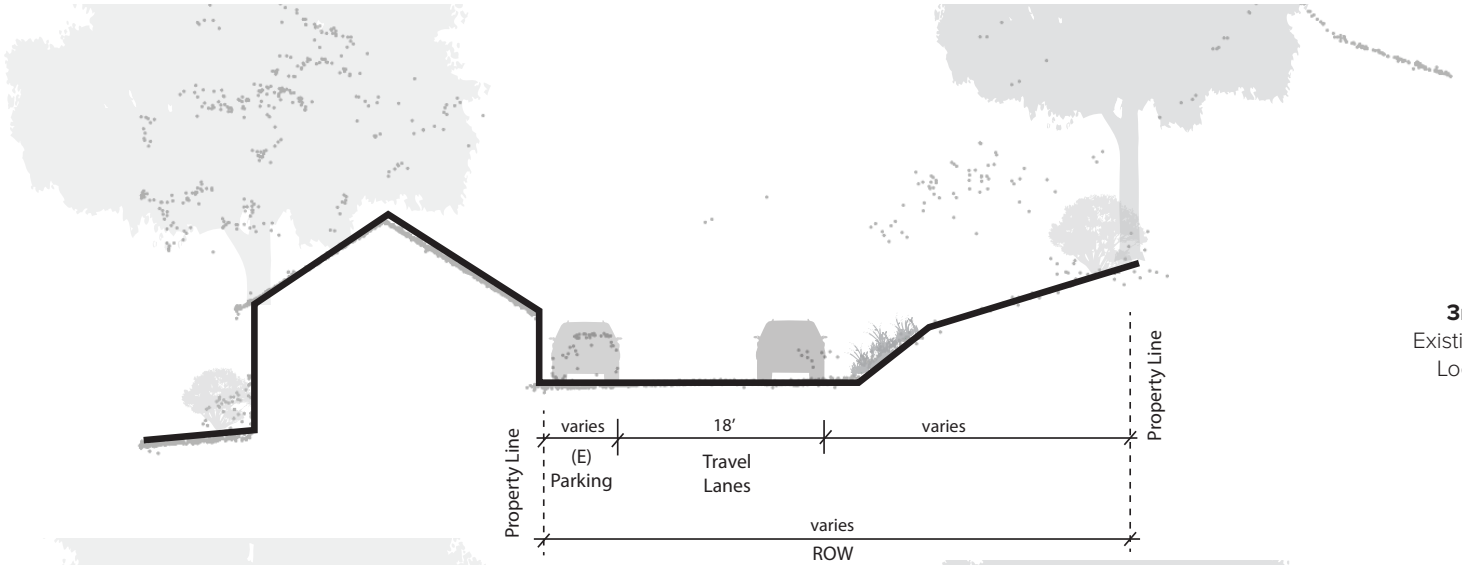


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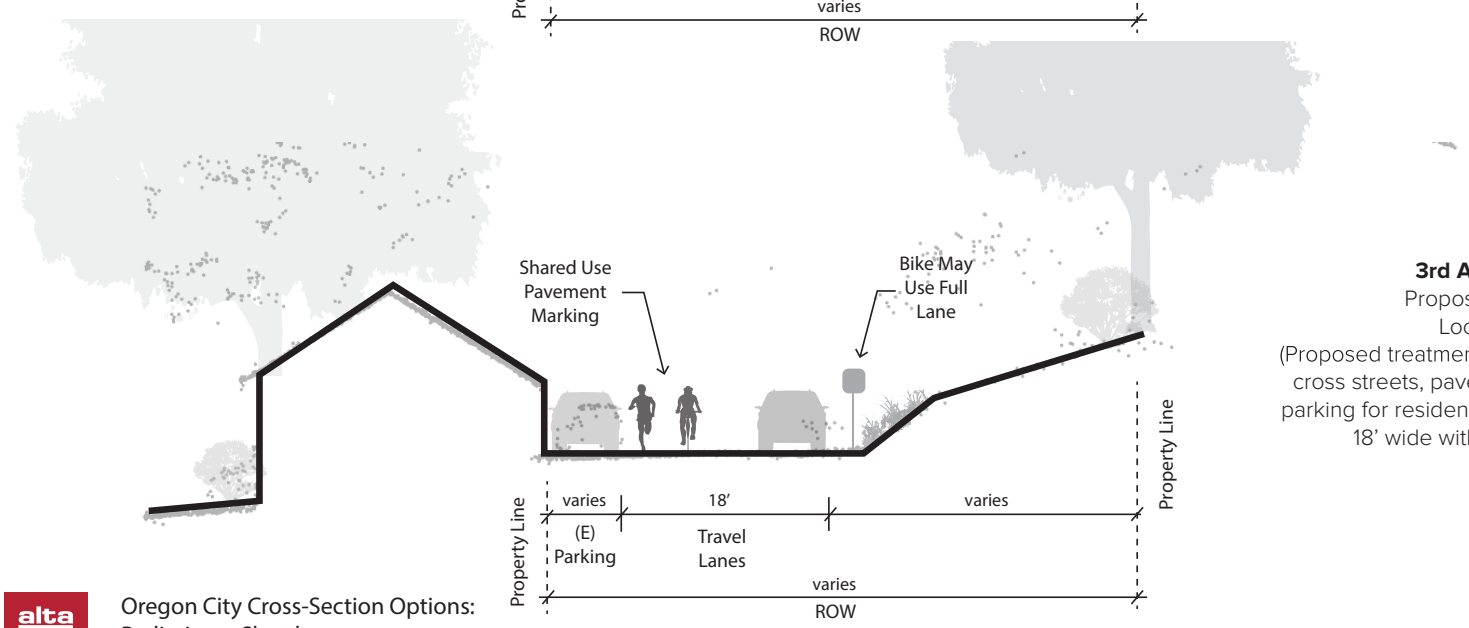
Oregon City Cross-Section Options:
Preliminary Sketches

August 2017

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3rd Avenue
Existing Conditions
Looking North



3rd Avenue **S-09**
Proposed Conditions
Looking North
(Proposed treatment includes traffic calming at cross streets, pavement markings, & striped parking for residents. Constrained condition is 18' wide with on-street parking.)

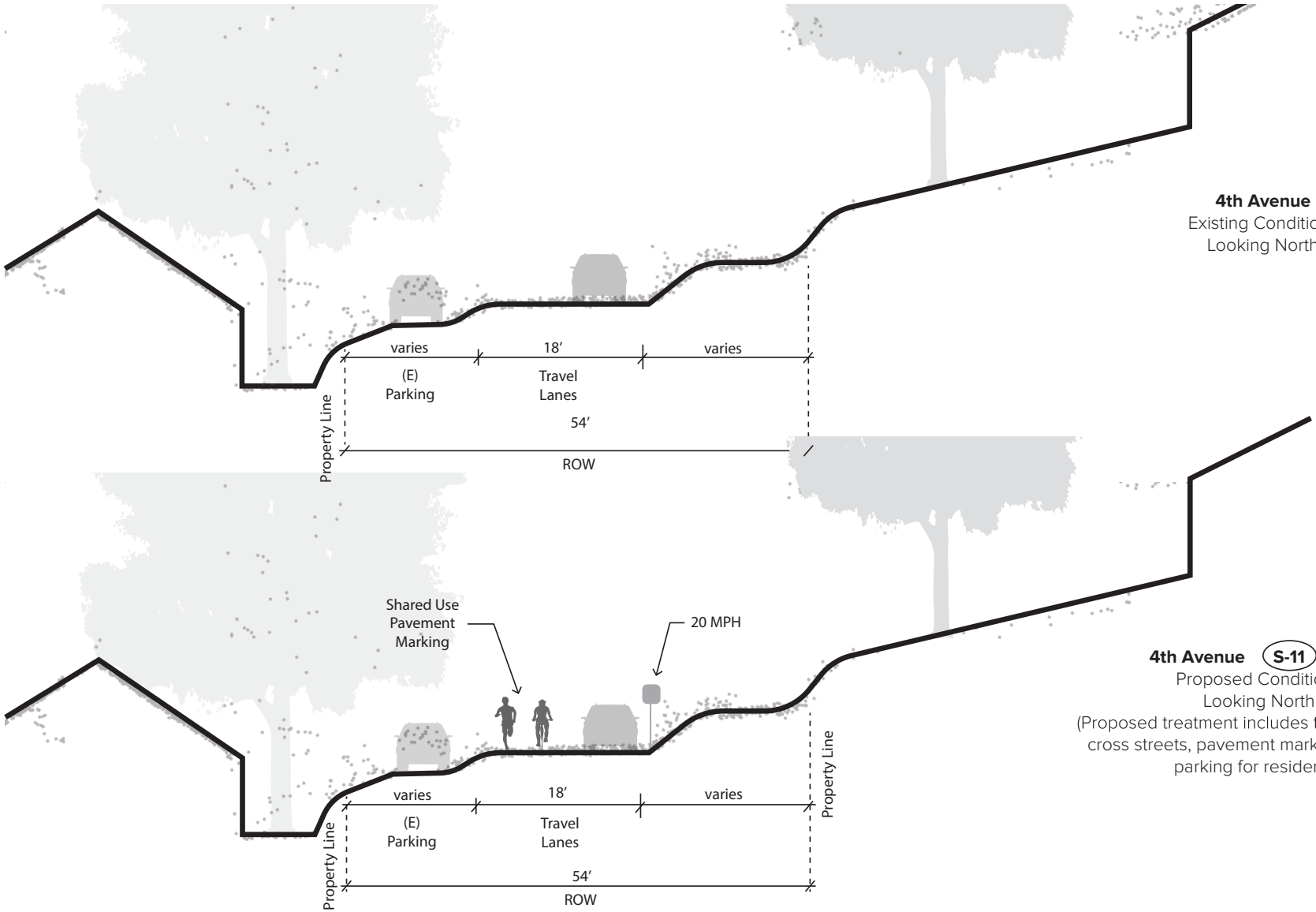
10' 20' 30'
1"=10'-0"

8

Oregon City Cross-Section Options:
Preliminary Sketches

August 2017

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4th Avenue
Existing Conditions
Looking North

4th Avenue S-11 S-12
Proposed Conditions
Looking North
(Proposed treatment includes traffic calming at cross streets, pavement markings, & striped parking for residents.)

9

Oregon City Cross-Section Options:
Preliminary Sketches

August 2017

10′ 20′ 30′
1″=10′-0″

X.

APPENDIX 5 - PLANNING LEVEL COST ESTIMATES

PLANNING-LEVEL COST ESTIMATES

Note: These planning-level costs were prepared for alignment alternative evaluation and comparison only.

Segment Name	Notes	Fully Burdened Cost
ALIGNMENT - A		
BOARDWALK	Replace existing	$2,500,000
ON STREET	Canemah and access points to 99E, includes signal at Jerome	$371,175
PED BRIDGE	No improvement to existing bridge	$0
WIDEN SIDEWALK	99E	$3,169,110
TOTAL		**$6,040,285**
ALIGNMENT - B		
ON STREET	Canemah	$36,435
SEPARATED TRAIL	2nd and Tumwater to Old Canemah Park Trail (includes crossing at 2nd)	$1,687,999
WIDEN EXISTING TRAIL	Old Canemah Park Trail	$245,490
WIDEN SIDEWALK TO TRAIL WIDTH	Tumwater	$119,700
TOTAL		**$2,089,624**
ALIGNMENT - C		
ON STREET	Canemah and access point at 5th, does not include signal at S 2nd	$45,465
SEPARATED TRAIL	Includes switchback ramp to Blanchard	$450,198
WIDEN ROADWAY FOR SIDE PATH	Includes retaining wall, and minor excavation of basalt	$2,110,023
TOTAL		**$2,605,686**

Note: These planning-level costs were prepared for alignment alternative evaluation and comparison only.

On-Street Improvements - Canemah neighborhood					
Item Description	**Unit**	**Quantity per mile**	**Unit Price**	**Total**	**Notes**
Wayfinding Signs	EA	6	$600.00	$3,600.00	
Regulatory Signs	EA	4	$350.00	$1,400.00	Every 400' each direction
Pavement markings	EA	12	$750.00	$9,000.00	Every 200' each direction, thermoplastic bike with chevron
Stop signs	EA	4	$150.00	$600.00	
New speed limit signs	EA	5	$150.00	$750.00	
Median refuge island	EA		$12,000.00	$0.00	1 per mile
Painted curb extensions	LS	4	$500.00	$2,000.00	
Speed humps	EA		$2,000.00	$0.00	Every 800'
Curb Ramp Improvements	EA		$2,500.00	$0.00	Curb ramp upgrades at on 25% of intersections
Diverter	EA		$8,000.00	$0.00	Every 2 miles
Estimated Direct Cost				$17,350.00	
Contingency	40%			$6,940.00	
Engineering / Design	30%			$5,205.00	
Construction / Overhead / Mobilization	25%			$4,337.50	
Project Administration	15%			$2,602.50	
Estimated Construction Costs (70% burden)				**$36,435.00**	

Note: These planning-level costs were prepared for alignment alternative evaluation and comparison only.

Shared Use Path - 2nd to the Old Canemah Trail segment					
Item Description	**Unit**	**Qty**	**Unit Cost**	**Total**	**Notes**
Clearing and Grubbing	SF	24026	$0.35	$8,409.00	shoulders + ac trail + conc trail
Excavation	CY	890	$24.00	$21,360.00	shoulders + ac trail + conc trail
Erosion Controls	LF	4600	$2.50	$11,500.00	both sides, length of project
Sedimentation Controls	LF	2300	$7.15	$16,445.00	hay bales, assume one side for planning
Grading	SY	2670	$15.00	$40,050.00	shoulders + ac trail + conc trail
Reinforcement at top of cliff	LF	200	$166.50	$33,300.00	
Crusher fine shoulders	CY	38	$100.00	$3,800.00	2) 2' wide
Concrete curb and gutter	LF	1015	$35.00	$35,525.00	
Asphalt path over aggregate base	SF	7775	$9.00	$69,975.00	10' wide, PGE to OCT
Concrete path over aggregate base	SF	15225	$12.00	$182,700.00	15' wide, no shoulders, 2nd to PGE
Protected trail crossing of 2nd	LS	1	$110,000.00	$110,000.00	
Mile markers	EA	0	$350.00	$0.00	
Landscape screening	SF	810	$4.50	$3,645.00	
Pole or guy wire relocation	LS	1	$250,000.00	$250,000.00	PGE said 20k - 500k
Tree planting	EA	32	$350.00	$11,200.00	assume 4 new trees for every 1 removed
Tree removal	EA	8	$350.00	$2,800.00	assume 16 per 1/4 mile
Bollards	EA	0	$1,100.00	$0.00	assume none
Wayfinding Signs	EA	4	$600.00	$2,400.00	
Regulatory and Warning Signs	EA	2	$350.00	$700.00	
Mechanical Seeding	SF	0	$0.20	$0.00	
Estimated Direct Cost				$803,809.00	
Contingency	40%			$321,523.60	
Engineering / Design	30%			$241,142.70	
Construction / Overhead / Mobilization	25%			$200,952.25	
Project Administration	15%			$120,571.35	
Estimated Construction Costs (70% burden)				**$1,687,998.90**	

Note: These planning-level costs were prepared for alignment alternative evaluation and comparison only.

Widen Shared Use Path - Old Canemah Park					
Item Description	**Unit**	**Qty**	**Unit Cost**	**Total**	**Notes**
Clearing and Grubbing	SF	11790	$0.35	$4,127.00	shoulders + 5'ac
Excavation	CY	435	$24.00	$10,440.00	shoulders + 5'ac
Erosion Controls	LF	1310	$2.50	$3,275.00	both sides, length of project
Sedimentation Controls	LF	655	$7.15	$4,683.00	hay bales, assume one side for planning
Grading	SY	875	$15.00	$13,125.00	1 shoulder + 5' trail
Crusher fine shoulders	CY	64	$100.00	$6,400.00	2) 2' wide
Asphalt path over aggregate base	SF	6550	$9.00	$58,950.00	
Mile markers	EA	0	$350.00	$0.00	
Tree planting	EA	32	$350.00	$11,200.00	assume 4 new trees for every 1 removed
Tree removal	EA	8	$350.00	$2,800.00	assume 16 per 1/4 mile
Bollards	EA	0	$1,100.00	$0.00	assume none
Wayfinding Signs	EA	2	$600.00	$1,200.00	
Regulatory and Warning Signs	EA	2	$350.00	$700.00	
Mechanical Seeding	SF	0	$0.20	$0.00	
Estimated Direct Cost				$116,900.00	
Contingency	40%			$46,760.00	
Engineering / Design	30%			$35,070.00	
Construction / Overhead / Mobilization	25%			$29,225.00	
Project Administration	15%			$17,535.00	
Estimated Construction Costs (70% burden)				**$245,490.00**	

Note: These planning-level costs were prepared for alignment alternative evaluation and comparison only.

Widen Sidewalks to 12' - Tumwater (VFW-2nd)					
Item Description	**Unit**	**Qty**	**Unit Cost**	**Total**	**Notes**
Saw cut and remove asphalt (8' width)	LF	375	$15.00	$5,625.00	(cost assumes widen path by 6' and 2' to form curb and gutter)
Remove concrete curb	LF	375	$6.00	$2,250.00	
Standard concrete curb (6")	LF	375	$35.00	$13,125.00	
Guard rail/barrier along curbline	LF		$95.00	$0.00	
Tumwater closure	LS	1	$5,000.00	$5,000.00	Striping and removable bollards
Restripe travel lanes	LF	375	$3.00	$1,125.00	
Striping removal	LF	375	$1.00	$375.00	
Concrete Path	SF	2250	$12.00	$27,000.00	6' widening Tumwater
Concrete Path	SF		$12.00	$0.00	7' widening, 2nd, 99E
Wayfinding Signs	EA	3	$600.00	$1,800.00	
Warning Signs	EA	2	$350.00	$700.00	(assume 2 warning signs per block)
Estimated Direct Cost				$57,000.00	
Contingency	40%			$22,800.00	
Engineering / Design	30%			$17,100.00	
Construction / Overhead / Mobilization	25%			$14,250.00	
Project Administration	15%			$8,550.00	
Estimated Construction Costs (70% burden)				**$119,700.00**	

XI.

ADVISORY GROUP MEETING NOTES & LETTER

McLoughlin-Canemah Trail Advisory Group

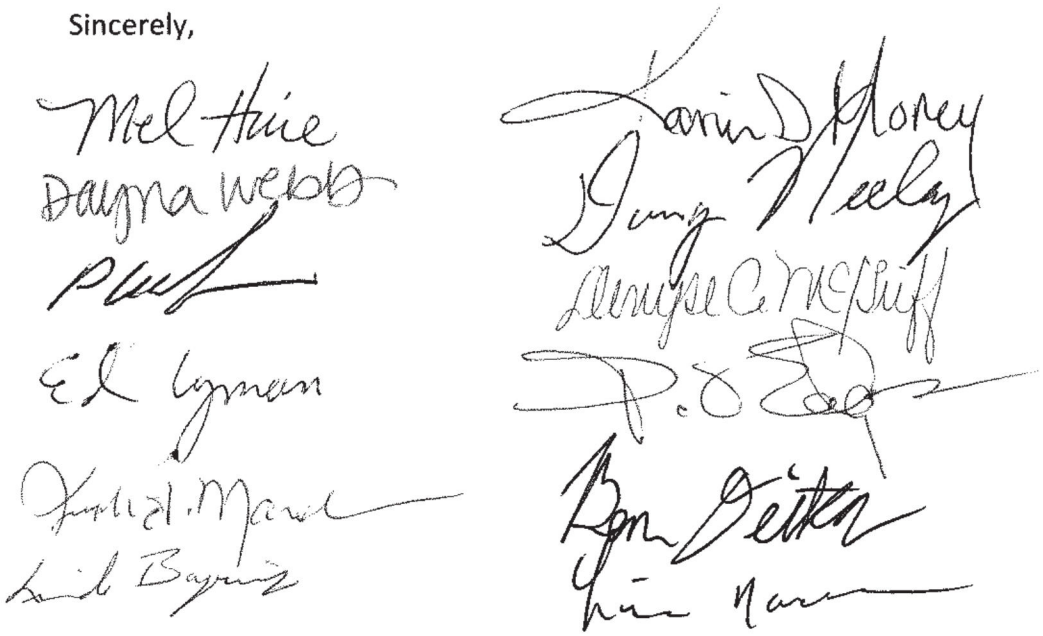
December 14, 2017

Dear Oregon City Planning and City Commissioners,

The McLoughlin-Canemah Trail Advisory Group held four meetings along with site visits during the trail planning process. The group's goal was to reach consensus for a trail alignment and design elements for the McLoughlin-Canemah Trail. Many ideas were considered and compromises were made. Each of the alignment alternatives had positive and negative aspects, making for a challenging decision. The Advisory Group strove to meet the goals set at the beginning of the process and to balance the various desires of the community.

By signing this letter, the members of the advisory group acknowledge and accept the decisions that were made at the Advisory Group meetings and urge the Planning and City Commissions to trust that there was a robust public process that led to the recommendations.

Sincerely,



OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

Meeting: McLoughlin-Canemah Trail Plan Community Advisory Group Meeting #1
Date: July 11, 2017
Time: 6PM – 8PM
Place: First City Central Bistro – 1757 Washington Street (Amtrak Station)

Meeting Attendance: See attached attendance sheet.

Meeting Notes:

1. Introductions – Members introduced themselves, and project staff discussed the Project Purpose, Advisory Committee Purpose, and Group member expectations. All group members present signed the Member agreement with ground rules and expectations.

2. Project Goals: The group reviewed the draft goals and survey results. Discussion and comments included:

   - Most trail users will probably be walking, not biking.
   - Biking is difficult due to slopes and poor visibility.
   - Speeds downhill (like on Ganong) need to be controlled better.
   - Cars turning into Canemah from 99E can't see left or right down 3rd Ave.
   - Bikes are not currently permitted in Canemah Bluff natural area.
   - The MCT is a shared use path, meant to be for walking and biking. City standard is 10-12 feet wide and paved, but with the constraints of this area we might not be able to meet that standard for the full trail.
   - South End Rd and 99E are not safe for bikes, so eventually the Oregon City Loop trail will be the preferred bike route to go south, once it is built. At that time, we might see more use of this trail by people biking.
   - Highest crime concern is substance abuse.
   - People sleep in cars at Old Canemah Park parking lot sometimes
   - Where will trail users from outside the area park? Fear use of neighborhood for parking.
   - Can parking be expanded at Children's park or on 99E? People could walk to park from 99E.
   - Metro owns a lot south of the City limits on 99E – could that be an access alternative rather than parking in Canemah neighborhood?
     Note: Metro does not have a Master Plan for the Canemah Bluff Natural Area yet. Parking areas and additional trailheads would be determined through a Master Planning process. Parking for Canemah Bluff natural area and Canemah Children's Park will not be a topic or goal of this trail project, but the project team will strive to craft some recommendations for parking in general that could address multiple sites.
   - Parking at VFW could even generate revenue, but timing is an issue. VFW needs the lot during certain times.
   - Tumwater Rd is dangerous, drivers try to beat the light and come in very quickly. Could it be closed off to cars? Additional parking for museum might be possible if it is closed.

The group amended a few of the goals, but did not get through the entire list. They decided to move on to the next agenda topic and revisit goals later. Staff will send out the amended version to the group asking for further review over email in the weeks following the meeting.

3. Trail Alignment Alternatives: The group reviewed the draft alignments. Discussion and comments included:

   VFW/Museum/S 2nd Area:
   - Would like to see trail next to museum
   - The City owns two homes between Tumwater and High Street. Could these properties be useful to ensure alignment is close enough to the museum?
   - VFW driveway is steep and dangerous – poor visibility. Could you take 2nd ave from the Promenade to High Street instead?
   - 4-way stop at High street is safer than Tumwater crossing.
   - Is it possible to get a signal at High and S 2nd?
   - Crossing S 2nd at 99E is possible but not comfortable.
   - Could we consider the whole Promenade as part of the MCT and show the existing alignment on maps and signs?

   Highway 99E:
   - Air quality issues along 99E
   - Traffic safety is a concern on 99E; fast speeds, no separation.
   - People don't want to walk along 99E, but along the water is desirable. Could we make it more comfortable to walk along 99E?
   - In ODOT right of way, if something is changed it has to be fully upgraded to ADA standards, which can be very expensive.
   - If you want to put the trail behind buildings on 99E, future redevelopment would need to not turn its back on the trail.

   Canemah Area:
   - 5th avenue and South End Rd is a school bus stop
   - From South End Rd, could you drop into Old Canemah Park upper trail?
   - Property next to Coffee creek and Old Canemah park is for sale.

   Alignment C was amended to come off the promenade from 2nd street to High Street, rather than on 1st Street, to avoid use of the stairs at 1st Street. An alignment alternative was added coming off South End Road and into the upper trail section of Old Canemah Park.

4. Next Steps
   - Project staff will send link to alignment map, survey results, and amended draft goals out to group
   - Next meeting is August 15 at the Library, same time.
   - Greenway for a Day event is July 29. Members signed up to volunteer. Project staff will advertise event and send ample notice to neighbors along the greenway route. Project staff will send information to the group as soon as possible. The event also includes an Ivy Pull at Old Canemah Park, in partnership with the Parks Department and the Oregon City Parks Foundation.

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

Meeting: McLoughlin-Canemah Trail Plan Community Advisory Group Meeting #2
Date: August 15, 2017
Time: 6PM – 8PM
Place: Oregon City Library Community Room – 606 John Adams St, Oregon City, OR

Meeting Attendance: See attached attendance sheet.

MEETING NOTES

6:00 to 6:10PM Introductions and Goals for the Meeting

Kelly Reid, the City's project manager, described the goal for the meeting to reach consensus on a trail alignment.

6:10 to 6:25PM Status Update and Greenway for a Day Recap

The group discussed survey results and anecdotes from the Greenway Event. Approximately 75 people participated in the event. A summary of the event and results of the survey is attached to the meeting notes.

Kelly gave a brief explanation of the riverwalk project, including the pedestrian bridge and the Canemah connection. She said that due to the cost and challenges of building a bridge over the railroad, the Canemah Connection is a long term phase and would not likely be built in the near future.

6:20 to 7:45 PM Trail Alignment Alternative Evaluation

Christo Brehm from ALTA Planning + Design led a discussion about the alignment map, evaluation matrix, and cross sections. A summary of the discussion is below:

The group began with the S-01 through S-06 segments near the Museum, VFW, and S 2nd.

Kelly shared that the City's Transportation System Plan (TSP) includes a future project to add a signal at the current 4-way stop at High Street and S 2nd. The group agreed that High Street is currently the safest place to cross S 2nd, and will be even safer once a signal is installed. One member thought the 4-way stop is dangerous and perhaps the 99E crossing would be safer.

The intersection at Tumwater is seen as problematic. The group discussed a traffic circle and a Rapid Flash Beacon, but were concerned that those treatments would not be safe enough for a crossing.

The group discussed the VFW alignment (S-02) versus the High Street alignment (S-01) and were concerned that the High Street option does not offer direct access to the Museum.
If S-01 is chosen, the group agreed that good signage could direct people toward the Museum. One member thought there was a speeding problem on High Street that should be addressed.

Some thought that the S-02 option was more attractive because of the direct access to the museum and more direct route, in addition to the better connection to the future riverwalk pedestrian bridge. The challenges with this option are the VFW driveway and the crossing at Tumwater.

The group then talked about the A segments. One member mentioned that A-01, the pedestrian bridge and stairs over 99E, is slippery when wet. The Boardwalk (A-02) would need a lot of repair. It is not currently wide enough and its structural condition is questionable. Many thought it was not family friendly.

The group reached consensus that the A alignment is not the preferred alignment.
Some members wished to keep the A alignment as a loop option – not the main path, but a secondary path to create a walking loop. The group discussed that it could be upgraded at the time of future construction of the riverwalk Canemah connection, which will occur in the distant future.

The group then began discussing the B versus the C alignments.

Some members thought the options along 99E were unattractive. Even so, because the B alignment also passes through Old Canemah Park, the B option was seen as the most attractive path by some members. Old Canemah Park is considered the highlight of the trail for many. The survey results reflect this sentiment as well.

The group discussed the C options, noting that blasting would be required along South End Road to create enough width to add a pathway. The C-02 alignment into PGE property and upper Old Canemah Park was described as having very steep slopes. The group was more interested in the connection to 5th Avenue (C-04) and the unimproved right of way (C-05).

The constraints of C-05 were discussed, including the severe geotechnical hazards and landslide risk, and the current use of the area as extensions of neighbors' backyards, because it is unimproved and does not appear to be right of way. Christo said the project geotechnical engineer recommended against the C-05 alignment due to safety concerns. One member mentioned that a study was recently done for a new home in that area, and found little hazard risk. Christo and Kelly said they could investigate the slopes and landslide risks further, including asking the project geotechnical engineer for more input. Unfortunately, the C-5 alignment is probably inaccessible due to the steep slope and overgrown vegetation.

The group took a straw poll on B versus C alignments, and found almost equal support, with slightly more people in support of the B alignment.

The group agreed to come back to the third meeting with more information to determine the final alignment.

Kelly agreed to set up a time for a site visit to evaluate the C alignment, because the first site walk only included the A, B, and shared (S) alignments.

7:45 to 8:00PM ***Next Steps***

The next meeting is tentatively scheduled for September 12. Kelly will be in touch with the group to schedule the site visit and confirm the next meeting date.

UPCOMING EVENTS / IMPORTANT DATES

September 7	McLoughlin Neighborhood Association meeting
September 12	Meeting #3
September 14	Canemah Neighborhood Association meeting
September 26	Historic Review Board Meeting
October TBD	City Commission review of plan

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

Meeting: McLoughlin-Canemah Trail Plan Community Advisory Group Meeting #3
Date: September 21, 2017
Time: 5:30PM – 8PM
Place: Oregon City Library Community Room – 606 John Adams St, Oregon City, OR

MEETING NOTES

5:30 to 5:40 PM Introductions and Goals for the Meeting

Kelly Reid described the purpose of the meeting was to reach consensus on a trail alignment recommendation, and, if there is time, to identify other safety recommendations to make to the City Commission.

5:40 to 6:45 PM Trail Alignment Alternative Evaluation

Kelly Reid summarized the last meeting and gave a short summary of the Canemah and McLoughlin neighborhood association meetings she attended.

Mary Stewart from ALTA Planning and Design reviewed alignment alternatives B and C with the group. The group made comments on the alignments through a roundtable discussion. Comments included:

- The B alignment is more direct and includes Old Canemah Park, which is the highlight of the area
- PGE transmission poles and/or guy wires may need to be relocated in alignment B. There is greater impact to PGE property with alignment B.
- There are lots of large curb cuts on 99E – it would be nice to define and limit driveway width
- Jersey barriers on 99E would be ideal
- Stop signs at 3rd and Ganong would be nice, and we may want to consider 4th and Ganong as well due to visibility issues
- Stop signs and speed humps within Canemah will calm traffic and make the trail safer. However, stop signs and speed humps might be frustrating for neighbors who are used to not having to stop.
- Canemah could be signed as local access only from 99E
- Changing the location of the VFW driveway to 1st Street would be ideal and allow for two-way access. However, neighbors may oppose new traffic patterns on their street.
- The option going behind the development on 99E is great but it is long term and dependent on private redevelopment
- Crossing of S 2nd Street is concerning no matter where it happens, but especially at Tumwater

DRAFT

- Closing Tumwater Drive is desired
- There is too much noise from 99E traffic. Alignment C on South End Rd. seems like a more pleasant walk. However, walking on South End is not peaceful. Traffic is fast.
- Alignment C seems safer although it doesn't provide views and access to nature.
- A suggestion to use High Street to the B alignment to avoid the VFW driveway and Tumwater Drive (combining B and C alignments).
- The driveway to the Old Canemah Park parking lot is steep with low visibility and should be improved
- Both options would include tree removal – B in Old Canemah Park and C in 5th Ave right of way behind people's homes
- A suggestion to peel the trail off of South End road and connect with the upper tail in Old Canemah Park. However, slopes on the upper trail are near 30%.

During the discussion, more positive comments were made about alignment B, and more members expressed that they favored alignment B over alignment C. In light of that, Kelly asked the group to raise their hands if they could live with a recommendation of alignment B. All but one of the group members said they could do so, with the following caveats or improvements made along the alignment:

- Closure of Tumwater left turn from 99E
- Investigate moving VFW Driveway to 1st Street (one member opposed unless it is entrance or exit only)
- Safer crossing of S 2nd
- Safety barrier along 99E segment
- Safer Old Canemah Park driveway solution
- Traffic calming in Canemah*
- Wayfinding signage with minimal sign clutter

*Priorities for traffic calming in Canemah include reducing the speed limit to 20 MPH, using sharrows or other on-street markings, and using visual narrowing through on street markings. Traffic calming options that are lower priority, or which should be utilized if initial efforts do not suffice, include adding stop signs, speed humps, and delineating the on-street parking spaces with potential residential permit parking.

Mary shared a mockup sketch of an idea for a safe crossing of S 2nd at Tumwater that could be part of an option that included aligning the trail behind development on 99E. The short and medium term B alignment is along the frontage of 99E, but the long term alignment could be behind the development, as long as the future development does not 'turn its back' to the trail, creating security issues. A sketch of the crossing solution for S 2nd can be included in the trail plan as an appendix.

Kelly thanked the group for their time and effort and invited them to attend future City Commission meetings when the trail plan is up for adoption. Kelly will send a summary of the recommendation to the group in the next week, and will continue to provide updates to the group as the plan progresses.

DRAFT

OREGON CITY
Community Development – Planning
221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

Meeting: McLoughlin-Canemah Trail Plan Community Advisory Group Meeting #4
Date: December 14th, 2017
Time: 5:30PM – 7:30PM
Place: Oregon City Library Community Room – 606 John Adams St, Oregon City, OR

MEETING NOTES

Introductions and Goals for the Meeting

Review of Draft Report and What We've Heard

Mary reviewed the three alignments considered and the current interim and long term alignments.

Discussion of additional recommendations and clarifications. Decisions/votes are underlined.

- VFW feedback: A new driveway from High Street is not necessarily desired. VFW representatives would rather see the existing driveway widened to accommodate the trail. Some members of the group thought the new driveway from High Street could be a good "plan B."
  The Group agreed to keep the long term alignment on the existing VFW driveway and abandon the idea of relocating the vehicular access. Instead, the existing driveway should be widened.

- Tumwater area neighbors, including owners of Bud's Towing, Gerber Collision, Highland Stillhouse, and Falls View Tavern discussed issues with the long term alignment. They pointed out that there is an old road that is fairly flat at the base of the wall between their properties and High Street/South End Road. While the owners of Bud's Towing are not in favor of the trail shown as is, they would be supportive of a trail that was aligned along the very back of the property at the base of the wall. Adjoining property owners agreed. All the property owners also expressed support for the trail along 99E. Some members of the Advisory group felt strongly that the trail on 99E would not be ideal due to traffic conflicts and perceptions of safety from fast moving vehicles on 99E. Others felt that the plan should include the same interim and long term alignments on 99E and not consider the back edge of the property. A trail along 99E would provide less disturbance to the PGE and Gerber Collision properties, where a trail would otherwise be needed along the shared property line.
  The Advisory Group voted (7-5) to recommend that the long term trail route remain flexible and be located either along 99E or along the back edge of the private properties. The 5 "no" votes were for instead considering an alignment on 99E only. Further study is required to determine an appropriate route and design to reach the back edge of the properties.
  The group talked about where it is best to cross South 2nd. If the long term trail ends up at 99E, does a crossing at Tumwater still make sense? Joe Marek, a transportation engineer with Clackamas County, suggested that a study is needed to better understand the feasibility of a crossing, and suggested that the group remain flexible regarding the South 2nd crossing location and recommend an engineering analysis to determine the best solution. The group agreed on this recommendation.

- Paul Edgar raised the issue of the interim trail crossing, pointing out that it could be safer to cross at High Street rather than 99E. In the long term, the TSP includes a signal at that intersection. The advisory group voted (5-3) to keep the interim alignment as shown on the current plan.

- The group agreed to include a recommendation for a long term connection to the riverwalk via the sidewalk on 99E and Jerome Street crossing in Canemah. The group also agreed that better speed control is needed on 99E, with some calling for reduced speed limits.
- The group agreed to recommend a parallel path next to Old Canemah Park driveway. Phil Lewis explained that a pathway could be routed through an existing public area without disturbing many trees, and allow people walking to avoid the narrow driveway into the parking lot.
- The group declined to recommend any additional trail connections, but recommends that the Parks and Recreation Advisory Committee review and update the trails master plan, which dates back to 2004. The PRAC can consider additional nature trails or connections in the area.
- Mel Huie from Metro pointed out that the MCT plan does not include Metro's property at Canemah Bluff and that pedestrians are welcome in the park, but bicycles and dogs are not permitted.
- Advisory Group members passed around and signed a letter acknowledging the public process and decisions made at Advisory Group meetings.

Next Steps and Implementation

- The group kept open the option of continuing to meet through future design and construction phases of the trail.
- Staff and consultants will update the report to reflect the decisions made at this meeting and will distribute to the group in January.
- Kelly Reid mentioned the upcoming meetings of the PRAC, TAC, and Planning Commission and encouraged members to write or testify at the Planning Commission meeting in February. Doug Neeley requested that staff give a presentation to the Natural Resources Committee as well.

UPCOMING EVENTS / IMPORTANT DATES

January 10th	Natural Resources Committee
January 16th	Transportation Advisory Committee
January 25th	Parks and Rec Advisory Committee
February 12th	Planning Commission
February 21st	City Commission

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

LAND USE APPLICATION FORM

Type I (OCMC 17.50.030.A)	Type II (OCMC 17.50.030.B)	Type III / IV (OCMC 17.50.030.C)
☐ Compatibility Review	☐ Extension	☐ Annexation
☐ Lot Line Adjustment	☐ Detailed Development Review	☐ Code Interpretation / Similar Use
☐ Non-Conforming Use Review	☐ Geotechnical Hazards	☐ Concept Development Plan
☐ Natural Resource (NROD) Verification	☐ Minor Partition (<4 lots)	☐ Conditional Use
☐ Site Plan and Design Review	☐ Minor Site Plan & Design Review	☑ Comprehensive Plan Amendment (Text/Map)
	☐ Non-Conforming Use Review	☐ Detailed Development Plan
	☐ Site Plan and Design Review	☐ Historic Review
	☐ Subdivision (4+ lots)	☑ Municipal Code Amendment
	☐ Minor Variance	☐ Variance
	☐ Natural Resource (NROD) Review	☐ Zone Change

File Number(s): LE 17-02

Proposed Land Use or Activity: Adopt McLoughlin-Canemah Trail Plan Amend Comp Plan (TSP) (Parks & Trails)

Project Name: McLoughlin Canemah Trail Plan Number of Lots Proposed (If Applicable): _____

Physical Address of Site: N/A

Clackamas County Map and Tax Lot Number(s): N/A

Applicant(s):

Applicant(s) Signature: Anthony J. Konkol III

Applicant(s) Name Printed: City of Oregon City Date: 10/10/17

Mailing Address: PO Box 3040 Oregon City 97045

Phone: _____ Fax: _____ Email: _____

Property Owner(s):

Property Owner(s) Signature: SAME AS ABOVE

Property Owner(s) Name Printed: City of Oregon City Date: _____

Mailing Address: PO Box 3040

Phone: _____ Fax: _____ Email: _____

Representative(s):

Representative(s) Signature: _____

Representative (s) Name Printed: _____ Date: _____

Mailing Address: _____

Phone: _____ Fax: _____ Email: _____

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

Legislative File LE 17-02
McLoughlin-Canemah Trail Plan Adoption
Narrative and Responses to Review Criteria

Proposed Project
The proposal is to update and amend the Oregon City Transportation System Plan (2013), the Parks Master Plan, and Trails Master Plan by adopting the McLoughlin-Canemah Trail Plan. These plans are Ancillary Documents to the Oregon City Comprehensive Plan.

According to the 2004 Oregon City Comprehensive Plan (Introduction, "Implementing the Plan" Page 4): "Ancillary Plans are adopted by the City Commission for such things as parks and recreation, transportation systems, water facilities, and sewer facilities. Usually prepared by City departments through a public process, ancillary plans are approved by the City Planning Commission and adopted by the City Commission to provide operational guidance to city departments in planning for and carrying out city services. These plans are updated more frequently than the Comprehensive Plan."

Project Goals and Objectives
In 2016, the City of Oregon City, in partnership with the Oregon City Trail Alliance, the McLoughlin Neighborhood Association, and the Clackamas County Historical Society, was granted a Nature in Neighborhoods grant of $25,000 to fund a planning effort for the McLoughlin-Canemah Trail (MCT), a segment of the larger Oregon City Loop Trail. The objective of the grant-funded trail plan project was to determine an alignment for a permanent trail, and to identify an interim trail alignment and safety upgrades. While each entity had its own priorities and reasons for supporting the project, the overall objectives were to create a safer pedestrian and bicycle route between the two neighborhoods, connecting city amenities along the way.

Goals for this trail were developed based on the results of a survey taken by the project's Community Advisory Group members, and from conversations with group members and city staff. The Community Advisory Group approved the goals after its first meeting in July 2017. These goals were used to develop the trail alternatives and to evaluate the alternatives against each other. Goals are listed below.

MCLOUGHLIN-CANEMAH TRAIL GOALS:

- Provide an attractive route of travel for people walking and biking between the McLoughlin Promenade and Canemah Children's Park that connects residential areas, parks, and businesses.

- Strive to provide facilities that serve all ages and abilities, including people with disabilities or mobility limitations

- Minimize risk and conflicts between automobile traffic, bicycle traffic, and pedestrians.

- Provide a trail design that is context-sensitive, particularly to the Canemah National Register Historic District, McLoughlin Promenade, and the McLoughlin Conservation District.
- Provide experiences and views of Willamette Falls
- Celebrate experiences of nature while protecting and enhancing native vegetation and habitat within the corridor
- Discourage criminal activity and provide a secure environment for all users
- Responsibly utilize public funds to provide a high-quality trail experience both now and into the future
- Avoid use of private property in the Canemah National Register Historic District.

Relevant Projects and Plans

The City of Oregon City adopted a Trails Master Plan in 2004. That plan identified dozens of planned and proposed trails to create a trail network throughout the City. The Oregon City Loop Trail was identified as a regional trail within the Master Plan. As a regional trail, the Oregon City Loop Trail was envisioned as a wide shared use path to serve people walking and bicycling, people in wheelchairs and in some cases, equestrians. In the Master Plan, the McLoughlin-Canemah Trail was also identified as a shared use path and links the Loop Trail to trails in the downtown area. The City is currently working to update the Loop Trail to include all the connections, so that the MCT is officially considered part of the Loop Trail.

In 2014, the City conducted an analysis identifying gaps in the sidewalk and trail network between the Promenade and the Canemah Children's Park. This internal work set the stage for the public planning process for the MCT.

The concept design for the Willamette Falls riverwalk, which will provide public access to Willamette Falls from downtown Oregon City, was finalized in June 2017. The riverwalk includes a pedestrian bridge from the old Blue Heron Mill site up to the McLoughlin Promenade. While the concept plan leaves open a few options for the exact location of that pedestrian bridge, it will be located near the VFW building on the bluff. Adopted plans show the MCT connecting to the Promenade and the pedestrian bridge.

The Oregon City Transportation System Plan, adopted in 2013, includes two shared use paths and family friendly routes within the MCT corridor, along with crossing improvements that could be part of the trail. The following TSP Projects are within the vicinity of the MCT.

Table. 1 TSP Projects within the vicinity of the McLoughlin-Canemah Trail

Project Number	Project Name	Project Extent	Description	Priority
S36	Tumwater-4th Shared-Use Path	Tumwater Drive to 4th Avenue	Add a shared-use path through Old Canemah Park connecting 4th Avenue to the Tumwater/South 2nd intersection	Long-term

S37	OR 99E (south of Railroad Avenue) Shared-Use Path	Railroad Avenue to UGB	Add a shared-use path along the north side of the street. Rehabilitate existing boardwalk between South 2nd Street and Hedges Street	Long-term Phase 2
C36	Pedestrian Crossing at Jerome St and 99E	OR 99E/Jerome Street	Install crosswalk and pedestrian activated flasher on OR 99E in Canemah	Long-term Phase 2
FF21	Canemah Family Friendly Route	Old Canemah Park to Cemetery Road	This site is located within the Canemah National Register District. Add wayfinding and shared lane markings. Add a walking path on one side of the street, if approved by the Historic Review Board. Route via 5th Avenue, Blanchard Street, 4th Avenue, Ganong Street and 3rd Avenue	Long-term Phase 4
FF22	Tumwater-South 2nd Family Friendly Route	Waterboard Park to Tumwater-4th Shared-Use Path to McLoughlin Promenade	Add sidewalks on both sides of the street. Add wayfinding and shared lane markings. Route via Tumwater Drive, South 2nd Street and Waterboard Park Road	Long-term Phase 4

Regional plans that include the MCT and/or the Oregon City Loop Trail include the Metro Regional Transportation Plan and Regional Trails Plan.

Public Involvement and Public Comment

The McLoughlin-Canemah Trail will pass through an urban area with many neighbors and stakeholders. These include:

- VFW – The VFW operates out of a building on the bluff where the McLoughlin Promenade currently ends.

- Clackamas County Historical Society - CCHS operates the Museum of the Oregon Territory, which sits at the end of the Promenade next to the VFW and is an important destination along the future trail.

- McLoughlin and Canemah Neighborhoods – McLoughlin and Canemah both boast active neighborhood associations. McLoughlin encompasses the historic Promenade and is the location of some of Oregon City's oldest homes. Canemah encompasses the Canemah National Register Historic District, Old Canemah Park, Canemah Children's Park, and the Canemah Bluff Natural Area.

- Oregon City Trail Alliance – OCTA is a nonprofit advocacy organization whose purpose is to support a strong network of walking and biking trails to support active transportation and health in the community.

- Oregon City Parks Foundation – The Oregon City Parks Foundation is a nonprofit formed to support maintenance and enhancement of Oregon City's parks and trails.

- Local Businesses – Local businesses in the trail corridor are located along 99E and include the Highland Stillhouse, Falls View Tavern, Bud's Towing, and Gerber Collision.

- Local residents and property owners – Local residents in the area are potential future trail users and will be affected by the trail alignment and design.

- City Committees – The City's standing committees for Historic Review, Natural Resources, Parks and Recreation, Transportation, and Citizen Involvement all have an interest in various facets of the trail plan.

- Downtown Oregon City Association – DOCA is the stakeholder-steward of Downtown Oregon City, and aims to stimulate economic vitality and investment in the downtown and in Oregon City. DOCA sees trails and nature as an important part of the economic vitality of Oregon City.

Public Engagement Process

The City brought together a Community Advisory Group for the trail planning process that included many of the stakeholders and partners listed above. The 16 member Community Advisory Group's purpose was to guide the process to establish project goals, evaluate alternatives, and provide a recommendation to the City Commission for the final trail alignment.

The advisory group began its work with a site walk on June 27, 2017. The group began at the VFW and crossed S 2nd St, walked along 99E, behind the PGE substation, and into Old Canemah Park, taking 4th avenue to the Canemah Children's Park. They returned to the VFW using the Canemah staircase, 3rd Avenue, crossing 99E, and walking on the 99E Boardwalk to the light at S 2nd St. Along the way, the group stopped to discuss the opportunities and challenges of various trail options.

Advisory Group Meetings

Over the course of three meetings, the Community Advisory Group crafted project goals, reviewed community input, evaluated various trail alignments, and arrived at consensus for a preferred trail alignment recommendation. Meeting notes are included in the Appendices of this report.

Greenway for a Day

To gather input from residents and other future trail users, the project team organized a temporary trail event called Greenway for a Day on Saturday, July 29. The event invited citizens to experience existing conditions within the McLoughlin-Canemah Trail project corridor, to walk one of the trail alignment alternatives, and to provide comments about their experience and preferences.

Participants traveled from the Museum of the Oregon Territory to Canemah Children's Park, following the one-mile temporarily marked trail alignment. The event attracted approximately 70-80 participants over the four-hour event.

Stations were set up at the Museum of the Oregon Territory and Canemah Children's Park with surveys, games, refreshments, maps of the alignment alternatives, and design toolbox boards showing a range of design strategies that could be employed within the trail corridor. The project team received 56 survey responses.

By far, the most common response for the best part of the trail experience was Old Canemah Park. People liked the access to nature and the view of Willamette Falls from the heavily wooded park. A frequent response to the least favorite part of the experience was the portion along 99E. Some comments mentioned the existing gravel path, others mentioned the traffic, and others mentioned concern for safety of that segment.

Participants pointed out that there is currently not a safe and reasonable route for riding a bicycle between the Canemah Historic District/Children's Park and the Museum of the Oregon Territory area. This is a critical need especially as more families who want to commute to downtown Oregon City move to the neighborhood. The steep grades on Ganong Street between 3rd and 4th are challenging for cyclists and McLoughlin Blvd is unsafe in its current condition. South End Road potentially offers the best route for cyclists but only if width could be increased, traffic calmed, and travel speeds significantly decreased to provide safe facilities for cycling.

Many participants mentioned a need for traffic calming for sections where people walking and biking would share the roadway with vehicles. Many felt uncomfortable walking adjacent to McLoughlin Blvd without any kind of protection or buffer.

Participants mentioned that there is a general need for trail and park wayfinding in Oregon City and that wayfinding for this project (with its many alignment jogs) will need special consideration. Specifically, people noted that a sign would be needed at Ganong Street to direct users to 4th Street to avoid the stairway on 3rd Street. The stairway entrance should also be better defined, if it is to be part of the trail alignment.

Proposed Trail Alignment

Three trail alignments were considered by the Community Advisory Group. The group's recommendation includes an interim and long term permanent trail alignment. See attached application materials for complete trail maps and alignments.

INTERIM ALIGNMENT RECOMMENDATION

The Interim trail alignment recommendation begins at the McLoughlin Promenade and connects via 2nd Street to High Street. From there, the trail turns onto S. 2nd Street and continues west to McLoughlin Blvd/Hwy 99E, or users may cross at High Street and walk along the south side of S. 2nd Street. Using the exiting traffic signal crossing, the trail continues on the east side of McLoughlin Blvd/Hwy 99E until reaching the Portland General Electric (PGE) substation entrance.

From the PGE entrance, the Interim and Permanent trail recommended alignments are identical. The trail connects between the PGE substation and McLoughlin Blvd/Hwy 99E, enters Old Canemah Park, and connects to the Canemah National Register District neighborhood.

The route through the neighborhood follows Marshall Street and 3rd Avenue west/southwest , turns onto Ganong Street, and follows 4th Avenue until reaching the Canemah Neighborhood Children's Park.

DESIGN ASSUMPTIONS – INTERIM TRAIL

- Wayfinding and shared use signage and pavement markings between 2nd Street and McLoughlin Blvd
- Widen trail through Old Canemah Park
- Traffic calming, signs, and pavement markings for shared Family Friendly Street on 3rd Ave, Ganong St, and 4th Ave.
- Reinforcement at top of basalt cliff along McLoughlin Blvd

PERMANENT TRAIL ALIGNMENT RECOMMENDATION

The Permanent trail alignment recommendation begins at the McLoughlin Promenade and connects to Tumwater Drive via the Three Rivers VFW Post 1324 parking lot and a dedicated non-motorized path down the existing driveway. From there, the trail follows Tumwater Drive, crosses at S. 2nd Street, and continues south/southwest on Tumwater Drive through re-developed parcels, turning toward McLoughlin Blvd/Hwy 99E just north of the Portland General Electric (PGE) substation property.

From the PGE entrance, the Interim and Permanent trail recommended alignments are identical. The trail connects between the PGE substation and McLoughlin Blvd/Hwy 99E, enters Old Canemah Park, and connects to the Canemah National Register District neighborhood.

The route through the neighborhood follows Marshall Street and 3rd Avenue west/southwest , turns onto Ganong Street, and follows 4th Avenue until reaching the Canemah Neighborhood Children's Park.

DESIGN ASSUMPTIONS – PERMANENT TRAIL

- New automobile connection to/from VFW via 1st Street allows dedicated ped-bike connection to Tumwater Dr. Left turn from McLoughlin Blvd/Hwy 99E onto Tumwater is permanently closed.
- Widen sidewalk to shared use path width along Tumwater Dr
- Intersection crossing at S 2nd Ave and Tumwater Drive re-designed for safety
- Re-development of parcels between McLoughlin Blvd and Tumwater Dr south/southwest of S. 2nd Avenue.
- Widen trail through Old Canemah Park
- Traffic calming, signs, and pavement markings for shared Family Friendly Street on 3rd Ave, Ganong St, and 4th Ave.
- Cost estimate includes reinforcement at top of basalt cliff.

DECISION-MAKING CRITERIA:

Oregon City Comprehensive Plan
According to the 2004 Oregon City Comprehensive Plan (Introduction, "Implementing the Plan" Page 4): "Ancillary Plans are adopted by the City Commission for such things as parks and recreation, transportation systems, water facilities, and sewer facilities. Usually prepared by City departments

through a public process, ancillary plans are approved by the City Planning Commission and adopted by the City Commission to provide operational guidance to city departments in planning for and carrying out city services. These plans are updated more frequently than the Comprehensive Plan."

As an ancillary plan, the Transportation System Master Plan requires findings for consistency with applicable Comprehensive Plan Goals and Policies and also with Statewide Planning Goals. These findings are presented below.

Consistency with Oregon City Comprehensive Plan
Chapter O of the 2004 Oregon City Comprehensive Plan, Comprehensive Plan Maintenance and Update, contains criteria for approving changes to the comprehensive plan and plan map. Review of the comprehensive plan should consider:

1. Plan implementation process.
2. Adequacy of the Plan to guide land use actions, including an examination of trends.
3. Whether the Plan still reflects community needs, desires, attitudes and conditions. This shall include changing demographic patterns and economics.
4. Addition of updated factual information including that made available to the City of regional, state and federal governmental agencies.

Chapter O. Comprehensive Plan Maintenance and Update
Regular Review and Update. Another method of Plan maintenance and updating is a continuous technical review of the Plan by the Planning staff. This review and any subsequent recommendations for Plan updating should be presented to the Neighborhood Associations, Planning Commission and City Commission for input and discussion in the same manner as requested Plan changes. The continuous review should consider:

- ***Plan implementation process;***

Finding: The McLoughlin-Canemah Trail Plan is a special purpose plan that is part of the City's Transportation System Plan, an adopted Ancillary Document to the Oregon City Comprehensive Plan. The TSP is both a technical document and a conceptual guide that requires regular review in order to maintain and update it. The applicant, Oregon City Public Works Department, has presented the update for input by the residents, affected agencies, property owners, the Parks and Recreation Advisory Committee, the Historic Review Board, Transportation Advisory Committee, Neighborhood Associations, Planning Commission and City Commission in accordance with the recommended method described in the Comprehensive Plan and pursuant to the applicable process described in Oregon City Municipal Code section 17.50.170. The plan implementation process is consistent with the Comprehensive Plan.

- ***Adequacy of the Plan to guide land use actions, including an examination of trends.***

Finding: The McLoughlin-Canemah Trail Plan provides an analysis of existing conditions and provides direction for future development, funding and needs. A review of the Natural Resources Overlay District and reconnaissance level wetlands review has shown that the trail may impact regulated natural resources and will be required to follow permitting requirements.

- ***Whether the Plan still reflects community needs, desires, attitudes and conditions. This shall include changing demographic patterns and economics.***

Finding: The McLoughlin-Canemah Trail Plan was created through a robust public engagement process in order to reflect community needs, desires, attitudes, and conditions.

- ***Addition of updated factual information including that made available to the City by regional, state and federal governmental agencies.***

Finding: The McLoughlin-Canemah Trail Plan includes an analysis of existing conditions including reconnaissance of natural resources and slopes.

Consistency with Oregon City Comprehensive Plan Goals and Policies

Section 1 Citizen Involvement

Goal 1.2 Community and Comprehensive Planning
Ensure that citizens, neighborhood groups, and affected property owners are involved in all phases of the comprehensive planning program.
Policy 1.2.1 - Encourage citizens to participate in appropriate government functions and land-use planning.
Goal 1.3 Community Education - Provide education for individuals, groups, and communities to ensure effective participation in decision-making processes that affect the livability of neighborhoods.
Goal 1.4 Community Involvement - Provide complete information for individuals, groups, and communities to participate in public policy planning and implementation of policies.
Policy 1.4.1 - Notify citizens about community involvement opportunities when they occur.
Goal 1.5 Government/Community Relations -Provide a framework for facilitating open, two-way communication between City representatives and individuals, groups, and communities.

Finding: The City brought together a Community Advisory Group for the trail planning process that included many of the stakeholders and partners listed above. The 16 member Community Advisory Group's purpose was to guide the process to establish project goals, evaluate alternatives, and provide a recommendation to the City Commission for the final trail alignment. The City also hosted Greenway for a Day to engage the larger community, and held an online survey available to all. The event was advertised to all residents and property owenrs in the vicinity of the trail, and was covered in the local media.
Letters were mailed to property owners along the potential trail routes three times during the process: at the beginning of the process, for the Greenway event, and as part of the land use notice requirements.

Section 2: Land Use

Goal 2.1 Efficient Use of Land
Ensure that property planned for residential, commercial, office, and industrial uses is used efficiently and that land is developed following principals of sustainable development

Finding: No change to land uses are proposed. The trail aims to connect residents to commercial areas.

Section 5: Natural Resources

Goal 5.4 Natural Resources
Identify and seek strategies to conserve and restore Oregon City's natural resources, including air, surface and subsurface water, geologic features, soils, vegetation, and fish and wildlife, in order to

sustain quality of life for current and future citizens and visitors, and the long-term viability of the ecological systems.
Policy 5.4.1 - Conserve and restore ecological structure, processes and functions within the city to closely approximate natural ecosystem structure, processes, and functions.
Policy 5.4.2 - Cooperate with Clackamas County, Metro and other agencies to identify and protect wildlife habitat, distinctive natural areas, corridors and linkages and other ecological resources within the Urban Growth Boundary and incorporate the information into the Urban Growth Management Agreement with Clackamas County.
Policy 5.4.4- Consider natural resources and their contribution to quality of life as a key community value when planning, evaluating and assessing costs of City actions.
Policy 5.4.8 - Conserve natural resources that have significant functions and values related to flood protection, sediment and erosion control, water quality, groundwater recharge and discharge, education, vegetation and fish, and wildlife habitat.
Policy 5.4.9 - Protect and enhance riparian corridors along streams in Oregon City to increase shade, reduce streambank erosion and intrusion of sediments, and provide habitat for a variety of plants, animals, and fish.
Policy 5.4.12 - Use a watershed-scale assessment when reviewing and planning for the potential effects from development, whether private or public, on water quality and quantity entering streams.
Finding: The trail plan included an analysis and on-the-ground reconnaissance of natural resources. Areas with wetlands and streams were considered in the alternatives, but ultimately ruled out. Creating safe travel corridors for pedestrian and bikes will allow more people to avoid driving, which will better preserve and protect natural resources.

Section 6: Quality of Air, Water and Land Resources
Goal 6.1 Air Quality -Promote the conservation, protection and improvement of the quality of the air in Oregon City.
Policy 6.1.2 -Ensure that development practices comply with or exceed regional, state, and federal standards for air quality.
Finding: The trail plan included an analysis and on-the-ground reconnaissance of natural resources. Areas with wetlands and streams were considered in the alternatives, but ultimately ruled out. Creating safe travel corridors for pedestrian and bikes will allow more people to avoid driving, which will better preserve and protect natural resources.

Section 11: Public Facilities
Goal 11.1 Provision of Public Facilities
Serve the health, safety, education, welfare, and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.
Policy 11.1.1
Ensure adequate public funding for the following public facilities and services, if feasible:
• Transportation infrastructure
Policy 11.1.2
Provide public facilities and services consistent with the goals, policies and implementing measures of the Comprehensive Plan, if feasible.
Policy 11.1.5
Design the extension or improvement of any major public facility and service to an area to complement other public facilities and services at uniform levels.

Policy 11.1.7

Develop and maintain a coordinated Capital Improvements Plan that provides a framework, schedule, prioritization, and cost estimate for the provision of public facilities and services within the City of Oregon City and its Urban Growth Boundary.

Finding: The trail plan is a refinement of several projects found in the City's adopted Transportation System Plan. The plan includes prioritization and cost estimates for trail elements.

Goal 11.6 Transportation Infrastructure

Optimize the City's investment in transportation infrastructure.

Policy 11.6.1

Make investments to accommodate multi-modal traffic as much as possible to include bike lanes, bus turnouts and shelters, sidewalks, etc., especially on major and minor arterial roads, and in regional and employment centers.

Finding: The McLoughlin-Canemah Trail Plan includes solutions to create a safer and more connected environment for walking and biking. It includes shared-use paths, family-friendly facilities, and crossings. It will better connect residential areas to the regional center by connecting with the McLoughlin Promenade, which allows direct access to downtown via the elevator.

Section 12: Transportation

Goal 12.1 Land Use-Transportation Connection

Ensure that the mutually supportive nature of land use and transportation is recognized in planning for the future of Oregon City.

Policy 12.1.1 - Maintain and enhance citywide transportation functionality by emphasizing multi-modal travel options for all types of land uses.

Policy 12.1.4 - Provide walkable neighborhoods. They are desirable places to live, work, learn and play, and therefore a key component of smart growth.

Finding: The trail will create a safer walking environment in Canemah and will add pedestrian facilities where they are lacking. It will also better connect residential areas in Canemah and McLoughlin to the regional center by connecting with the McLoughlin Promenade, which allows direct access to downtown via the elevator.

Goal 12.3 Multi-Modal Travel Options

Develop and maintain a transportation system that provides and encourages a variety of multi-modal travel options to meet the mobility needs of all Oregon
City residents.

Policy 12.3.1 -Provide an interconnected and accessible street system that minimizes vehicle miles traveled and inappropriate neighborhood cut through traffic.

Policy 12.3.2 -Provide an interconnected and accessible pedestrian system that links residential areas with major pedestrian generators such as employment centers, public facilities, and recreational areas.

Policy 12.3.3 - Provide a well-defined and accessible bicycle network that links residential areas, major bicycle generators, employment centers, recreational areas, and the arterial and collector roadway network.

Policy 12.3.4 -Ensure the adequacy of pedestrian and bicycle connections to local, county, and regional trails.

Policy 12.3.5 -Promote and encourage a public transit system that ensures efficient accessibility, mobility, and interconnectivity between travel modes for all residents of Oregon City.

Policy 12.3.6 -Establish a truck route network that ensures efficient access and mobility to commercial and industrial areas while minimizing adverse residential impacts.
Policy 12.3.8 -Ensure that the multi-modal transportation system preserves, protects, and sup- ports the environmental integrity of the Oregon City community.
Policy 12.3.9 -Ensure that the city's transportation system is coordinated with regional transportation facility plans and policies of partnering and affected agencies.
Finding: The McLoughlin-Canemah Trail Plan provides opportunities to facilitate increased travel opportunities for, pedestrians and bicyclists by providing a complete travel facility. Implementation of the plan will result in a more complete transportation system with a variety of multi-modal travel options. The trail connects important destinations (parks, schools, residences, and employment) with multiple modal options.

Goal 12.5 Safety
Develop and maintain a transportation system that is safe.
Policy 12.5.1 -Identify improvements that are needed to increase the safety of the transportation system for all users.
Policy 12.5.2 -Identify and implement ways to minimize conflict points between different modes of travel.
Policy 12.5.3 -Improve the safety of vehicular, rail, bicycle, and pedestrian crossings.
Finding: The plan will increase safety along the corridor by providing a safe place for bicyclists and pedestrians to travel along the corridor. The plan also includes crossings to assist pedestrians and bicyclists in crossing.

Goal 12.7 Sustainable Approach
Promote a transportation system that supports sustainable practices.
Policy 12.7.4 - Promote multi-modal transportation links and facilities as a means of limiting traffic congestion.
Finding: The plan will increase safety along the corridor by providing a safe place for bicyclists and pedestrians to travel along the corridor. The plan also includes crossings to assist pedestrians and bicyclists in crossing. The trail will give local residents more choices about how they travel, which can alleviate traffic by reducing vehicle trips.

Goal 12.8 Implementation/Funding
Identify and implement needed transportation system improvements using available funding.
Policy 12.8.1 - Maximize the efficiency of the Oregon City transportation system, thus minimizing the required financial investment in transportation improvements, wit out adversely impacting neighboring jurisdictions and facilities.
Finding: The proposed projects in the corridor plan will maximize the efficiency of the transportation system by providing multi-modal connectivity throughout the corridor and the surrounding areas. By combining several projects into a more detailed analysis and study, the plan, when adopted, leverages developer requirements, grant funds and local funds for more comprehensive and planned projects.

CONSISTENCY WITH STATEWIDE PLANNING GOALS

STATEWIDE PLANNING GOAL 1:
To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

Finding: This goal is implemented through the applicable Goals and Policies in Section 1 of the Oregon City Comprehensive Plan: Citizen Involvement. Development of the plan included an extensive public involvement effort. Oregon City has presented the project to the public at a series of meetings including the Parks and Rec advisory Committee, Transportation Advisory Committee, Neighborhood Associations, Historic Review Board, Planning Commission and City Commission. Documentation produced with the corridor plan has been posted on the project website throughout the duration of the project and comments have been integrated into the final product. The product will be reviewed through the Legislative approval process.

STATEWIDE PLANNING GOAL 2:

To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.

Finding: This goal is implemented through the applicable Goals and Policies in Section 2 of the Oregon City Comprehensive Plan: Land Use. Because the plan is an ancillary document to the City's Transportation System Plan and Comprehensive Plan, the application was processed pursuant to the legislative hearing process outlined in Section 17.50.170 of the Oregon City Municipal Code.

STATEWIDE PLANNING GOAL 5:

To protect natural resources and conserve scenic and historic areas and open spaces.

Finding: This goal is implemented through the applicable Goals and Policies in Section 5 of the Oregon City Comprehensive Plan: Open Spaces, Scenic and Historic Areas, and Natural Resources. The Oregon City Municipal Code contains review criteria for uses within overlay districts to assure that designated Goal 5 resources are appropriately considered when development is proposed. In particular, the Natural Resource Overlay District designation: "provides a framework for protection of Metro Titles 3 and 13 lands, and Statewide Planning Goal 5 resources within Oregon City. The Natural Resource Overlay District (NROD) implements the Oregon City Comprehensive Plan Natural Resource Goals and Policies, as well as Federal Clean Water Act requirements for shading of streams and reduction of water temperatures, and the recommendations of the Metro ESEE Analysis. Trails, paths, and roads are permitted either outright or with restrictions in the Natural Resource Overlay District as identified in OCMC 17.49.150 as part of a Type II or Type III review process.

Individual construction projects to implement the McLoughlin-Canemah Trail Plan will be reviewed through the land use process pursuant to the above resource protection guidelines.

STATEWIDE PLANNING GOAL 6:

To maintain and improve the quality of the air, water and land resources of the state.

Finding: This goal is implemented through the applicable Goals and Policies in Section 6 of the Oregon City Comprehensive Plan: Quality of Air, Water and Land Resources. By planning system improvements based on projected demand and land use patterns, the plan will ensure that land suited for development will be served efficiently.

The improvements recommended in the plan will result in less pollution by providing a safe opportunity for pedestrian and bicycle travel.

STATEWIDE PLANNING GOAL 11:

To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

Finding: This goal is implemented through the applicable Goals and Policies in Section 11 of the Oregon City Comprehensive Plan: Public Facilities. As stated in Section 11, the transportation infrastructure in Oregon City is governed by the Oregon City Transportation System Plan (Oregon City TSP). The relevant Public Facilities goals and policies and findings are discussed in greater detail above.

STATEWIDE PLANNING GOAL 12:

To provide and encourage a safe, convenient and economic transportation system.

Finding: This goal is implemented at the local level through the applicable Goals and Policies in the updated TSP, Section 2 (The Vision). This goal is also implemented at the state level through the Transportation Planning Rule (TPR), OAR 660-012. The plan will increase safety along the corridor by providing a safe place for bicyclists and pedestrians to travel along the corridor. The plan also includes crossings to assist pedestrians and bicyclists in crossing

STATEWIDE PLANNING GOAL 13: To conserve energy.

Land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles.

Finding: This goal is implemented through the applicable Goals and Policies in Section 13 of the Oregon City Comprehensive Plan: Energy Conservation. The multimodal transportation system and improvements proposed will support efficient use of land and encourage walking and biking by providing a cohesive transportation system for a variety of modes.

Oregon Transportation Plan (2006)

The Oregon Transportation Plan (OTP) is the state's long-range multimodal transportation plan. The OTP is the overarching policy document among a series of plans that together form the state transportation system plan (TSP). A TSP must be consistent with applicable OTP goals and policies. Findings of compatibility will be part of the basis for TSP approval. The most pertinent OTP goals and policies for city transportation system planning are provided below.

POLICY 1.2 – Equity, Efficiency and Travel Choices

It is the policy of the State of Oregon to promote a transportation system with multiple travel choices that are easy to use, reliable, cost-effective and accessible to all potential users, including the transportation disadvantaged.

Finding: The plan will increase safety along the corridor by providing a safe place for bicyclists and pedestrians to travel along the corridor. The plan also includes crossings to assist pedestrians and bicyclists in crossing intersections. It is designed to be as flat as possible to be accessible to people in wheelchairs and pushing strollers.

POLICY 4.1 - Environmentally Responsible Transportation System

It is the policy of the State of Oregon to provide a transportation system that is environmentally responsible and encourages conservation and protection of natural resources.

Finding: The plan will increase safety along the corridor by providing a safe place for bicyclists and pedestrians to travel along the corridor. The plan also includes crossings to assist pedestrians and bicyclists in crossing. The trail will give local residents more choices about how they travel, which can alleviate traffic by reducing vehicle trips.

POLICY 5.1 – Safety

It is the policy of the State of Oregon to continually improve the safety and security of all modes and transportation facilities for system users including operators, passengers, pedestrians, recipients of goods and services, and property owners.

Finding: The plan will increase safety along the corridor by providing a safe place for bicyclists and pedestrians to travel along the corridor. The plan also includes crossings to assist pedestrians and bicyclists in crossing intersections. It is designed to be as flat as possible to be accessible to people in wheelchairs and pushing strollers.

POLICY 7.1 – A Coordinated Transportation System

It is the policy of the State of Oregon to work collaboratively with other jurisdictions and agencies with the objective of removing barriers so the transportation system can function as one system.

Finding: The City worked with ODOT throughout the process. ODOT was represented on the community advisory group. Clackamas County was consulted during the process as well, and provided comments to the City.

POLICY 7.3 – Public Involvement and Consultation

It is the policy of the State of Oregon to involve Oregonians to the fullest practical extent in transportation planning and implementation in order to deliver a transportation system that meets the diverse needs of the state.

Finding: Development of the plan included an extensive public involvement effort. Oregon City has presented the project to the public at a series of meetings including the Parks and Rec advisory Committee, Transportation Advisory Committee, Neighborhood Associations, Historic Review Board, Planning Commission and City Commission. Documentation produced with the corridor plan has been posted on the project website throughout the duration of the project and comments have been integrated into the final product. The product will be reviewed through the Legislative approval process.

POLICY 7.4 – Environmental Justice

It is the policy of the State of Oregon to provide all Oregonians, regardless of race, culture or income, equal access to transportation decision-making so all Oregonians may fairly share in benefits and burdens and enjoy the same degree of protection from disproportionate adverse impacts.

Finding: The planning process was advertised to all neighbors equally and meetings were held in accessible locations at convenient times. The plan will be reviewed through the Legislative approval process.

Oregon Highway Plan

The 1999 Oregon Highway Plan (OHP) establishes policies and investment strategies for Oregon's state highway system over a 20-year period and refines the goals and policies found in the OTP. Policies in the OHP emphasize the efficient management of the highway system to increase safety and to extend highway capacity, partnerships with other agencies and local governments, and the use of new techniques to improve road safety and capacity. These policies also link land use and transportation, set standards for highway performance and access management, and emphasize the relationship between state highways and local road, bicycle, pedestrian, transit, rail, and air systems. The policies applicable to the Oregon City TSP are addressed below.

Policy 1G *(Major Improvements) requires maintaining performance and improving safety by improving efficiency and management before adding capacity. ODOT works with regional and local governments to address highway performance and safety.*

Finding: The McLoughlin-Canemah Trail Plan will improve both safety and efficiency of the corridor by addressing the needs of alternative transportation users with paths, sidewalks and bicycle lanes and construction of intersection improvements

Policy 2F *(Traffic Safety) improves the safety of the highway system.*

Finding: The McLoughlin-Canemah Trail Plan is aligned along state highway 99E. It includes improvements for bicycles and pedestrian along that segment of 99E which currently lacks facilities.

OAR 660 Division 12 Transportation Planning Rule (TPR)

The purpose of the TPR is "to implement Statewide Planning Goal 12 (Transportation) and promote the development of safe, convenient and economic transportation systems that are designed to reduce reliance on the automobile so that the air pollution, traffic and other livability problems faced by urban areas in other parts of the country might be avoided." A major purpose of the Transportation Planning Rule (TPR) is to promote more careful coordination of land use and transportation planning, to ensure that planned land uses are supported by and consistent with planned transportation facilities and improvements.

Finding: Complies. The McLoughlin-Canemah Trail Plan is in compliance with the TPR through its improvement of non-vehicular travel options. No traffic studies are required.

Regional Transportation Plan

The Regional Transportation Functional Plan (RTFP) directs how Oregon City should implement the RTP through the TSP and other land use regulations. The RTFP codifies existing and new requirements which local plans must comply with to be consistent with the RTP. If a TSP is consistent with the RTFP, Metro will find it to be consistent with the RTP.

Finding: The McLoughlin-Canemah Trail Plan has identified projects listed in the TSP. The TSP is consistent with the RTFP.

Transportation System Plan

Finding: The Transportation System Plan was used as the source to identify the improvement projects recommended in the McLoughlin-Canemah Trail Plan.

The McLoughlin-Canemah Trail Plan affects several projects identified in the 2013 TSP as shown in the attached materials. Projects have been added and modified to reflect the refined trail alignment.

OREGON CITY

Community Development – Planning

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M E M O R A N D U M

To: Community Development Department
From: Kelly Reid, AICP, Planner
Laura Terway, AICP, Community Development Director
Re: Neighborhood Meeting Summaries for LE 17-02
Date: October 9, 2017

I attended two neighborhood association meetings to present the McLoughlin-Canemah Trail plan and gather input.

On September 7, 2017 I attended the McLoughlin Neighborhood Association (MNA) meeting. The group discussed the various alignments including potential changes to the VFW parking lot, South 2nd Avenue, and Tumwater Drive. One member asked a question about use of private property and the possibility of eminent domain. I clarified that private property use would likely occur through redevelopment of parcels along 99E, and that eminent domain is not anticipated. Some members discussed their use of the boardwalk on 99E and how it needs repairs.

The MNA has not provided minutes of their meeting at this time.

On September 14, 2017 I attended the Canemah Neighborhood Association (CNA) meeting. The comments and questions topics included a suggestion that there could be two paths – one for walking and one for biking, that there tends to be more traffic on 4th Avenue, that speed humps are a bad idea, and that sharrows are a good idea. The members discussed the potential for a 20MPH zone as well and were supportive of it.

The CNA provided meeting minutes that are attached to this memorandum.

General Membership Meeting Minutes
Canemah Neighborhood Association

September 14, 2017
Oregon City Police Station, 320 Warner-Milne Rd, Oregon City

Call to Order 7:00 by Linda Baysinger, Past Chair

Additions to the Agenda None

Community Updates & Guest Speakers

Oregon City Police Department, Chris Wadsworth
Handed out crime stats
What the police dept. is doing about homelessness

McLoughlin – Canemah Trail, Kelly Reid, Community Development
Presentation on trail route alternatives
Parking and traffic issues around Canemah Children's Park

Reports

CIC Update by Linda Baysinger
No CIC meeting in September because of Labor Day Holiday
Safety Fair will be Sept 16 in Safeway parking lot.

HRB Update by Ken Baysinger

Met in June, July, and August.
During these meetings, the board heard public testimony and gave further design advice to the applicants for the Canemah Cottages, (HR 16-09/14). At the August meeting, the board approved the design, subject to a reduction in the number of dwellings from seven in the original application to five, and attached design conditions removing contemporary and chalet features from the dwellings.

Before the next CNA meeting, HRB will meet September 26 and October 24.

Treasurer's Report:

Treasurer Karen Blaha was not present

Meeting Minutes from June 15, 2017 meeting were approved by unanimous vote.

Land Use Updates by Ron Bistline

625 4th Ave. Geotec study has been completed and public comment period expired.

4th Ave. at Miller (Robert Green) Geotec study has not yet been completed.

Canemah Cottages at 5th Ave. and Miller St. HRB issued conditional design approval. An appeal on that approval has been submitted, and will be considered by the City Commission.

4th Ave. at Ganong (Jon Ares) HRB approved design. Geotec has been submitted. Public comment period on geotec expires Sept. 25.

Unfinished Business

Unnecessary train noise (Carolyn Popma): No response from Union Pacific or Federal Railroad Administration. Have written to Senators Wyden and Merkeley and Congressman Schrader, but have not yet received a reply.

Oscar Geiszler memorial (Linda Baysinger): Finding is in place and construction may begin in October.

New Business

Formation of Nominating Committee for November election of officers: Only one member, Howard Post, volunteered for the committee. Under the bylaws, committees must have at least 5 members. Susan Borger made a motion to delegate the Nominating Committee duties to the Steering Committee, along with any volunteers. Second by Carolyn Popma. Motion carried by show of hands.

Meeting Adjourned by Linda Baysinger 7:45 p.m.

Minutes by Ken Baysinger, Secretary
Canemah Neighborhood Association
September 16, 2017

SEPT 14 2017

Signature	Last Name	First Name	Address
	Alling	Geoff	709 5th Place
	Anderson	Dennis	804 4th Ave
	Ares	Jon	xxx 4th Ave
	Baysinger	Ken	516 1st Ave
	Baysinger	Linda	516 1st Ave
	Bistline	Debbie	716 4th Ave
	Bistline	Ron	716 4th Ave
	Blaha	Karen	514 4th Ave
	Blythe	Grant	407 5th Ave
	Borger	Susan	804 4th Ave
	Brainard	Amy	515 S McLoughlin Blvd
	Bronte	Denise	202 5th Ave
	Cacciata	Kerri	405 4th Ave
	Carey	Maureen	416 4th Ave
	Corbett	Vicki	507 3rd Ave
	Crone	Joyce	903 S Mcloughlin Blvd
	Davidson	Brooks	507 4th Ave
	Davidson	Jessica	507 4th Ave
	Decker	Laine	215 Miller St
	Decker	Sheila	215 Miller St
	Deitch	Ben	316 3rd Ave
	Delameter	James	900 4th Ave
	DeYoung	Matt	421 5th Ave
	Dobbins	Darren	708 S McLoughlin Blvd
	Dobbins	Jennifer	708 S McLoughlin Blvd

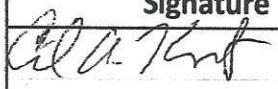
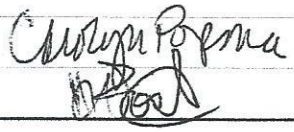
A-D

SEPT 14 2017

Signature	Last Name	First Name	Address
	Dunlap	Verna	303 S. High St
	Dutra	Joanne	106 Miller St
	Dylla	Donna	701 3rd Ave
	Economou	Tory	609 3rd Ave
	Edgar	Patricia	211 5th Ave
	Edgar	Paul	211 5th Ave
	Enstad	Terry	316 S Mclouglin Blvd
	Fischer	Daniel	421 5th Ave
	Flynn	Carolyn	408 4th Ave
	Foster	William	713 4th Ave
	Garcia	Jose Luis	814 4th Ave
	Gomez	Anthony	503 3rd Ave
	Goodwin	Clint	502 4th Ave
	Goodwin	Tori	502 4th Ave
	Green	Kathy	xxx 4th Ave
	Green	Robert	xxx 4th Ave
	Hargis	Clint	812 5th Ave
	Hargis	Nicole	812 5th Ave
	Headrick	Judy	705 3rd Ave
	Heinz	Bill	
	Heinz	Johna	
	Heydel	Brent	610 1st Ave
	Heydel	Kathy	608 1st Ave
	Houseman	Andy	210 Hedges St
	Jabin	Laura	202 5th Ave

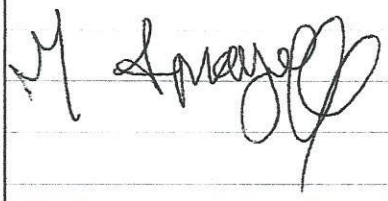
D - J

SEPT 14 2017

Signature	Last Name	First Name	Address
	Koontz	Carl	106 Miller St
	Koop	Rosemary	607 S McLoughlin Blvd
	Larrabee	Michael	506 3rd Ave
	Law	Christine	801 3rd Ave #7
	Lawson	Sandra	349 5th Ave
	Leung	Becky	709 5th Place
	McConnell	Amanda	708 5th Place
	McCuen	Dennis	311 Ganong St
	McShannon	Jennifer	702 4th Ave
	Medialdea	Dena	707 5th Pl
	Menendez	Ken	605 3rd Ave
	Michels	Gabe	605 4th Ave
	Michels	Jenny	605 4th Ave
	Mieher	Marc	507 3rd Ave
	Mielnik	Linda	714 5th Pl
	Minton	Scott	405 4th Ave
	Morton	Cyndi	608 S McLoughlin Blvd
	Morton	John	608 S McLoughlin Blvd
	Mosso	Michael	606 3rd Ave
	Mulder	Garret	716 3rd Ave
	Onishchenko	Alex	625 4th Ave
	Peterson	Graham	903 S Mcloughlin Blvd
	Popma	Brant	510 1st Ave
	Popma	Carolyn	510 1st Ave
	Post	Howard	302 Blanchard St

K-P

SEPT 14 2017

Signature	Last Name	First Name	Address
	Raffaell	Catherine	502 McLoughlin Blvd
	Rambo	Laura	203 3rd Ave
	Ramsey	Don	808 5th Place
	Ramsey	Susan	808 5th Place
	Riggle	Jim	203 3rd Ave
	Rosthchild	Reid	408 4th Ave
	Schademan	Karen	xxx Apperson
	Schademan	Morris	xxx Apperson
	Scheehean	Ann Marie	209 Apperson St
	Scheehean	Mike	209 Apperson St
	Shull	Alan	713 5th Pl
	Shull	Jane	713 5th Pl
	Siewert	Bob	349 5th Ave
	Simon	Carolyn	302 Blanchard St
	Smith	Jessica	609 3rd Ave
	Smith	Lyndi	602 1st Ave
	Smith	Ryan	602 1st Ave
	Spravzoff	Monica	502 5th Pl
	Springer	Kathleen	615 4th Ave
	Springer	Robert	615 4th Ave
	Staggs	Chris	
	Stewardship Homes LLC		715 McLoughlin Blvd
	Stone	Laura	716 4th Ave
	Sweet	Chris	514 4th Ave
	Sweet	Rick	514 4th Ave

R-S

SEPT 14 2017

Signature	Last Name	First Name	Address
	Tacoma	Susanne	814 4th Ave
	Tester	Sandra	715 3rd Ave
	Tinseth	Ken	903 5th Ave
	Tinseth	Wendy	903 5th Ave
	Tjaden	Nick	515 S McLoughlin Blvd
	Trimble	Angela	410 3rd Ave
	Van Der Sluis	Mandi	815 5th Ave
	Van Ommen	John	501 4th Ave
	Vermeire	Rod	402 5th Ave
	Vermeire	Shirley	402 5th Ave
	Webb	Patty	310 3rd Ave
	Wenkman	Keegan	207 4th Ave
	Wilding	Sara	612 5th Place
	Wilding	William	612 6th Place

T-Z

MNA Sign-ins are noted in the list below. Other sign ins are from different meetings or events.

Sign up for Email Updates

McLoughlin- Canemah Trail Plan

Greenway for a Day

MNA

CNA

Name	Email
Erin Ebesiy	cousinehegma.l.com
Susan Maahs	JSMPK@comcast.net
Debbie Steere	steerecwa@gmail.com
Ashley Park	ASHLEYPARK102989@GMAIL.COM
LISA NOVAK	novaklisa127@gmail.com
J. LANG	Jacklang2016@yahoo.com
C. Lotz	[illegible]
Jim Nicita	jim_nicita@hotmail.com
Owen Premore	owenpremore@yahoo.com
Jeanne Premore	premorejt@gmail.com
Marisa Canta	marisabarbaracanta@gmail.com
Karen Pederson	karen.oregon@gmail.com
KENT MATHIOT	KMATHIOT@COMCAST.NET
Cameon McCredie	[illegible]
JoLynn Dow	[illegible]
Rita Mills	nprita3@outlook.com
Karen Buehrig	[illegible]
SIMEON HOLTHOUSE	lawelatla13@gmail.com
Josh Adams	JADAMSBDS@gmail.com
Barb Sniffen	barbsniffen@gmail.com
Lyndsay Sniffen	lyndsaysniffen@gmail.com
Carl Koontz	Koontzcarl@g.com
Brant Popma	bcpopma@gmail.com
Howard Post	howardpost@msn.com
Debbie Bistline	debberry21@gmail.com
MONICA SPRANZOFF	mspranzoffe@hotmail.com

LOCAL TRAILS

L1 Thimble Creek Trail
L2 Holcomb Ridge Trail
L3 Park Place School Trail
L4 Park Place Park Trail System
L5 Park Place Creek Loop
L6 Park Place Development Trail System
L7 Livesay Creek Trail
L8 Abernethy Creek Trail
L9 Abernethy Creek Extension Trail
L10 Stadium Loop Trail
L11 Barclay Park Connection
L12 Holcomb School Connection
L13 Swan Avenue
L14 Hunter Spur Trail
L15 Waterboard - Singer Creek Connection
L16 Waterboard Rim Trail
L17 Waterboard Park Trail
L18 Center Street
L19 Old Canemah - McLoughlin Connection
L20 Rivercrest Loop Trail
L21 Parks Trail
L22 Hillendale South Trail
L23 Wesley Lynn - Chapin Trail
L24 Newell Creek Canyon Trail System
L25 Chapin - South End Connection
L26 Glacier Court Trail
L27 BPA Powerline Trail
L28 Coffee Creek Trail
L29 Canemah Bluff Trail
L30 Lazy Creek Trail
L31 Finnegan's Trail
L32 Parkland Trail
L33 Powerline Trail
L34 Central Point Trail
L35 King Trail
L36 Clackamette Park/Jon Storm Park Trail

REGIONAL TRAILS

R1 Clackamas River Trail
R2 Newell Creek Canyon Trail
R3 Oregon City Loop Trail
R4 Beaver Lake Trail
R5 Barlow Road Trail
R6 Trolley Trail Bridge
R7 Willamette Greenway Trail

Oregon City Conceptual Trails Map

Existing and Proposed Trails

LEGEND

METRO REGIONAL TRAILS
- EXISTING TRAIL
- PROPOSED TRAIL
- PROPOSED RIVER TRAIL

EXISTING AND PROPOSED TRAILS
- EXISTING COMMUNITY TRAIL
- PROPOSED COMMUNITY TRAIL
- EXISTING LOCAL TRAIL
- PROPOSED LOCAL TRAIL

TRAILHEADS
- EXISTING BOAT LAUNCH
- PROPOSED BOAT LAUNCH
- EXISTING TRAILHEAD
- PROPOSED TRAILHEAD

- URBAN GROWTH BOUNDARY
- OREGON CITY LIMITS
- PARKS
- SCHOOLS
- TRANSIT CENTER

N

0 0.5 1
Miles

Source: Metro RLIS Lite (2003)
Oregon City Geographic Information Systems

alta PLANNING + DESIGN

Trails Master Plan and Parks Master Plan Amendments Related to McLoughlin-Canemah Trail

1. Adopt McLoughlin- Canemah Trail Plan Report as Ancillary document to the Trails Master Plan
2. Add project to Parks Master Plan to modify or expand the existing driveway to Promenade parking lot (next to VFW) for pedestrian and bike use
3. Add project to parks Master Plan to connect Promenade to 2nd Street with paved walking path
4. Amend Trails Master Plan Project List:

ID	Trail	From - To	Type	Description	Adopted Plans	In Water Quality Resource Zone?	Acquisition/Easement	Right-of-Way improvement	Other	Crossings	Length (miles)	Ease of Implementation	Lead Responsibility	Priority	Trail Costs
L19	~~Old Canemah-McLoughlin Connection~~ McLoughlin-Canemah Trail	~~Old Canemah Park to Tumwater~~ Promenade to Canemah Children's Park	Paved Trail, sidewalk, on-street	An on-street ~~paved~~ trail would extend through the Canemah neighborhood to a paved trail through Old Canemah Park to the PGE substation. The shared used path would continue across S 2nd to the VFW and Promenade. ~~and connect to McLoughlin Blvd. Sidewalks would provide facilities to High Street, where trail users would meet up with the Regional Trail.~~	McLoughlin-Canemah Trail Plan	Yes	Easements needed to cross PGE property to McLoughlin Blvd. Acquisition or dedication of private property between PGE and S 2nd St.	Sidewalks on McLoughlin, Tumwater, and S. 2nd St. Shared street markings and traffic calming within Canemah		~~Type I at High~~ Type 3 at S. 2nd St.	~~0.31~~ 0.95	Moderate	Oregon City Parks and Recreation, Oregon City Public Works	2	~~$60,361~~ $2,100,124
R3	Oregon City Loop Trail	Beavercreek Rd. - Hwy. 213 (excludes Newell Creek Canyon Trail section) to Willamette Greenway Trail	Shared Use path, on-street, boardwalk	Regional trail would generally follow the Oregon City UGB on a collection of local roads, through new development, along powerline right-of-way, and down the bluff to link up with the Promenade and riverwalk in downtown Oregon City. Includes multiple TSP projects and the McLoughlin-Canemah Trail.	Metro Regional Transportation Plan, McLoughlin-Canemah Trail Plan	Yes, more than 50%	New development, easements on Canemah Bluff	High St., Central Point Rd., Meyers Rd., Beavercreek Rd., Redland Rd., Abernethy Rd., 15th St, streets in Canemah, Tumwater Dr.~~.~~	Boardwalk from Meyers to Frontier Parkway	Type I, Type II, Type III	~~9.5~~ 11.2	Difficult	Oregon City, Clackamas County, Metro	1	$2,469,331

Transportation System Plan Project Amendments related to the McLoughlin-Canemah Trail Plan

Project Number	Project Name	Project Extent	Description	Priority	Cost Estimate	Likely to be Funded
S36	Tumwater-4th Shared-Use Path	Tumwater Drive to 4th Avenue	Add a shared-use path through Old Canemah Park connecting 4th Avenue to the Tumwater/South 2nd intersection, as described in McLoughlin-Canemah Trail Plan. Includes interim trail improvements to South 2nd St. and 99E frontage.	~~Long-term~~Short Term	~~$590,000~~ $1,702,000	Yes
B57	Center/High Street Shared Roadway	Clinton Street to 5th Street	Add wayfinding and shared lane markings on Center Street and on a segment of High Street between 2nd St and S 2nd St.	~~Long Term Phase 3~~Short Term	~~$18,500~~ $22,200	~~No~~Yes
D96	Tumwater Drive turn closure	99E/Tumwater Drive	Close the left turn from 99E onto Tumwater Drive.	Short Term	$10,000	Yes
C37	Pedestrian/Bike Crossing of South 2nd St	South 2nd St between High Street and 99E	Improve safety of crossing; may include refuge island and pedestrian activated flasher. Traffic study to determine best location for crossing.	Long Term	$231,000	No
FF21	Canemah Family Friendly Route	~~Old Canemah Park to Cemetery Road~~Throughout Canemah Historic District	~~This site is located within the Canemah National Register District.~~ Add wayfinding, traffic calming, and shared lane markings~~. Add a walking path on one side of the street, if approved by the Historic Review Board.~~ on ~~Route via~~ 5th Avenue, ~~Blanchard~~ Miller Street, 4th Avenue, Ganong Street and 3rd Avenue	~~Long-term Phase 4~~ Short Term	~~$595,000~~ $50,000	Yes
FF22	Tumwater~~- South 2nd~~ Family Friendly Route	~~Waterboard Park to~~ Tumwater-4th Shared-Use Path to McLoughlin Promenade	Add sidewalks on both sides of the street. Add wayfinding and shared lane markings. Route via VFW parking lot and Tumwater Drive~~, South 2nd Street and Waterboard Park Road~~	Long-term Phase 4	~~$117,000~~ $110,000	No
FF34	Waterboard Park Family Friendly Route	Tumwater Dr to Waterboard Park	Add sidewalks, wayfinding, and shared lane markings. Route via South 2nd Street and Waterboard Park Road	Long Term Phase 4	$20,000	No

Notes:
Project D96 and C37 are new projects that reflect the refined trail plan.
Project D96 will be a joint effort with ODOT. ODOT has completed an evaluation on Tumwater Drive left turn and recommends closure.
Project FF34 is a new project resulting from the separation of the Waterboard Park segment of Project FF22.
The High Street segment of Project B57 is planned to be completed in conjunction with planned resurfacing of the street in 2018.
Cost estimates are based on planning-level cost estimates from 2017 from ALTA Planning + Design.



TSP Project S36 Amendment

Tumwater-4th Shared-Use Path

Add a shared-use path through Old Canemah Park connecting 4th Avenue to the Tumwater/ South 2nd intersection, as described in McLoughlin-Canemah Trail Plan. Includes interim trail improvements to South 2nd St and 99E frontage

Legend

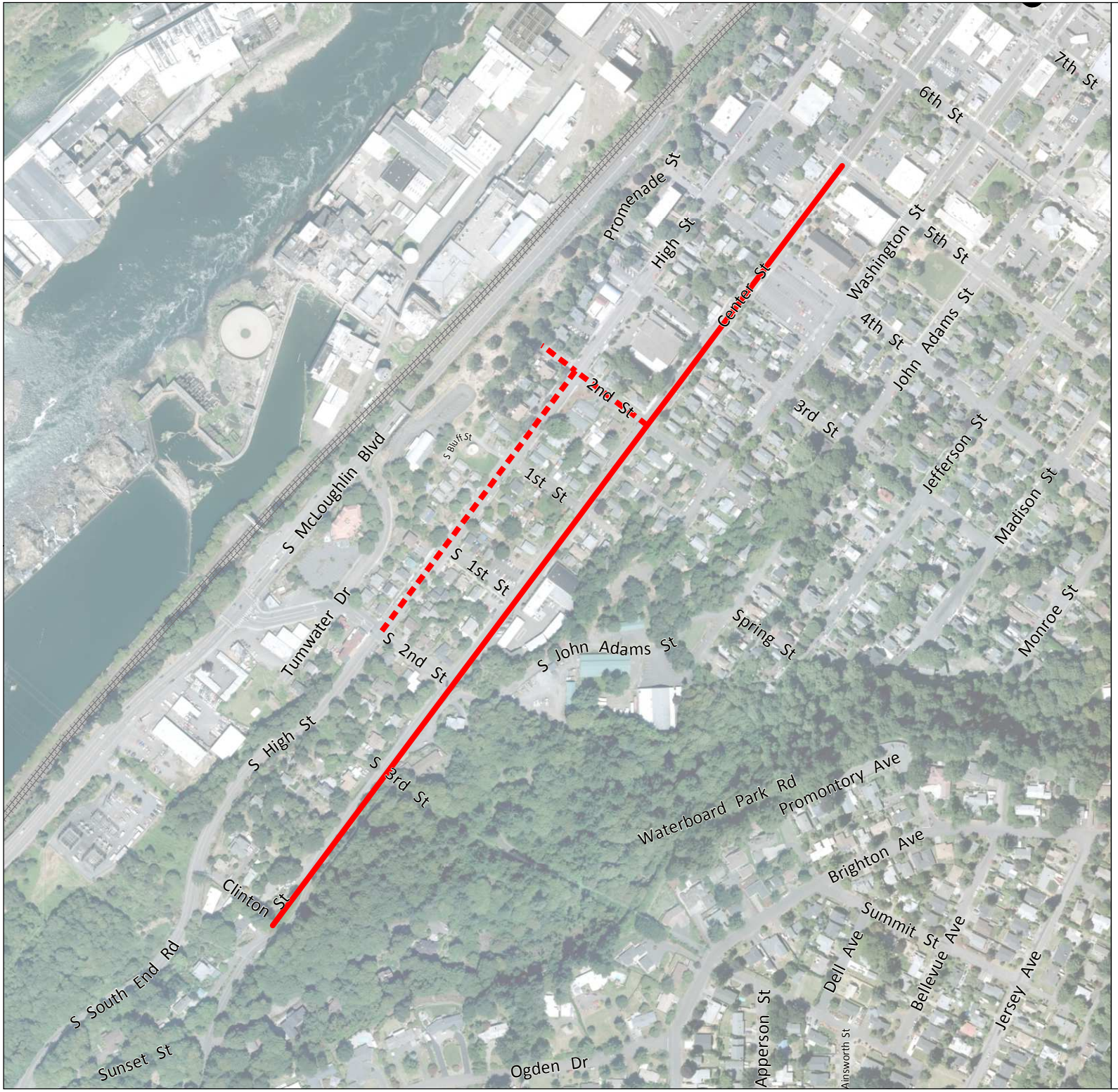
- Revised trail alignment options
- Original alignment

0 125 250 500 Feet

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City of Oregon City
P.O. Box 3040
625 Center St
Oregon City
OR 97045
(503) 657-0891
www.orcity.org

Date: 1/11/2018; Map: S36 - 8.5x11L.mxd
Plot: S36 - 8.5x11L - 20180111.pdf



TSP Project B57 Amendment

Center/High St Shared Roadway

Add wayfinding and shared lane markings on Center Street and on a segment of High Street between 2nd St and S 2nd St

Legend

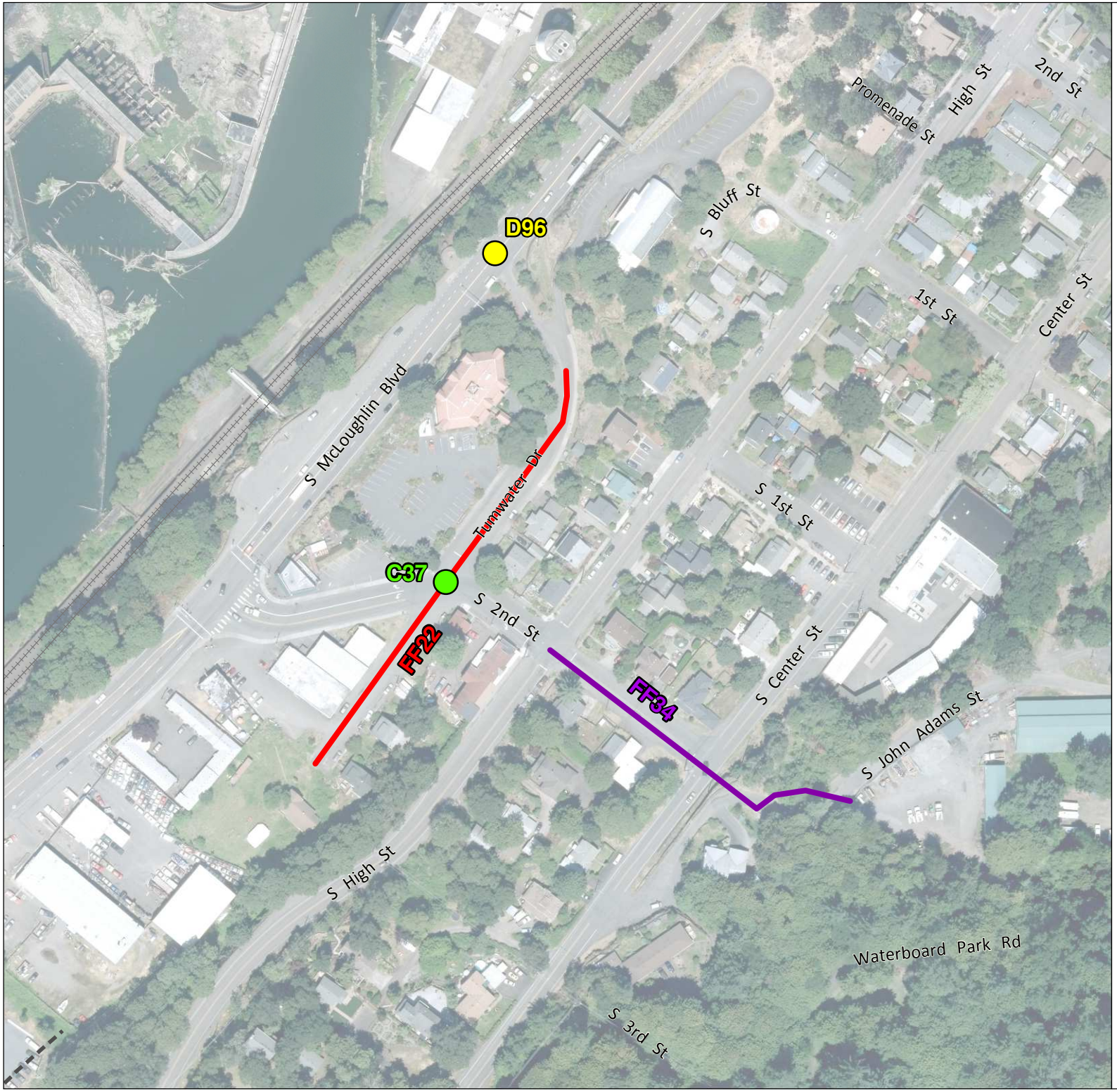
- B57 Original Alignment
- B57 Added Alignment

0 50 100 200 300 400 Feet

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City of Oregon City
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625 Center St
Oregon City
OR 97045
(503) 657-0891
www.orcity.org

Date: 11/2/2017; Map: B57 - 8.5x11L.mxd
Plot: B57 - 8.5x11L - 20171102.pdf



TSP Projects C37/D96/FF22/FF34 Amendments

C37 Pedestrian/Bike Crossing of S 2nd St

Improve safety of crossing; may include refuge island and pedestrian activated flasher.

D96 Tumwater Dr turn closure

Close the left turn from 99E onto Tumwater Drive

FF22 Tumwater Family Friendly Route

Add sidewalks on both sides of the street. Add wayfinding and shared lane markings. Route via VFW parking lot and Tumwater Drive

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FF34 Waterboard Park Family Friendly Route

Add sidewalks, wayfinding, and shared land markings. Route via S 2nd Street and Waterboard Park Road

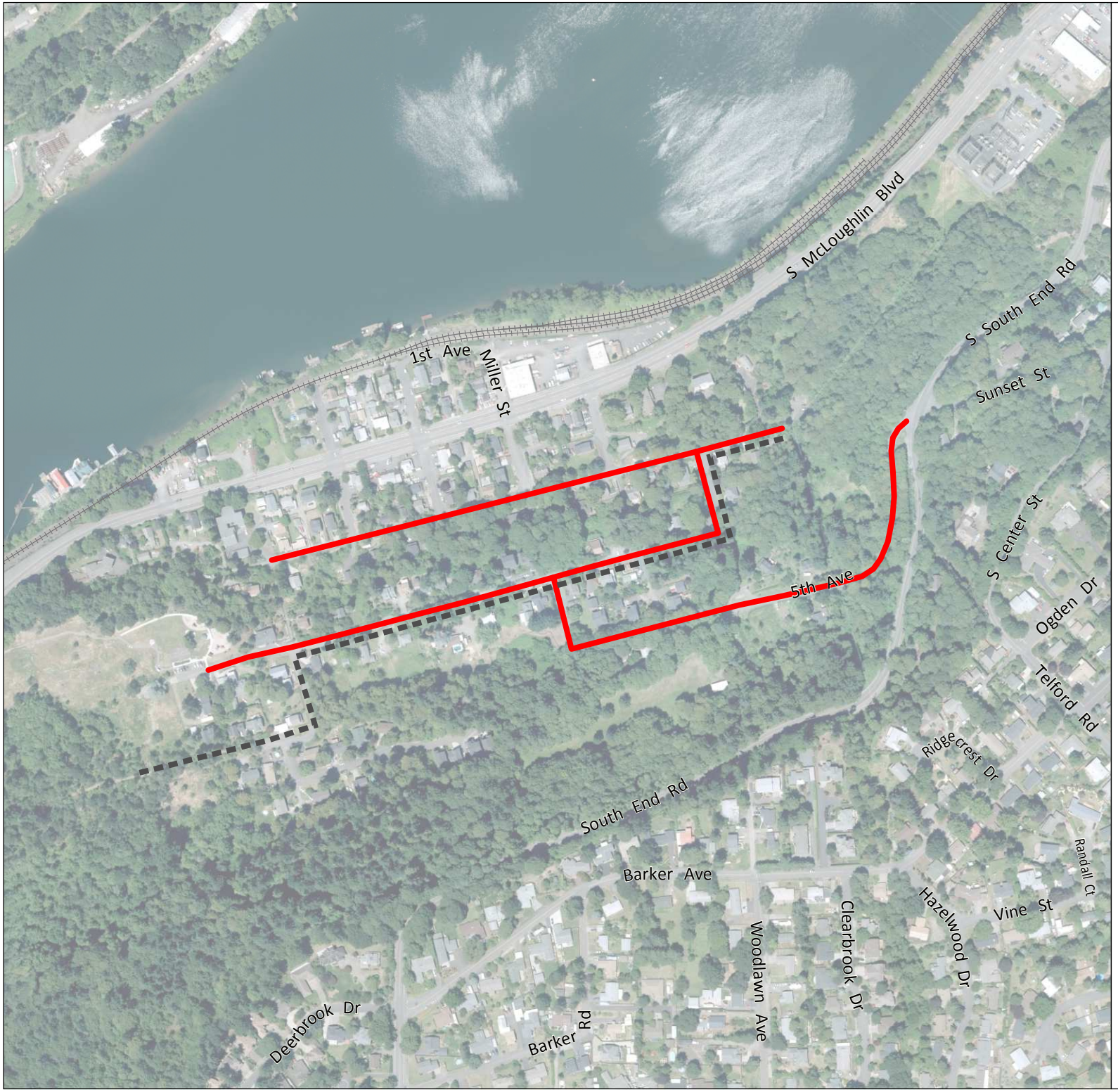
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OREGON CITY

Date: 11/2/2017; Map: C37_D96_FF22_FF34 - 8.5x11L.mxd
Plot: C37_D96_FF22_FF34 - 8.5x11L - 20171102.pdf



TSP Project FF21 Amendment

Canemah Family Friendly Route

Add wayfinding, traffic calming, and shared lane markings on 5th Avenue, Miller Street, 4th Avenue, Ganong Street and 3rd Avenue

Legend

FF21 Revised Alignment

Original Alignment

0 50 100 200 300 400 Feet

N

City of Oregon City
P.O. Box 3040
625 Center St
Oregon City
OR 97045
(503) 657-0891
www.orcity.org

Date: 11/2/2017; Map: FF21 - 8.5x11L.mxd
Plot: FF21 - 8.5x11L - 20171102.pdf

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 11-13-17

Item Number From Agenda 3C 3C Canemah trail.

NAME: James F Justice

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** 128 S McLoughlin

City, State, Zip: Oregon City, Oregon 97045

PHONE NUMBER: ~~503-655~~ 503-819-3329

E-MAIL ADDRESS: JJusticeRanch@gmail.com

SIGNATURE:

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
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Date of Meeting 11/13/17

Item Number From Agenda 3c

NAME: Danielle Leckband

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** 320 Tumwater Drive

City, State, Zip: Oregon City OR 97045

PHONE NUMBER: 503 593 2246

E-MAIL ADDRESS: mrsoregon@hotmail.com

SIGNATURE: Danielle Leckband

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
- Limit Comments to ***3 MINUTES***.
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Date of Meeting 11/13/17

Item Number From Agenda 3c Public Comment

NAME: Melissa Erlbaum

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** 128 Canemah Rd

City, State, Zip: Oregon City OR 97045

PHONE NUMBER: 503.341.7115

E-MAIL ADDRESS: melissaee@wsdr.org

SIGNATURE:

COMMENT FORM

OREGON CITY

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Date of Meeting 11-13-17

Item Number From Agenda 3c, LE 17-02

NAME: Steven Liday, Miller Nash, on behalf of Bud's Towing

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** 126 S. McLoughlin Rd

City, State, Zip: Oregon City

PHONE NUMBER: 503-739-2535

E-MAIL ADDRESS: steven.liday@millernash.com

SIGNATURE:

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
- Limit Comments to ***3 MINUTES***.
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Date of Meeting 11-13-17

Item Number From Agenda — 3C Canemah Trail

NAME: Shawn Dachtler

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:**

City, State, Zip: Oregon City 97045

PHONE NUMBER:

E-MAIL ADDRESS:

SIGNATURE:

COMMENT FORM

OREGON CITY

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Date of Meeting 10/13/17

Item Number From Agenda 3 C

NAME: BILL THUMBS

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** 20180 WOOD GLEN WAY

City, State, Zip: OREGON CITY, OR 97045

PHONE NUMBER: 503-758-9043

E-MAIL ADDRESS: BILL.THUMBS@YAHOO.COM

SIGNATURE: Bill Thumbs

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 11/13/17

Item Number From Agenda 3C RECOGNITION TO CHAIRMAN TEMPLE

NAME: PAUL EDGAR

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** 211 5TH AVE

City, State, Zip: CANEMAH

PHONE NUMBER:

E-MAIL ADDRESS:

SIGNATURE:

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 1-13-2017

Item Number From Agenda McLoughlin-Canemah Trail

NAME: James J. Nicita

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** 302 Bluff

City, State, Zip: OC 97045

PHONE NUMBER:

E-MAIL ADDRESS:

SIGNATURE:

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
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Date of Meeting 10/12/2017

Item Number From Agenda McL Canemah Trail

NAME: Dona Heeley

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** 11614 Parrish Road

City, State, Zip: Oregon City

PHONE NUMBER:

E-MAIL ADDRESS:

SIGNATURE:

COMMENT FORM



*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
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Date of Meeting 11/13/17

Item Number From Agenda —

NAME: Matthew Carlson

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** 324 Tumwater Dr.

City, State, Zip: Oregon City, OR

PHONE NUMBER:

E-MAIL ADDRESS:

SIGNATURE:

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
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Date of Meeting 11/13/17

Item Number From Agenda — Oregon City River Trail Plan

NAME: DR. Michael SECOR

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** Oregon City, Highland St House

City, State, Zip:

PHONE NUMBER: 503-701-2255

E-MAIL ADDRESS:

SIGNATURE:

MILLER NASH | GRAHAM & DUNN LLP
ATTORNEYS AT LAW

U.S. Bancorp Tower
111 S.W. Fifth Avenue, Suite 3400
Portland, Oregon 97204

OFFICE 503.224.5858
FAX 503.224.0155

William L. Rasmussen, P.C.
william.rasmussen@millernash.com
503.205.2308 direct line

November 13, 2017

BY FIRST CLASS MAIL AND ELECTRONIC MAIL
kreid@orcity.org

Oregon City Planning Commission
c/o Ms. Kelly Reid, Planning Division
221 Molalla Avenue, Suite 200
Oregon City, Oregon 97045

Subject: LE 17-02, Amendment to the Comprehensive Plan for the McLoughlin-Canemah Trail—Public Comment

Dear Commissioners:

As we mentioned on the phone to Ms. Reid last week, this law firm represents Delbert and Mary Bullock, owners of Bud's Towing, Inc., which is located at 126 S. McLoughlin Blvd. Please include this comment in the record for the subject land use review.

Bud's Towing has been a fixture in Oregon City since 1968 and is currently being run by the third generation of the Bullock family. It employs seven people. The current recommended path alignment would split Bud's Towing's property in half. Splitting the property would force this long-time, locally family owned business to close and would substantially devalue the property. Bud's Towing has contracts with the City of Oregon City Police Department and other jurisdictions that require the continued existence of the buildings and parking on the property.

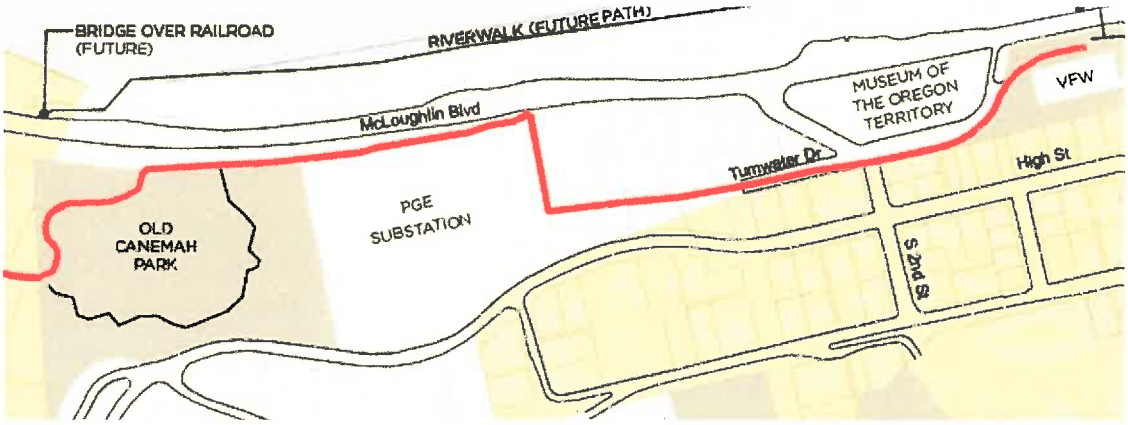
The Bullocks are in support of a new shared-use path to help connect the Canemah Bluff Natural Area with the Willamette Falls Legacy Project. We provide this comment, however, to respectfully request that the Planning Commission immediately adjust the proposed segment of the trail that would run from the end of Tumwater Drive through at least three private properties (including the Bullock's business).

As explained below, this portion of the proposed permanent trail—through an industrial area and along Highway 99—is, unsightly, inefficient, and dangerous. There are at least two alternatives that would be better suited to accomplish the City's goals. Furthermore, this proposed segment will be the most expensive part of the trail as it will require three condemnation proceedings for land that has greatly appreciated due to the Willamette Falls Legacy Project. Alternatively, if the City tried to force landowners to split their properties through exactions in future permit processes, the City will face substantial takings claims.

The severing of this private property would also hinder and constrain its redevelopment. Accordingly, the current design does not comport with project goals or the Oregon City Comprehensive Plan. We respectfully ask the Planning Commission to reroute the trail as described below.

1. The problematic segment through Bud's Towing is the least attractive and most dangerous portion of the proposed trail.

The subject application proposes that the McLoughlin-Canemah Trail run from the end of Tumwater Drive through at least three private properties, cut over to Highway 99 in front of the PGE substation, and continue along the basalt cliffs over the busy highway for around 1,000 feet, before finally entering the northwest corner of Old Canemah Park:



This design places the trail in the midst of industrial businesses (along with a couple taverns), which is not only unattractive for trail users, but also hinders the redevelopment of this land.

On July 29, 2017, the planning staff held the "Greenway for a Day" public event to evaluate the McLoughlin-Canemah Trail options. As part of its evaluation, the City asked participants a series of survey questions, including "What was your least favorite part?" The respondents overwhelmingly identified this segment along Highway 99 and the PGE substation as the worst component of the trail.[1] Conversely, numerous survey respondents identified Old Canemah Park as their favorite potential trail route.[2]

Inexplicably, the route in the subject application does not heed these comments, but places the proposed trail along the least favorite location—missing much of the preferred Old Canemah Park. Given the uniform opposition to this placement by the general public, the proposed design threatens the long term public adoption and use of the trail. This segment will place trail users directly next to the speeding traffic on Highway 99, along with the concomitant noise, pollution, and danger. The route down Tumwater Drive across South Second Street also creates a dangerous crossing for path users because of the intersection's proximity to Highway 99. Accordingly, this placement violates several of the project goals adopted by the Community Advisory Group and planning staff, including:

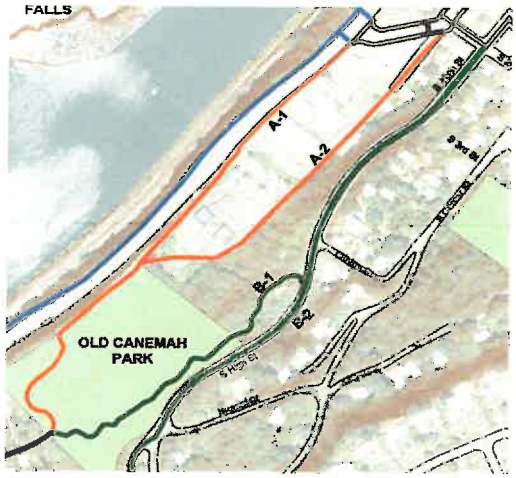
- Minimize risk and conflicts between automobile traffic, bicycle traffic, and pedestrians.
- Celebrate experiences of nature while protecting and enhancing native vegetation and habitat within the corridor.
- Discourage criminal activity and provide a secure environment for all users.
- Responsibly utilize public funds to provide a high-quality trail experience both now and into the future.

2. The alternative route on South End Road (High Street) is safer and more attractive.

The Community Advisory Group strongly considered an alternative route along South End Road into Old Canemah Park above the PGE substation. In fact, in a

[1] Greenway for a Day Event | July 29, 2017; Report and Results, at 4; *see also* Ex. 1 at 17 and 57.
[2] *Id.* at 3.

public comment (Ex.[3] 3 at 5-6), one member of the advisory group explains that the group was evenly split between the South End Road (High Street) route and the segment advanced and ultimately proposed by the City.



The South End Road (High Street) trail route shown above (B-1)[4] is vastly superior because (a) it is not on Highway 99 or along the PGE substation, (b) the street is in a heavily-wooded area that provides pleasant scenery and shade, (c) the route would run the entire length of Old Canemah Park, and (d) the crossing of South Second Street could occur at a safer location for pedestrians (at High Street and South End Road). In fact, there is already a trail into Old Canemah Park from South End Road:

[3] All references to Exhibits are to the attachments submitted by the City for LE 17-02, file # PC 17-136.
[4] In the feasibility evaluation (Ex. 1), the City included this segment in Alternative C, but did not place the trail through Old Canemah Park, instead using B-2 above)—which is far inferior.



Of course, South End Road is not without some drawbacks. There can be traffic at times, but South End Road could have wide shoulders in most places, and speed dampers could be utilized to limit conflict between trail users and cars.

3. The proposed condemnation of private property or exaction effort will be very expensive.

It appears that the McLoughlin-Canemah Trail Plan Community Advisory Group did not prefer (or more accurately split the preference) for the current design along Highway 99 and the PGE substation until they were told that the South End route would present geotechnical difficulties and thus would cost substantially more to construct.[5] The final evaluation show, however, that even by the City's own estimates, the cost of the two trail routes would be very similar. (Ex. 1 at 75.)

But, the City's estimate for the cost of constructing the currently proposed route is based on flawed assumptions. The planning-level cost estimates for the proposed route, does not show any cost for the taking of private property. (Ex. 1 at 75, 77-80.) It appears that the City believes it can avoid this cost by making the property owners dedicate land and construct the trail as part of any future redevelopment. *See* Ex. 1 at 62 ("improvements packaged into re-development."). But the City cannot reasonably force the property owners to provide land or force them to build a trail as a

[5] *See* minutes from McLoughlin-Canemah Trail Plan Community Advisory Group Meeting #2, August 15, 2017, and Meeting #3, September 21, 2017.

condition of development because the trail is not related to the impact from the development. *Kountz v. St. Johns River Water Management District*, 133 S. Ct. 2586, 2595 (2013)[6].

The cost to condemn or take private property through unconstitutional exactions from at least three owners—destroying several buildings—will be substantial. In addition to the legal costs, the property owners will be entitled to the fair market value of the land taken and the reduction of the remaining property values. *State By & Through Dep't of Transp. v. Lundberg*, 312 Or 568, 574, 825 P2d 641, *cert den,* 506 US 975 (1992). This fair market value is not based on the current use of the property, but its highest and best use. *State By & Through State Highway Comm'n v. Assembly of God, Pentecostal, of Albany*, 230 Or 167, 176, 368 P2d 937 (1962). Future land regulations or public projects—such as the Willamette Falls Legacy Project—are relevant considerations for determining the fair market value of the fairest and best use of the property. *Unified Sewerage Agency of Washington Cnty. v. Duyck*, 33 Or App 375, 377, 576 P2d 816 (1978). Furthermore, if the severance of the property by the trail leaves too small of remnant for future development, the property owners will be entitled to full value for that land too. *City of Lake Oswego v. Babson*, 97 Or App 408, 776 P2d 870, *rev den*, 308 Or 465 (1989).

In short, this segment of trail over private property will cost far more than the other portions, even if they require greater construction costs.

4. As presently designed, the proposed Trail Plan is not in compliance with the Comprehensive Plan.

Because of the cost and safety issues identified above, the current design of the McLoughlin-Canemah Trail in the proposed amendments to the Oregon City Transportation System Plan, Parks Master Plan, and Trails Master Plan does not comply with the City's comprehensive plan. Among other criteria that are not met, the current trail design through private property and along Highway 99 and the PGE substation does not comply with the following criteria:

> *Goal 2.1. Efficient Use of Land. Ensure that property planned for residential, commercial, office, and industrial*

[6] "the government may choose whether and how a permit applicant is required to mitigate the impacts of a proposed development, but it may not leverage its legitimate interest in mitigation to pursue governmental ends that lack an essential nexus and rough proportionality to those impacts."

uses is used efficiently and that land is developed following principals of sustainable development.

The placement of the trail directly through private property that would force closure of a longtime business is not an efficient use of land. Likewise, splitting properties in a way that leaves small remainder properties that are difficult to impossible to use violates Goal 2.1.

*Policy 11.1.1. Ensure adequate public funding for the following public facilities and services, if feasible: * * * Transportation infrastructure * * **

Policy 11.1.5. Design the extension or improvement of any major public facility and service to an area to complement other public facilities and services at uniform levels.

Unnecessarily placing the trail so as to split private property will result in much higher costs and less funding for other transportation infrastructure, including other development related to the McLoughlin-Canemah Trail. This condemnation or attempted exaction of private property for a trail does not complement the current use of surrounding land.

Policy 11.1.7. Develop and maintain a coordinated Capital Improvements Plan that provides a framework, schedule, prioritization, and cost estimate for the provision of public facilities and services within the City of Oregon City and its Urban Growth Boundary.

The cost estimates included in the proposed amendments for this section of the trail are not reasonable and lacks a factual basis.

Goal 12.5. Safety. Develop and maintain a transportation system that is safe.

Policy 12.5.2. Identify and implement ways to minimize conflict points between different modes of travel.

As repeatedly stated in survey responses, the placement of the trail along Highway 99 is not safe and is undesirable. Furthermore, the location of the trail across South Second Street at Tumwater Drive is dangerous (as evidenced by the $80,000 in

safety improvements planned for this intersection). The current design violates these criteria because safer routes are available.

> *Policy 12.8.1. Maximize the efficiency of the Oregon City transportation system, thus minimizing the required financial investment in transportation improvements, without adversely impacting neighboring jurisdictions and facilities.*

The placement of the trail to split private property (necessitating expensive condemnation proceedings or takings litigation), over dangerous intersections, and along busy highways does not maximize the efficiency of the transportation system, nor minimize the required financial investment.

5. Conclusion.

Our client supports the construction of a McLoughlin-Canemah Trail, but asks the Planning Commission to alter the present design so that it does not needlessly bisect private property owners, waste City funds, and result in a less desirable trail.

The South End Road (High Street) trail route is far superior to the segment proposed by the City across private property and along Highway 99. This route offers a wooded setting, greater safety, and possible future expansion as reliance on cars is diminished. Placing the trail route on or even near Highway 99 threatens the long-term public adoption and use of the entire shared-use path, potentially wasting the substantial public investment in the McLoughlin-Canemah Trail project.

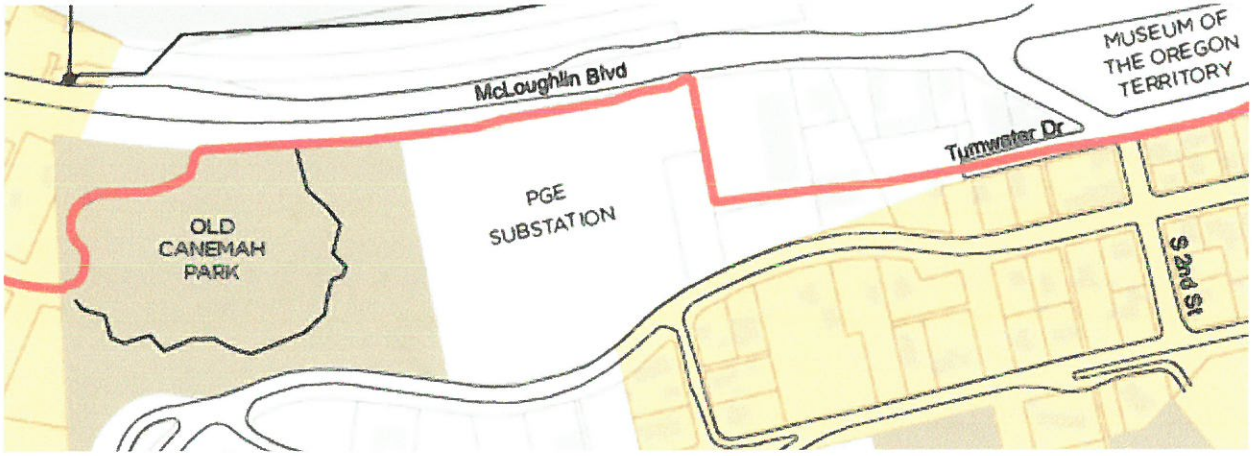
Please contact me with any questions or concerns.

Very truly yours,

William L. Rasmussen, P.C.

McLOUGHLIN-CANEMAH TRAIL—BUD'S TOWING COMMENT

Deficiencies of the Tumwater Drive – Highway 99 Segment:



1. Least attractive portion of the proposed trail (based on survey responses);
2. Placement along Highway 99—especially interim trail—undermines safety, beauty, and likely use of trail;
3. Fails to optimize forest setting by not running deeper into Old Canemah Park;
4. Requires dangerous and inefficient crossing of South 2nd Street at Tumwater Drive; and
5. Placement over private property will impact local businesses, possibly hinder redevelopment, and may necessitate condemnation (or takings) litigation.

Advantages of the High Street/South End Road Alternative (B-1):



1. Pleasant forested setting along South End Road;
2. Avoids route along Highway 99;
3. Incorporates more of Old Canemah Park into the trail route;
4. Allows for safe and efficient crossing of South 2nd Street at High Street; and
5. Does not negatively impact local businesses or take private property, thus avoiding expense of condemnation or takings litigation.

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

M E M O R A N D U M

To: Planning Commission
From: Kelly Reid, AICP, Planner
Re: LE 17-02 Additional Findings and Response to Public Comments
Date: November 13, 2017

The McLoughlin-Canemah Trail Plan recommendation for permanent alignment includes a trail segment through privately-owned properties on McLoughlin Boulevard. The alignment is recommended to be located behind future new development on these properties, rather than in front of them along the McLoughlin Blvd frontage, where traffic speeds and driveway curb cuts create a less-than-ideal environment for pedestrians and bicyclists. The alignment of this segment retains the existing shared used path alignment shown in the adopted Transportation System Plan (Project #S36).

Public input gathered during the trail planning process included a strong desire to use the Old Canemah Park trail and to avoid McLoughlin Blvd as much as possible. To accomplish these goals, the final recommendation is for Alignment option B, with the permanent trail behind future development and away from the street, where users can be more protected from traffic, noise, and exhaust.

Recognizing the existing businesses along this segment of McLoughlin Blvd, the City does not propose to utilize condemnation to obtain land for a new trail. Instead, the plan includes an interim alignment along McLoughlin Blvd until such future time when these properties redevelop. A vast majority of the parcels along the segment of McLoughlin are zoned Mixed Use Corridor (MUC-1). Currently, the properties include a tavern, a one-story 13-unit apartment building, a towing business, and an auto repair business. There is also a single family home on a property zoned R-6 (low density residential) in the area. This property may be a good candidate to consider for future rezoning. On the whole, these sites are underdeveloped, and therefore represent future development opportunities. In recognition of the likelihood of redevelopment in the future, the City intends to place conditions of approval on future developers to integrate the trail into their redevelopment plans. The trail would be conveyed to the City either through an easement or dedication.

In order to have the least impact on redevelopment plans for these sites, the trail is shown in the plan just below a steep slope, where the grade of these properties becomes 35% and greater (see figure 1). The trail could hug the bottom of this hillside and potentially be integrated into a future alley or rear parking lot. If developers have alternative ideas for how to integrate the trail into their sites, the planning division would be happy to consider variations. Most importantly, however, the development should not turn its back on the trail. Having windows, entrances, open space, and potentially even outdoor patio seating areas located adjacent to the trail would create a safe trail for users and provide a pleasant setting at the rear of the properties.

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

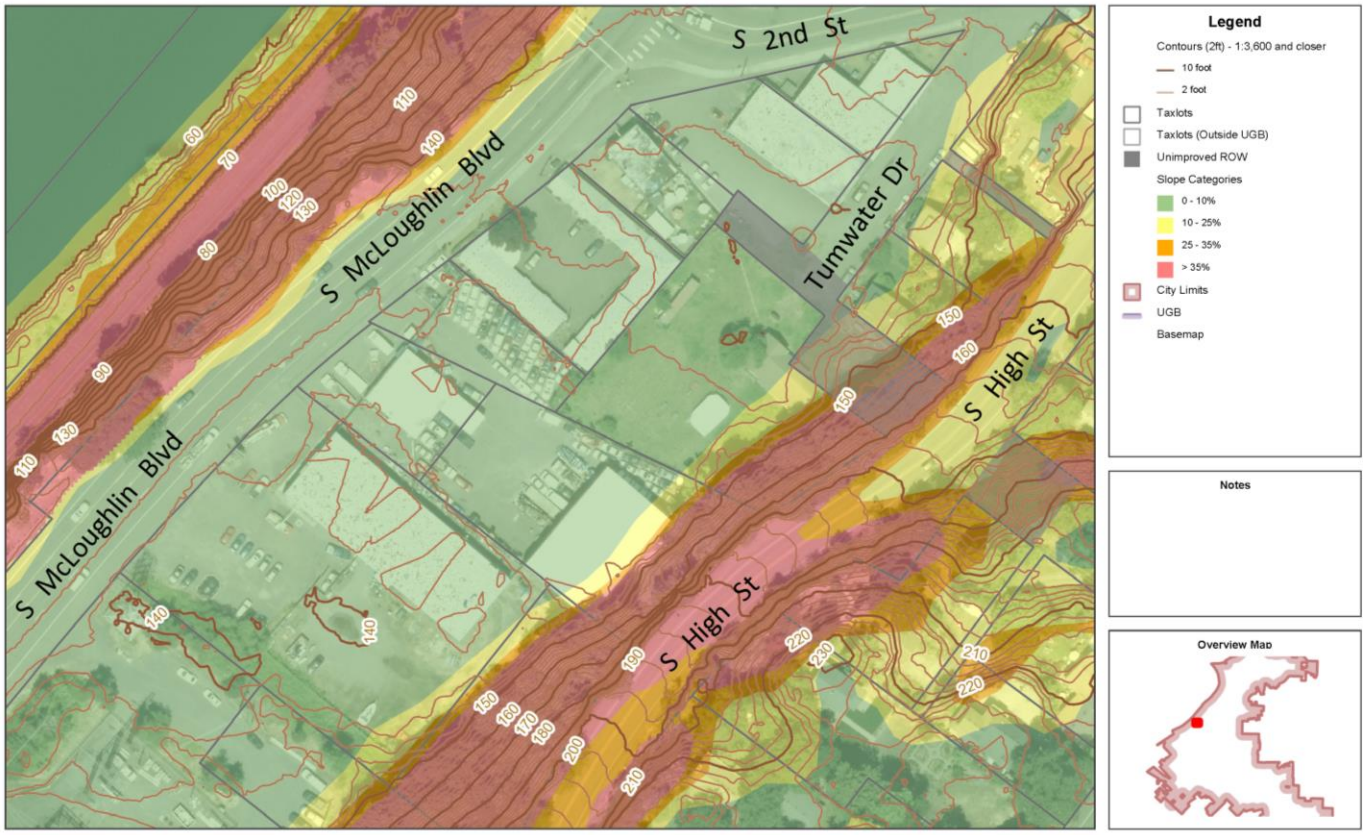


Figure 1: Steep slopes in trail area behind the businesses on McLoughlin Blvd.

The community advisory group considered alignments behind the neighboring PGE substation as well. However, the PGE substation includes a barbed-wire fence and a building along the back edge, which reduces visibility and creates places for people to hide. The advisory group found that security concerns outweighed the desire to be farther away from vehicle traffic on McLoughlin Blvd, and instead recommended that the trail jog back up to the street frontage for the length of the PGE property.

On Monday, November 13th at 3:00 p.m. the Planning Division received a letter from attorneys representing a property owner on McLoughlin Blvd. The Planning Division also received an email from Paul Edgar, Canemah resident and member of the Community Advisory Group for the trail plan. Both of these letters are added to the record, along with this memorandum. These letters raised several concerns, for which I wish to provide more context for the Planning Commission. I also propose a condition of approval to address some of the concerns, which is discussed below.

Concern: The trail "bisects" private property, which hinders the redevelopment of the site.

> Response: As shown on the alignment map, the trail is proposed to run along the back of the property along the hillside. Oregon City code discourages development on slopes greater than 35%, and it is not expected that this hillside would be part of any redevelopment. Also,

the City intends to work collaboratively with developers to determine a trail alignment that integrates with development. The trail plan, as written, does not make this intention explicit. Thus, staff recommends adding a condition of approval to revise the trail plan to say explicitly that exact trail location through private properties is flexible and will be determined through coordination with future developers or owners.

Concern: A trail through industrial businesses is unattractive.

Response: With mixed-use zoning, the properties may develop with residential uses, commercial uses, and/or offices. These types of uses are complementary to a trail that provides bicycle and pedestrian connections from neighborhood areas. The City does not intend to construct a trail through the existing businesses.

Concern: Public input largely desired a trail away from Mcloughlin Blvd.

Response: The permanent alignment aims to provide as much of the trail area behind development rather than on the street, in direct response to this public input.

Concern: The recommendation misses much of the preferred Old Canemah Park.

Response: The recommendation fully utilizes Old Canemah Park from end to end. It is the only alignment of the three options considered that is able to use the park.

Concern: The crossing at South 2nd Street is dangerous and violates the goals of the Community Advisory Group.

Response: The advisory group was in fact uncomfortable with all of the existing options for crossing at South 2nd. Currently, the safest option was identified as South 2nd and High Street where there is a four way stop and an eventual signal planned (unfunded TSP project D31). There was not full consensus on which intersection could offer the safest crossing in the future. Staff and consultants shared a crossing design concept for South 2nd and Tumwater at the end of the third advisory group meeting, and continued to refine it after hearing positive feedback from group members and Public Works officials. This crossing design concept is included in the final trail plan report and is a necessary project for the permanent alignment to be feasible. The City proposes to add this project to the Transportation System Plan Project list as Project C37.

Concern: The South End Road option (Option C) should have been recommended over Option B. There is already a trail into Old Canemah Park from South End Road.

Response: There is not an existing trail into Old Canemah Park; the aerial photo provided in the letter shows a small clearing that is not connected to the park and is not easily accessible due to steep slopes around it. Staff has visited the area. The High Street/South End Road option was supported by several of the advisory group members, but was ultimately not selected by the group.

Concern: Exacting the trail from developers will constitute a taking because the trail is not related to the impact from the development.

> Response: Development of mixed use sites with residential, commercial or offices uses is related to the trail. Bicycle and pedestrian access to properties is required by city codes, and the Comprehensive Plan and Transportation System Plan both include multiple goals and policies to create safe and convenient pedestrian routes, connect neighborhood areas to commercial areas with shared use paths, and encourage travel using non-vehicular modes. Staff and the City's attorneys believe there will be a proportional nexus for exaction in this instance.

Concern: The trail is not compliant with the Comprehensive Plan.

> Response: See findings in the staff report.

In conclusion, staff recommends adding the following condition of approval in order to clarify the intent of the plan:

> <u>The applicant shall revise the trail plan to say explicitly that exact trail location through private properties is flexible and will be determined through coordination with future developers or owners.</u>

From: Paul Edgar
To: Kelly Reid
Subject: : McLoughlin to Canemah Trial report , I would like to talk to you about this. (Please print this for tonight"s Planning Commission meeting)
Date: Monday, November 13, 2017 5:14:47 PM

The Trail Committee did not agree to this! **In bold font.** This is what I and others understood is in (In Red)!

> PERMANENT (Long Term) ALIGNMENT RECOMMENDATION for the McLoughlin to Canemah Trail
>
> **The Permanent trail alignment recommendation begins at the McLoughlin Promenade and connects to Tumwater Drive via the Three Rivers VFW Post 1324 parking lot and a dedicated non-motorized path down the existing driveway.**
>
> **From there, the trail follows Tumwater Drive, crosses at S. 2nd Street, and continues south/southwest on Tumwater Drive through re-developed parcels, turning toward McLoughlin Blvd/Hwy 99E just north of the Portland General Electric (PGE) substation property.**
>
> From the PGE entrance, the Interim and Permanent trail recommended alignments are identical.
>
> The trail connects between the PGE substation and McLoughlin Blvd/Hwy 99E, enters Old

Canemah Park, and connects to the Canemah National Register District neighborhood.

The route through the neighborhood follows Marshall Street and 3rd Avenue west/southwest , turns onto Ganong Street, and follows 4th Avenue until reaching the Canemah Neighborhood Children's Park.

https://www.orcity.org/sites/default/files/fileattachments/planning/page/11196/lowres_final_report_with_corrections.pdf

We recommended for what is in this wording of the: INTERIM ALIGNMENT RECOMMENDATION

The Interim trail alignment recommendation begins at the McLoughlin Promenade and connects via 2nd Street going east to High Street.

Travels south on the west side of High Street to 2nd Avenue and crosses 2nd Avenue at a new cross walk light (that will be part of replacing the Stop and Go light, with a timed Stop Light), where the alignment follows the south side of 2nd Avenue to McLoughlin Blvd.

The trail continues on the east side of McLoughlin Blvd/Hwy 99E until reaching the Portland General Electric (PGE) substation entrance.

> *Paul*


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503-656-0403


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TACOMA

Oregon
Kate Brown, Governor

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

November 2nd, 2017 ODOT #8009

ODOT Response

Project Name: McLoughlin-Canemah Trail Plan	**Applicant:** Oregon City
Jurisdiction: Oregon City	**Jurisdiction Case #:** 008-17
State Highway: OR 99E	

The site of this proposed land use action is adjacent to McLoughlin Blvd (OR 99E). 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 appreciated the opportunity to participate in the development of the McLoughlin-Canemah Trail Plan and generally support the proposed alignment. We are currently working with the City on closure of the Tumwater/McLoughlin intersection relating to the trail plan. We are looking forward to continuing to work with the City as you move forward on developing and refining the cross section for the trail.

Please continue to work directly with Jessica Horning, ODOT R1 Transit and Active Transportation Liaison. Ms. Horning can be reached at Jessica.horning@odot.state.or.us and 503-7341-3359.

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: Marah Danielson	503.731.8258, marah.b.danielson@odot.state.or.us

Portland General Electric Company
121 SW Salmon Street, Portland, Oregon 97204
www.PortlandGeneral.com

November 2, 2017

City of Oregon City Planning Commission
625 Center Street
Oregon City, OR 97045

Members of the Oregon City Planning Commission,

I am writing to provide Portland General Electric Company's (PGE) comments related to the McLoughlin-Canemah Trail (MCT) Project, File LE-17-02. We understand that trails are an important component of communities and seek to be a supportive partner. PGE staff appreciated the opportunity to participate on the MCT Advisory Group. Additionally, we need to ensure the continued safety, reliability, security, operations, and maintenance of the PGE Canemah Substation Property located at 152 S. McLoughlin Blvd, Oregon City, OR and the related property interests.

PGE respectfully brings the Commission's attention to items that will be necessary as part of our continued work together including:

- To the extent the proposed trail and any public (non-PGE) access impacts any PGE property interests, PGE's "consent" to the MCT Project and proposed pathway will be subject to and conditioned upon PGE granting a non-exclusive License to the City for the use on terms and conditions acceptable to PGE. Due to current and future operational needs, PGE will not be granting an easement or any permanent or exclusive rights associated with the MCT project.
- The City of Oregon City shall bear the entire cost and expense incurred with respect to all of City's activities on or associated with the PGE Property or potential License Area.
- PGE specifically retains the right to use the Property, including the License Area, for expansion of its substation facilities, and any future utility needs or operations.

Again, PGE seeks to be supportive while also maintaining the safety and operations of the PGE Canemah Substation Property.

Thank you for your time and we look forward to continued collaborative work together. Please feel free to contact me for further information.

Sincerely,

Mark Lindley

Mark Lindley
Manager, Property Services

cc: Kristin Ingram, PGE Attorney

324 Tumwater Drive
Oregon City, Oregon 97045

11/1/17

Oregon City Planning Commission
Kelly Reid, AICP, Planner

Ref. File Number LE-17-02

Applicant: City of Oregon City Public Works
625 Center Street
Oregon City, OR 97045

Request: Amend the Oregon City Transportation System Plan, Parks Master Plan, and Trails Master Plan to include a plan for the McLoughlin-Canemah Trail.

Members of the planning commission:

We own property located at 324 Tumwater Drive, Oregon City, OR. The "Long Term Trail Recommendation" shows the route of the proposed McLoughlin-Canemah Trail crossing our property.

Although we are in general support of the idea of a McLoughlin-Canemah Trail, we are strongly opposed to the City of Oregon City engaging in any taking, transfer, or development of our property without our involvement and explicit consent.

Sincerely,

Matthew Carlson
Tiffany Carlson
Dr. Carl Michael Secor
Tamara Secor

From: Paul Edgar
To: Kelly Reid
Subject: Re: Proposed Comprehensive Plan changes for Trail Alignment - McLoughlin to Canemah
Date: Wednesday, November 01, 2017 4:28:43 PM

Yes and it is more than just the "Interim Plan" discussion. It was not an agreed to option to go up and down 2nd Avenue on the north side of the street and cross at McLoughlin Blvd.

We also did not agree to the crossing at 2nd and Tumwater in your proposed "Permanent (Long Term) Plan". If I remember correct, we talked about the implications of going south on Tumwater from 2nd Avenue to PGE, but got input that PGE that they did not want people walking on that blind side of their property. There was no agreement on making that the long term route to and behind PGE facilities and putting an additional obligation on to the property owners as to a future requirement to provide infrastructure for walking path improvements should they choose to redevelop their properties.

Both of the proposed walking path crossing: at McLoughlin Blvd at 2nd Avenue and 2nd and Tumwater have major impacts on transportation and ripple in every direction with far reaching negative consequences.

We talked long and hard about the ADA consequences and safety of the narrow passage/driveway up to the VFW and parking lot as not ideal, and with the limited things that can be done to mitigate physical negative aspects. The only thing I can remember is that we all did agreed with was that the vehicle entrance off of McLoughlin Blvd should be closed no-matter what. Equal to and greater McLoughin Blvd vehicle entrance in problems is this blind passage/driveway of car and people going in and out to the VFW and Parking lot.

We were so close in all voting for a completely different Long Term choice and that should be noted. Remember most all of those from Canemah wanted some other choice rather than having people walking on Ganong and than 4th Avenue.

Paul

On 11/1/2017 3:31 PM, Kelly Reid wrote:

> Hi Paul,
>
> I wanted to follow up on this –
>
> We are adding a note to the interim plan to indicate that users can cross at High Street or at 99E. The reason the trail is shown on the north side of South 2nd and crossing at 99E is due to our ability to widen the sidewalk on that side, and our thought that it would be safer for bikes to stay on that side. But you are correct that people may want to cross at High Street with the 4-way stop, so we are adding that to the interim plan.
>
> Should I consider your email a public comment on LE 17-02 and add it to the public record?
>
> I will send out the final report on Friday, which includes a drawing for the crossing at

South 2nd and Tumwater – I think the concept design will be a huge improvement and will make a crossing a possibility there. Of course, details would be worked out at a later date.

Thank you,

Kelly Reid, AICP
Planner, City of Oregon City
(503) 496-1540
kreid@orcity.org

From: Paul Edgar [mailto:pauloedgar@q.com]
Sent: Tuesday, October 24, 2017 10:01 AM
Subject: Fwd: Proposed Comprehensive Plan changes for Trail Alignment - McLoughlin to Canemah

FYI, correction in bold font.

-------- Forwarded Message --------

From: 57 2017 <>
X-Mozilla-Status: 0001
X-Mozilla-Status2: 00800000
X-Mozilla-Keys:
Reply-To: pauloedgar@q.com
From: Paul Edgar <pauloedgar@q.com>
Subject: Proposed Comprehensive Plan changes for Trail Alignment - McLoughlin to Canemah
To: Kelly Reid - OC PLANNING <kreid@orcity.org>
Message-ID: <7a7b6fc9-dd98-b06e-38bd-d7f51aa46716@q.com>
Date: Mon, 23 Oct 2017 17:22:56 -0700
User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:52.0) Gecko/20100101 Thunderbird/52.4.0
MIME-Version: 1.0
Content-Type: text/plain; charset=utf-8; format=flowed
Content-Transfer-Encoding: 8bit
Content-Language: en-US

I got the Notice of Public Hearings to enact the changes to the areas of
the Comprehensive Plan to reflect the Trails Committee Recommendations.

The votes were so close (one vote between a split) between the Interim Trail Alignment Recommendation and with that of going up High Street and cutting across through Old Canemah Park to using 5th Avenue.

When we got to what is represented as the Long-Term Trail Alignment Recommendation, where it is reflected going by the VFW and the Oregon Territorial Museum and across 2nd at Tumwater, direct on Tumwater to the PGE Property, I did not hear that agreement.

I think that there was more votes to continue going from the McLoughlin Promenade to High Street and going across 2nd Avenue at the light and than down 2nd Avenue on the **(correction - left hand side)** to McLoughlin Blvd.

I also think that there was within a comparison of buying and taking properties to enable trail alignment on Tumwater to PGE as equal or less in votes to that of if we were to take property why not continue up High Street and get a more scenic as well as more environmentally sensitive trail that would take us a little cross country and below South End Road to 5th Avenue and than along unimproved 5th Avenue ROW to Blanchard Street.

Going across 2nd Avenue on Tumwater is a hyper-congestion nightmare that ripples. It screws up McLoughlin Blvd past Main Street.

I would love to see another meeting of the committee.

Paul

From: Paul Edgar
To: Kelly Reid
Subject: : McLoughlin to Canemah Trial report , I would like to talk to you about this. (Please print this for tonight"s Planning Commission meeting)
Date: Monday, November 13, 2017 5:14:47 PM

The Trail Committee did not agree to this! **In bold font.** This is what I and others understood is in (In Red)!

> PERMANENT (Long Term) ALIGNMENT RECOMMENDATION for the McLoughlin to Canemah Trail
>
> **The Permanent trail alignment recommendation begins at the McLoughlin Promenade and connects to Tumwater Drive via the Three Rivers VFW Post 1324 parking lot and a dedicated non-motorized path down the existing driveway.**
>
> **From there, the trail follows Tumwater Drive, crosses at S. 2nd Street, and continues south/southwest on Tumwater Drive through re-developed parcels, turning toward McLoughlin Blvd/Hwy 99E just north of the Portland General Electric (PGE) substation property.**
>
> From the PGE entrance, the Interim and Permanent trail recommended alignments are identical.
>
> The trail connects between the PGE substation and McLoughlin Blvd/Hwy 99E, enters Old

Canemah Park, and connects to the Canemah National Register District neighborhood.

The route through the neighborhood follows Marshall Street and 3rd Avenue west/southwest , turns onto Ganong Street, and follows 4th Avenue until reaching the Canemah Neighborhood Children's Park.

https://www.orcity.org/sites/default/files/fileattachments/planning/page/11196/lowres_final_report_with_corrections.pdf

We recommended for what is in this wording of the: INTERIM ALIGNMENT RECOMMENDATION

The Interim trail alignment recommendation begins at the McLoughlin Promenade and connects via 2nd Street going east to High Street.

Travels south on the west side of High Street to 2nd Avenue and crosses 2nd Avenue at a new cross walk light (that will be part of replacing the Stop and Go light, with a timed Stop Light), where the alignment follows the south side of 2nd Avenue to McLoughlin Blvd.

The trail continues on the east side of McLoughlin Blvd/Hwy 99E until reaching the Portland General Electric (PGE) substation entrance.

> *Paul*

MILLER NASH | GRAHAM & DUNN LLP
ATTORNEYS AT LAW

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111 S.W. Fifth Avenue, Suite 3400
Portland, Oregon 97204

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FAX 503.224.0155

William L. Rasmussen, P.C.
william.rasmussen@millernash.com
503.205.2308 direct line

November 13, 2017

BY FIRST CLASS MAIL AND ELECTRONIC MAIL
kreid@orcity.org

Oregon City Planning Commission
c/o Ms. Kelly Reid, Planning Division
221 Molalla Avenue, Suite 200
Oregon City, Oregon 97045

Subject: LE 17-02, Amendment to the Comprehensive Plan for the McLoughlin-Canemah Trail—Public Comment

Dear Commissioners:

As we mentioned on the phone to Ms. Reid last week, this law firm represents Delbert and Mary Bullock, owners of Bud's Towing, Inc., which is located at 126 S. McLoughlin Blvd. Please include this comment in the record for the subject land use review.

Bud's Towing has been a fixture in Oregon City since 1968 and is currently being run by the third generation of the Bullock family. It employs seven people. The current recommended path alignment would split Bud's Towing's property in half. Splitting the property would force this long-time, locally family owned business to close and would substantially devalue the property. Bud's Towing has contracts with the City of Oregon City Police Department and other jurisdictions that require the continued existence of the buildings and parking on the property.

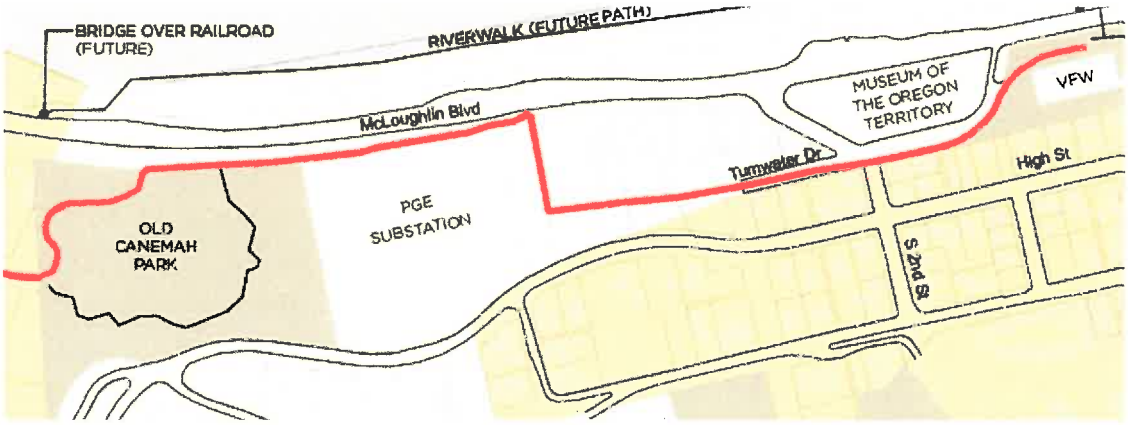
The Bullocks are in support of a new shared-use path to help connect the Canemah Bluff Natural Area with the Willamette Falls Legacy Project. We provide this comment, however, to respectfully request that the Planning Commission immediately adjust the proposed segment of the trail that would run from the end of Tumwater Drive through at least three private properties (including the Bullock's business).

As explained below, this portion of the proposed permanent trail—through an industrial area and along Highway 99—is, unsightly, inefficient, and dangerous. There are at least two alternatives that would be better suited to accomplish the City's goals. Furthermore, this proposed segment will be the most expensive part of the trail as it will require three condemnation proceedings for land that has greatly appreciated due to the Willamette Falls Legacy Project. Alternatively, if the City tried to force landowners to split their properties through exactions in future permit processes, the City will face substantial takings claims.

The severing of this private property would also hinder and constrain its redevelopment. Accordingly, the current design does not comport with project goals or the Oregon City Comprehensive Plan. We respectfully ask the Planning Commission to reroute the trail as described below.

1. The problematic segment through Bud's Towing is the least attractive and most dangerous portion of the proposed trail.

The subject application proposes that the McLoughlin-Canemah Trail run from the end of Tumwater Drive through at least three private properties, cut over to Highway 99 in front of the PGE substation, and continue along the basalt cliffs over the busy highway for around 1,000 feet, before finally entering the northwest corner of Old Canemah Park:



This design places the trail in the midst of industrial businesses (along with a couple taverns), which is not only unattractive for trail users, but also hinders the redevelopment of this land.

On July 29, 2017, the planning staff held the "Greenway for a Day" public event to evaluate the McLoughlin-Canemah Trail options. As part of its evaluation, the City asked participants a series of survey questions, including "What was your least favorite part?" The respondents overwhelmingly identified this segment along Highway 99 and the PGE substation as the worst component of the trail.[1] Conversely, numerous survey respondents identified Old Canemah Park as their favorite potential trail route.[2]

Inexplicably, the route in the subject application does not heed these comments, but places the proposed trail along the least favorite location—missing much of the preferred Old Canemah Park. Given the uniform opposition to this placement by the general public, the proposed design threatens the long term public adoption and use of the trail. This segment will place trail users directly next to the speeding traffic on Highway 99, along with the concomitant noise, pollution, and danger. The route down Tumwater Drive across South Second Street also creates a dangerous crossing for path users because of the intersection's proximity to Highway 99. Accordingly, this placement violates several of the project goals adopted by the Community Advisory Group and planning staff, including:

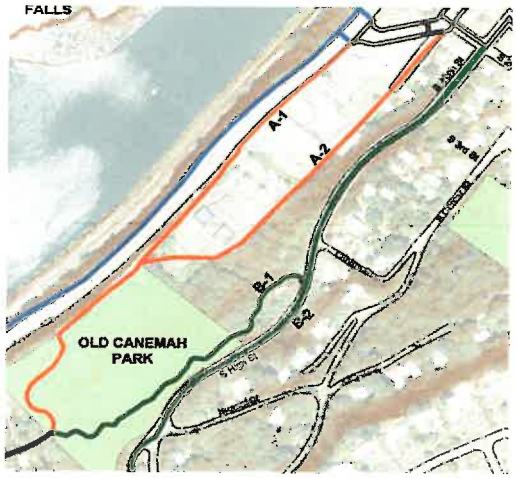
- Minimize risk and conflicts between automobile traffic, bicycle traffic, and pedestrians.
- Celebrate experiences of nature while protecting and enhancing native vegetation and habitat within the corridor.
- Discourage criminal activity and provide a secure environment for all users.
- Responsibly utilize public funds to provide a high-quality trail experience both now and into the future.

2. The alternative route on South End Road (High Street) is safer and more attractive.

The Community Advisory Group strongly considered an alternative route along South End Road into Old Canemah Park above the PGE substation. In fact, in a

[1] Greenway for a Day Event | July 29, 2017; Report and Results, at 4; *see also* Ex. 1 at 17 and 57.
[2] *Id.* at 3.

public comment (Ex.[3] 3 at 5-6), one member of the advisory group explains that the group was evenly split between the South End Road (High Street) route and the segment advanced and ultimately proposed by the City.



The South End Road (High Street) trail route shown above (B-1)[4] is vastly superior because (a) it is not on Highway 99 or along the PGE substation, (b) the street is in a heavily-wooded area that provides pleasant scenery and shade, (c) the route would run the entire length of Old Canemah Park, and (d) the crossing of South Second Street could occur at a safer location for pedestrians (at High Street and South End Road). In fact, there is already a trail into Old Canemah Park from South End Road:

[3] All references to Exhibits are to the attachments submitted by the City for LE 17-02, file # PC 17-136.
[4] In the feasibility evaluation (Ex. 1), the City included this segment in Alternative C, but did not place the trail through Old Canemah Park, instead using B-2 above)—which is far inferior.



Of course, South End Road is not without some drawbacks. There can be traffic at times, but South End Road could have wide shoulders in most places, and speed dampers could be utilized to limit conflict between trail users and cars.

3. The proposed condemnation of private property or exaction effort will be very expensive.

It appears that the McLoughlin-Canemah Trail Plan Community Advisory Group did not prefer (or more accurately split the preference) for the current design along Highway 99 and the PGE substation until they were told that the South End route would present geotechnical difficulties and thus would cost substantially more to construct.[5] The final evaluation show, however, that even by the City's own estimates, the cost of the two trail routes would be very similar. (Ex. 1 at 75.)

But, the City's estimate for the cost of constructing the currently proposed route is based on flawed assumptions. The planning-level cost estimates for the proposed route, does not show any cost for the taking of private property. (Ex. 1 at 75, 77-80.) It appears that the City believes it can avoid this cost by making the property owners dedicate land and construct the trail as part of any future redevelopment. *See* Ex. 1 at 62 ("improvements packaged into re-development."). But the City cannot reasonably force the property owners to provide land or force them to build a trail as a

[5] *See* minutes from McLoughlin-Canemah Trail Plan Community Advisory Group Meeting #2, August 15, 2017, and Meeting #3, September 21, 2017.

condition of development because the trail is not related to the impact from the development. *Kountz v. St. Johns River Water Management District*, 133 S. Ct. 2586, 2595 (2013)[6].

The cost to condemn or take private property through unconstitutional exactions from at least three owners—destroying several buildings—will be substantial. In addition to the legal costs, the property owners will be entitled to the fair market value of the land taken and the reduction of the remaining property values. *State By & Through Dep't of Transp. v. Lundberg*, 312 Or 568, 574, 825 P2d 641, *cert den,* 506 US 975 (1992). This fair market value is not based on the current use of the property, but its highest and best use. *State By & Through State Highway Comm'n v. Assembly of God, Pentecostal, of Albany*, 230 Or 167, 176, 368 P2d 937 (1962). Future land regulations or public projects—such as the Willamette Falls Legacy Project—are relevant considerations for determining the fair market value of the fairest and best use of the property. *Unified Sewerage Agency of Washington Cnty. v. Duyck*, 33 Or App 375, 377, 576 P2d 816 (1978). Furthermore, if the severance of the property by the trail leaves too small of remnant for future development, the property owners will be entitled to full value for that land too. *City of Lake Oswego v. Babson*, 97 Or App 408, 776 P2d 870, *rev den*, 308 Or 465 (1989).

In short, this segment of trail over private property will cost far more than the other portions, even if they require greater construction costs.

4. As presently designed, the proposed Trail Plan is not in compliance with the Comprehensive Plan.

Because of the cost and safety issues identified above, the current design of the McLoughlin-Canemah Trail in the proposed amendments to the Oregon City Transportation System Plan, Parks Master Plan, and Trails Master Plan does not comply with the City's comprehensive plan. Among other criteria that are not met, the current trail design through private property and along Highway 99 and the PGE substation does not comply with the following criteria:

> *Goal 2.1. Efficient Use of Land. Ensure that property planned for residential, commercial, office, and industrial*

[6] "the government may choose whether and how a permit applicant is required to mitigate the impacts of a proposed development, but it may not leverage its legitimate interest in mitigation to pursue governmental ends that lack an essential nexus and rough proportionality to those impacts."

uses is used efficiently and that land is developed following principals of sustainable development.

The placement of the trail directly through private property that would force closure of a longtime business is not an efficient use of land. Likewise, splitting properties in a way that leaves small remainder properties that are difficult to impossible to use violates Goal 2.1.

*Policy 11.1.1. Ensure adequate public funding for the following public facilities and services, if feasible: * * * Transportation infrastructure * * **

Policy 11.1.5. Design the extension or improvement of any major public facility and service to an area to complement other public facilities and services at uniform levels.

Unnecessarily placing the trail so as to split private property will result in much higher costs and less funding for other transportation infrastructure, including other development related to the McLoughlin-Canemah Trail. This condemnation or attempted exaction of private property for a trail does not complement the current use of surrounding land.

Policy 11.1.7. Develop and maintain a coordinated Capital Improvements Plan that provides a framework, schedule, prioritization, and cost estimate for the provision of public facilities and services within the City of Oregon City and its Urban Growth Boundary.

The cost estimates included in the proposed amendments for this section of the trail are not reasonable and lacks a factual basis.

Goal 12.5. Safety. Develop and maintain a transportation system that is safe.

Policy 12.5.2. Identify and implement ways to minimize conflict points between different modes of travel.

As repeatedly stated in survey responses, the placement of the trail along Highway 99 is not safe and is undesirable. Furthermore, the location of the trail across South Second Street at Tumwater Drive is dangerous (as evidenced by the $80,000 in

safety improvements planned for this intersection). The current design violates these criteria because safer routes are available.

> *Policy 12.8.1. Maximize the efficiency of the Oregon City transportation system, thus minimizing the required financial investment in transportation improvements, without adversely impacting neighboring jurisdictions and facilities.*

The placement of the trail to split private property (necessitating expensive condemnation proceedings or takings litigation), over dangerous intersections, and along busy highways does not maximize the efficiency of the transportation system, nor minimize the required financial investment.

5. Conclusion.

Our client supports the construction of a McLoughlin-Canemah Trail, but asks the Planning Commission to alter the present design so that it does not needlessly bisect private property owners, waste City funds, and result in a less desirable trail.

The South End Road (High Street) trail route is far superior to the segment proposed by the City across private property and along Highway 99. This route offers a wooded setting, greater safety, and possible future expansion as reliance on cars is diminished. Placing the trail route on or even near Highway 99 threatens the long-term public adoption and use of the entire shared-use path, potentially wasting the substantial public investment in the McLoughlin-Canemah Trail project.

Please contact me with any questions or concerns.

Very truly yours,

William L. Rasmussen, P.C.

Metro

600 NE Grand Ave.
Portland, OR 97232-2736
oregonmetro.gov

January 16, 2018

Mr. Phil Lewis
Community Services Director
City of Oregon City
625 Center St.
Oregon City, OR 97045

RE: McLoughlin to Canemah Trail Plan

Dear Phil:

Congratulations on completing the McLoughlin to Canemah Trail Plan and recommending it for the City of Oregon City's review and approval. We understand this trail plan is providing a recommendation for a preferred alignment from the site of the Willamette Falls Legacy Project to the Canemah Children's Park located adjacent to Metro's Canemah Bluff Natural Area. This future trail will complement many key projects Metro and the City are working on: Willamette Falls River Walk, Canemah Bluff Natural Area, Newell Creek Canyon Nature Park, and the Oregon City Trail Loop/Newell Creek Canyon Trail. Once completed, the trail will allow people to connect with the river and the Willamette River Greenway. This concept has been a city, regional and state goal for more than 50 years with the Oregon State Legislature endorsing the idea in 1967.

Mel Huie, Metro's regional trails coordinator, served on the technical advisory committee for the plan and reports that the process was fair and open, with broad representation from key stakeholders. He found the research, analysis and public engagement efforts to be thoughtful and well conducted. We are particularly glad to see a cooperative planning effort with ODOT to plan the trail along Hwy. 99E.

Following up on the recent trail and overlook improvements completed in Canemah Bluff Natural Area, Metro continues to be interested in future planning for this regionally significant nature park. In the coming years we hope to identify funding that would allow us to develop a master plan for this site. This study would address among other things, the natural resource and conservation goals, level of access and if the conceptual "Oregon City Loop Trail" should continue through the natural area. Working with the City will be critical to establishing this vision. Once funding is secured, we look forward to working with you on this effort.

Congratulations once again on your progress and I look forward to continuing conversations about how Metro Parks and Nature can work with you and the City on your natural areas and trail projects.

Sincerely,

Jon Blasher, Director
Parks and Nature

cc: Dan Moeller, Lisa Goorjian, Rod Wojtanik, Mel Huie – Metro
Kelly Reid – Oregon City

From: james nicita
To: Kelly Reid
Subject: Re: McLoughlin-Canemah Trail Plan update
Date: Saturday, January 13, 2018 2:18:49 PM
Attachments: 2010-11-17 City Commission Budwin Property Purchase).PDF

Kelly,

At the last Planning Commission meeting addressing the McLoughlin-Canemah Trail Plan, Commissioner Espe requested that I supply information regarding the City Commission's 2010 purchase of a large parcel in Canemah, known as the Budwin property, for park purposes.

I have assembled the attached package, and respectfully request that it be included in the record of each of the meetings on the McLoughlin-Canemah Trail Plan described below.

Thank you.

Jim Nicita
Oregon City

From: Kelly Reid <kreid@orcity.org>
Sent: Thursday, January 11, 2018 5:17:08 PM
Subject: McLoughlin-Canemah Trail Plan update

Good Morning all,

The purpose of this email is to provide an update to interested parties regarding the McLoughlin-Canemah Trail Plan. The Advisory Group met for a fourth meeting last month, and the final alignment has been slightly revised.

The revised draft plan has been posted on the City website – you can download it here:
https://www.orcity.org/sites/default/files/fileattachments/planning/page/11196/2018mct_finalreport_january_reduced.pdf

If you want more in depth explanation of why the changes were made, meeting notes have been posted on the project webpage here: https://www.orcity.org/planning/mcloughlin-canemah-trail-plan

Upcoming meetings and presentations include:

Transportation Advisory Committee: **Tuesday January 16th** at 6PM, City Hall
Clackamas County Historical Society: **Monday January 22nd** 5PM at the museum
Parks and Rec Advisory Committee: **Thursday January 25th** 7PM, City Hall
Planning Commission public hearing: **Monday February 12th** 7PM, City Hall

You are welcome to attend any of the City Hall meetings. If you can only attend one, I would suggest the Planning Commission on February 12th. The other meetings are more informational with the aim to seek feedback and endorsement from those groups.

Public comments are always encouraged and welcome and will be added to the record for the Planning Commission. Feel free to email, write a letter, or testify at the meeting.

Thank you!

Kelly Reid, AICP
Planner, City of Oregon City
(503) 496-1540

kreid@orcity.org

AGENDA
City of Oregon City, Oregon
WEDNESDAY, NOVEMBER 17, 2010

REGULAR MEETING OF THE CITY COMMISSION
7:00 P.M.

City Commission:	***Meeting held at:***
Alice Norris, Mayor	City Hall
Doug Neeley, Commission President	Commission Chambers
James Nicita	625 Center Street
Rocky Smith, Jr.	Oregon City, OR 97045
Daphne Wuest	503-657-0891

1. Convene Regular Meeting of November 17, 2010, and Roll Call

2. Flag Salute

3. Ceremonies, Proclamations, Presentations

   a. Oath of Office - Oregon City Police Department
      Officer Tracy Weiland
      Officer Jo Robinson

4. Citizen Comments

   This section of the agenda allows citizens up to 3 minutes to present information relevant to the City, not related to items on the agenda. As a general practice, the City Commission does not engage in discussion with those making comments. Prior to speaking, citizens should fill out a form (available in the back of the Chambers) and hand it to the City Recorder. Begin speaking by stating your name and residing city.

5. Adoption of the Agenda

6. Public Hearings

7. General Business

   a. Decision regarding Eastham School Purchase for the Oregon City Library
      Staff: Maureen Cole, Library Director

   b. Resolution No. 10-30, Oregon City Garbage, B&B Leasing, Proposed Solid Waste Rate Adjustment
      Staff: David Wimmer, Finance Director

   c. Purchase of Property for Park and Open Space Purposes
      Staff: Scott Archer, Community Service Director

   d. Amendment Number 01 Local Agency Agreement No. 25,074, Between ODOT and Oregon City, For Construction and Addition of 2009 Oregon Jobs and Transportation (JTA) Funds for OR 213: I-205 - Redland Road O'xing (Oregon City) (aka Jughandle) Project
      Staff: Nancy Kraushaar, City Engineer and Public Works Director

   e. Purchase of Wetland Credits from Foster Creek Wetland Mitigation Bank and Mud Slough Wetland Mitigation Bank to Comply with Department of State Lands (DSL) Permit #0044900 for Wetlands Mitigation Relating to OR 213: I-205 - Redland Road O'xing (Oregon City)

7. General Business

Project and in Accordance with Local Agency Agreement No. 25,074 Amendment Number 01 For Construction and Expenditure of JTA Funds
Staff: Nancy Kraushaar, City Engineer and Public Works Director

f. Resolution No. 10-31, Adoption of the Manual for Boards and Commission
Staff: Nancy Ide, City Recorder

g. Minutes of the November 3, 2010 Regular Meeting
Staff: Nancy Ide, City Recorder

8. Consent Agenda

This section allows the City Commission to consider routine items that require no discussion and can be approved in one comprehensive motion. An item may only be discussed if it is pulled from the consent agenda.

9. Communications

a. City Manager

b. Mayor

c. Commissioners

10. Adjournment

ORDER OF THE VOTE NO. 3
Wuest, Smith, Nicita, Neeley, Norris

Citizen Comments: The following guidelines are given for citizens presenting information or raising issues relevant to the City but **not listed on the agenda**.

- Complete a Comment Card **prior to the meeting** and submit it to the City Recorder.
- When the Mayor calls your name, proceed to the speaker table and state your name and city of residence into the microphone.
- Each speaker is given 3 minutes to speak. To assist in tracking your speaking time, refer to the timer at the dais.
- As a general practice, the City Commission does not engage in discussion with those making comments.

If you wish to speak to an item **on the agenda**, complete the Comment Card, submit it to the City Recorder, and the Mayor will call your name when the item is addressed on the agenda.
Agenda Posted November 10, 2010 at City Hall, Pioneer Community Center, Library, City Web site.
Video Streaming & Broadcasts: The meeting is streamed live on Internet on the Oregon City's Web site at www.orcity.org and available on demand following the meeting. The meeting can be viewed live on Willamette Falls Television on Channels 23 and 28 for Oregon City and Gladstone residents; Channel 18 for Redland residents; and Channel 30 for West Linn residents. The meetings are also rebroadcast on WFTV. Please contact WFTV at 503-650-0275 for a programming schedule.

City Hall is wheelchair accessible with entry ramps and handicapped parking located on the east side of the building. Hearing devices may be requested from the City Recorder prior to the meeting. Disabled individuals requiring other assistance must make their request known 48 hours preceding the meeting by contacting the City Recorder's Office at 503-657-0891.

CITY OF OREGON CITY
CITY COMMISSION
MEETING MINUTES

November 17, 2010

1. **Convene Regular Meeting of November 17, 2010, and Roll Call**

Roll Call: Mayor Alice Norris; Commissioner Doug Neeley; Commissioner Rocky Smith, Jr.; and Commissioner James Nicita.

Staff Present: David Frasher, City Manager; Nancy Ide, City Recorder; Nancy Kraushaar, City Engineer and Public Works Director; Scott Archer, Community Services Director; David Wimmer, Finance Director; Jim Loeffler, Human Resources Director; Mike Conrad, Police Chief and Public Safety Director; Maureen Cole, Library Director; Teri Bankhead, Assistant to the City Manager; Tony Konkol, Community Development Director; and Dan Drentlaw, Economic Development Manager; Ed Sullivan, City Attorney.

Mayor Norris called the meeting to order at 7:00 p.m.

2. **Flag Salute**

3. **Ceremonies, Proclamations, Presentations**

a. **Oath of Office -Oregon City Police Department Officer Tracy Weiland Officer Jo Robinson**

Mike Conrad, Police Chief and Public Safety Director, introduced the new officers.

Mayor Norris administered the Oath of Office for Officer Tracy Weiland and Officer Jo Robinson.

4. **Citizen Comments**

There were no citizen comments.

5. **Adoption of the Agenda**

The agenda was adopted as presented.

6. **Public Hearings**

7. **General Business**

a. **Decision regarding Eastham School Purchase for the Oregon City Library**

Mike McCoy of B&B Leasing discussed the reasons for the rate increase.

Commissioner Nicita requested a public hearing regarding the increase before a decision was made.

The Commission would hold a public hearing at their next meeting and make a decision after the hearing.

c. **Purchase of Property for Park and Open Space Purposes**

Scott Archer explained the proposed real estate agreement for the purchase of 7.2 acres in the Canemah area for park and open space purposes. The price was $120,000 plus shared closing costs. The funds came from the Metro local share allocation from the 2006 open spaces bond measure. There was a due diligence period and the City had until December 31 to close on the property. The Parks and Recreation Advisory Committee would review the purchase at their meeting on December 2. Mr. Archer recommended the Commission approve the purchase and he would bring back the input from the Committee. The Council would still have the option to stop the transaction if need be.

Paul Edgar of Oregon City expressed the Canemah Neighborhood Association's support for the purchase.

Motion by Commissioner James Nicita, second by Commissioner Rocky Smith, Jr. to approve the real estate agreement for a purchase in the amount of $120,000 plus closing costs for approximately 7.2 acres of property in the Canemah area for park and open space purposes and to direct Mr. Archer to bring this item before the Parks and Recreation Advisory Committee during the due diligence phase.

A roll call was taken and the motion passed with Mayor Alice Norris, Commissioner Doug Neeley, Commissioner Rocky Smith, Jr., and Commissioner James Nicita voting aye. [4:0:0]

d. **Amendment Number 01 Local Agency Agreement No. 25,074, Between ODOT and Oregon City, For Construction and Addition of 2009 Oregon Jobs and Transportation (JTA) Funds for OR 213: I-205 -Redland Road O'xing (Oregon City) (aka Jughandle) Project**

Nancy Kraushaar, City Engineer and Public Works Director, said there had been a thorough review of the Local Agency Agreement by ODOT, Oregon City staff, and the City Attorney's office and staff was recommending approval.

Motion by Commissioner James Nicita, second by Commissioner Doug Neeley to approve Amendment No. 01 to the Local Agency Agreement between ODOT and Oregon City for the Jughandle project.

A roll call was taken and the motion passed with Mayor Alice Norris, Commissioner Doug Neeley, Commissioner Rocky Smith, Jr., and Commissioner James Nicita voting aye. [4:0:0]

e. **Purchase of Wetland Credits from Foster Creek Wetland Mitigation Bank and Mud Slough Wetland Mitigation Bank to Comply with Department of State Lands (DSL) Permit #0044900 for Wetlands Mitigation Relating to OR 213: I-205 -Redland Road**

Commissioner Neeley said he wanted citizens to have the opportunity to comment on issues that were on the agenda. A sentence would be added to address the concern.

William Gifford of Oregon City asked how the manual would be distributed and if there would be an established review period for the document. Ms. Ide explained the manual would be distributed to all current and new board and commission members and be posted to the City's Web site. There could be an annual review.

Due to the addition regarding public comment, this item would be placed on the Consent Agenda for the next Commission meeting.

g. **Minutes of the November 3, 2010 Regular Meeting**

Motion by Commissioner Rocky Smith, Jr., second by Commissioner James Nicita to approve the minutes of the November 3, 2010 Regular Meeting.

A roll call was taken and the motion passed with Mayor Alice Norris, Commissioner Doug Neeley, Commissioner Rocky Smith, Jr., and Commissioner James Nicita voting aye. [4:0:0]

8. **Consent Agenda**

9. **Communications**

a. **City Manager**

Mr. Frasher had been doing performance evaluations of senior staff. He was also working on changing the business license process, working with the Chamber to encourage businesses who wanted to expand to come to Oregon City, and would be attending the Oregon Business Plan meeting. Regarding Commissioner Nicita's concern about traffic safety on Highway 99E and the Canemah neighborhood, Ms. Kraushaar wrote a letter to ODOT expressing the concern. The Commission would be notified when a response came back.

b. **Mayor**

Mayor Norris appointed Dan Holladay to the Clackamas Cable Access Board for a term to expire on December 31, 2012. She also announced a bridge event on January 15.

Mayor Norris left the meeting at 8:15 p.m.

c. **Commissioners**

Commissioner Smith appreciated the fact there were now 39 City police officers and the windows in the Ermatinger House were being replaced.

Commissioner Nicita attended an educational seminar on economic development sponsored by the League of Oregon Cities. He thought the City's web site should be more robust regarding economic development and business information.

Commissioner Neeley said he was working on the Boards and Committees liaison spreadsheet and talking to various advisory boards regarding appointments to the boards.

10. **Adjournment**

Commission President Neeley adjourned the meeting at 8:24 p.m.

Respectfully submitted,

Nancy Ide, City Recorder

Agenda Item No. 7c
Meeting Date: 17 Nov 2010

COMMISSION REPORT: CITY OF OREGON CITY

TO:	Honorable Mayor and City Commission
FROM:	Scott Archer, Community Services Director
PRESENTER:	Scott Archer, Community Services Director
SUBJECT:	Purchase of Property for Park and Open Space Purposes
Agenda Heading: General Business	
Approved by: David Frasher, City Manager	

RECOMMENDED ACTION (Motion):

Staff recommends City Commission approval of the Real Estate Agreement for a purchase in the amount of $120,00 plus closing costs for approximately 7.2 acres of property in the Canemah area for park and open spaces purposes.

BACKGROUND:

The City Commission previously identified the Canemah area as a targeted priority for acquiring open spaces with the available funding from the Metro Natural Areas regional bond measure (2006) Local Legacy Share Allocation. Oregon City's allocation from the Local Share program is $988,728. To date, Oregon City has utilized $525,000 of its Local Legacy Share Allocation funding towards the Glen Oak Road park property purchase. This property acquisition proposes to make use of a portion of the City's remaining balance of $463,728 from the local share funding.

The parcel proposed to be purchased is ideally located within the identified area, and meets the criteria of the Local Legacy Share Allocation program. It is directly adjacent to the existing Metro regional open spaces within Canemah. The owner of the property is a willing seller, which is a requirement of the use of the Metro bond funds. The City and the seller believe the purchase price is well below market value, in part because the seller is motivated to have the property become park land. The major terms of the proposed purchase agreement are as follows:

- Purchase price is $120,000.
- City and seller to each pay half of closing costs.
- Seller to pay all real estate commission fees.
- The agreement provides for a due diligence period through the closing date, which allows the City to cancel the purchase agreement for any reason during this time. This allows us to further investigate the property, such as performing an environmental assessment, to ensure there are no currently unknown issues or concerns with the property.
- Closing will occur no later than December 31, 2010 if City does not cancel agreement prior.

The Local Legacy Share Allocation funding is received via a reimbursement process; therefore the purchase will be made with our available Parks System Development Charges (SDC) fund. Reimbursement to this fund with the Metro funds will occur after purchase.

BUDGET IMPACT:

FY(s): 2010-11
Funding Source: Park System Development Charges funds

ATTACHMENTS:

Purchase Agreement
Maps

Canemah Budwin Property Acquisition view 1



4

City of Oregon City
P.O. Box 3040
625 Center St
Oregon City, OR 97045
(503) 657-0891
www.orcity.org

This map is not suitable for survey, engineering, legal, or navigation purposes. Errors and omissions may exist.

Map created with OCMap 2010

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Canemah Budwin Property Acquisition view2



4

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Canemah Budwin Property Acquisition view3



4

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Map created with OCMap 2010

11/09/2010

City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Staff Report

File Number: PC 18-020

Agenda Date: 2/12/2018

Status: Agenda Ready

To: Planning Commission

Agenda #: 4a.

From: Community Development Director Laura Terway

File Type: Planning Item

SUBJECT:
Work Session for L 17-04: Proposed Amendments to the Development Sections of the Oregon City Municipal Code (Including Lot Averaging)

RECOMMENDED ACTION (Motion):
Provide comment and feedback.

BACKGROUND:
Staff has proposed a variety of minor amendments to the Oregon City Municipal Code. Although a majority of the amendments provide clarity, improve processes, or remove code conflicts, the more substantial changes include:
1. Amending language for lot averaging
2. Removing the ability to reconsider a final decision
3. Clarify how dates are calculated
4. Remove light bulb requirements
5. Allow 10% parking reduction adjacent to transit routes

Notice of all code amendments was mailed to every property owner in the City limits and within the Urban Growth Boundary in late December. The Development Stakeholders Group reviewed the amendments on January 4, 2018 and the City Commission heard the amendments for the first time at their work session on January 9, 2018. The Planning Commission held their first work session on the amendments on January 22, 2018.

Proposed Changes to the Oregon City Municipal Code

Note language subject to change throughout the review process.

Code additions have underlines, extractions have ~~strike through~~. Changes from the last draft are identified in red.

Draft Dated January 10, 2018

Oregon City Municipal Code Section	Summary of Change	Explanation
16.12.050	Amend lot averaging provisions in subdivisions for the following: • Lot sizes allowed to be 10% smaller than zone average rather than 20% • Cap the total number of lots that can be smaller than the zone average to 25%.	Concerns that the provision allowed for too many lots to be below the zoning minimum and the sizes could be too small.
17.04.420	Increase the number of children a family daycare provider may care for from 13 to 16.	Per ORS 329A.440(4), a family daycare provider can have up to 16 children, not 13.
17.04.812	Create definition of "net leasable area".	Net leasable area is used to calculate parking requirements.
17.29.020	Clarify that single and two-family units are permitted when in conjunction with and located on the same lot as another permitted use in the zone. This applies to NC, C, MUC-1, MUC-2 and MUD.	Clarifies the intent of the code.
17.49.080	Add fence posts under NROD exemptions	Fence posts are similar in nature to utility poles, which are already exempt
17.50.030.B 17.50.030.C 17.50.030.D 17.50.030.F	Clarify noticing for Type II-IV processes. Specify that decisions, completeness reviews, appeals, and notices in this Chapter shall be calculated according to OCMC Chapter 1.04.070 and shall be based on calendar days, not business days. Amends Table 17.50.030 to match code language for reconsiderations, Historic Review, Extensions, and Natural Resource Overlay District Review.	Provides clarification and amends Table 17.50.030 to match code language.
17.50.260	Remove reconsideration of a final decision.	Decisions may be reconsidered with an appeal.
17.52.020.C.4	Allow reduction of minimum parking by 10% if adjacent to a transit route.	A similar reduction was inadvertently removed from the code.
17.58.040 17.58.040.C 17.58.040.C.2	Clarified that nonconforming upgrades are required for increases to the square footage of a building and/or site improvements which include installation of an additional off-street parking stall.	Clarify when nonconforming upgrades are required.

17.62.035.A.2.a 17.62.035.A.2.b 17.62.035.A.2.u	Clarify that any size demolition qualifies as a Type I Minor Site Plan and Design Review.	Corrects an unintended provision of previous code amendments.
17.62.035.A.2.v	Clarify tree removal as a Type I Minor Site Plan and Design Review.	Applicants could not clearly tell that tree removal was included in landscaping which was already a Type I review.
17.62.050.A.1.c	Exempt landscaping tree removal and/or replacement from submitting a plan by a landscape architect if the new species is on an approved tree list. Allow certified landscape designer, arborist, or nurseryman to approve of projects less than 500 sq. ft. rather than a landscape architect.	Streamline tree and landscape review.
17.62.050.A.1.d	Remove requirement for 10% landscaping for major remodeling.	The code and specific zoning designations provide a landscaping minimums more appropriate to zoning designations.
17.62.050.A.20.d	Remove requirement which conflicts with code section requiring all commercial mechanical changes to be a Type I Site Plan and Design Review.	Remove section which was corrected with the adoption of Type I Site Plan and Design Review.
17.62.050.A.23	Clarify connection between development and nonconforming upgrades.	Clarify code requirements.
17.62.065.D	Remove redundant sections and conflicting standards. Remove bulb requirements. Remove standard related to fixture requirements.	Streamline and clarify language, remove blub requirements to allow emerging technologies.
17.80	Update Communication Facilities chapter to allow a quicker review for some projects.	Amend code to comply with 2012 ruling

16.12.050 ~~Calculations of lot area~~ Lot Size Reduction~~s~~.

Up to 25% of the lots in a~~A~~ subdivision in the R-10, R-8, R-6, R-5, or R-3.5 dwelling district may ~~include lots that are~~be up to ~~twenty~~ ten percent less than the required minimum lot area of the applicable zoning designation provided the lots within the entire subdivision on average meet~~s~~ the minimum site area requirement of the underlying zone.

The average lot area is determined by calculating the total site area devoted to dwelling units and dividing that figure by the proposed number of dwelling lots.

Accessory dwelling units are not included in this determination nor are tracts created for non-dwelling unit purposes such as open space, stormwater tracts, or access ways.

A lot that was created pursuant to this section may not be further divided unless the average lot size requirements are still met for the entire subdivision.

When a lot abuts a public alley, an area equal to the length of the alley frontage along the lot times the width of the alley right-of-way measured from the alley centerline may be added to the area of the abutting lot in

order to satisfy the lot area requirement for the abutting lot. It may also be used in calculating the average lot area.

17.04.420 - Family day care provider. "Family day care provider" means a day care provider who regularly provides day care to fewer than ~~thirteen~~ sixteen children, including the children of the provider, regardless of full-time or part-time status, in the provider's home in the family living quarters. Provisions of day care to thirteen or more children in the home of the provider shall constitute the operations of a "day care facility," as defined in this chapter, and shall be subject to the requirements of this title for day care facilities. A family day care provider to ten or more children shall satisfy the certification requirements of the ~~children's services division~~ Office of Child Care.

17.04.812 Net Leasable Area.
Actual square-footage of a building that may be leased or rented to tenants, which excludes common areas, shared hallways, elevator shafts, stairways, and space devoted to cooling, heating, or other equipment.

17.29.020 - Permitted uses—MUC-1 and MUC-2.

A. Banquet, conference facilities and meeting rooms;
B. Bed and breakfast and other lodging facilities for up to ten guests per night;
C. Child care centers and/or nursery schools;
D. Indoor entertainment centers and arcades;
E. Health and fitness clubs;
F. Medical and dental clinics, outpatient; infirmary services;
G. Museums, libraries and cultural facilities;
H. Offices, including finance, insurance, real estate and government;
I. Outdoor markets, such as produce stands, craft markets and farmers markets that are operated on the weekends and after six p.m. during the weekday;
J. Postal services;
K. Parks, playgrounds, play fields and community or neighborhood centers;
L. Repair shops, for radio and television, office equipment, bicycles, electronic equipment, shoes and small appliances and equipment;
M. Residential units, multi-family;
N. Residential units, ~~and~~ single and two-family ~~units~~in the same building ~~when in conjunction with and located on the same lot~~ as another permitted use in the zone;
O~~N~~. Restaurants, eating and drinking establishments without a drive through;
P~~O~~. Services, including personal, professional, educational and financial services; laundry and dry-cleaning;
Q~~P~~. Retail trade, including grocery, hardware and gift shops, bakeries, delicatessens, florists, pharmacies, specialty stores, marijuana pursuant to Section 17.54.110, and similar, provided the maximum footprint for a stand-alone building with a single store or multiple buildings with the same business does not exceed sixty thousand square feet;
R~~Q~~. Seasonal sales, subject to OCMC Section 17.54.060;
S~~R~~. Assisted living facilities; nursing homes and group homes for over fifteen patients;
T~~S~~. Studios and galleries, including dance, art, photography, music and other arts;
U~~T~~. Utilities: Basic and linear facilities, such as water, sewer, power, telephone, cable, electrical and natural gas lines, not including major facilities such as sewage and water treatment plants, pump stations, water tanks, telephone exchanges and cell towers;
V~~U~~. Veterinary clinics or pet hospitals, pet day care;
W~~V~~. Home occupations;
X~~W~~. Research and development activities;
Y~~X~~. Temporary real estate offices in model dwellings located on and limited to sales of real estate on a single piece of platted property upon which new residential buildings are being constructed;

ZY. Residential care facility;
AAZ. Transportation facilities;
ABAA. Live/work units, pursuant to Section 17.54.105—Live/work units.

17.49.[0]80 - Uses allowed outright (exempted).

The following uses are allowed within the NROD and do not require the issuance of an NROD permit:

A. Stream, wetland, riparian, and upland restoration or enhancement projects as authorized by the city.
B. Farming practices as defined in ORS 215.203 and farm uses, excluding buildings and structures, as defined in ORS 215.203.
C. Utility service using a single utility pole ~~or w~~
D. Fences in which posts disturb no more than one hundred square feet of ground surface outside of the top of bank of water bodies
E. Activities in which no more than one hundred square feet of ground surface is disturbed outside of the top-of-bank of water bodies and where the disturbed area is restored to the pre-construction conditions, notwithstanding that disturbed areas that are predominantly covered with invasive species shall be required to remove the invasive species from the disturbance area and plant trees and native plants pursuant to this Chapter.
F. Boundary and topographic surveys leaving no cut scars greater than three inches in diameter on live parts of native plants listed in the Oregon City Native Plant List.
G. Soil tests, borings, test pits, monitor well installations, and other minor excavations necessary for geotechnical, geological or environmental investigation, provided that disturbed areas are restored to pre-existing conditions as approved by the community development director.
H. Trails meeting all of the following:
    1. Construction shall take place between May 1 and October 30 with hand held equipment;
    2. Widths shall not exceed forty-eight inches and trail grade shall not exceed twenty percent;
    3. Construction shall leave no scars greater than three inches in diameter on live parts of native plants;
    4. Located no closer than twenty-five feet to a wetland or the top of banks of a perennial stream or ten feet of an intermittent stream;
    5. No impervious surfaces; and
    6. No native trees greater than one-inch in diameter may be removed or cut, unless replaced with an equal number of native trees of at least two-inch diameter and planted within ten feet of the trail.
I. Land divisions provided they meet the following standards, and indicate the following on the final plat:
    1. Lots shall have their building sites (or buildable areas) entirely located at least five feet from the NROD boundary shown on the city's adopted NROD map. For the purpose of this subparagraph, "building site" means an area of at least three thousand five hundred square feet with minimum dimensions of forty feet wide by forty feet deep;
    2. All public and private utilities (including water lines, sewer lines or drain fields, and stormwater disposal facilities) are located outside the NROD;
    3. Streets, driveways and parking areas where all pavement shall be located at least ten feet from the NROD; and
    4. The NROD portions of all lots are protected by:
    a. A conservation easement; or
    b. A lot or tract created and dedicated solely for unimproved open space or conservation purposes.
J. Site Plan and Design Review applications where all new construction is located outside of the NROD boundary shown on the city's adopted NROD map, and the NROD area is protected by a conservation easement approved in form by the city.
K. Routine repair and maintenance of existing structures, roadways, driveways and utilities.
L. Replacement, additions, alterations and rehabilitation of existing structures, roadways, utilities, etc., where the ground level impervious surface area is not increased.
M. Measures mandated by the City of Oregon City to remove or abate nuisances or hazardous conditions.

N. Planting of native vegetation and the removal of non-native, invasive vegetation (as identified on the Oregon City Native Plant List), and removal of refuse and fill, provided that:
   1. All work is done using hand-held equipment;
   2. No existing native vegetation is disturbed or removed; and
   3. All work occurs outside of wetlands and the top-of-bank of streams.

17.50.030 - Summary of the city's decision-making processes.

The following decision-making processes chart shall control the city's review of the indicated permits:

Table 17.50.030
PERMIT APPROVAL PROCESS

PERMIT TYPE	I	II	III	IV	Expedited Land Division
Annexation with or Without a Zone Change				X	
Compatibility Review	X				
Code Interpretation			X		
General Development Plan			X		
Conditional Use			X		
Detailed Development Plan [1]	X	X	X		
Extension	X	~~X~~			
Final Plat	X				
Geologic Hazards		X			
Historic Review	X	~~X~~	X		
Lot Line Adjustment and Abandonment	X				
Major Modification to a Prior Approval [2]	X	X	X	X	X
Minor Modification to a prior Approval	X				
Minor Partition		X			
Nonconforming Use, Structure and Lots Review	X	X			
~~Reconsideration~~ Plan or Code Amendment	~~X~~			X	
Revocation				X	
Site Plan and Design Review	X	X			
Subdivision		X			X
Variance		X	X		
Zone Change ~~and Plan Amendment~~				X	
~~Zone Change Upon Annexation with No Discretion~~	~~X~~			~~X~~	
~~Zone Change Upon Annexation with Discretion~~				~~X~~	
Natural Resource Overlay District Exemption	X				
Natural Resource Overlay District Review		X	X		

[1] If any provision or element of the master plan requires a deferred Type III procedure, the detailed development plan shall be processed through a Type III procedure.

[2] A major modification to a prior approval shall be considered using the same process as would be applicable to the initial approval.

A. Type I decisions do not require interpretation or the exercise of policy or legal judgment in evaluating approval criteria. Because no discretion is involved, Type I decisions do not qualify as a land use, or limited land use, decision. The decision-making process requires no notice to any party other than the applicant. The community development director's decision is final and not appealable by any party through the normal city land use process.

B. Type II decisions involve the exercise of limited interpretation and discretion in evaluating approval criteria, similar to the limited land use decision-making process under state law. Applications evaluated through this process are assumed to be allowable in the underlying zone, and the inquiry typically focuses on what form the use will take or how it will look. Notice of application and an invitation to comment is mailed to the applicant, recognized active neighborhood association(s) and property owners within three hundred feet. The community development director accepts comments for a minimum of fourteen days and renders a decision. The community development director's decision is appealable to the city commission with notice to the planning commission, by any party with standing ~~(i.e., applicant and any party who submitted comments during the comment period)~~under ORS 227.175.10(a)(~~c~~C). Review of the development director's decision will be de novo. The city commission decision is the city's final decision and is ~~appealable~~ subject to review by ~~to~~ the land use board of appeals (LUBA) within twenty-one days of when it becomes final.

C. Type III decisions involve the greatest amount of discretion and evaluation of subjective approval standards, yet are not ~~required to be~~ heard by the city commission, except upon appeal. In the event that any decision is not classified, it shall be treated as a Type III decision. The process for these land use decisions is controlled by ORS 197.763. Notice of the application and the planning commission or the historic review board hearing is published and mailed to the applicant, recognized neighborhood association(s) and property owners within three hundred feet. Notice must be issued at least twenty days pre-hearing, and the staff report must be available at least seven days pre-hearing. At the evidentiary hearing held before the planning commission or the historic review board, all issues are addressed. The decision of the planning commission or historic review board is appealable to the city commission, on the record pursuant to Section 17.50.190. The city commission decision on appeal ~~from the historic review board or the planning commission~~ is the city's final decision and is ~~appealable to~~ subject to review by LUBA within twenty-one days of when it becomes final, unless otherwise provided by state law.

D. Type IV decisions include only quasi-judicial plan amendments and zone changes. These applications involve the greatest amount of discretion and evaluation of subjective approval standards and must be heard by the city commission for final action. The process for these land use decisions is controlled by ORS 197.763. Notice of the application and planning commission hearing is published and mailed to the applicant, recognized neighborhood association(s) and property owners within three hundred feet. Notice must be issued at least twenty days pre-hearing, and the staff report must be available at least seven days pre-hearing. At the evidentiary hearing held before the planning commission, all issues are addressed. If the planning commission denies the application, any party with standing (i.e., anyone who appeared before the planning commission either in person or in writing within the comment period) may appeal the planning commission denial to the city commission. If the planning commission denies the application and no appeal has been received within ~~ten~~ fourteen days of the issuance of the final decision then the action of the planning commission becomes the final decision of the city. If the planning commission votes to approve the application, that decision is forwarded as a recommendation to the city commission for final consideration. In either case, any review by the city commission is on the record and only issues raised before the planning commission may be

raised before the city commission. The city commission decision is the city's final decision and is ~~appealable to~~ subject to review by the land use board of appeals (LUBA) within twenty-one days of when it becomes final.

E. The expedited land division (ELD) process is set forth in ORS 197.360 to 197.380. To qualify for this type of process, the development must meet the basic criteria in ORS 197.360(1)(a) or (b). While the decision-making process is controlled by state law, the approval criteria are found in this code. The community development director has twenty-one days within which to determine whether an application is complete. Once deemed complete, the community development director has sixty-three days within which to issue a decision. Notice of application and opportunity to comment is mailed to the applicant, recognized neighborhood association and property owners within one hundred feet of the subject site. The community development director will accept written comments on the application for fourteen days and then issues a decision. State law prohibits a hearing. Any party who submitted comments may call for an appeal of the community development director's decision before a hearings referee. The referee need not hold a hearing; the only requirement is that the determination be based on the evidentiary record established by the community development director and that the process be "fair." The referee applies the city's approval standards, and has forty-two days within which to issue a decision on the appeal. The referee is charged with the general objective to identify means by which the application can satisfy the applicable requirements without reducing density. The referee's decision is appealable only to the court of appeals pursuant to ORS 197.375(8) and 36.355(1).

F. Decisions, completeness reviews, appeals, and notices in this Chapter shall be calculated according to OCMC Chapter 1.04.070 and shall be based on calendar days, not business days.

~~**17.50.260 - Reconsideration of a final decision.**~~

~~Under this section, parties with standing may seek reconsideration of a final decision rendered pursuant to a Type II, Type III, or Type IV process. Reconsideration is warranted where the city's decision indicates the decision-maker failed to understand or consider certain relevant facts in the record or misinterpreted the application in some material way. Any request for reconsideration must be received by the planning division within ten days of when the decision in question was rendered and must specifically describe the alleged misunderstanding or misinterpretation. A request for reconsideration shall not stay the effectiveness of the city's final decision, nor shall it affect any applicable appeal deadlines to the land use board of appeals. If the request is granted, the community development director shall notify all affected parties that the decision will be reconsidered. Any request for reconsideration by the applicant shall be deemed a waiver of the one hundred-twenty-day deadline under Section 17.50.070.~~

17.52.020 - Number of automobile spaces required.

A. The number of parking spaces shall comply with the minimum and maximum standards listed in Table 17.52.020. The parking requirements are based on spaces per one thousand square feet net leasable area unless otherwise stated.

Table 17.52.020

LAND USE	PARKING REQUIREMENTS	
	MINIMUM	MAXIMUM
Multi-Family: Studio	1.00 per unit	1.5 per unit
Multi-Family: 1 bedroom	1.25 per unit	2.00 per unit
Multi-Family: 2 bedroom	1.5 per unit	2.00 per unit
Multi-Family: 3 bedroom	1.75 per unit	2.50 per unit

Hotel, Motel	1.0 per guest room	1.25 per guest room
Correctional Institution	1 per 7 beds	1 per 5 beds
Senior housing, including congregate care, residential care and assisted living facilities; nursing homes and other types of group homes	1 per 7 beds	1 per 5 beds
Hospital	2.00	4.00
Preschool Nursery/Kindergarten	2.00	3.00
Elementary/Middle School	1 per classroom	1 per classroom + 1 per administrative employee + 0.25 per seat in auditorium/assembly room/stadium
High School, College, Commercial School for Adults	0.20 per # staff and students	0.30 per # staff and students
Auditorium, Meeting Room, Stadium, Religious Assembly Building, movie theater,	.25 per seat	0.5 per seat
Retail Store, Shopping Center, Restaurants	4.10	5.00
Office	2.70	3.33
Medical or Dental Clinic	2.70	3.33
Sports Club, Recreation Facilities	Case Specific	5.40
Storage Warehouse, Freight Terminal	0.30	0.40
Manufacturing, Wholesale Establishment	1.60	1.67
Light Industrial, Industrial Park	1.3	1.60

1. Multiple Uses. In the event several uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements of the several uses computed separately.
2. Requirements for types of buildings and uses not specifically listed herein shall be determined by the community development director, based upon the requirements of comparable uses listed.
3. Where calculation in accordance with the above list results in a fractional space, any fraction less than one-half shall be disregarded and any fraction of one-half or more shall require one space.
4. The minimum required parking spaces shall be available for the parking of operable passenger automobiles of residents, customers, patrons and employees only, and shall not be used for storage of vehicles or materials or for the parking of vehicles used in conducting the business or use.
5. A change in use within an existing habitable building located in the MUD Design District or the Willamette Falls Downtown District is exempt from additional parking requirements. Additions to an existing building and new construction are required to meet the minimum parking requirements for the areas as specified in Table 17.52.020 for the increased square footage.

B. Parking requirements can be met either onsite, or offsite by meeting the following conditions:
1. Mixed Uses. If more than one type of land use occupies a single structure or parcel of land, the total requirements for off-street automobile parking shall be the sum of the requirements for all uses, unless it can be shown that the peak parking demands are actually less (e.g. the uses operate on different days or at different times of the day). In that case, the total requirements shall be reduced

accordingly, up to a maximum reduction of fifty percent, as determined by the community development director.

2. Shared Parking. Required parking facilities for two or more uses, structures, or parcels of land may be satisfied by the same parking facilities used jointly, to the extent that the owners or operators show that the need for parking facilities does not materially overlay (e.g., uses primarily of a daytime versus nighttime nature), that the shared parking facility is within one thousand feet of the potential uses, and provided that the right of joint use is evidenced by a recorded deed, lease, contract, or similar written instrument authorizing the joint use.
3. On-Street Parking. On-street parking may be counted toward the minimum standards when it is on the street face abutting the subject land use. An on-street parking space must not obstruct a required clear vision area and it shall not violate any law or street standard. On-street parking for commercial uses shall conform to the following standards:
    a. Dimensions. The following constitutes one on-street parking space:

1. Parallel parking, each [twenty-two] feet of uninterrupted and available curb;
2. [Forty-five/sixty] degree diagonal, each with [fifteen] feet of curb;
3. Ninety degree (perpendicular) parking, each with [twelve] feet of curb.

4. Public Use Required for Credit. On-street parking spaces counted toward meeting the parking requirements of a specific use may not be used exclusively by that use, but shall be available for general public use at all times. Signs or other actions that limit general public use of on-street spaces are prohibited.

C. Reduction of the Number of Automobile Spaces Required. The required number of parking stalls may be reduced in the Downtown Parking Overlay District: Fifty percent reduction in the minimum number of spaces required is allowed prior to seeking further reductions in [sub]sections 2. and 3. below:

1. Transit Oriented Development. For projects not located within the Downtown Parking Overlay District, the community development director may reduce the required number of parking stalls up to twenty-five percent when it is determined that a project in a commercial center (sixty thousand square feet or greater of retail or office use measured cumulatively within a five hundred-foot radius) or multi-family development with over eighty units, is adjacent to or within one thousand three hundred twenty feet of an existing or planned public transit street and is within one thousand three hundred twenty feet of the opposite use (commercial center or multi-family development with over eighty units).
2. Reduction in Parking for Tree Preservation. The community development director may grant an adjustment to any standard of this requirement provided that the adjustment preserves a regulated tree or grove so that the reduction in the amount of required pavement can help preserve existing healthy trees in an undisturbed, natural condition. The amount of reduction must take into consideration any unique site conditions and the impact of the reduction on parking needs for the use, and must be approved by the community development director. This reduction is discretionary.
3. Transportation Demand Management. The community development director may reduce the required number of parking stalls up to twenty-five percent when a parking-traffic study prepared by a traffic engineer demonstrates:
    a. Alternative modes of transportation, including transit, bicycles, and walking, and/or special characteristics of the customer, client, employee or resident population will reduce expected vehicle use and parking space demand for this development, as compared to standard Institute of Transportation Engineers vehicle trip generation rates and further that the transportation demand management program promotes or achieves parking utilization lower than minimum city parking requirements.
    b. Transportation demand management (TDM) program has been developed for approval by, and is approved by the city engineer. The plan will contain strategies for reducing vehicle use and parking demand generated by the development and will be measured annually. If, at the annual assessment, the city determines the plan is not successful, the plan may be revised. If the city

determines that no good-faith effort has been made to implement the plan, the city may take enforcement actions.

4. The minimum required number of stalls may be reduced by up to 10% when the subject property is ~~adjacent to a fixed transit route.~~ adjacent to an existing or planned fixed public transit route or within 1,000 feet of an existing or planned transit stop.

17.58.040 - Lawful nonconforming structure or s~~i~~te.

A structure or site that was lawfully established but no longer conforms to all development standards of this land use code (such as setbacks) shall be considered ~~a~~ lawfully nonconforming ~~structure~~. Notwithstanding development standard requirements in this Code, minor repairs and routine~~s~~ maintenance of a lawful nonconforming structure are permitted. The continuation of a lawful nonconforming structure or site is subject to the following:

A. Accidental Destruction. When a nonconforming structure is damaged by fire or other causes, the structure may be rebuilt using the same structure footprint.

B. Intentional Destruction. When a nonconforming structure is removed or intentionally damaged by fire or other causes within the control of the owner, the replacement structure shall comply with the development standards of this title.

C. Expansion. An expansion of a lawful nonconforming structure or site may be approved, conditionally approved or denied in accordance with the standards and procedures of this section.

1. In making a determination on such applications, the decision maker shall weigh the proposal's positive and negative features and the public convenience or necessity to be served against any adverse conditions that would result from authorizing the particular development at the location proposed, and, to approve such expansion, it must be found that the criteria identified in Section 17.58.060 have either been met, can be met by observance of conditions, or are not applicable.
2. ~~An expansion of a nonconforming structure with alterations~~ Increases in the square footage of a building and/or site improvements which include installation of any additional off-street parking stalls that exceed the threshold of subparagraph C.2.a. below shall comply with the development standards listed in subparagraph C.2.b. The value of the alterations and improvements is based on the entire project and not individual building permits.
    a. Thresholds triggering compliance. The standards of subparagraph C.2.b. below shall be met when the value of ~~the proposed exterior alterations or additions to the site~~, as determined by the community development director, is more then seventy-five thousand dollars. The following alterations and improvements shall not be included in the threshold calculation:
        1. Proposed alterations to meet approved fire and life safety agreements;
        2. Alterations related to the removal of existing architectural barriers, as required by the Americans with Disabilities Act, or as specified in Section 1113 of the Oregon Structural Specialty Code;
        3. Alterations required to meet Seismic Design Requirements; and
        4. Improvements to on-site stormwater management facilities in conformance with Oregon City Stormwater Design Standards.
    b. Standards that shall be met. Developments not complying with the development standards listed below shall be brought into conformance.
        1. Pedestrian circulation systems, as set out in the pedestrian standards that apply to the sites;
        2. Minimum perimeter parking lot landscaping;
        3. Minimum interior parking lot landscaping;
        4. Minimum site landscaping requirements;
        5. Bicycle parking by upgrading existing racks and providing additional spaces in order to comply with Chapter 17.52—Off-Street Parking and Loading;
        6. Screening; and
        7. Paving of surface parking and exterior storage and display areas.

c. Area of required improvements.
    1. Generally. Except as provided in C.2.c.2. below, required improvements shall be made for the entire site.
    2. Exception for sites with ground leases. Required improvements may be limited to a smaller area if there is a ground lease for the portion of the site where the alterations are proposed. If all of the following are met, the area of the ground lease will be considered as a separate site for purposes of required improvements. The applicant shall meet the following:
        i. The signed ground lease — or excerpts from the lease document satisfactory to the city attorney — shall be submitted to the community development director. The portions of the lease shall include the following:
            •The term of the lease. In all cases, there must be at least one year remaining on the ground lease; and
            •A legal description of the boundaries of the lease.
        ii. The boundaries of the ground lease shall be shown on the site plan submitted with the application. The area of the lease shall include all existing and any proposed development that is required for, or is used exclusively by, those uses within the area of the lease; and
        iii. Screening shall not be required along the boundaries of ground leases that are interior to the site.

d. Timing and cost of required improvements. The applicant may choose one of the two following options for making the required improvements:
    1. Option 1. Required improvements may be made as part of the alteration that triggers the required improvements. The cost of the standards that shall be met, identified in subparagraph C.2.b. above, is limited to ten percent of the value of the proposed alterations. It is the responsibility of the applicant to document to the community development director the value of the required improvements. Additional costs may be required to comply with other applicable requirements associated with the proposal. When all required improvements are not being made, the priority for the improvements shall be as listed in subparagraph C.2.b. above.
    2. Option 2. Required improvements may be made over several years, based on the compliance period identified in Table 17.58—1 below. However, by the end of the compliance period, the site shall be brought fully into compliance with the standards listed in subparagraph C.2.b. Where this option is chosen, the following must be met:
        i. Before a building permit is issued, the applicant shall submit the following to the community development director:
            •A Nonconforming Development Assessment, which identifies in writing and on a site plan, all development that does not meet the standards listed in Subparagraph C.2.b.
            •A covenant, in a form approved by the city attorney, executed by the property owner that meets the requirements of 17.50.150. The covenant shall identify development on the site that does not meet the standards listed in Subparagraph C.2.b., and require the owner to bring that development fully into compliance with this title. The covenant shall also specify the date by which the owner will be in conformance. The date must be within the compliance periods set out in Table 17.58 — 1.
        ii. The nonconforming development identified in the Nonconforming Development Assessment shall be brought into full compliance with the requirements of this Title within the following compliance periods. The compliance period begins when a building permit is issued for alterations to the site of more than seventy-five thousand dollars. The compliance periods are based on the size of the site (see Table 17.58—1 below).

iii. By the end of the compliance period, the applicant or owner shall request that the site by certified by the community development director as in compliance. If the request is not received within that time, or if the site is not fully in conformance, no additional building permits will be issued.

iv. If the regulations referred to by subparagraph C.2.b. are amended after the Nonconforming Development Assessment is received by the community development director, and those amendments result in development on the site that was not addressed by the Assessment becoming nonconforming, the applicant shall address the new nonconforming development using Option 1 or 2. If the applicant chooses Option 2, a separate Nonconforming Development Assessment, covenant and compliance period will be required for the new nonconforming development.

Table 17.58—1
Compliance Periods for Option 2

Square footage of site	Compliance Period
Less than 150,000 sq. ft.	2 years
150,000 sq. ft. or more, up to 300,000 sq. ft.	3 years
300,000 sq. ft. or more, up to 500,000 sq. ft.	4 years
More than 500,000 sq. ft.	5 years

17.62.035 - Minor site plan and design review.

This section provides for a minor site plan and design review process. Minor Site Plan Review is a Type I or Type II decision, as described in OCMC Section 17.62.035(A), subject to administrative proceedings described in OCMC Section 17.50 and may be utilized as the appropriate review process only when authorized by the community development director. The purpose of this type of review is to expedite design review standards for uses and activities that require only a minimal amount of review, typical of minor modifications and/or changes to existing uses or buildings.

A. Type I Minor Site Plan and Design Review.

1. Applicability. Type I applications involve no discretion. The Type I process is not applicable for:
   a. Any activity which is included with or initiates actions that require Type II-IV review.
   b. Any use which is not permitted outright, unless otherwise noted.
   c. Any proposal in which nonconforming upgrades are required under Chapter 17.58.
   d. Any proposal in which modifications are proposed under Section 17.62.015.
2. The following projects may be processed as a Type I application.
   a. Addition ~~or removal~~ of up to two hundred square feet to a commercial, institutional, or multifamily structure in which no increases are required to off-street parking. This includes a new ancillary structure, addition to an existing structure, or new interior space (excluding new drive thru). Increases of more than two hundred square feet in a twelve-month period shall be processed as Type II.
   b. Addition ~~or removal~~ of up to one thousand square feet to an industrial use in which no increases are required to off-street parking. This includes a new ancillary structure, addition to an existing structure, or new interior space (excluding ancillary retail and office). Increases of more than one thousand square feet in a twelve-month period shall be processed as Type II.

c. Replacement of exterior building materials.
d. Addition of windows and doors, relocation of windows and doors in which transparency levels remain unchanged, or removal of windows and doors provided minimum transparency requirements are still met.
e. Addition or alteration of parapets or rooflines.
f. Removal, replacement or addition of awnings, or architectural projections to existing structures.
g. Modification of building entrances.
h. Addition to or alteration of a legal nonconforming single or two-family dwelling.
i. Repaving of previously approved parking lots with no change to striping.
j. Change to parking lot circulation or layout, excluding driveway modifications.
k. Removal or relocation of vehicle parking stalls provided total parking remains between approved minimum and maximum with no new reductions other than through the downtown parking district.
l. Adoption of shared parking agreements.
m. Changes to amount, location, or design of bicycle parking.
n. Changes to landscaping that do not require stormwater quality and quantity treatment under OCMC Chapter 13.12.
o. New or changes to existing pedestrian accessways, walkways or plazas.
p. Installation of mechanical equipment.
q. Installation of or alterations to ADA accessibility site elements.
r. Modification of a fence, hedge, or wall, or addition of a fence, hedge or wall at least twenty feet away from a public right-of-way.
s. Addition of or alterations to outdoor lighting.
t. Addition, modification, or relocation of refuse enclosure.
u. Demolition of any structure or portion of a structure
v. Tree removal

3. Submittal requirements. A Type I application shall include:
   a. A narrative describing the project.
   b. Site plan drawings showing existing conditions/uses and proposed conditions/uses.
   c. Architectural drawings, including building elevations and envelopes, if architectural work is proposed.
   d. A completed application form.
   e. Any other information determined necessary by the Community Development Director.

B. Type II Minor Site Plan and Design Review.
1. Type II Minor site plan and design review applies to the following uses and activities unless those uses and activities qualify for Type I review per Section 17.62.035(A):
   a. Modification of an office, commercial, industrial, institutional, public or multi-family structure for the purpose of enhancing the aesthetics of the building and not increasing the interior usable space (for example covered walkways or entryways, addition of unoccupied features such as clock tower, etc.).
   b. Modification to parking lot layout and landscaping, or the addition of up to five parking spaces.
   c. A maximum addition of up to one thousand square feet to a commercial, office, institutional, public, multi-family, or industrial building provided that the addition is not more than thirty-five percent of the original building square footage.
   d. Other land uses and activities may be added if the community development director makes written findings that the activity/use will not increase off-site impacts and is consistent with the type and/or scale of activities/uses listed above.

2. Application. The application for the Type II minor site plan and design review shall contain the following elements:
   a. The submittal requirements of Chapter 17.50.
   b. A narrative explaining all aspects of the proposal in detail and addressing each of the criteria listed in Section 17.62.035(C) below.
   c. Site plan drawings showing existing conditions/uses and proposed conditions/uses.
   d. Architectural drawings, including building elevations and envelopes, if architectural work is proposed.
   e. Additional submittal material may be required by the community development director on a case-by-case basis.
3. Development Standards for Type II Minor Site Plan and Design Review.
   a. All development shall comply with Section 17.62.050(1—7 and 8—15 and 20—22) when deemed applicable by the community development director. Other sections may apply, as directed by the community development director when applicable, in order to show compliance with this chapter, such as the commercial and institutional standards of Section 17.62.055.

17.62.050 - Standards.

A. All development shall comply with the following standards:
   1. Landscaping, A minimum of fifteen percent of the lot shall be landscaped. Existing native vegetation shall be retained to the maximum extent practicable. All plants listed on the Oregon City Nuisance Plant List shall be removed from the site prior to issuance of a final occupancy permit for the building.
      a. Except as allowed elsewhere in the zoning and land division chapters of this Code, all areas to be credited towards landscaping must be installed with growing plant materials. A reduction of up to twenty-five percent of the overall required landscaping may be approved by the community development director if the same or greater amount of pervious material is incorporated in the non-parking lot portion of the site plan (pervious material within parking lots are regulated in OCMC 17.52.070).
      b. Pursuant to Chapter 17.49, landscaping requirements within the Natural Resource Overlay District, other than landscaping required for parking lots, may be met by preserving, restoring and permanently protecting native vegetation and habitat on development sites.
      c. ~~The~~ A landscaping plan shall be prepared by a registered landscape architect for new or revised landscaped areas. Landscape architect approval is not required for tree removal and/or installation if the species are chosen from an approved street tree list. A certified landscape designer, arborist, or nurseryman shall be acceptable in lieu of a landscape architect for projects with less than 500 square feet of landscaping. All landscape plans shall ~~and~~ include a mix of vertical (trees and shrubs) and horizontal elements (grass, groundcover, etc.) that within three years will cover one hundred percent of the Landscape area. No mulch, bark chips, or similar materials shall be allowed at the time of landscape installation except under the canopy of shrubs and within two feet of the base of trees. The community development department shall maintain a list of trees, shrubs and vegetation acceptable for landscaping.
      d. For properties within the Downtown Design District~~, or for major remodeling in all zones subject to this chapter,~~ landscaping shall be required to the extent practicable up to the ten percent requirement.
      e. Landscaping shall be visible from public thoroughfares to the extent practicable.
      f. Interior parking lot landscaping shall not be counted toward the fifteen percent minimum, unless otherwise permitted by the dimensional standards of the underlying zone district.
   2. Vehicular Access and Connectivity.
      a. Parking areas shall be located behind buildings, below buildings, or on one or both sides of buildings.

b. Ingress and egress locations on thoroughfares shall be located in the interest of public safety. Access for emergency services (fire and police) shall be provided.

c. Alleys or vehicular access easements shall be provided in the following Districts: R-2, MUC-1, MUC-2, MUD and NC zones unless other permanent provisions for access to off-street parking and loading facilities are approved by the decision-maker. The corners of alley intersections shall have a radius of not less than ten feet.

d. Sites abutting an alley shall be required to gain vehicular access from the alley unless deemed impracticable by the community development director.

e. Where no alley access is available, the development shall be configured to allow only one driveway per frontage. On corner lots, the driveway(s) shall be located off of the side street (unless the side street is an arterial) and away from the street intersection. Shared driveways shall be required as needed to accomplish the requirements of this section. The location and design of pedestrian access from the sidewalk shall be emphasized so as to be clearly visible and distinguishable from the vehicular access to the site. Special landscaping, paving, lighting, and architectural treatments may be required to accomplish this requirement.

f. Driveways that are at least twenty-four feet wide shall align with existing or planned streets on adjacent sites.

g. Development shall be required to provide existing or future connections to adjacent sites through the use of vehicular and pedestrian access easements where applicable. Such easements shall be required in addition to applicable street dedications as required in Chapter 12.04.

h. Vehicle and pedestrian access easements may serve in lieu of streets when approved by the decision maker only where dedication of a street is deemed impracticable by the city.

i. Vehicular and pedestrian easements shall allow for public access and shall comply with all applicable pedestrian access requirements.

j. In the case of dead-end stub streets that will connect to streets on adjacent sites in the future, notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future.

k. Parcels larger than three acres shall provide streets as required in Chapter 12.04. The streets shall connect with existing or planned streets adjacent to the site.

l. Parking garage entries shall not dominate the streetscape. They shall be designed and situated to be ancillary to the use and architecture of the ground floor. This standard applies to both public garages and any individual private garages, whether they front on a street or private interior access road.

m. Buildings containing above-grade structured parking shall screen such parking areas with landscaping or landscaped berms, or incorporate contextual architectural elements that complement adjacent buildings or buildings in the area. Upper level parking garages shall use articulation or fenestration treatments that break up the massing of the garage and/or add visual interest.

3. Building structures shall be complimentary to the surrounding area. All exterior surfaces shall present a finished appearance. All sides of the building shall include materials and design characteristics consistent with those on the front. Use of inferior or lesser quality materials for side or rear facades or decking shall be prohibited.

a. Alterations, additions and new construction located within the McLoughlin Conservation District, Canemah National Register District, and the Downtown Design District and when abutting a designated Historic Landmark shall utilize materials and a design that incorporates the architecture of the subject building as well as the surrounding district or abutting Historic Landmark. Historic materials such as doors, windows and siding shall be retained or replaced with in kind materials unless the community development director determines that the

materials cannot be retained and the new design and materials are compatible with the subject building, and District or Landmark. The community development director may utilize the Historic Review Board's Guidelines for New Constriction (2006) to develop findings to show compliance with this section.

b. In historic areas and where development could have a significant visual impact, the review authority may request the advisory opinions of appropriate experts designated by the community development director from the design fields of architecture, landscaping and urban planning. The applicant shall pay the costs associated with obtaining such independent professional advice; provided, however, that the review authority shall seek to minimize those costs to the extent practicable.

4. Grading shall be in accordance with the requirements of Chapter 15.48 and the public works stormwater and grading design standards.
5. Development subject to the requirements of the Geologic Hazard overlay district shall comply with the requirements of that district.
6. Drainage shall be provided in accordance with city's drainage master plan, Chapter 13.12, and the public works stormwater and grading design standards.
7. Parking, including carpool, vanpool and bicycle parking, shall comply with city off-street parking standards, Chapter 17.52.
8. Sidewalks and curbs shall be provided in accordance with the city's transportation master plan and street design standards. Upon application, the community development director may waive this requirement in whole or in part in those locations where there is no probable need, or comparable alternative location provisions for pedestrians are made.
9. A well-marked, continuous and protected on-site pedestrian circulation system meeting the following standards shall be provided:
   a. Pathways between all building entrances and the street are required. Pathways between the street and buildings fronting on the street shall be direct. Exceptions may be allowed by the director where steep slopes or protected natural resources prevent a direct connection or where an indirect route would enhance the design and/or use of a common open space.
   b. The pedestrian circulation system shall connect all main entrances on the site. For buildings fronting on the street, the sidewalk may be used to meet this standard. Pedestrian connections to other areas of the site, such as parking areas, recreational areas, common outdoor areas, and any pedestrian amenities shall be required.
   c. Elevated external stairways or walkways, that provide pedestrian access to multiple dwelling units located above the ground floor of any building are prohibited. The community development director may allow exceptions for external stairways or walkways located in, or facing interior courtyard areas provided they do not compromise visual access from dwelling units into the courtyard.
   d. The pedestrian circulation system shall connect the main entrances of adjacent buildings on the same site.
   e. The pedestrian circulation system shall connect the principal building entrance to those of buildings on adjacent commercial and residential sites where practicable. Walkway linkages to adjacent developments shall not be required within industrial developments or to industrial developments or to vacant industrially-zoned land.
   f. On-site pedestrian walkways shall be hard surfaced, well drained and at least five feet wide. Surface material shall contrast visually to adjoining surfaces. When bordering parking spaces other than spaces for parallel parking, pedestrian walkways shall be a minimum of seven feet in width unless curb stops are provided. When the pedestrian circulation system is parallel and adjacent to an auto travel lane, the walkway shall be raised or separated from the auto travel lane by a raised curb, bollards, landscaping or other physical barrier. If a raised walkway is used, the ends of the raised portions shall be equipped with curb ramps for each direction of travel.

Pedestrian walkways that cross drive isles or other vehicular circulation areas shall utilize a change in textual material or height to alert the driver of the pedestrian crossing area.

10. There shall be provided adequate means to ensure continued maintenance and necessary normal replacement of private common facilities and areas, drainage ditches, streets and other ways, structures, recreational facilities, landscaping, fill and excavation areas, screening and fencing, groundcover, garbage storage areas and other facilities not subject to periodic maintenance by the city or other public agency.
11. Site planning shall conform to the requirements of OCMC Chapter 17.41 Tree Protection.
12. Development shall be planned, designed, constructed and maintained to protect water resources and habitat conservation areas in accordance with the requirements of the city's Natural Resources Overlay District, Chapter 17.49, as applicable.
13. All development shall maintain continuous compliance with applicable federal, state, and city standards pertaining to air and water quality, odor, heat, glare, noise and vibrations, outdoor storage, radioactive materials, toxic or noxious matter, and electromagnetic interference. Prior to issuance of a building permit, the community development director or building official may require submission of evidence demonstrating compliance with such standards and receipt of necessary permits. The review authority may regulate the hours of construction or operation to minimize adverse impacts on adjoining residences, businesses or neighborhoods. The emission of odorous gases or other matter in such quantity as to be readily detectable at any point beyond the property line of the use creating the odors or matter is prohibited.
14. Adequate public water and sanitary sewer facilities sufficient to serve the proposed or permitted level of development shall be provided. The applicant shall demonstrate that adequate facilities and services are presently available or can be made available concurrent with development. Service providers shall be presumed correct in the evidence, which they submit. All facilities shall be designated to city standards as set out in the city's facility master plans and public works design standards. A development may be required to modify or replace existing offsite systems if necessary to provide adequate public facilities. The city may require over sizing of facilities where necessary to meet standards in the city's facility master plan or to allow for the orderly and efficient provision of public facilities and services. Where over sizing is required, the developer may request reimbursement from the city for over sizing based on the city's reimbursement policy and fund availability, or provide for recovery of costs from intervening properties as they develop.
15. Adequate right-of-way and improvements to streets, pedestrian ways, bike routes and bikeways, and transit facilities shall be provided and be consistent with the city's transportation master plan and design standards and this title. Consideration shall be given to the need for street widening and other improvements in the area of the proposed development impacted by traffic generated by the proposed development. This shall include, but not be limited to, improvements to the right-of-way, such as installation of lighting, signalization, turn lanes, median and parking strips, traffic islands, paving, curbs and gutters, sidewalks, bikeways, street drainage facilities and other facilities needed because of anticipated vehicular and pedestrian traffic generation. Compliance with [Chapter] 12.04, Streets, Sidewalks and Public Places shall be sufficient to achieve right-of-way and improvement adequacy.
16. If a transit agency, upon review of an application for an industrial, institutional, retail or office development, recommends that a bus stop, bus turnout lane, bus shelter, accessible bus landing pad, lighting, or transit stop connection be constructed, or that an easement or dedication be provided for one of these uses, consistent with an agency adopted or approved plan at the time of development, the review authority shall require such improvement, using designs supportive of transit use. Improvements at a major transit stop may include intersection or mid-block traffic management improvements to allow for crossings at major transit stops, as identified in the transportation system plan.
17. All utility lines shall be placed underground.

18. Access and facilities for physically handicapped people shall be incorporated into the site and building design consistent with applicable federal and state requirements, with particular attention to providing continuous, uninterrupted access routes.
19. For a residential development, site layout shall achieve at least eighty percent of the maximum density of the base zone for the net developable area. Net developable area excludes all areas for required right-of-way dedication, land protected from development through Natural Resource or Geologic Hazards protection, and required open space or park dedication.
20. Screening of Mechanical Equipment:
    a. Rooftop mechanical equipment, including HVAC equipment and utility equipment that serves the structure, shall be screened. Screening shall be accomplished through the use of parapet walls or a sight-obscuring enclosure around the equipment constructed of one of the primary materials used on the primary facades of the structure, and that is an integral part of the building's architectural design. The parapet or screen shall completely surround the rooftop mechanical equipment to an elevation equal to or greater than the highest portion of the rooftop mechanical equipment being screened. In the event such parapet wall does not fully screen all rooftop equipment, then the rooftop equipment shall be enclosed by a screen constructed of one of the primary materials used on the primary facade of the building so as to achieve complete screening.
    b. Wall-mounted mechanical equipment shall not be placed on the front facade of a building or on a facade that faces a right-of-way. Wall-mounted mechanical equipment, including air conditioning or HVAC equipment and groups of multiple utility meters, that extends six inches or more from the outer building wall shall be screened from view from streets; from residential, public, and institutional properties; and from public areas of the site or adjacent sites through the use of (a) sight-obscuring enclosures constructed of one of the primary materials used on the primary facade of the structure, (b) sight-obscuring fences, or (c) trees or shrubs that block at least eighty percent of the equipment from view or (d) painting the units to match the building. Wall-mounted mechanical equipment that extends six inches or less from the outer building wall shall be designed to blend in with the color and architectural design of the subject building.
    c. Ground-mounted above-grade mechanical equipment shall be screened by ornamental fences, screening enclosures, trees, or shrubs that block at least eighty percent of the view. Placement and type of screening shall be determined by the community development director.
    d. All mechanical equipment shall comply with the standards in this section. ~~If mechanical equipment is installed outside of the site plan and design review process, planning staff shall review the plans to determine if additional screening is required. If the proposed screening meets this section, no additional planning review is required.~~
    e. This section shall not apply to the installation of solar energy panels, photovoltaic equipment or wind power generating equipment.
21. Building Materials.
    a. Preferred building materials. Building exteriors shall be constructed from high quality, durable materials. Preferred exterior building materials that reflect the city's desired traditional character are as follows:
        i. Brick.
        ii. Basalt stone or basalt veneer.
        iii. Narrow horizontal wood or composite siding (generally five inches wide or less); wider siding will be considered where there is a historic precedent.
        iv. Board and baton siding.
        v. Other materials subject to approval by the community development director.

vi. Plywood with battens or fiber/composite panels with concealed fasteners and ~~contagious~~ contiguous aluminum sections at each joint that are either horizontally or vertically aligned.

vii. Stucco shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods.

b. Prohibited materials. The following materials shall be prohibited in visible locations unless an exception is granted by the community development director based on the integration of the material into the overall design of the structure.

i. Vinyl or plywood siding (including T-111 or similar plywood).

ii. Glass block or highly tinted, reflected, translucent or mirrored glass (except stained glass) as more than ten percent of the building facade.

iii. Corrugated fiberglass.

iv. Chain link fencing (except for temporary purposes such as a construction site or as a gate for a refuse enclosure).

[v.] Crushed colored rock/crushed tumbled glass.

[vi.] Non-corrugated and highly reflective sheet metal.

c. Special material standards: The following materials are allowed if they comply with the requirements found below:

1. Concrete block. When used for the front facade of any building, concrete blocks shall be split, rock- or ground-faced and shall not be the prominent material of the elevation. Plain concrete block or plain concrete may be used as foundation material if the foundation material is not revealed more than three feet above the finished grade level adjacent to the foundation wall.

2. Metal siding. Metal siding shall have visible corner moldings and trim and incorporate masonry or other similar durable/permanent material near the ground level (first two feet above ground level).

3. Exterior Insulation and Finish System (EIFS) and similar toweled finishes shall be trimmed in wood, masonry, or other approved materials and shall be sheltered from extreme weather by roof overhangs or other methods.

4. Building surfaces shall be maintained in a clean condition and painted surfaces shall be maintained to prevent or repair peeling, blistered or cracking paint.

22. Conditions of Approval. The review authority may impose such conditions as it deems necessary to ensure compliance with these standards and other applicable review criteria, including standards set out in city overlay districts, the city's master plans, and city public works design standards. Such conditions shall apply as described in Sections 17.50.310, 17.50.320 and 17.50.330. The review authority may require a property owner to sign a waiver of remonstrance against the formation of and participation in a local improvement district where it deems such a waiver necessary to provide needed improvements reasonably related to the impacts created by the proposed development. To ensure compliance with this chapter, the review authority may require an applicant to sign or accept a legal and enforceable covenant, contract, dedication, easement, performance guarantee, or other document, which shall be approved in form by the city attorney.

<u>23. Development shall conform to the requirements of OCMC Chapter 17.58 Nonconforming Uses, Structures, and Lots.</u>

17.62.065 - Outdoor lighting.

A. Purpose. The general purpose of this section is to require outdoor lighting that is adequate for safety and convenience; in scale with the activity to be illuminated and its surroundings; directed to the surface or activity to be illuminated; and designed to clearly render people and objects and contribute to a pleasant nighttime environment. Additional specific purposes are to:

1. Provide safety and personal security as well as convenience and utility in areas of public use or traverse, for uses where there is outdoor public activity during hours of darkness;
2. Control glare and excessive brightness to improve visual performance, allow better visibility with relatively less light, and protect residents from nuisance and discomfort;
3. Control trespass light onto neighboring properties to protect inhabitants from the consequences of stray light shining in inhabitants' eyes or onto neighboring properties;
4. Result in cost and energy savings to establishments by carefully directing light at the surface area or activity to be illuminated, using only the amount of light necessary; and
5. Control light pollution to minimize the negative effects of misdirected light and recapture views to the night sky.

B. Applicability.

1. General.

a. All exterior lighting for any type of commercial, mixed-use, industrial or multi-family development shall comply with the standards of this section, unless excepted in subsection B.3.

b. The city engineer/public works director shall have the authority to enforce these regulations on private property if any outdoor illumination is determined to present an immediate threat to the public health, safety and welfare.

2. Lighting Plan Requirement.

All commercial, industrial, mixed-use, cottage housing and multi-family developments shall submit a proposed exterior lighting plan. The plan must be submitted concurrently with the site plan. The exterior lighting plan shall include plans and specifications for streetlights, parking lot lights, and exterior building lights. The specifications shall include details of the pole, fixture height and design, lamp type, wattage, and spacing of lights.

3. Excepted Lighting.

The following types of lighting are excepted from the requirements of this section.

a. Residential lighting for single-family attached and detached homes, and duplexes.

b. Public street and right-of-way lighting.

c. Temporary decorative seasonal lighting provided that individual lamps have a light output of sixty watts or less.

d. Temporary lighting for emergency or nighttime work and construction.

e. Temporary lighting for theatrical, television, and performance areas, or for special public events.

f. Lighting for a special district, street, or building that, according to an adopted municipal plan or ordinance, is determined to require special lighting aesthetics as part of its physical character.

g. Lighting required and regulated by the Federal Aviation Administration.

C. General Review Standard. If installed, all exterior lighting shall meet the functional security needs of the proposed land use without adversely affecting adjacent properties or the community. For purposes of this section, properties that comply with the design standards of subsection D. below shall be deemed to not adversely affect adjacent properties or the community.

D. Design and Illumination Standards.

General Outdoor Lighting Standard and Glare Prohibition.

~~1. Outdoor lighting, if provided, shall be provided in a manner that enhances security, is appropriate for the use, avoids adverse impacts on surrounding properties, and the night sky through appropriate shielding as defined in this section. Glare shall not cause illumination on other properties in excess of a measurement of 0.5 footcandles of light as measured at the property line. In no case shall exterior lighting add more than 0.5 footcandle to illumination levels at any point off-site. Exterior lighting is not required except for purposes of public safety. However, if installed, all exterior lighting shall meet the following design standards:~~

1~~2~~. Any light source or lamp that emits more than nine hundred lumens (thirteen watt compact fluorescent or sixty watt incandescent) shall be concealed or shielded with a full cut-off style fixture in order to minimize the potential for glare and unnecessary diffusion on adjacent property. ~~All~~

~~fixtures shall utilize one of the following bulb types: metal halide, induction lamp, compact fluorescent, incandescent (including tungsten-halogen), or high pressure sodium with a color rendering index above seventy.~~

2~~3~~. The maximum height of any lighting pole serving a multi-family residential use shall be twenty feet. The maximum height serving any other type of use shall be twenty-five feet, except in parking lots larger than five acres, the maximum height shall be thirty-five feet if the pole is located at least one hundred feet from any residential use.

3~~4~~. Lighting levels:

Table 1-17.62.065. Foot-candle Levels

Location	Min	Max	Avg
Pedestrian Walkways	0.5	7:1 max/min ratio	1.5
Pedestrian Walkways in Parking Lots		10:1 max/min ratio	0.5
Pedestrian Accessways	0.5	7:1 max/min ratio	1.5
Building Entrances	3		
Bicycle Parking Areas	3		
Abutting property	N/A	.05	

~~5. Parking lots and other background spaces shall be illuminated as unobtrusively as possible while meeting the functional needs of safe circulation and protection of people and property. Foreground spaces, such as building entrances and outside seating areas, shall utilize pedestrian scale lighting that defines the space without glare.~~

~~6. Any on-site pedestrian circulation system shall be lighted to enhance pedestrian safety and allow employees, residents, customers or the public to use the walkways at night. Pedestrian walkway lighting through parking lots shall be lighted to light the walkway and enhance pedestrian safety pursuant to Table 1.~~

4~~7~~. Pedestrian Accessways. To enhance pedestrian and bicycle safety, pedestrian accessways required pursuant to OCMC 12.28 shall be lighted with pedestrian-scale lighting. Accessway lighting shall be to a minimum level of one-half foot-candles, a one and one-half foot-candle average, and a maximum to minimum ratio of seven-to-one and shall be oriented not to shine upon adjacent properties. Street lighting shall be provided at both entrances. Lamps shall include a high-pressure sodium bulb with an unbreakable lens.

5~~8~~. Floodlights shall not be utilized to light all or any portion of a building facade between ten p.m. and six a.m.

6~~9~~. Lighting on ~~automobile service station, convenience store, and other~~ outdoor canopies shall be fully recessed into the canopy and shall not protrude downward beyond the ceiling of the canopy.

~~10. The style of light standards and fixtures shall be consistent with the style and character of architecture proposed on the site.~~

~~11. In no case shall exterior lighting add more than one foot-candle to illumination levels at any point off-site.~~

7~~12~~. All outdoor light not necessary for security purposes shall be reduced, activated by motion sensor detectors, or turned off during non-operating hours.

8~~13~~. Light fixtures used to illuminate flags, statues, or any other objects mounted on a pole, pedestal, or platform shall use a narrow cone beam of light that will not extend beyond the illuminated object.

9~~14~~. For upward-directed architectural, landscape, and decorative lighting, direct light emissions shall not be visible above the building roofline.

10~~15~~. No flickering or flashing lights shall be permitted, except for temporary decorative seasonal lighting.

11~~16~~. Wireless Sites. Unless required by the Federal Aviation Administration or the Oregon Aeronautics Division, artificial lighting of wireless communication towers and antennas shall be prohibited. Strobe lighting of wireless communication facilities is prohibited unless required by the Federal Aviation Administration. Security lighting for equipment shelters or cabinets and other on-the-ground auxiliary equipment on wireless communication facilities shall be initiated by motion detecting lighting.

12~~17~~. Lighting for outdoor recreational uses such as ball fields, playing fields, tennis courts, and similar uses, provided that such uses comply with the following standards:

i. Maximum permitted light post height: eighty feet.

ii. Maximum permitted illumination at the property line: 0.5 foot-candles.

17.80.035 Modifications to Existing Facilities.

All modifications and expansions to existing wireless communication facilities are permitted in every zone, subject to the requirements of this Section. Certain modifications are deemed minor in nature and are deemed "eligible modifications" These modifications include the addition, removal, and/or replacement of transmission equipment that do not make a substantial change to the physical dimensions (height, mass, width) of the existing tower, support structure, or base station. Replacement of an existing tower may also be considered an eligible modification if such replacement meets the standards in paragraph 4 below.

1. For the purpose of this Section, "substantial change" means the following:
   a. The mounting of the proposed antenna on the tower would increase the existing height of the tower by more than 10%, or by the height of 1 additional antenna array with separation from the nearest existing antenna not to exceed 20 feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this subsection by up to an additional 5% if necessary to avoid interference with existing antennas; or
   b. The mounting of the proposed antenna would involve the installation of more than the standard number of new equipment cabinets for the technology involved (not to exceed 4) or more than 1 new equipment shelter; or
   c. The mounting of the proposed antenna would involve adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than 20 feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this subsection to the extent necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable; or
   d. The mounting of the proposed antenna would involve excavation outside the current tower site, defined as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site.
2. Increases to height allowed by this subsection above the existing tower shall be based on the existing height of the tower, excluding any tower lighting required in the original land use approval or in the proposed modification request.
3. To the extent feasible, additional equipment shall maintain the appearance intended by the original facility, including, but not limited to, color, screening, landscaping, mounting configuration, or architectural treatment.

4. To be considered an eligible modification, a replacement tower shall not exceed the height of the original tower by more than 10%, or the diameter of the original tower by more than 25% at any given point.

17.80.040 - Collocation of additional antenna(s) on existing support towers.

Except for "eligible modifications" authorized in Section 17.80.035, the following standards shall apply for the placement of antenna(s) and auxiliary support equipment on an existing wireless communication facility support tower.

A. Compatibility Review. Required for property zoned GI, CI, I, C, HC, MUC-1, MUC-2, MUE, MUD or NC.
B. Site Plan and Design Review. Required for all cases other than those identified in Section 17.80.040.A.

17.80.050 - Collocation of additional antenna(s) on support structures.

Except for "eligible modifications" authorized in Section 17.80.035, the following standards shall apply for the placement of antenna(s) and auxiliary support equipment on a support structure.

A. Compatibility Review. Required if the following exist:
    1. Property is zoned GI, CI, I, C, HC, MUC-1, MUC-2, MUE, MUD or NC; and
    2. Property is not located in the McLoughlin or Canemah Historical Conservation Districts; and
    3. Antenna(s) and auxiliary support equipment are setback a minimum of ten feet from each edge of the support structure and do not exceed a total height of twelve feet or a total width of eight feet, unless the antenna(s) is less than four inches in diameter and does not exceed a total height of twenty feet.
B. Site Plan and Design Review. Required if the property is zoned GI, CI, I, C, MUC-1, MUC-2, MUE, MUD or NC and does not meet all the criteria of Section 17.80.050.A.
C. Conditional Use Review. Required for all cases other than those identified in Sections 17.08.050.A and 17.08.050.B.

17.80.070 - Construction or modification of a support tower.

Except for "eligible modifications" authorized in OCMC 17.80.035:

A. Site Plan and Design Review. Required if the following exists:
    1. Property is zoned GI, CI, I, C, MUC-2 or MUE; and
    2. No adjacent parcel is zoned for residential use.
B. Conditional Use Review. Required for all cases other than those identified in Section 17.80.070.A.
C. Prohibited Zoning Districts and Locations. No new support towers shall be permitted within the Canemah Historic Neighborhood, McLoughlin Conservation District, The Oregon Trail-Barlow Road Historic Corridor, five hundred feet of the Willamette Greenway Corridor, or any new Historic Districts unless the applicant can demonstrate that failure to allow the support tower would effectively prevent the provision of communication services in that area. If the applicant makes such a demonstration, the minimum height required to allow that service shall be the maximum height allowed for the tower.

17.80.080 - Site review process.

No wireless communications facilities, as defined in Section 17.80.020, may be constructed, collocated, modified to increase height, installed, or otherwise located within the city except as provided in this section or unless otherwise authorized by Section 17.80.035. Depending on the type and location of the wireless communication facility, the facility shall be subject to the following review unless collocation or an increase in height was granted through a prior land use process. A Conditional Use Review shall require Site Plan and Design Review to occur concurrently with the Conditional Use Review process.

A. Compatibility Review. A wireless communication facility that, pursuant to Sections 17.80.030—17.80.050, is subject to a compatibility review shall be processed in accordance with Standards of Section 17.80.110. The criteria contained in Section 17.80.110 shall govern approval or denial of the compatibility review application. No building permit shall be issued prior to completion of the compatibility review process.

B. Site Plan and Design Review. A wireless communication facility that, pursuant to Sections 17.80.040—17.80.070, is subject to site plan and design review shall be processed in accordance with the standards of Section 17.80.110 and Chapter 17.62, as applicable. The criteria contained in Section 17.80.110 and Chapter 17.62 shall govern approval or denial of the site plan and design review application. In the event of a conflict in criteria, the criteria contained in this chapter shall govern. No building permit shall be issued prior to completion of the site plan and design review process, including any local appeal.

C. Conditional Use Review. A wireless communication facility that, pursuant to Sections 17.80.050—17.80.070, is subject to conditional use review, shall be processed in accordance with the Standards of Section 17.80.110 and Chapter 17.56, as applicable. The criteria contained in Section 17.80.110 and Chapter 17.56 shall govern approval or denial of the conditional use review application. In the event of a conflict in criteria, the criteria contained in this chapter shall govern. No building permit shall be issued prior to completion of the Conditional Use Review process, including any local appeal.

17.80.090 - Permit application requirements.

A. Eligible Modification Requirements – For an application under Section 17.80.035, the following information is required:
   1. Application fee;
   2. Planning Division land use application form;
   3. Description of the project design and dimensions;
   4. A written response demonstrating compliance with each criterion listed in OCMC Chapter 17.80.035;
   5. Signature of the property owner(s) on the application form or a statement from the property owner(s) granting authorization to proceed with building permit and land use process; and
   6. Elevations showing all improvements and connections to utilities.

B. Compatibility Review Requirements — For an application under Sections 17.80.030.B.7, 17.80.040.A or 17.80.050.A, the following information is required:
   1. Application fee(s).
   2. Planning Division land use application form;
   3. A narrative of the proposed project that includes a description of the following:
      i. Need for the project;
      ii. Rationale and supporting evidence for the location; and
      iii. Description of the project design and dimensions.
      iv. A written response demonstrating compliance with each criterion listed in OCMC Chapter 17.80.110
   4. Documentation demonstrating compliance with non-ionizing electromagnetic radiation (NIER) emissions standards as set forth by the Federal Communications Commission (FCC) particularly with respect to any habitable areas within the structure on which the antenna(s) are collocated on or in structures directly across from or adjacent to the antenna(s);
   5. Documentation that the auxiliary support equipment shall not produce sound levels in excess of standards contained in Section 17.80.110G., or designs showing how the sound is to be effectively muffled to meet those standards;

6. Signature of the property owner(s) on the application form or a statement from the property owner(s) granting authorization to proceed with building permit and land use process;
7. Documentation of the integrity of the support tower, support structure, utility pole, light standard, or light pole to safely handle the load created by the collocation;
8. Elevations showing all improvements and connections to utilities; and
9. Color simulations of the site after construction demonstrating compatibility.

C~~B~~. Site Plan and Design Review. For an application under Sections 17.80.040.B, 17.80.050B., 17.80.060A., or 17.80.070A. the following information is required:

1. The information required in OCMC Chapter 17.80.90.~~A~~B;
2. Pre-application notes;
3. A written response demonstrating compliance with each criterion listed in the Site Plan and Design Review Standards of Chapter 17.62.050 and all other applicable criterion as defined by the community development director; and
4. Supplemental requirements listed in OCMC Chapter 17.80.90~~D~~E. as needed.

D~~C~~. Conditional Use Review. For an application under Sections 17.80.050C., 17.80.060B., or 17.80.070B. the following information is required:

The information required in OCMC Chapter 17.80.90.~~A~~B;

1. Pre-application notes;
2. A written response demonstrating compliance with each criterion listed in the Site Plan and Design Review Standards of Chapter 17.62.050, 17.56, and all other applicable criterion as defined by the community development director as applicable
3. For an application under Section 17.80.070. Construction of Modification of a Support Tower, the requirements listed under Section 17.80.090.E~~D~~. Supplemental Information are required;
4. Responses to conditional use review criteria under Chapter 17.56.010;
5. For an application under Section 17.80.050C. Collocation of Additional Antenna(s) on Support Structures, rationale for being unable to collocate in areas identified in Sections 17.80.050A. and 17.80.050B. shall be provided;
6. For an application under Section 17.80.060B. Collocation of Additional Antenna(s) on Utility Poles, Light Standards, and Light Poles, rationale for being unable to collocate in areas identified in Section 17.80.060A. shall be provided; and
7. For an application under Section 17.80.070B. Construction or Modification of a Support Tower, rationale for being unable to collocate in areas identified in Section 17.80.070A. shall be provided.
8. Supplemental information listed in OCMC Chapter 17.80.90E~~D~~.

E~~D~~. Supplemental Information. The applicant shall submit the following information for all applications subject to conditional use and site plan and design review:

1. The capacity of the support tower in terms of the number and type of antennas it is designed to accommodate;
2. A signed agreement, as supplied by the city, stating that the applicant shall allow collocation with other users, provided all safety, structural, technological, and monetary requirements are met. This agreement shall also state that any future owners or operators will allow collocation on the tower.
3. Documentation demonstrating that the Federal Aviation Administration has reviewed and approved the proposal, and Oregon Aeronautics Division has reviewed the proposal. Alternatively, a statement documenting that notice of the proposal has been submitted to the Federal Aviation Administration and Oregon Aeronautics Division may be submitted. The review process may proceed and approval may be granted for the proposal as submitted, subject to Federal Aviation Administration approval. If Federal Aviation Administration approval requires

any changes to the proposal as initially approved, then that initial approval shall be void. A new application will need to be submitted, reviewed, and approved through an additional site plan and design review or conditional use review process. No building permit application shall be submitted without documentation demonstrating Federal Aviation Administration review and approval and Oregon Aeronautics Division review.

4. A visual study containing, at a minimum, a graphic simulation showing the appearance of the proposed tower, antennas, and auxiliary support equipment from at least five points within a one-mile radius. Such points shall be chosen by the provider with a review and approval by the community development director to ensure that various potential views are represented.
5. Documentation that one or more wireless communications service providers will be using the support tower within sixty days of construction completion.
6. A site plan, drawn to scale, that includes:
   a. Existing and proposed improvements;
   b. Adjacent roads;
   c. Parking, circulation, and access;
   d. Connections to utilities, right-of-way cuts required, and easements required;
   e. A landscape plan describing the maintenance plan and showing areas of existing and proposed vegetation to be added, retained, replaced, or removed; and
   f. Setbacks from property lines or support structure edges of all existing and proposed structures. Plans that have been reduced, but have not had their scale adjusted, will not be accepted as satisfying this requirement.
7. An alternatives analysis for new support towers demonstrating compliance with the Support Tower Location Requirements of Chapter 17.80.100.

17.80.110 - Design standards.

Installation, collocation, construction, or modification of all support towers, structures, and antennas shall comply with the following standards, unless it qualifies as an "eligible modification" under Section 17.80.035 or an adjustment is obtained pursuant to the provisions of Section 17.80.120.

A. Support Tower. The support tower shall be self-supporting.

B. Height Limitation. Support tower and antenna heights shall not exceed the maximum heights provided below.
   1. If the property is zoned GI, CI or I; and no adjacent parcel is zoned residential the maximum height of a support tower, including antennas, is one hundred twenty feet.
   2. If the property is zoned: a. GI, CI or I, and an adjacent parcel is zoned residential; or b. C, MUC-2 or MUE; the maximum height of a support tower, including antennas, is one hundred feet.
   3. If the property is zoned MUC-1, MUD or NC; the maximum height of a support tower, including antennas, is seventy-five feet.
   4. For all cases other than those identified in Section 17.80.110.B.1-3 above, the maximum height of a support tower, including antennas, is seventy-five feet.

C. Collocation. New support towers shall be designed to accommodate collocation of additional providers.
   1. New support towers of a height greater than seventy-five feet shall be designed to accommodate collocation of a minimum of two additional providers either outright or through future modification of the tower.
   2. New support towers of a height between sixty feet and seventy-five feet shall be designed to accommodate collocation of a minimum of one additional provider either outright or through future modification of the tower.

D. Setbacks. The following setbacks shall be required from property lines, not the lease area, for support towers, auxiliary support equipment, and perimeter fencing.
   1. Support towers not designed to collapse within themselves shall be setback from all property lines a distance equal to the proposed height of the support tower.
   2. Support towers designed to collapse within themselves shall be setback from the property line a distance equal to the following:
      a. If the property is zoned GI, CI, I, C, MUC-2 or MUE; and no adjacent parcel is zoned for a residential use the underlying zone setback shall apply;
      b. If the property is zoned:
         i. GI, CI, I, C, MUC-2 or MUE and an adjacent parcel is zoned residential; or
         ii. MUC-1, MUD or NC; the setback shall be a minimum of twenty-five feet from all adjacent residentially zoned property lines and the underlying zoning setback for all other adjacent property lines; or
      c. For all cases other than those identified in Section 17.80.110.D.2.a. and b. above, the setback shall be a minimum of twenty-five feet from all adjacent property lines.

E. Auxiliary Support Equipment. The following standards shall be required.
   1. If the property is zoned:
      a. For GI, CI, I, MUC-1, MUC-2, C, MUD, MUE or NC, the auxiliary support equipment footprint shall not exceed an area of three hundred forty square feet and fifteen feet in height at the peak;
      b. For all cases other than those identified in Section 17.80.110.E.1.a. above, the auxiliary support equipment shall be:
         i. Located underground or completely screened by landscaping or an architecturally significant masonry wall. The wall shall be finished with brick, stone, or stucco. The community development director may approve an alternate screening material if it is compatible with adjacent development and is architecturally significant. No exposed CMU is allowed on the exterior of the wall.
   2. Only one auxiliary accessory cabinet shall be allowed per service provider located on a support structure.

F. Landscaping. In all zoning districts, existing vegetation shall be preserved to the maximum extent practicable. Screening of a site is mandatory.
   1. If the property is zoned:
      a. GI or CI, and no adjacent parcel is zoned residential, landscaping may not be required if water quality issues are addressed and appropriate screening around the facility is proposed;
      b. For all cases other than those identified in Section 17.80.110.F.1.a. above, landscaping shall be placed completely around the perimeter of the wireless communication facility, except as required to gain access. The minimum planting height shall be a minimum of six feet at the time of planting, densely placed so as to screen the facility. The landscaping shall be compatible with vegetation in the surrounding area, and shall be kept healthy and well maintained as long as the facility is in operation. Failure to maintain the site will be grounds to revoke the ability to operate the facility.
      c. The community development director may approve an alternative landscaping plan that visually screens the facility and is consistent with the intent of this standard.

G. Noise Reduction. Noise generating equipment shall be baffled to reduce sound level measured at the property line to the following levels except during short durations for testing and operation of generators in emergency situations:
   1. For any property where no adjacent parcel is zoned residential, the sound level at the property line shall not be greater than fifty dB;

2. For all other cases, the sound level shall not be greater than forty dB when measured at the nearest residential parcel's property line.

H. Lighting.

1. Unless required by the Federal Aviation Administration or the Oregon Aeronautics Division, artificial lighting of wireless communication towers and antennas shall be prohibited.
2. Strobe lighting is prohibited unless required by the Federal Aviation Administration.
3. Security lighting for equipment shelters or cabinets and other on-the-ground auxiliary equipment shall be initiated by motion detecting lighting. The lighting shall be the minimal necessary to secure the site, shall not cause illumination on adjacent properties in excess of a measurement of 0.5 footcandles at the property line, and shall be shielded to keep direct light within the site boundaries.

I. Color.

Unless otherwise required by the Federal Aviation Administration, all support towers and antennas shall have a non-glare finish and blend with the natural background.

J. Signage.

Support towers and antenna(s) shall not be used for signage, symbols, flags, banners, or other devices or objects attached to or painted on any portion of a wireless communication facility.

K. Access Drives.

1. On a site with an existing use, access shall be achieved through use of the existing drives to the greatest extent practicable. If adequate intersection sight distance is unavailable at the existing access intersection with a city street, an analysis of alternate access sites shall be required.
2. Site shall be serviced by an access adequate to ensure fire protection of the site.
3. New access drives shall be paved a minimum of twenty feet deep from the edge of the right-of-way (though the use of pervious paving materials such as F-mix asphalt, pavers, or geotech webbing is encouraged) and designed with material to be as pervious as practicable to minimize stormwater runoff.
4. New access drives shall be reviewed for adequate intersection sight distances.

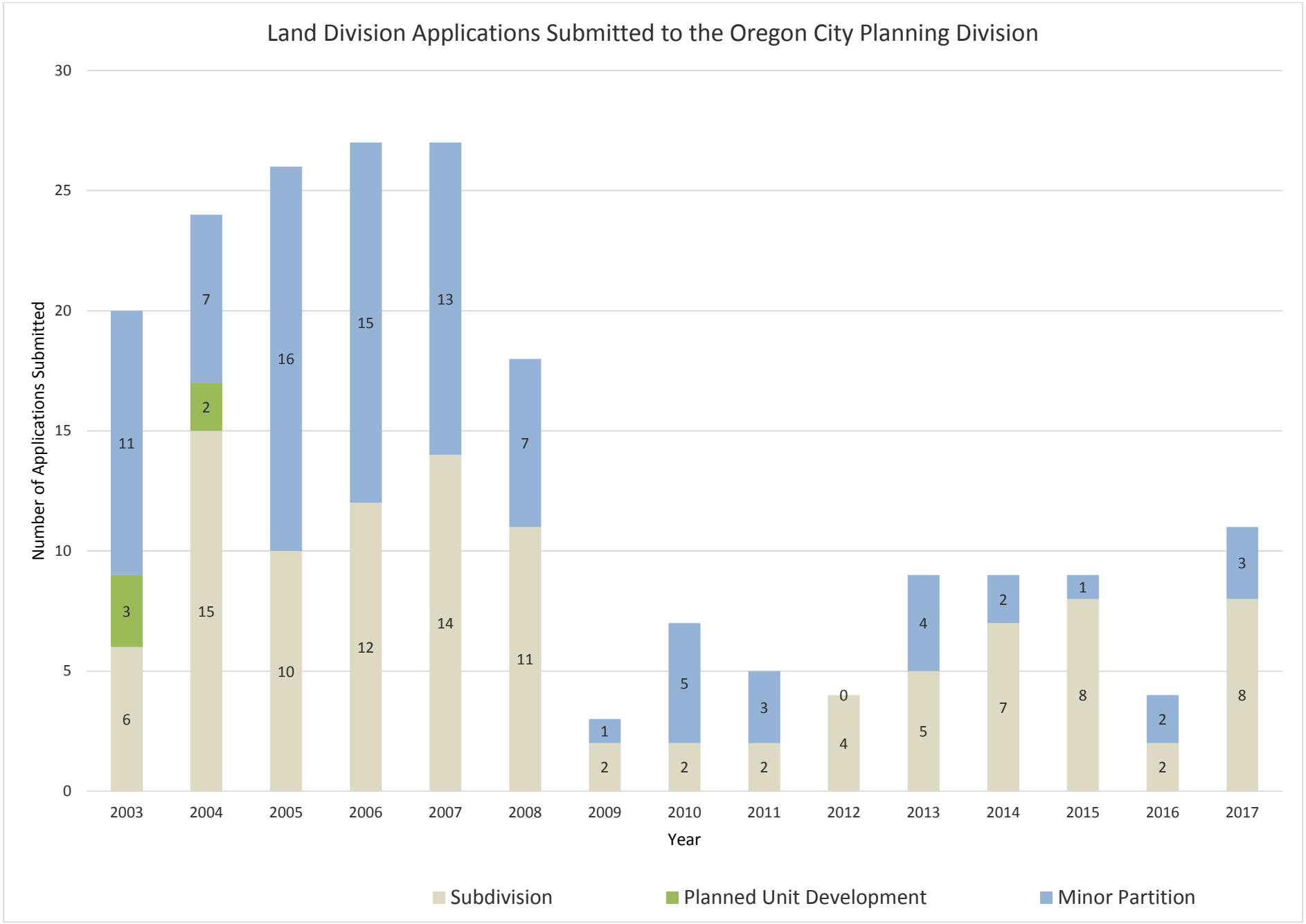
L. Informing the city. All service providers with facilities within the city of Oregon City shall be required to report in writing to the community development director any changes in the status of their operation.

1. An annual written statement shall be filed with the Planning Manager verifying continued use of each of their facilities in the city's jurisdiction as well as continued compliance with all state and federal agency regulations.
2. The report shall include any of the following changes:
   a. Changes in or loss of Federal Communication Commission license from the Federal Communication Commission to operate;
   b. Receipt of notice of failure to comply with the regulations of any other authority over the business or facility;
   c. Change in ownership of the company that owns wireless communication facility or provides telecommunications services; or
   d. Loss or termination of lease with the telecommunications facility for a period of six months or longer.

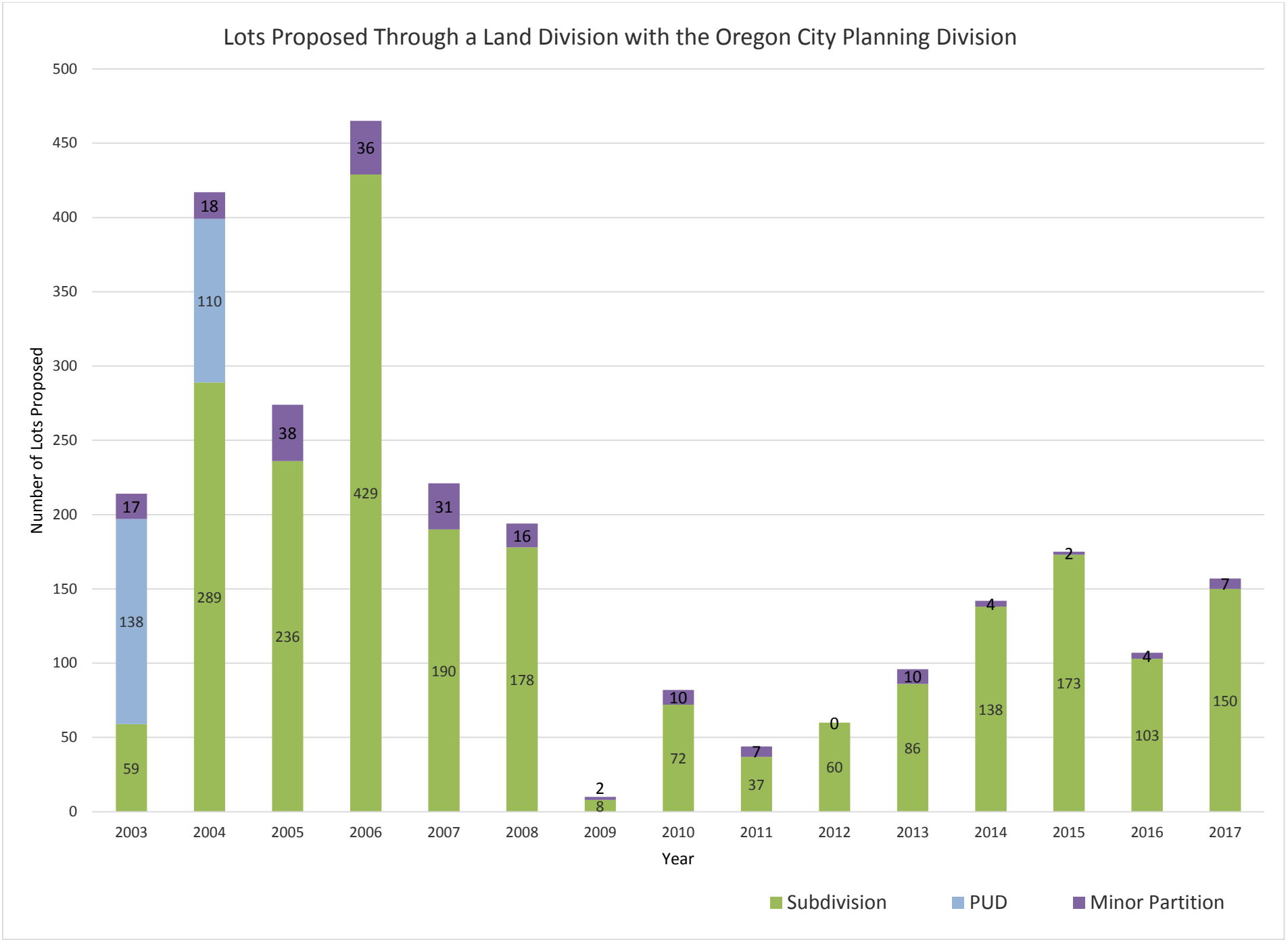
City of Oregon City Community Development Department Statistics for

2017

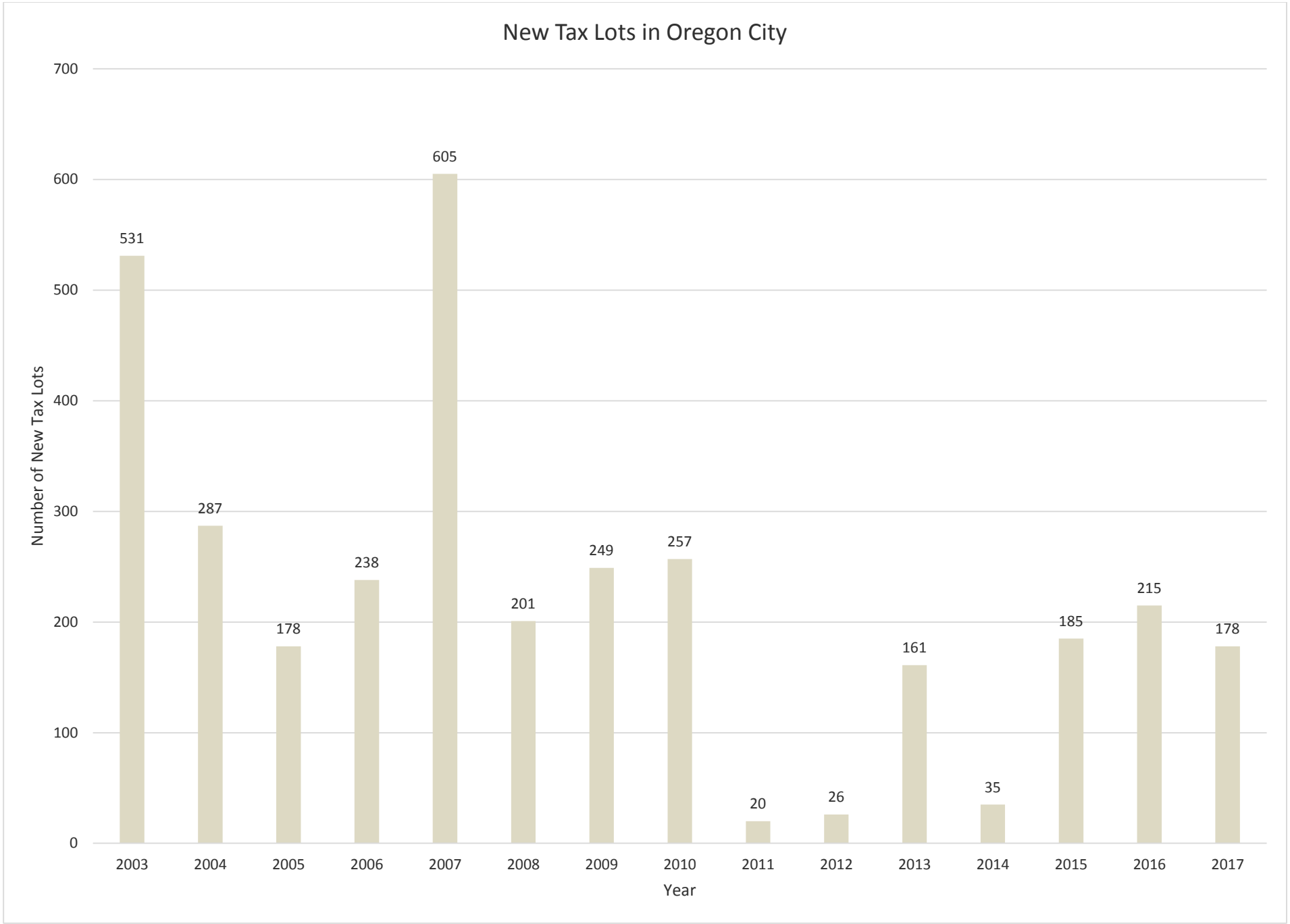
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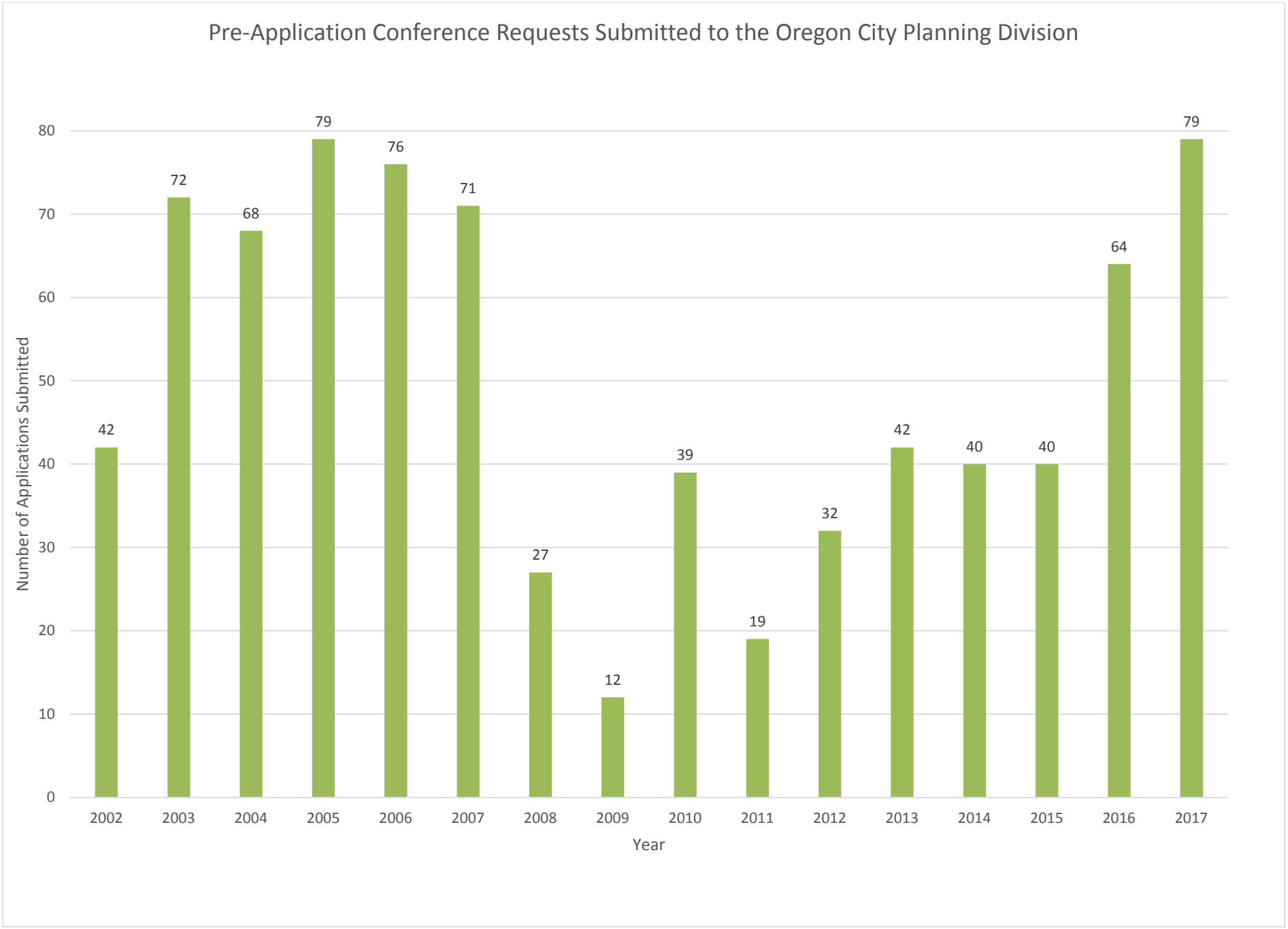
The Planned Unit Development (PUD) process was removed in 2004. Data provided by Eden software.



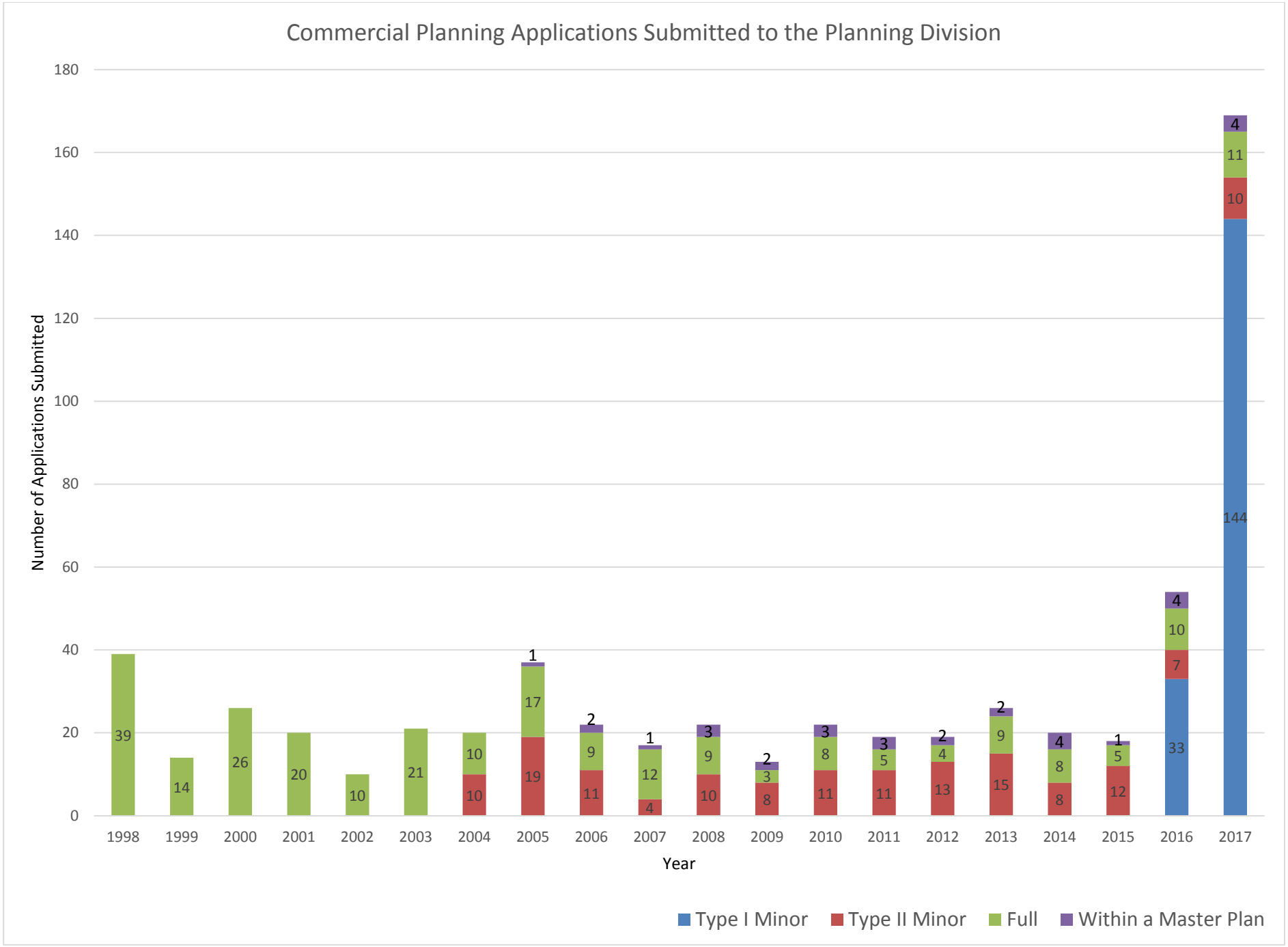
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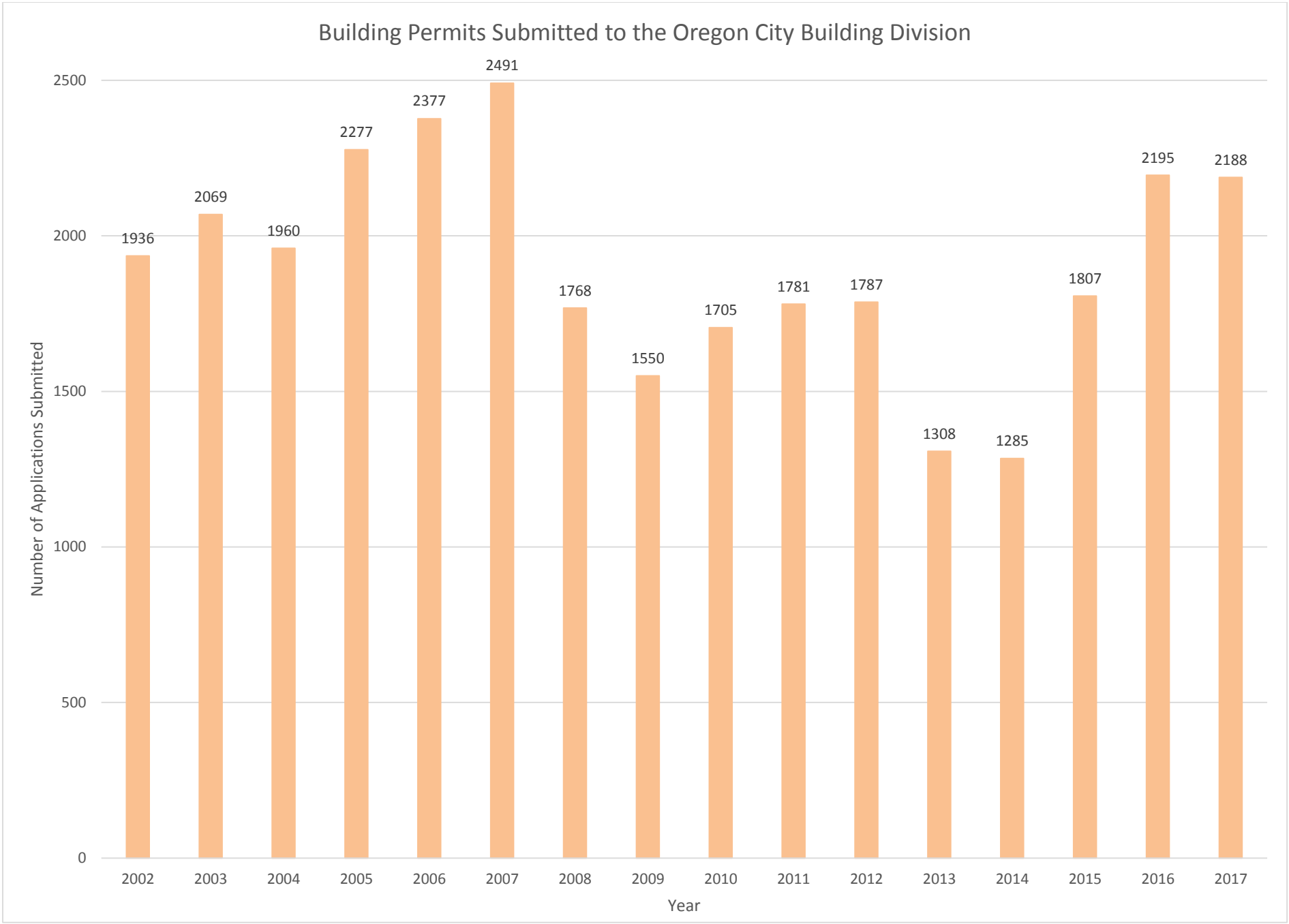
Data provided by the Clackamas County Tax Assessor through Dec 12, 2017



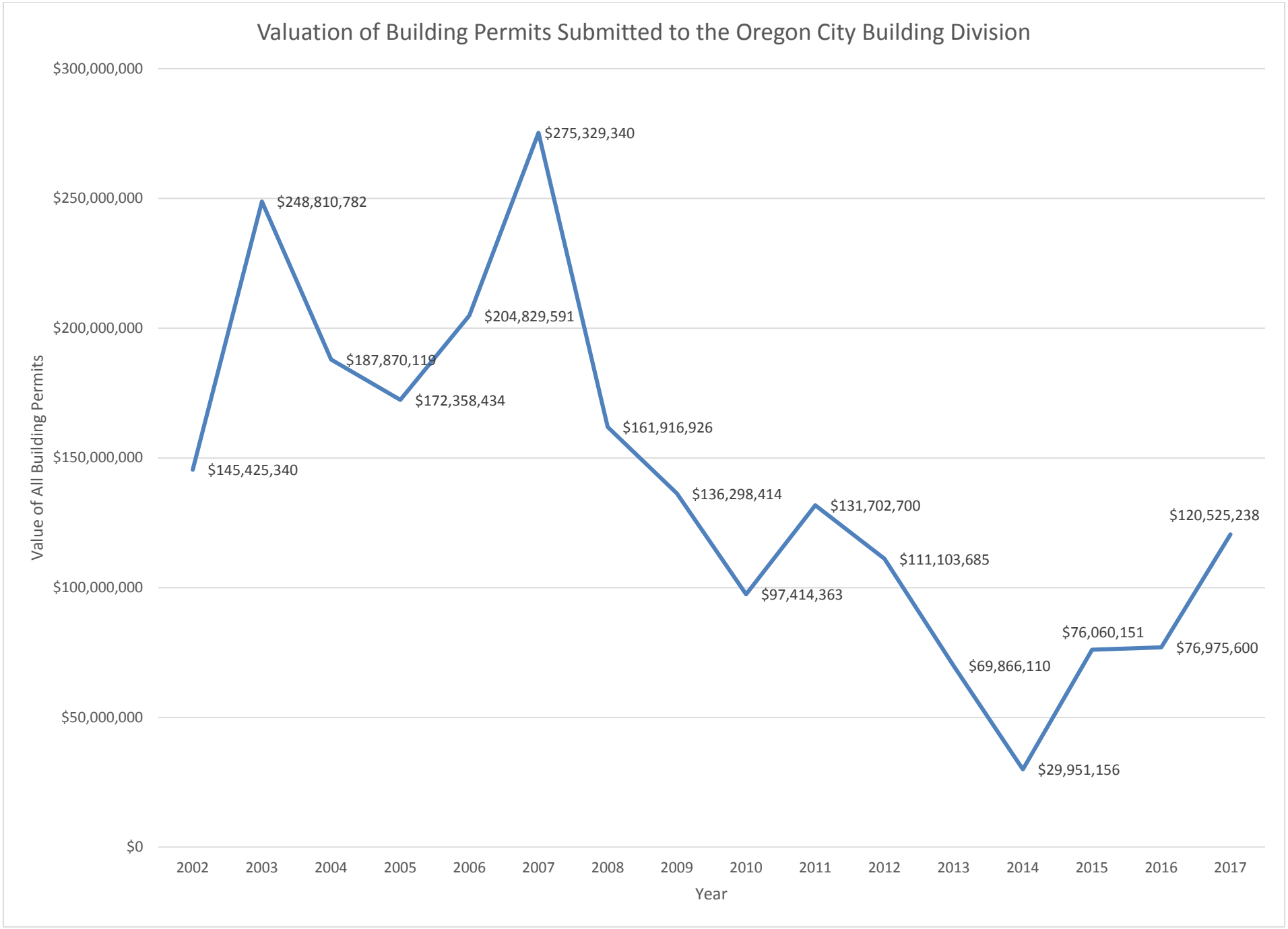
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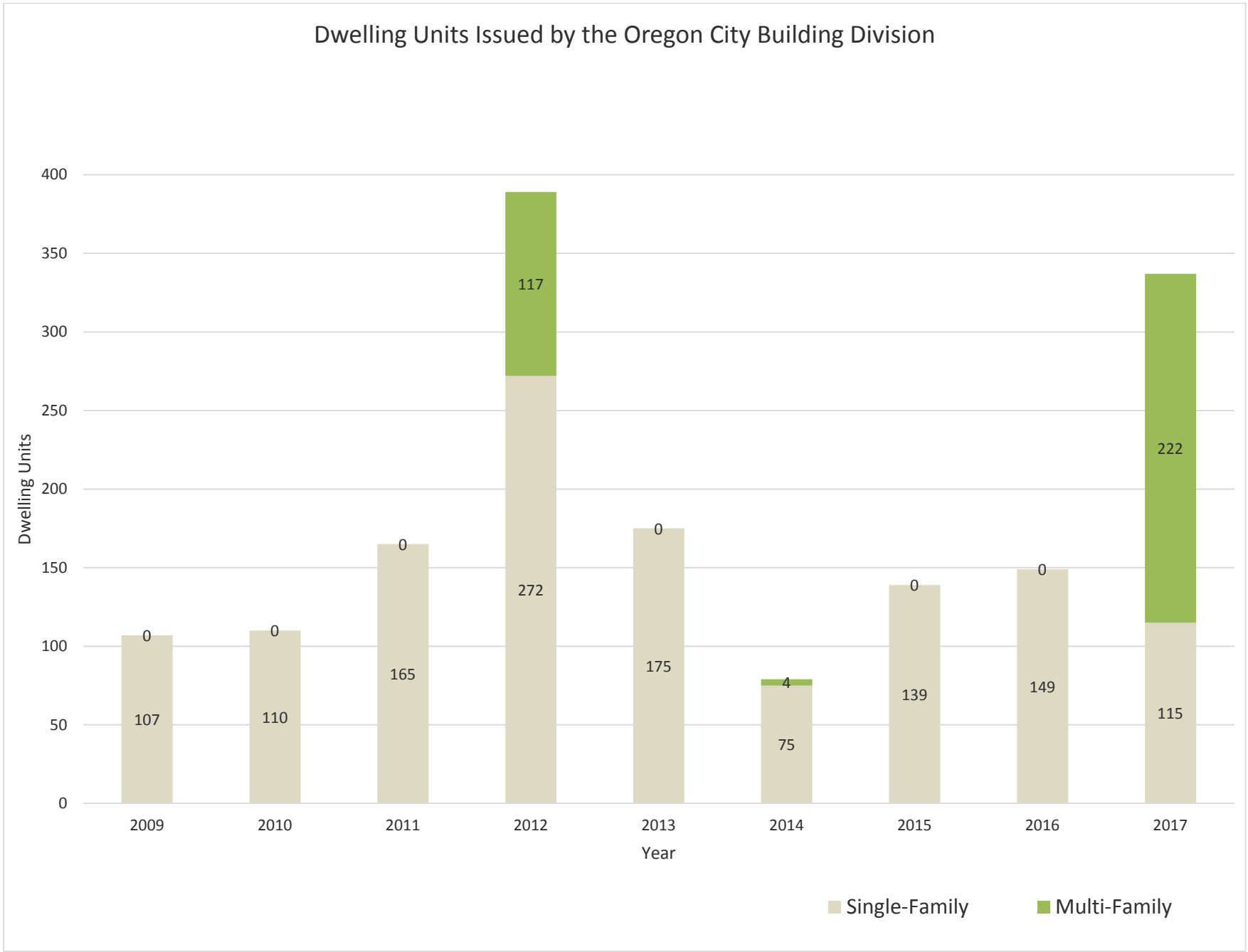
Application types were added over the years. Data provided by Eden software.



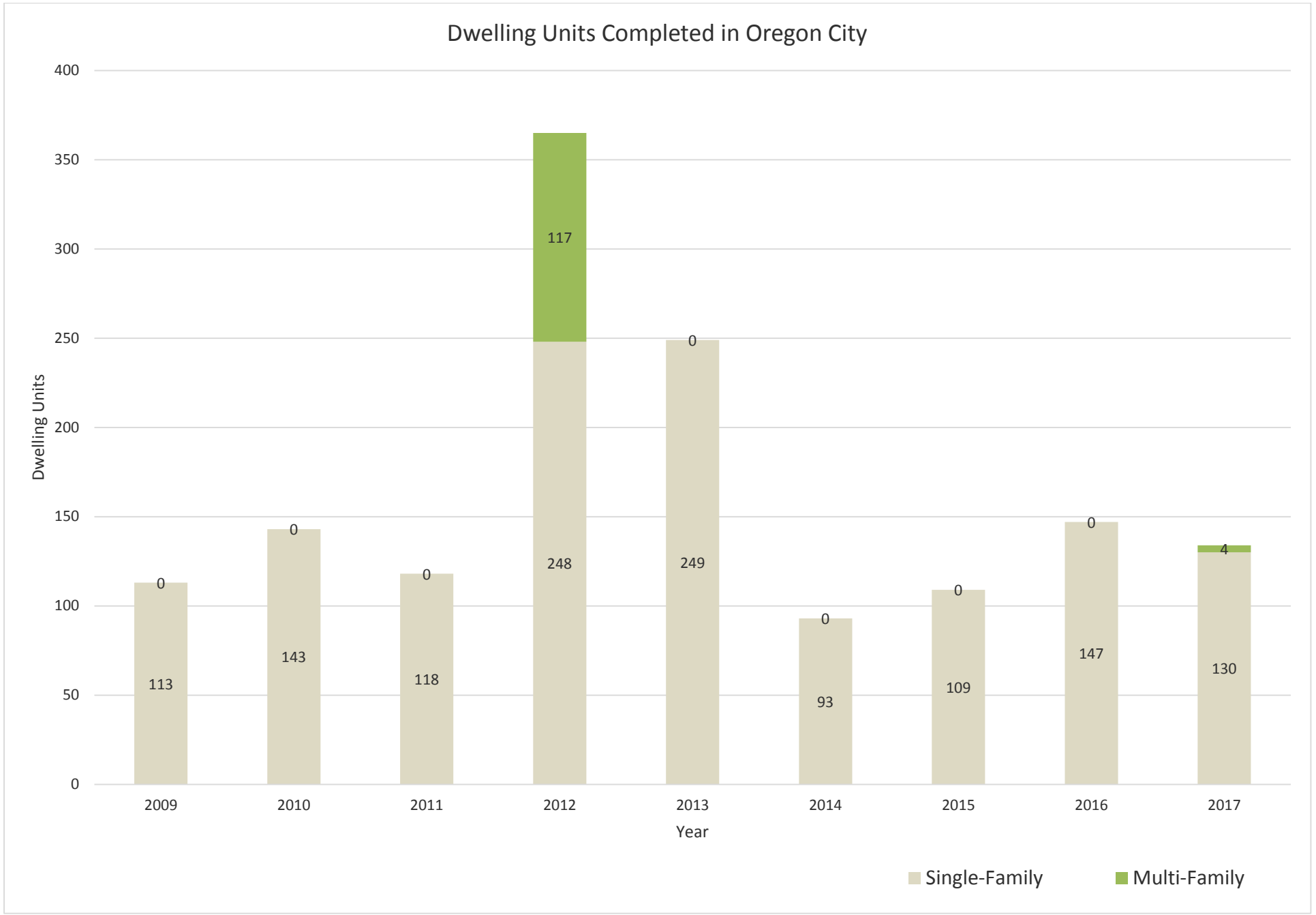
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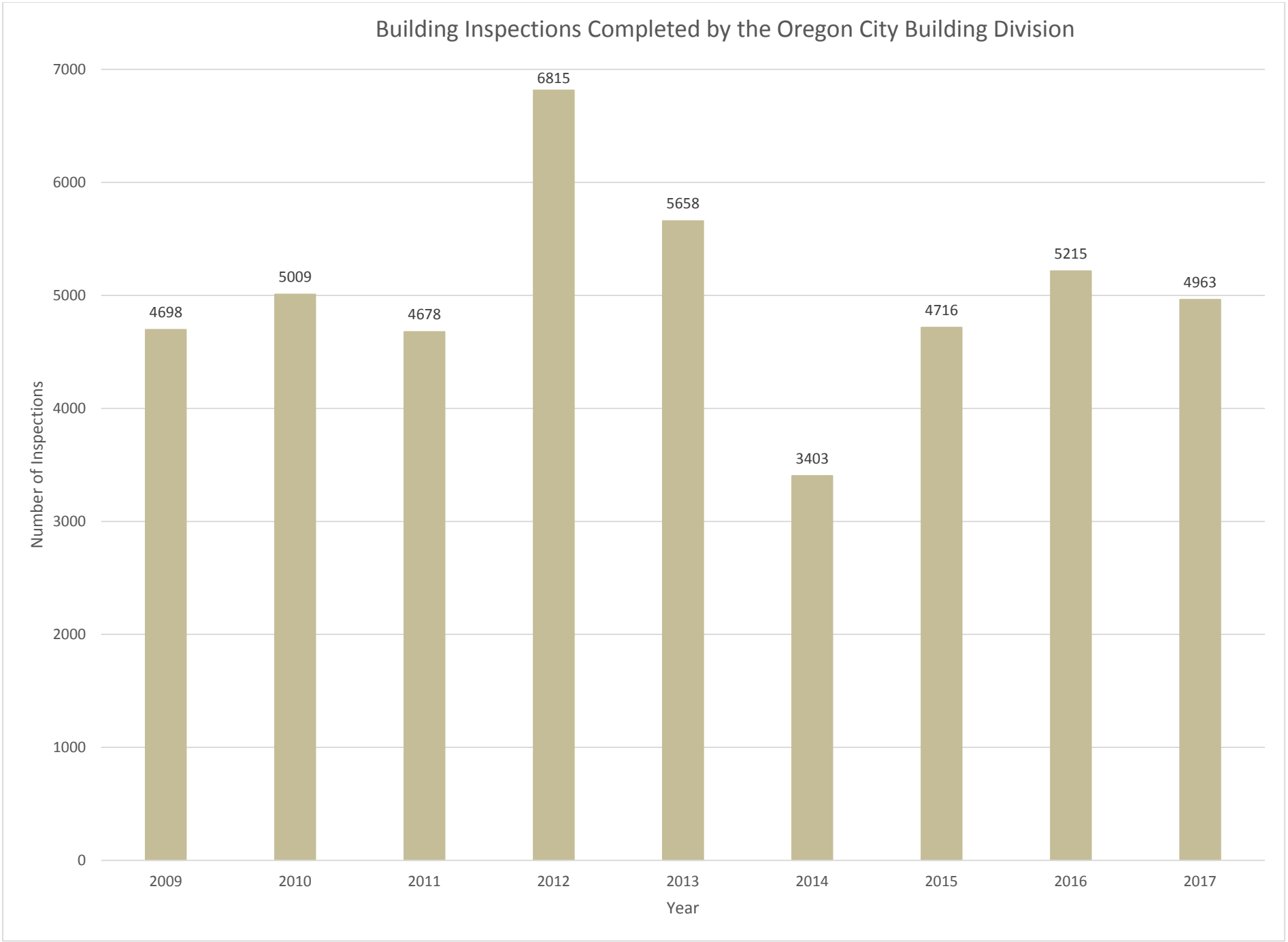
Application types were added and removed over the years. Data provided by Eden software.



Data provided by Eden software.



Data provided by Eden software.



Data provided by Eden software.

Grants Awarded in 2017

- $100,000 Equitable Housing grant from Metro to work with the community to reduce barriers and incentivize housing opportunities.
- $100,000 Transportation Growth Management (TGM) Code Assistance Grant to amend the Oregon City Municipal Code, zoning and Comprehensive Plan maps to implement the vision of the Beavercreek Road Concept Plan.

Awards in 2017

- The Oregon Chapter of the American Society of Landscape Architects (ASLA) awarded the Willamette Falls Riverwalk Concept Design an Honor Award in the Analysis and Planning category.

Land Use Appeals and Court Cases in 2017

- Appeals Submitted to the **City Commission**: 6
- Appeals Submitted to the **Land Use Board of Appeals (LUBA)**: 6
- Appeals Submitted to the **Court of Appeals**: 2
- Appeals Submitted to the **Oregon Supreme Court**: 1

Boards and Committees in 2017

- The Planning Commission reviewed a large volume of controversial applications and held multiple work sessions on legal requirements, team building, and joint meetings with other groups and agencies.
- The Historic Review Board reviewed a large number of controversial applications and approved five $1,000 local grants to support our owners of historic resources.
- The Natural Resource Committee reviewed a variety of projects, including educational signage at stream crossings, and held work sessions with other groups, such as PRAC.
- In addition to participating in City activities and learning about processes, the Citizen Involvement Committee heard a variety of presentations and participated in long-range planning projects.
- The Development Stakeholders Group provided input on implementation of new forms, code amendments and processes and participated in hiring employees.

Other Large Projects in 2017

- Willamette Falls Legacy Project: Staff continued a successful partnership with Metro, the State, and Clackamas County on the Willamette Falls Legacy Project. The concept plan for the riverwalk (and Phase 1) was finalized and a riverwalk master plan was completed, the draft cultural landscape report completed, and a transportation demand management plan was created to provide a toolbox of strategies and partnerships for pedestrian, bicycle, and automobile access to the site. The development strategy created a plan to serve the site with utilities including innovative stormwater solutions. The public continued to be engaged with media releases, surveys, small group events, interviews, tours, committee meetings, a conference presentation, and the unveiling of a riverwalk design at OMSI which included more than 600 participants.
- Equitable Housing Grant: Staff hired consultants, held meetings with two advisory teams representing a wide variety of stakeholders and began auditing codes and policies to reduce barriers and incentivize housing opportunities.

- McLoughlin to Canemah Trail: Staff hired consultants, held four meetings with an advisory team representing a wide variety of stakeholders, and a "Greenway for a Day" event to envision a trail connection between the Promenade and Canemah Children's Park that attracted approximately 80 participants.
- Beavercreek Road Concept Plan Implementation: Staff submitted and was awarded a grant to amend the Oregon City Municipal Code and associated maps to implement the vision within the Beavercreek Road Concept Plan.
- Alternate Mobility Targets: Staff worked with a variety of stakeholders to identify a feasible solution for the intersection of Highway 213 and Beavercreek as well as the intersection of Highway 213 and Redland Road through a handful of advisory group meetings, an open house, Transportation Advisory Committee meeting, work session with the Planning and City Commissions, and visiting neighborhood associations. A land use application was submitted and notice was sent to all property owners within the urban growth boundary.
- Certified Local Government Grant: Staff created four individual educational guides about the history of the McLoughlin Promenade, Carnegie building, Municipal Elevator, and a guide for homeowners of historically designated homes. Guides were mailed to more than 450 designated homes and structures throughout Oregon City.
- Friends of Trees: Planted 10 trees were planted with students at the Oregon Service Learning Academy in April and 75 trees in the McLoughlin, Rivercrest and Barclay Hills neighborhoods. A two year contract was signed with Friends of Trees to assist with community organizing, outreach, planting expertise, and two years of care and homeowner training. The agreement will result in multiple planting and pruning events to plant and care for 206 trees.
- Code Amendments:
    1. Membrane Structures and Temporary Commercial Structures
    2. General Amendments
- Implemented cannabis code regulations and a fair review process.
- Temporary Warming Shelters: Processed resolutions to exempt 3 locations which may accommodate up to 99 people during the winter months. A policy identifying minimum safety requirements and the inspection process in coordination with Clackamas Fire District #1.
- Relocation of Community Development to the Mt. Pleasant Annex: A site was chosen, consultant selected, created plans and a vision for the site, received land use approval, received approval of permits, posted two requests for proposals, hired an engineering consultant, hired a contractor and starting construction. Construction is estimated to be complete in April of 2018.
- New Permitting Software: Supported a project to identify a new software system for permitting which will result in greater efficiencies and transparencies in the permitting process. Staff begun documenting and streamlining each of our processes to prepare for implementation.
- Planning Staff supported each neighborhood association as a liaison attending meetings and providing education about Planning processes.
- Staff participated in a variety of interagency groups including:
    - Metro Technical Advisory Committee (MTAC)
    - Brownfield Advisory Group
    - Land Use Technical Advisory Group (LUTAG)
    - Willamette Falls Legacy Project Technical Advisory Committee
    - Ad Hoc regional groups on equitable housing
- Staff training and education.