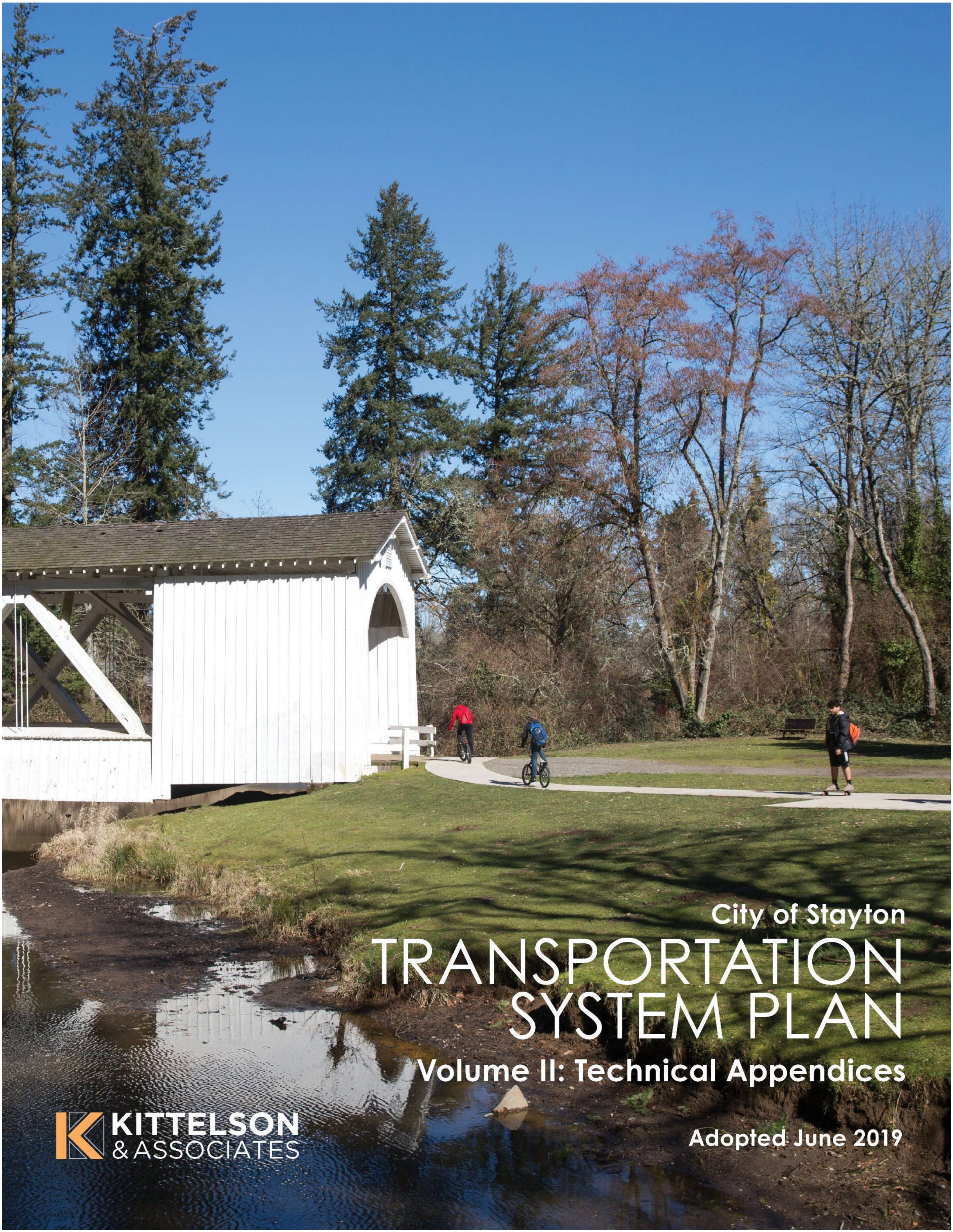

City of Stayton

TRANSPORTATION SYSTEM PLAN

Volume II: Technical Appendices

KITTELSON
& ASSOCIATES

Adopted June 2019

City of Stayton
Transportation System Plan

Stayton, Oregon

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Adopted June 2019

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CITY OF STAYTON
TRANSPORTATION SYSTEM PLAN UPDATE

TECHNICAL MEMORANDUM #1

Date: May 31, 2018 Project #: 22352

To: Lance Ludwick and Dan Fleishman (City of Stayton)

From: Darci Rudzinski and Andrew Parish (Angelo Planning Group)

CC: Susan Wright, PE (Kittelson & Associates, Inc.)

Subject: Plans and Policies

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PURPOSE AND CONTENT OF MEMORANDUM

This memorandum summarizes the plans, policies, targets and standards that are applicable to the City of Stayton Transportation System Plan (TSP) update. The City's current TSP will serve as the foundation for the update process, upon which new information obtained from system analysis and stakeholder input will be applied to address changing transportation needs through the year 2040. As new strategies for addressing transportation needs are proposed, compliance and coordination with the plans, policies, and regulations described in this document will be necessary. The City will be adopting the TSP as an element of the Comprehensive Plan through a legislative amendment procedure. Written findings demonstrating that the updated TSP complies with applicable criteria summarized here will be necessary to support TSP adoption.

The following plans and policies were reviewed:

State Plans and Regulations

- Oregon Transportation Plan (updated 1999, 2006)
- Oregon Highway Plan (updated 2006)
- Oregon Bicycle and Pedestrian Plan (2017)
- ODOT Highway Design Manual
- Oregon Access Management Rules (OAR 734-051)
- Transportation Planning Rule (OAR 660-012)

Regional Plans and Regulations

- Sublimity Interchange Area Management Plan (IAMP)
- Marion County Rural Transportation Plan (RTSP)

Local Plans and Regulations

- Stayton Safe Routes to School (SRTS)
- Stormwater Management Manual
- Stayton Enterprise Zone
- Stayton Land Use and Development Ordinance
- Stayton Comprehensive Plan (2013)
- Stayton Roadway Design Standards
- Stayton Parks and Recreation Master Plan
- Wilco Road Corridor Conceptual Plans

KEY FINDINGS

- The updated Oregon Highway Plan mobility policy (Policy 1F) embodies more flexibility for meeting mobility "targets" for state highways.
- Significant updates to the Oregon Bicycle and Pedestrian Plan have been adopted.

- The Transportation Planning Rule has been updated since the last Stayton TSP update. Table 1 in this memorandum provides suggestions regarding how city requirements can better meet the State requirements.
- Several local planning efforts, including work on Safe Routes to School and the Downtown Stayton Transportation and Revitalization Plan, have identified transportation needs that will be evaluated and/or updated by the TSP update
- The timing of needed improvements is a key issue for this TSP update, given development constraints within Stayton and an Urban Growth Boundary that is expected to accommodate more than 20 years of projected growth.

OREGON TRANSPORTATION PLAN (1992, UPDATED 1999, 2006)

The Oregon Transportation Plan (OTP) is the state's long-range multimodal transportation plan that addresses the future transportation needs of the State of Oregon through the year 2030. The primary function of the OTP is to establish goals, policies, strategies and initiatives that are translated into a series of modal plans, such as the Oregon Highway Plan and Oregon Bike and Pedestrian Plan. The OTP considers all modes of Oregon's transportation system, including Oregon's airports, bicycle and pedestrian facilities, highways and roadways, pipelines, ports and waterway facilities, public transportation, and railroads. It assesses state, regional, and local public and private transportation facilities. In addition, the OTP provides the framework for prioritizing transportation improvements based on varied future revenue conditions, but it does not identify specific projects for development.

The OTP provides broad policy guidance and sets seven overarching goals for the state. Through these goals and associated policies and strategies, the OTP emphasizes:

- Maintaining and maximizing the assets in place
- Optimizing the performance of the existing system through technology
- Integrating transportation, land use, economic development and the environment
- Integrating the transportation system across jurisdictions, ownerships and modes
- Creating sustainable funding
- Investing in strategic capacity enhancements

APPLICABILITY TO THE TSP UPDATE:

Consistent with OTP policy, the TSP update will seek to enhance integration of the transportation system across modes and maximize the performance of the existing transportation system before considering larger and costlier additions to the system. The goals and objectives of the Stayton TSP Update will be broadly consistent with the strategies and policies of the OTP.

1999 OREGON HIGHWAY PLAN (UPDATED 2011)

The Oregon Highway Plan (OHP) defines policies and investment strategies for Oregon's state highway system over the next 20 years by further refining the goals and policies of the OTP. The plan contains three elements: a vision element that describes the broad goal for how the highway system should look in 20 years; a policy element that contains goals, policies, and actions to be followed by state, regional, and local jurisdictions; and a system element that includes an analysis of needs, revenues, and performance measures. One of the key goals of the OHP is to maintain and improve safe and efficient movement of people and goods, while supporting statewide, regional, and local economic growth and community livability.

OHP Goal 1, Policy 1A (State Highway Classification System) categorizes state highways for planning and management decisions. OR 22, which is located north of the City, is classified as a Statewide Highway. Statewide highways "typically provide inter-urban and inter-regional mobility and provide connections to larger urban areas, ports, and major recreation areas that are not directly served by Interstate Highways. A secondary function is to provide connections for intra-urban and intra-regional trips. The management objective is to provide safe and efficient, high-speed, continuous-flow operation. In constrained and urban areas, interruptions to flow should be minimal." Highway 22 is a Freight Route, a Reduction Review Route, and an Expressway, (see OHP Appendix D).

Significant amendments to Policy 1F (which establishes mobility standards) of the OHP were adopted at the end of 2011. Those amendments were made to address concerns that state transportation policy and requirements have led to unintended consequences and inhibited economic development. Policy 1F now provides a clearer policy framework for considering measures other than volume-to-capacity (v/c) ratios for evaluating mobility performance. Also as part of these amendments, v/c ratios established in Policy 1F were changed from being standards to "targets." These targets are to be used to determine significant effect pursuant to Transportation Planning Rule, Section -0060.

APPLICABILITY TO THE TSP UPDATE:

The TSP update will need to reflect the State's management objective for OR 22 to provide safe and efficient, high-speed, continuous-flow operation. In addition, the local TSP will need to be recognize that freight movements are a priority when developing and implementing plans and projects on freight routes and that any proposed modifications that would result in a reduction of vehicle-carrying capacity requires additional involvement by the freight industry.[1]

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[1] ORS 366.215.

THE OREGON BICYCLE AND PEDESTRIAN PLAN

The goals and policies of the Oregon Transportation Plan (OTP) are further implemented by various modal plans, including Oregon Bicycle and Pedestrian Plan. The Oregon Bicycle and Pedestrian Plan was recently updated and is comprised of two parts including a policy document and a separate design guide.

The policy document contains background information, legal mandates and current conditions, goals, actions and implementation strategies ODOT proposes to improve bicycle and pedestrian transportation.

The guiding vision for the plan states that by 2040:

> "In Oregon, people of all ages, incomes, and abilities can access destinations in urban and rural areas on comfortable, safe, well connected biking and walking routes. People can enjoy Oregon's scenic beauty by walking and biking on a transportation system that respects the needs of its users and their sense of safety. Bicycle and pedestrian networks are recognized as integral, interconnected elements of the Oregon transportation system that contribute to our diverse and vibrant communities and the health and quality of life enjoyed by Oregonians."

Key plan concepts include:

- education and outreach (e.g., rules of the road and personal responsibility, safe behaviors)
- inter-modal connections (e.g., how pedestrians and cyclists reach transit stops); and
- the relationship between bicycle and pedestrian facilities and community and economic vitality, including bicycle and pedestrian tourism and economic development

The Design Guide is the technical element of the plan that guides the design and management of bicycle and pedestrian facilities on state-owned facilities. It is an appendix to the Highway Design Manual and provides best practices and design guidelines for bicycle and pedestrian facilities.

APPLICABILITY TO THE TSP UPDATE:

The TSP update process will consider OBPP policies and strategies for their applicability to Stayton and, where appropriate, the updated TSP will reflect the OBPP in local policies and project selection. The State standards and strategies for pedestrian and bicycle improvements can serve as "best practices" and inform recommended bicycle and pedestrian improvements in the updated TSP. The TSP planning process will identify and address areas where enhancements are needed to improve sidewalk accessibility, including curb ramps, to better comply with the Americans with Disabilities Act (ADA).

The TSP planning process will consider OBPP standards and designs where pedestrian and bicycle projects are recommended on, or parallel to, state facilities.

OREGON FREIGHT PLAN (2011)

The Oregon Freight Plan (OFP) is an additional modal plan as part of the broader OTP. The intent of the OFP is to improve freight connections to local, state, tribal, regional, national, and international markets with the goal of increasing trade-related jobs and income for Oregon workers and businesses. The plan documents the economic importance of freight movement in Oregon, identifies transportation networks important to freight-dependent industries and recommends multimodal strategies to increase strategic freight system efficiency. The plan identifies sixteen freight issues and strategies with action steps to address the issues.

OR 22 is part of the Western Corridor in the Mid-Willamette Valley ACT. Together, this Western Corridor connects Oregon with the national freight transportation system via several truck, rail, seaport and airport facilities, including I-84, U.S. 30, U.S. 20 and U.S. 199; Class I and shortline railroads; marine facilities at Astoria, Coos Bay and the Port of Portland; and air facilities at Portland International Airport. These connections are critical for the movement of the majority of goods produced throughout Oregon and on the I-5 corridor.

APPLICABILITY TO THE TSP UPDATE:

The freight system impacts will be considered during the development of transportation solutions for the TSP update. The TSP will help Stayton maintain and enhance the efficiency of truck and rail movement in the study area.

MARION COUNTY RURAL TRANSPORTATION SYSTEM PLAN

Adopted in 2005, the Marion County Rural TSP contains goals and objectives, an inventory of facilities, projections of future traffic volumes, and a strategy for meeting the County's transportation goals.

The overall mission statement of the TSP is as follows:

"Develop a balanced, safe, multi-modal transportation system to accommodate planned growth, facilitate economic development, recognize fiscal reality, utilize available resources as efficiently as possible and maintain a high standard of livability and safety to serve the transportation needs of our community"

The County began, but did not complete, a TSP update in 2013. The update included a companion "Urban Strategy" to help address county policies and priorities within UGB's. Documentation included identifying roadways, bridges, rail crossings, and flashing beacons in urban areas (including Stayton). No updates to the Roadway System Needs and Recommended Improvements (Chapter 8) or the Recommended Non-Roadway Improvements (Chapter 9) have been made since2005.

There are 9.5 miles of roadways within the Stayton UGB (5.5 within the City Limits) that are under County jurisdiction. These include portions of: Golf Club Rd, Wilco Rd, Shaff Rd, E Santiam Rd, Ridge Way, and Cascade Hwy/First Avenue. These

County bridges within Stayton include: Golf Club Rd at Mill Creek, Shaff Rd SE at Salem Ditch, Wilco Rd SE at Salem Ditch, N First Ave at Salem Ditch ,S First Ave at Mill Race, and Cascade Hwy SE at Mill Creek.

APPLICABILITY TO THE TSP UPDATE:

Goal 6 of the Marion County TSP addresses coordination and cooperation among all transportation users and providers, including between the County and cities. Specific policies are included in Chapter 10.3.1. and the two parts of Policy 4 are particularly applicable to the TSP update.

Policy 4:

> a) The County will work with each community to consider the goals and visions of that community in developing and maintaining the transportation system. This will include coordination of the County's transportation plans with their transportation plans. Deviation from a community's desire may occur when addressing issues involving safety, significant added expense, modernization projects, liability, and providing services that are in the best interests of the public.
>
> b) Within the Urban Growth Boundary of an incorporated city, Marion County Public Works will apply roadway design standards and criteria in the Transportation System Plan (TSP) adopted by that city except in cases where, in the engineering judgment of the Marion County Public Works Department, it would not be appropriate to do so. In the absence of adopted standards or a TSP by a city, Marion County Public Works will use its own engineering standards and/or judgment to determine the appropriate planning direction or standard to apply.

The Stayton TSP update will be coordinated with the Marion County Rural TSP, particularly with regard to county-owned and county-operated roadways and other facilities within Stayton. The Stayton TSP will also be consistent with the overall mission statement, goals, and objectives of the County's TSP, which emphasize multi-modal users and sound investments that maximize the usable life of facilities.

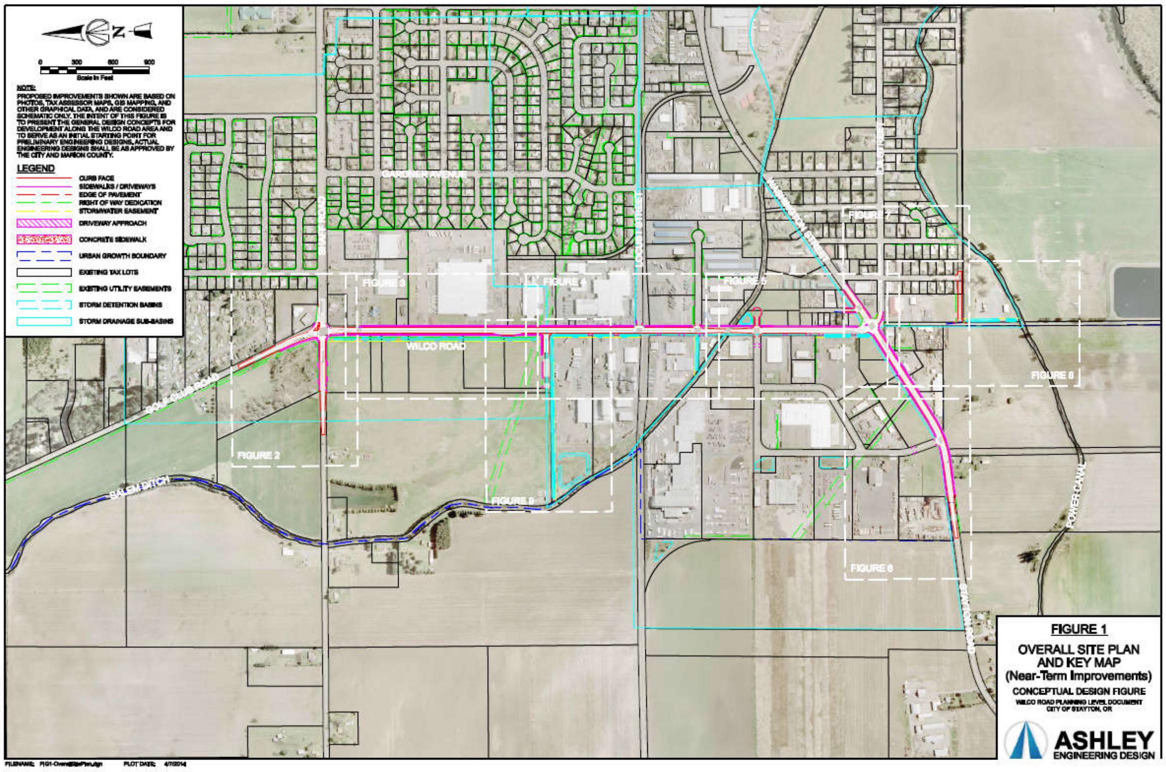
WILCO ROAD CORRIDOR CONCEPTUAL PLANS

In 2014 the City of Stayton initiated a conceptual design effort to improve the Wilco Road Corridor. The planning process was undertaken to provide general guidance on street design criteria, including the anticipated right of way requirements, typical street design sections, stormwater management strategies, and other pertinent information for potential development located within and around the Wilco Road area. Shown on Figure 1 areas where anticipated right-of-way requirements, street design, stormwater management strategies, and other pertinent information for potential development in the area has been evaluated by the City.

APPLICABILITY TO THE TSP UPDATE:

As noted in the conceptual plan, this TSP update will evaluate if this proposed Wilco Road area conceptual design fits into the overall TSP, or if modifications to the conceptual design are needed.

Figure 1. Wilco Road Corridor Site Plan



DOWNTOWN STAYTON TRANSPORTATION AND REVITALIZATION PLAN

The Downtown Stayton Transportation and Revitalization plan was originally adopted in 2007 and revised in 2010. The plan covers the area shown in Figure 2, and includes a Vision, Goals, Policies and Action Items developed with the assistance of the Downtown Advisory Committee appointed by the City Council. It describes a number of design, transportation and land use elements that will achieve its several vision statements. Those elements include:

- Concentrating commercial development in a compact area along 3rd Avenue.
- Distinguishing between the downtown commercial zones and commercial zones in other parts of the city. Two new mixed-use zones, a Central Core Mixed Use and Downtown Residential Mixed Use are proposed.
- Allowing mixed use residential development in the downtown.
- Developing a new Civic Center downtown.
- Redeveloping the Woolen Mill property for housing.
- Constructing streetscape improvements on important mixed use commercial streets.
- Establishing gateways into downtown.
- Establishing a special character on 1st Avenue.
- Establishing links and access to parks, public facilities and waterways.

Figure 2. Downtown Stayton Transportation and Revitalization Plan Location Map

Source: Stayton Transportation System Plan 2006

APPLICABILITY TO THE TSP UPDATE:

The goals, policies, and implementation actions within the Downtown Stayton Transportation and Revitalization Plan will advise the TSP update process. Transportation system forecasts used for the TSP update will take into account the zoning and development assumptions within this plan, namely the increase in residential/mixed uses within the downtown core. The plan includes a list of capital improvement projects, with phasing and priority ratings, that the TSP update will evaluate. Multi-modal goals of the plan will be reaffirmed, updated where necessary, and incorporated into the bicycle and pedestrian network sections of the TSP update.

Importantly, the TSP will identify needed projects, including their funding and prioritization, enabling the city to focus resources on projects downtown consistent with the Downtown Plan.[2]

STAYTON PARKS AND RECREATION MASTER PLAN

The 2005 Parks and Recreation Master Plan identifies park and recreational facility needs by comparing an inventory of park facilities and open space with recreational demand in the City of Stayton. Recommended park guidelines are included along with an overall concept for where future park sites should be located, including specialized facilities such as a skateboard park, a group picnic area, a senior center, sports fields, and recreational programs and services. Finally, the plan contains a financing strategy for meeting park need within the City.

The Parks and Recreation Master Plan also provides recommendations for trails and pathways in Stayton, including design guidance and a "Dream Trails Map," of general facility locations.

APPLICABILITY TO THE STAYTON TSP UPDATE

The TSP will evaluate how residents reach existing and planned recreation areas and any safety issues in their vicinity. The pedestrian and bicycle elements of the TSP Update will look to the Parks and Recreation Master Plan for guidance regarding trails. Where new design standards or trail facilities are identified through the TSP Update process, revisions to the Parks Master Plan may be considered, or explicit text that the contents of TSP supersede the recommendations of the Parks and Recreation Master Plan.

ROADWAY DESIGN STANDARDS

The 2015 Public Works Design Standards contains requirements for construction of transportation facilities. Right of way width, paved improvement width, number of lanes and lane sizes, presence of bicycle lanes/sidewalks, and other details are specified for various functional classifications of roads.

APPLICABILITY TO THE STAYTON TSP UPDATE:

The TSP update will evaluate the standards for roadway design contained within the Public Works Design Standards and may recommend changes. The TSP update is also expected to include creation of cross-section diagrams to help planners, property owners, and the public understand roadway designs. The planning process will result in

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[2] A key implementation action is to "Establish the highest priorities for spending Transportation Impact Fees and System Development Charge revenues within the Downtown." (Downtown Stayton Transportation & Revitalization Plan, pg. 2)

recommendations to ensure that standards in the TSP, the Public Works Design Standards, and the Land Use and Development Code are consistent.

STAYTON COMPREHENSIVE PLAN (2013)

The Stayton Comprehensive Plan was adopted in 2013 and establishes a guide for the growth and development of the City. It contains plans and policies that are an adopted statement of public policy which guide the City's decision-making process. The Comprehensive Plan enacts the State's Land Use Planning Goals, touching on a wide range of topics from natural areas and open space, to housing and the local economy, to public facilities and transportation. Chapter 4 of the current Stayton Comprehensive Plan includes 10 transportation goals, associated policies for each and, for each policy, one or more action items.

APPLICABILITY TO THE TSP UPDATE:

The Transportation System Plan is an adopted part of the Comprehensive Plan; updates to the TSP will need to be reflected in the Comprehensive Plan. It is expected that recommendations that result from this planning process will necessitate an update to Comprehensive Plan Chapter 4, including background information, goals, policies and action items.

STAYTON LAND USE AND DEVELOPMENT CODE

The Land Use and Development Code for the City of Stayton is Title 17 of the Municipal Code. Title 17 is intended to implement the City's Comprehensive Plan and govern growth in its urban growth boundary, and to establish procedures for development applications, review, hearings, and the establishment of fees and penalties for noncompliance. The code establishes zoning districts, their permitted uses, and other specific regulations for development and activity therein (17.16); regulations for land divisions (17.24); and required transportation improvements (17.26).

APPLICABILITY TO THE TSP UPDATE:

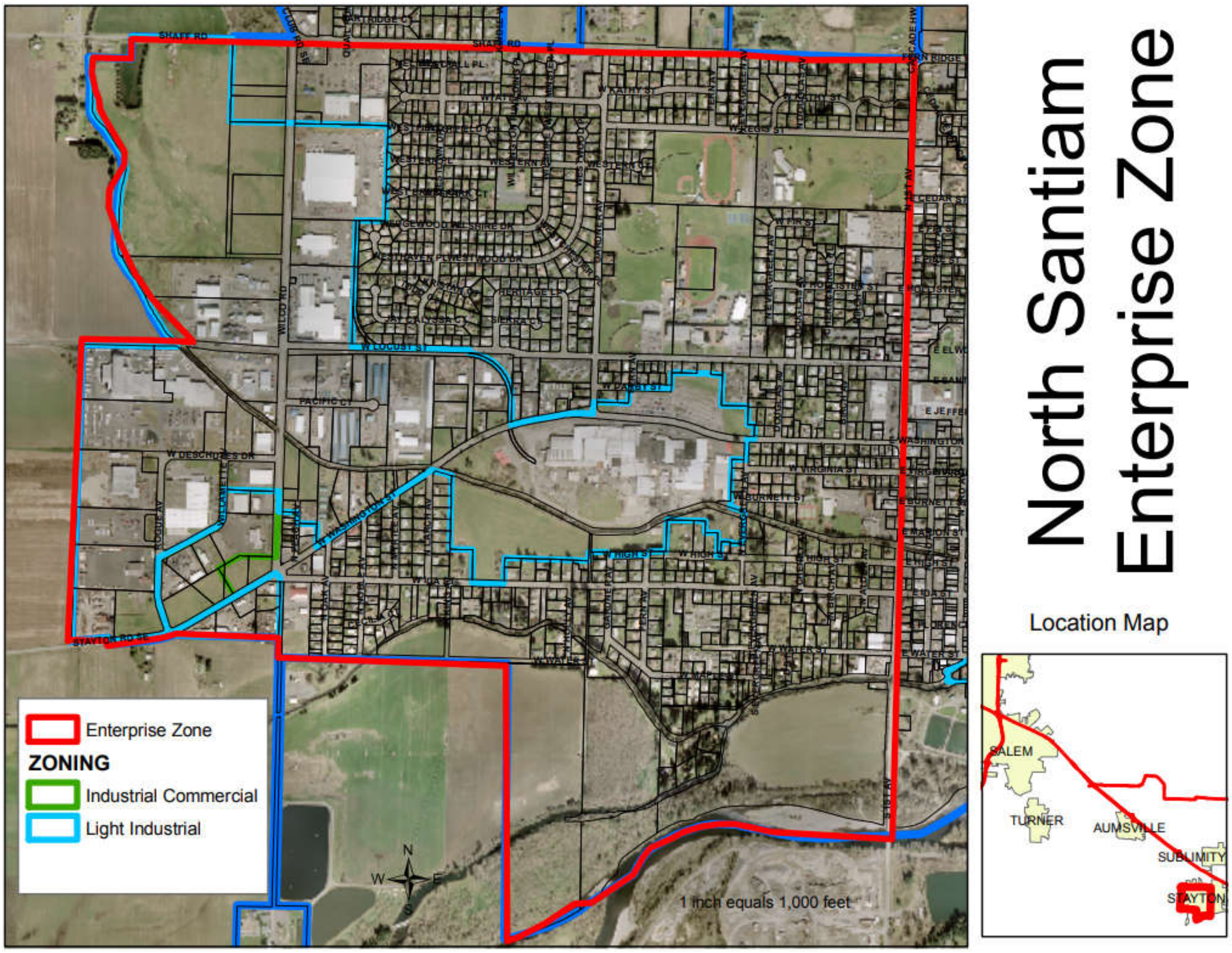
The TSP will be, in part, implemented incrementally through development under the Stayton Land Use and Development Code. It is therefore important that the code's provisions be consistent with (a) broad goals and policies of the TSP update, and (b) its specific recommendations with regard to roadway functional classifications, design, access management, and multi-modal connectivity.

The Transportation Planning Rule section of this memorandum is a first step in the process of evaluating how the Stayton Land Use and Development Code addresses common transportation planning priorities and aligns with state law and the goals and objectives of the TSP update. The planning process will result in recommendations to ensure that standards in the TSP, the Public Works Design Standards, and the Land Use and Development Code are consistent.

STAYTON ENTERPRISE ZONE

The Enterprise Zone provides a short-term (3- to 5-year) exemption from property taxes on improvements to qualified businesses that increase employment in the zone. Since inception of the Enterprise Zone in 2010, there have been three business expansions approved for tax exemptions: Littau Harvester, for an estimated value of $575,000 in improvements with 9 new jobs; Willamette Valley Lumber, for an estimated value of improvements of $1,560,000 with 35 new jobs; and Redbuilt, for an estimated value of $2,800,000 in improvements with 14 new jobs. The location of the enterprise zone is shown in Figure 3.

Figure 3. Enterprise Zone Location



APPLICABILITY TO THE TSP UPDATE:

Stayton's enterprise zone may impact the amount and location of employment growth assumed as part of forecasting and modeling efforts of the TSP. The purpose of this zone is to encourage businesses to locate and expand within this area; a successful policy long-term could reasonably expect to see continued employment growth in the area. The enterprise zone may also have implications for infrastructure funding, as the property tax exemption would result in lower revenues from these users.

SUBLIMITY INTERCHANGE AREA MANAGEMENT PLAN (IAMP)

This 2006 IAMP addresses the operational needs of Sublimity Interchange, located at the junction of Highway 22 and Cascade Highway. The IAMP documents the land use and transportation strategies developed to protect the function of the Sublimity Interchange over the long-term (20-plus years). Its main access management recommendations include:

- Several site-specific requirements of properties north and northwest of the interchange, which appear to have taken place
- Recommendations for deviations/realignments of Whitney Street and Golf Lane south of the highway
- Signalization of interchange on-ramps
- Right-turn pockets on eastbound Oregon 22 exit ramp approach to Cascade Highway, and on Shaff Road-Fern Ridge Road as they approach Cascade Highway (when traffic demand requires)
- Coordination of traffic-signal operations along Cascade Highway due to the close spacing of signalized intersections

APPLICABILITY TO THE TSP UPDATE:

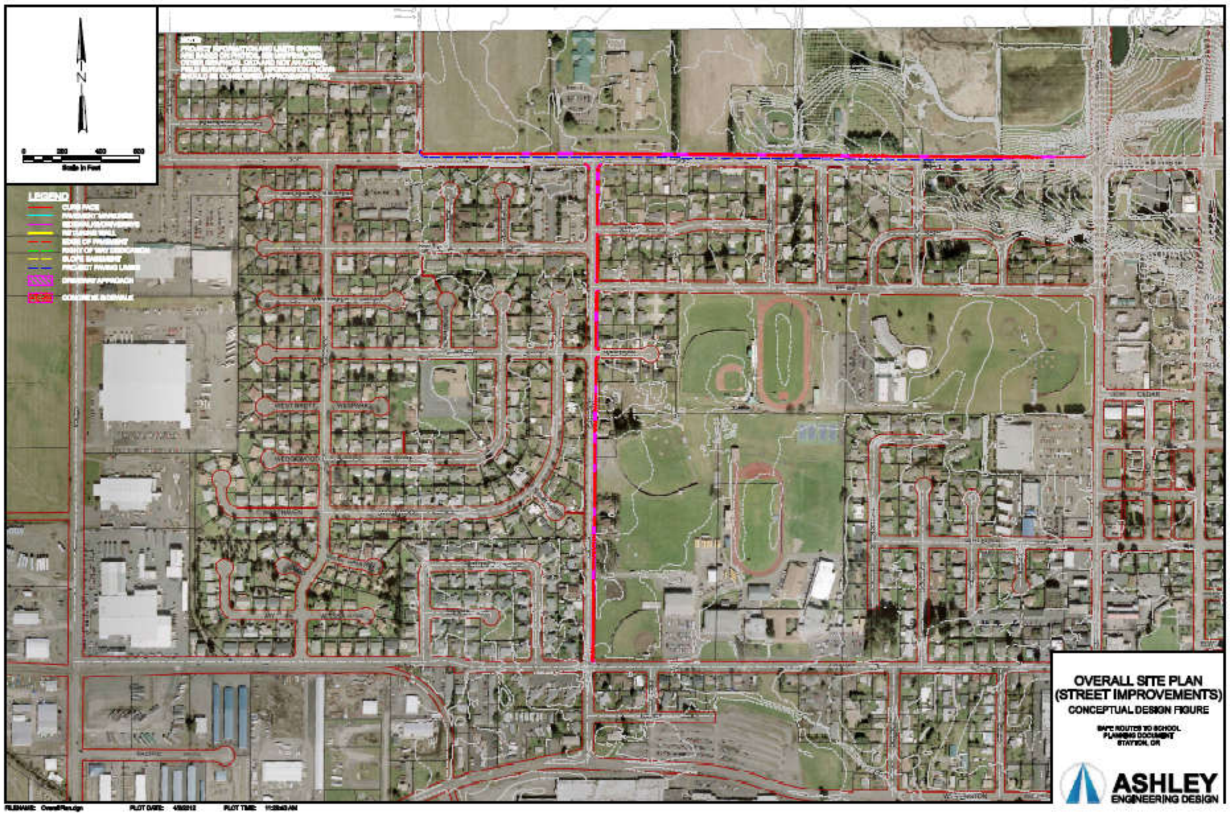
The TSP update will be consistent with the IAMP and its recommendations, particularly the future design and alignments of Stayton's roadways near the interchange. The TSP update may also help anticipate when some of the traffic-induced requirements of the IAMP are likely to occur.

STAYTON SAFE ROUTES TO SCHOOL (SRTS)

Preliminary planning related to Safe Routes to School was conducted in 2012-2013, and included surveys of parents, identifying barriers to walking and biking to school, and improvement plans for Shaff Road and Gardner Road. Recommendations include:

- On Shaff Road, the north side of the road is identified for a new concrete sidewalk between 1st Avenue and Kindle Way
- Gardner Road was identified for a new sidewalk on the East side of the road between Shaff and Locust (see Figure 4).

Figure 4. Safe Routes to School Improvement Locations



APPLICABILITY TO THE TSP UPDATE:

Recommended improvements to Shaff Road and Gardner Road will be evaluated as part of the TSP update and considered along with other projects to improve bicycle/pedestrian safety near school locations.

STORMWATER MANAGEMENT MANUAL (SWMM)

In 2010 the City of Stayton adopted stormwater design standards based on the City of Portland's Stormwater Management Plan. This was done to provide methodologies to reduce stormwater runoff and to improve the water quality of the stormwater runoff before it enters the downstream ditches, creeks, streams and rivers. All new development in the City is required to meet these stormwater management requirements prior to any permits being issued.

APPLICABILITY TO THE STAYTON TSP UPDATE:

Design for roadway facilities will be evaluated in the TSP Update. Recommended designs will be consistent with the SWMM, or where new stormwater practices are recommended through the TSP update, proposed modifications to the SWMM will be recommended.

TRANSPORTATION PLANNING RULE

The city of Stayton is undertaking an update of the 2004 Transportation System Plan (TSP) consistent with the requirements of Statewide Planning Goal 12 - Transportation. The Transportation Planning Rule (TPR), Oregon Administrative Rule 660, Division 12, defines the necessary elements of a local Transportation System Plan (TSP) and how to implement Goal 12. The overall purpose of the TPR is to provide and encourage a safe, convenient, and economic transportation system. The rule also implements provisions of other statewide planning goals related to transportation planning in order to plan and develop transportation facilities and services in close coordination with urban and rural development. The TPR directs local jurisdictions to integrate comprehensive land use planning with transportation needs and to promote multi-modal systems that make it more convenient for people to walk, bicycle, use transit, and drive less. Stayton's TSP must be consistent with the current TPR, which was amended most recently in December 2011.

Table 1 describes how the Land Use and Development Code, codified as Title 17 of the Stayton Municipal Code, meet particular TPR sections. The table also identifies recommended modifications that may be necessary to implement the updated TSP and recommends where local requirements could be strengthened to be more consistent with the TPR. To the extent necessary, suggested draft code language will be prepared at the implementation phase of the TSP update project, consistent with the policies and recommendations of the draft TSP.

Table 1: TPR Review

Requirement	Land Use and Development Code References and Recommendations
OAR 660-012-0045 – Implementation of the Transportation System Plan	
(1) Each local government shall amend its land use regulations to implement the TSP.	
(a) The following transportation facilities, services and improvements need not be subject to land use regulations except as necessary to implement the TSP and, under ordinary circumstances do not have a significant impact on land use: *(A) Operation, maintenance, and repair of existing transportation facilities identified in the TSP, such as road, bicycle, pedestrian, port, airport and rail facilities, and major regional pipelines and terminals;*	The purpose of this provision is to allow for certain transportation uses, such as operation, maintenance, and repair of transportation facilities identified in the TSP, without being subject to land use regulations. Section 17.26.060 describes transportation improvements that are permitted outright. This section states that installation of utilities, normal operation/maintenance/repair of transportation facilities are permitted outright. Where a project is specifically identified in the TSP as not requiring further land use regulation, or acquisition of ROW for TSP facilities are also permitted outright.

Requirement	Land Use and Development Code References and Recommendations
(B) Dedication of right-of-way, authorization of construction and the construction of facilities and improvements, where the improvements are consistent with clear and objective dimensional standards; *(C) Uses permitted outright under ORS 215.213(1)(m) through (p) and 215.283(1)(k) through (n), consistent with the provisions of 660-012-0065; and* *(D) Changes in the frequency of transit, rail and airport services.* *(b) To the extent, if any, that a transportation facility, service, or improvement concerns the application of a comprehensive plan provision or land use regulation, it may be allowed without further land use review if it is permitted outright or if it is subject to standards that do not require interpretation or the exercise of factual, policy or legal judgment.*	**This TPR provision is met.** For clarity, consider adding "Transportation improvements consistent with the TSP" as a permitted use, and those that are not within the TSP as conditional uses, in Table 17.16.070.1 A reference to Section 17.26.060 may also be appropriate.
(c) In the event that a transportation facility, service or improvement is determined to have a significant impact on land use or requires interpretation or the exercise of factual, policy or legal judgment, the local government shall provide a review and approval process that is consistent with 660-012-0050. To facilitate implementation of the TSP, each local government shall amend regulations to provide for consolidated review of land use decisions required to permit a transportation project.	This TPR Section references project development and implementation - how a transportation facility or improvement authorized in a TSP is designed and constructed (660-012-0050). Project development may or may not require land use decision-making. The TPR directs that during project development, projects authorized in an acknowledged TSP will not be subject to further justification with regard to their need, mode, function, or general location. To this end, the TPR calls for consolidated review of land use decisions and proper noticing requirements for affected transportation facilities and service providers. Section 17.12.040 states that "Combined or multiple requests…for approvals of different land use and development permits…shall be considered concurrently by the City." **This TPR provision is met.**

Requirement	Land Use and Development Code References and Recommendations
(2) Local governments shall adopt land use or subdivision ordinance regulations, consistent with applicable federal and state requirements, to protect transportation facilities corridors and sites for their identified functions. Such regulations shall include:	
(a) Access control measures, for example, driveway and public road spacing, median control and signal spacing standards, which are consistent with the functional classification of roads and consistent with limiting development on rural lands to rural uses and densities;	Table 17.26.020.3.h lists standards for public intersection spacing and driveways and/or street spacing based on the functional classification of the roadway. Section 17.26.020.3.i addresses access management spacing for the Highway 22 Terminal Ramps Control Zone, referencing OAR 734-051-0010. **Recommendation:** The TSP update process may identify new or updated roadway and access management standards. Table 17.26.020.3.h. should be updated to reflect these changes, or should reference the requirements in the TSP.
(b) Standards to protect the future operations of roads, transitways and major transit corridors	Section 17.26.020.6 addresses development review procedure for access management, ensuring that access is consistent with access management standards adopted within the TSP. It also states that "Any application that involves access to the State Highway System shall be reviewed by the Oregon Department of Transportation for conformance with state access management standards. Any application that involves access to Marion County's roadway system shall be reviewed by City of Stayton staff for conformance with City of Stayton access management standards." Section 17.26.050 includes transportation impact analysis requirements that help protect future operations of the transportation system. **Recommendation:** As part of TSP implementation, review the thresholds for requiring a Transportation Impact Analysis (Section 1., When a Transportation Impact Analysis is Required) and if necessary modify Section 17.26.050 to reflect future City needs.
(c) Measures to protect public use airports by controlling land uses within airport noise corridors and imaginary	Stayton does not have a public-use airport. **This TPR provision is met.**

Requirement	Land Use and Development Code References and Recommendations
surfaces, and by limiting physical hazards to air navigation;	
(d) A process for coordinated review of future land use decisions affecting transportation facilities, corridors or sites;	See response to -0045(1)(c). **This TPR provision is met.**
(e) A process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities, corridors or sites;	Section 17.26.050.12 states that "as part of every land use action, the City of Stayton, Marion County… and ODOT…will be required to identify conditions of approval needed to meet operations and safety standards and provide the necessary right-of-way and improvements to develop the future planned transportation system." **This TPR provision is met.**
(f) Regulations to provide notice to public agencies providing transportation facilities and services, MPOs, and ODOT of: *(A) Land use applications that require public hearings;* *(B) Subdivision and partition applications;* *(C)Other applications which affect private access to roads; and* *(D)Other applications within airport noise corridor and imaginary surfaces which affect airport operations.*	Section 17.12.050.3 states: For purposes of planning coordination, the City staff shall provide to local, state, and federal agencies likely to be impacted by the proposal or entitled to receive such notice under law, referrals of the request with an explanation of the character of the proposal. This referral will be made within 5 days of application acceptance. Agencies so contacted will be requested to reply within 12 days of mailing of the referral, and will be notified that failure to reply or participate in the hearing may be interpreted as no objection to the proposal. **This TPR provision is met.**
(g) Regulations assuring amendments to land use designations, densities, and design standards are consistent with the functions, capacities and performance standards of facilities identified in the TSP.	Section 17.12.170 describes the process for comprehensive plan amendments, which include a transportation impact analysis, and approval criteria includes "Existing or anticipated transportation facilities are adequate…and proposed amendment is in conformance with the (TPR)." 17.12.180 describes the process for zoning map amendments, with the same requirements listed above. **Recommendation:** Include references to the adopted TSP in Sections 17.12.70 and 17.12.80 and add requirements ensuring conformance

Requirement	Land Use and Development Code References and Recommendations
	with the TPR to Section 17.12.175, Land Use Code Amendments. (See recommendation under 660-012-0060.)
(3) Local governments shall adopt land use or subdivision regulations for urban areas and rural communities as set forth below.	
(a) Bicycle parking facilities as part of new multi-family residential developments of four units or more, new retail, office and institutional developments, and all transit transfer stations and park-and-ride lots.	The title of Section 17.26.030 mentions bicycle parking, however it appears that much of the section has been repealed. Section 17.20.060 within the Development Standards chapter addresses off-street parking and loading, including bicycle parking. Table 17.20.060.9-A.1 lists bicycle parking facilities as part of multi-family residential developments (defined as four or more units), commercial, and industrial uses, and transit centers and park-and-ride lots. **Recommendation:** The substance of this TPR provision is met, however a cleanup of Section 17.26.030 may be helpful as its current purpose is unclear.
(b) On-site facilities shall be provided which accommodate safe and convenient pedestrian and bicycle access from within new subdivisions, multi-family developments, planned developments, shopping centers, and commercial districts to adjacent residential areas and transit stops, and to neighborhood activity centers within one-half mile of the development. Single-family residential developments shall generally include streets and accessways. Pedestrian circulation through parking lots should generally be provided in the form of accessways. *(A) "Neighborhood activity centers" includes, but is not limited to, existing or planned schools, parks, shopping areas, transit stops or employment centers;*	**On-site circulation and connections:** Section 17.26.020.5 addresses connectivity and circulation standards. It is not clear whether these standards apply only to subdivisions or other kinds of developments as well. **Neighborhood Activity Centers:** The code includes a definition of Neighborhood Activity Center that meets this TPR provision, however it is only used with reference to cul-de-sacs within the code. **Parking Lots**: 17.20.200 commercial design standards require that, "placing vehicle areas between the street right-of-way and the building's primary entrance will not adversely affect pedestrian safety and convenience." The building's primary entrance is connected to an adjoining street by a pedestrian walkway that meets the standards of Section 17.26.020.5.

Requirement	Land Use and Development Code References and Recommendations
(B) Bikeways shall be required along arterials and major collectors. sidewalks shall be required along arterials, collectors and most local streets in urban areas except that sidewalks are not required along controlled access roadways, such as freeways; *(C) Cul-de-sacs and other dead-end streets may be used as part of a development plan, consistent with the purposes set forth in this section;* *(D) Local governments shall establish their own standards or criteria for providing streets and accessways consistent with the purposes of this section. Such measures may include but are not limited to: standards for spacing of streets or accessways; and standards for excessive out-of-direction travel;* *(E) Streets and accessways need not be required where one or more of the following conditions exist:* *(i) Physical or topographic conditions make a street or accessway connection impracticable. Such conditions include but are not limited to freeways, railroads, steep slopes, wetlands or other bodies of water where a connection could not reasonably be provided;* *(ii) Buildings or other existing development on adjacent lands physically preclude a connection now or in the future considering the potential for redevelopment; or*	17.20.230 Industrial Design Standards states that "primary building entrances shall have walkways connecting to the street sidewalk." More detailed requirements for the Downtown area are included, emphasizing an enjoyable pedestrian experience. **Bikeways and sidewalks**: Requirements for the construction of streets are addressed in the Public Works Design Standards, which state that bikeways are required along arterials, major collectors. **Cul-de-sacs:** Cul-de-sacs are addressed in 17.26.20 – Access Management Requirements and Standards. They are allowed only where certain constraints exist and are required to provide access consistent with the TPR. **Street and accessway layout**: Street connectivity and formation of blocks is addressed in 17.26.020 – Access Management Requirements and Standards. Block length minimums and maximums and perimeter maximums are provided for various district in order to promote "efficient vehicular and pedestrian circulation". **Recommendations:** Clarify the applicability of connectivity and circulation standards, ensuring they apply to subdivisions, multifamily developments, planned developments, shopping centers, and commercial centers with Neighborhood Activity Centers in the area. Consider including street cross-sections in the development code, rather than in the Public Works Design Standards Consider limited cul-de-sac length and the number of homes accessed. Include street cross-section standards in the development code, consistent with the updated TSP. Citations to TSP tables and

Requirement	Land Use and Development Code References and Recommendations
(iii) Where streets or accessways would violate provisions of leases, easements, covenants, restrictions or other agreements existing as of May 1, 1995, which preclude a required street or accessway connection.	figures are recommended; standards may also be replicated in the code.
(c) Off-site road improvements are otherwise required as a condition of development approval, they shall include facilities accommodating convenient pedestrian and bicycle and pedestrian travel, including bicycle ways on arterials and major collectors	Section 17.12 addresses development approval procedures, but does not specifically stipulate that off-site road improvements accommodate bicycle/pedestrian travel. **Recommendation:** Consider including language which states that off-site road improvements must accommodate pedestrian and bicycle travel.
(d) For purposes of subsection (b) "safe and convenient" means bicycle and pedestrian routes, facilities and improvements which: *(A) Are reasonably free from hazards, particularly types or levels of automobile traffic which would interfere with or discourage pedestrian or cycle travel for short trips;* *(B) Provide a reasonably direct route of travel between destinations such as between a transit stop and a store; and* *(C) Meet travel needs of cyclists and pedestrians considering destination and length of trip; and considering that the optimum trip length of pedestrians is generally 1/4 to 1/2 mile.*	Connectivity standards are addressed in 17.26.020.5. They do not specifically mention "safe and convenient" bicycle and pedestrian routes that refer to the conditions listed in this part of the TPR. **Recommendation:** Include additional language in City connectivity standards that specifies acceptable ways to accommodate on-site pedestrian and bicycle routes, consistent with this TPR provision
(e) Internal pedestrian circulation within new office parks and commercial developments shall be	Section 17.20.11.c addresses pedestrian access in off-street parking areas and includes techniques noted in the TPR. Section 17.20.200

Requirement	Land Use and Development Code References and Recommendations
provided through clustering of buildings, construction of accessways, walkways and similar techniques.	addresses commercial design standards specifically and includes provisions for pedestrian circulation. **This TPR provision is met.**
(4) To support transit in urban areas containing a population greater than 25,000, where the area is already served by a public transit system or where determination has been made that a public transit system is feasible, local governments shall adopt land use and subdivisions as provided in (a)-(g) below.	
(a) Transit routes and transit facilities shall be designed to support transit use through provision of bus stops, pullouts and shelters, optimum road geometrics, on-road parking restrictions and similar facilities, as appropriate	At the time of the most recent TSP adoption (2004), there was no fixed-route transit service within Stayton. Today, Cherriots offers inter-city transit along the Highway 22 corridor, with designated stops in Stayton. The updated TSP will review potential future transit routes and will ensure that standards for these facilities are consistent with this section of the TPR. **Recommendation:** Identify design requirements of transit routes and transit facilities through the TSP update process and in coordination with Cherriots transit; update Land Development Code requirements as necessary to be consistent with the TSP.
(b) New retail, office and institutional buildings at or near major transit stops shall provide for convenient pedestrian access to transit through the measures listed in (A) and (B) below. *(A) Walkways shall be provided connecting building entrances and streets adjoining the site;* *(B) Pedestrian connections to adjoining properties shall be provided except where such a connection is impracticable. Pedestrian connections shall connect the on site circulation system to existing or proposed streets, walkways, and driveways about the property. Where adjacent properties are undeveloped or have potential for redevelopment, streets, accessways and walkways on site shall be laid out*	There are no specific requirements for development near major transit stops within the code today. **Recommendation:** The City should consider amending Section 17.20 Development and Improvement Standards to include requirements consistent with TPR 0045(4)(b)(C) for development proposals that are within a certain distance from a major transit stop. How "major" is defined and the locations of these stops will be addressed through the TSP update process.

Requirement	Land Use and Development Code References and Recommendations
or stubbed to allow for extension to the adjoining property; *(C) In addition to (A) and (B) above, on sites at major transit stops provide the following:* *(i) Either locate buildings within 20 feet of the transit stop, a transit street or an intersecting street or provide a pedestrian plaza at the transit stop or street intersection;* *(ii) A reasonably direct pedestrian connection between the transit stop and building entrances on the site* *(iii) A transit passenger landing pad accessible to disabled persons* *(iv) An easement or dedication for a passenger shelter if requested by the transit provide; and* *(v) Lighting at the transit stop.*	
(c) Local governments may implement 4(b)A) and (B) above through the designation of pedestrian districts and adoption of appropriate implementing measures regulating development within pedestrian districts. Pedestrian districts must comply with the requirement of (4)(b)(C) above.	The City of Stayton does not currently have pedestrian district designations. Identifying and determining the requirements related to a specific pedestrian district or districts that include existing or planned major transit routes is not an anticipated outcome of the TSP planning project.
(d) Designated employee parking areas in new developments shall provide preferential parking for carpools and vanpools	Section 17.20.070 addresses off-street parking requirement and loading, but does not include requirements for carpools and vanpools. **Recommendation:** The City should consider requiring that new developments with planned designated employee parking areas provide preferential parking for employee carpools and vanpools. A typical local code requirement is requiring employers with more than a specific number of employees to dedicate a percentage of the required parking spaces for car/vanpools. Alternatively, code provisions could provide optional incentives for reduction in the overall number of required parking spaces for a

Requirement	Land Use and Development Code References and Recommendations
	development where transit or car/vanpools are accommodated.
(6) In developing a bicycle and pedestrian circulation plan as required by 660-012-0020(2)(d), local governments shall identify improvements to facilitate bicycle and pedestrian trips to meet local travel needs in developed areas. Appropriate improvements should provide for more direct, convenient and safer bicycle or pedestrian travel within and between residential areas and neighborhood activity centers (i.e., schools, shopping, transit stops). Specific measures include, for example, constructing walkways between cul-de-sacs and adjacent roads, providing walkways between buildings, and providing direct access between adjacent uses.	The TSP update will make recommendations to the bicycle and pedestrian plan that are consistent with TPR -0020. This TPR requirement is currently addressed in the following areas: • Walkways between cul-de-sacs and adjacent roads – See response and recommendations related to cul-de-sacs, Section -0045(3)(b). • Walkways between buildings – See response and recommendations related to accessways, Section -0045(3)(b). • Access between adjacent uses – See response and recommendations related to accessways, Section -0045(3)(b). **Recommendation:** This requirement will be addressed by the TSP update planning process and can be met by requiring improvements in developing areas consistent with adopted code provisions.
(7) Local governments shall establish standards for local streets and accessways that minimize pavement width and total ROW consistent with the operational needs of the facility. The intent of this requirement is that local governments consider and reduce excessive standards for local streets and accessways in order to reduce the cost of construction, provide for more efficient use of urban land, provide for emergency vehicle access while discouraging inappropriate traffic volumes and speeds, and which accommodate convenient pedestrian and bicycle circulation. Notwithstanding section (1) or (3) of this rule, local street standards adopted to meet this requirement need not be adopted as land use regulations.	Street standards are located in the Public Works Design Standards. Local streets have a 60' ROW with 34' pavement width. "Skinny streets" with a narrower 28' pavement width may be approved. The standard local street width is wider than the recommended widths illustrated in the Transportation Growth Management Neighborhood Street Design Guidelines (listed below). *Pavement ROW* *No On-Street Parking 20' 42-48'* *Parking on One Side 24' 47-52'* *Parking on Two Sides 28' 52-56'* **Recommendation:** Through the TSP update process the City can reevaluate whether local street width standards can be reduced, or if there are

Requirement	Land Use and Development Code References and Recommendations
	areas or circumstances where a narrower standard may be appropriate.
OAR 660-12-0060	
Amendments to functional plans, acknowledged comprehensive plans, and land use regulations that significantly affect an existing or planned transportation facility shall assure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility.	Comprehensive plan, land use code, and zoning amendments are addressed in subsections 17.12.170, 175, and 180, respectively. Subsection 170 and 180 contain language requiring a traffic impact analysis and conformance with this provision of the TPR. Subsection 175, which addresses amendments to code language, does not contain specific requirements related to transportation facilities. **Recommendation:** Consider adding language to 17.12.175 to indicate that changes to land use regulations which may significantly affect the transportation system are required to assure consistency with the identified function, capacity, and performance standards within the TSP.

APPENDIX B: TECH MEMO #2: GOALS, OBJECTIVES, & EVALUATION CRITERIA

CITY OF STAYTON
TRANSPORTATION SYSTEM PLAN UPDATE

TECHNICAL MEMORANDUM #2

Date: December 10, 2018 Project #: 22352
To: Lance Ludwick and Dan Fleishman (City of Stayton)
From: Susan Wright, PE (Kittelson & Associates, Inc.)
Darci Rudzinski (Angelo Planning Group)

Subject: Goals, Objectives, and Evaluation Criteria

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PURPOSE AND INTRODUCTION

This memorandum presents the goals, objectives and evaluation criteria that will be used to guide development of the Stayton Transportation System Plan (TSP) update. The goals and objectives will help guide the TSP update to ensure key issues are addressed within this process. The evaluation criteria will be used to set policies and identify "preferred alternatives," which will comprise the list of recommended projects and associated policy, code amendments, and funding actions in the TSP.

IN THIS MEMO

- Proposed Goals and Objectives
- Proposed Evaluation Criteria

This document is organized as follows:

- Background: This section describes the changes in Stayton following adoption of the 2004 Transportation Master Plan.

- Existing Goals: The current adopted transportation goals from Stayton Comprehensive Plan Chapter 4. Transportation.
- Proposed Goals & Objectives: The desired project goals address transportation deficiencies and needs that support the city's vision for the next 20 years. The project goals were developed based on an evaluation of the existing goals (2004 Transportation Master Plan and Comprehensive Plan Chapter 4) and the project objectives discussed with City Staff.
- Evaluation Criteria: The proposed evaluation criteria can be for the TSP update process to measure and respond to the project objectives and ultimately to the city's overarching transportation goals.

BACKGROUND

The current TSP was adopted by the City Council in 2004. It was produced during a time of substantial growth that was assumed to continue; growth has been slower than what was projected at plan adoption. For this and other related reasons, there are plan recommendations that no longer seem necessary or feasible within a 20-year planning horizon and these need to be reevaluated and updated. Also, there are recommendations in the adopted plan to improve streets that are county-maintained streets that Marion County no longer supports. In addition, the City updated its comprehensive plan in 2013. The assumptions for development patterns included within the 2004 TSP are not compliant with the City of Stayton Comprehensive Plan Map.

EXISTING GOALS

The current Stayton Comprehensive Plan was last updated in 2013. Chapter 4 of the Comprehensive Plan includes 10 transportation goals, each with associated policies and action items. The 10 adopted TSP goals (Section 3.0) are all represented in the Comprehensive Plan, with some slightly different wording. Most TSP policies are also included in Chapter 4, but these have often been reworded and some live as action items in the Comprehensive Plan. In addition, the Comprehensive Plan includes a policy and three action items associated with the outcomes of the 2006 Sublimity Interchange Area Management Plan (IAMP). The following are the adopted Comprehensive Plan transportation goals with the corresponding goal number and title from the TSP.

- The mobility of Stayton residents and businesses will be maximized by access to a multi-modal transportation system. ***TSP Goal 1 – Mobility***
- The city will create and maintain a multi-modal transportation system with the greatest efficiency of movement possible for Stayton residents and businesses in terms of travel time, travel distance, and efficient management of the transportation system. ***TSP Goal 2 – Efficiency***
- The city will maintain and improve transportation safety. ***TSP Goal 3 – Safety***

- The costs of development of the city's transportation infrastructure and services will be equitably distributed. ***TSP Goal 4 – Equity***
- Environmental impacts associated with traffic and transportation system development will be limited and mitigated. ***TSP Goal 5 – Environmental***
- Use of alternative modes of transportation will be increased. ***TSP Goal 6 – Alternative Modes of Transportation***
- Transportation improvements will be coordinated with all effected levels of government. ***TSP Goal 7 – Multi-jurisdiction Coordination***
- The transportation system will be planned and maintained, including street design and access standards, based on functional classification. ***TSP Goal 8 – Roadway Functional Classification***
- The impacts of truck traffic on local streets will be minimized. ***TSP Goal 9 – Truck Route***
- The city will have adequate financial revenues to fund its capital improvement program and maintenance needs. ***TSP Goal 10 – Transportation Financing***

In many respects the City's transportation goals and associated policies continue to provide progressive direction for the community. They emphasize coordination between transportation providers and planning, and funding, for an efficient, multi-modal transportation system. However, more active forms of transportation (walking, bicycling, riding transit) are considered separately as "alternative modes" rather than part of an integrated system. In a similar vein, mobility policies narrowly pertain to the street system; enhancing and protecting mobility for all users of the system should be an objective of this TSP update. There are also some community interests that are absent or not well-represented in existing transportation policy. These include objectives related to heath (e.g., effects of heathy transportation, mitigating pollution), community and economic vitality (e.g., freight efficiency, tourism, access to jobs), equity (e.g., access to "active" modes of transportation), and the environment (e.g., using technological solutions to improve mobility/reduce pollution, alternative transportation facility designs to minimize impacts to natural resources).

PROPSOSED GOALS AND OBJECTIVES

Goals provide direction for where a community would like to go; corresponding objectives provide more detail on how to achieve the goal or articulate desired specific outcomes related to the goal. The TSP goals and objectives provide a framework for shaping transportation policies and are the basis for the formation of evaluation criteria to determine which transportation projects, programs, and refinement studies best meet Stayton's needs.

The goals and objectives presented below are intended to guide the TSP update. They are based on an evaluation of the City's adopted transportation goals and policies, as compared to the TSP update's expected outcomes, as well as preliminary direction provided by the City. The following can also be used to update the goals, policies, and action items in the Comprehensive Plan at the implementation phase of the project.

GOAL 1 – MOBILITY AND EFFICIENCY: OPTIMIZE THE PERFORMANCE OF THE TRANSPORTATION SYSTEM FOR THE EFFICIENT MOVEMENT OF PEOPLE AND GOODS.

OBJECTIVES:

Objective A. Establish a transportation system that can accommodate a wide variety of travel modes and minimizes the reliance on any one single mode of travel.

Objective B. Develop and maintain street functional classifications, along with operational guidance and cross-sectional and right-of-way standards, to ensure streets are able to serve their intended purpose.

Objective C. Review and determine needed standards for mobility to help maintain a minimum level of motor vehicle travel efficiency. State and county mobility standards will be supported on facilities under the respective jurisdiction.

Objective D. Develop an integrated transportation system that includes additional local, collector and arterial roads that improves connectivity across multiple modes, preserves future rights-of-way, and maintains Stayton's existing street grid system.

Objective E. Provide a network of arterials, collectors and local streets that are interconnected, appropriately spaced, and reasonably direct in accordance with city, County and state design standards in order to reduce reliance on any one corridor.

Objective F. Review and update, where necessary, adopted access management standards.

GOAL 2 – SAFETY: PROVIDE A TRANSPORTATION SYSTEM THAT ENHANCES THE SAFETY AND SECURITY OF ALL TRANSPORTATION MODES.

Objective A. Assess options to reduce traffic volumes and speeds near schools consistent with the Safe Routes to School Plan. Work with the school district and educational institutions to identify and implement circulation and access patterns to and around schools that are safe for pedestrians and bicyclists, as well as people in cars and arriving by bus.

Objective B. Improve safety and operational components of existing transportation facilities not meeting agency standards or industry best practices.

Objective C. Address existing safety issues at high collision locations and locations with a history of severe vehicle, bicycle- and/or pedestrian-related crashes.

Objective D. Develop a traffic calming program for implementation in areas with vehicle speeding issues.

Objective E. Ensure adequate access for emergency services vehicles throughout the city's transportation system.

Objective F. Manage access to transportation facilities consistent with their applicable classification to reduce and separate conflicts and provide reasonable access to land uses.

Objective G. Identify and improve safe crossings for vehicles, bicycles and pedestrians across arterial streets.

GOAL 3 – EQUITY: PROVIDE AN EQUITABLE, BALANCED AND CONNECTED MULTI-MODAL TRANSPORTATION SYSTEM.

Objective A. Ensure that the transportation system provides equitable access to underserved and vulnerable populations.

Objective B. Provide connections for all modes that meet applicable city and Americans with Disabilities Act (ADA) standards.

Objective C. Provide for multi-modal circulation internally on site and externally to adjacent land use and existing and planned multi-modal facilities.

GOAL 4 – ENVIRONMENTAL: LIMIT AND MITIGATE ADVERSE ENVIRONMENTAL IMPACTS ASSOCIATED WITH TRAFFIC AND TRANSPORTATION SYSTEM DEVELOPMENT.

Objective A. Identify environmental impacts related to transportation projects at the earliest opportunity to ensure compliance with all federal and state environmental standards.

Objective B. Avoid or minimize impacts to natural resources, which may include alternative transportation facility designs in constrained areas.

Objective C. Reduce the number of vehicle-miles traveled.

Objective D. Enhance opportunities to increase the number of walking, bicycling, and transit trips in the city.

Objective E. Support alternative vehicle types by identifying potential electric vehicle plug-in stations and developing implementing code provisions.

Objective F. Evaluate and implement, where cost-effective, environmentally friendly materials and design approaches (reducing required pavement width, water reduction and infiltration methods to protect waterways, solar infrastructure, impervious materials).

Objective G. Support technology applications that improve travel mobility and safety with less financial and environmental impact than traditional infrastructure projects.

Objective H. Roadways within Stayton shall be multi-modal or "complete streets," with each street servicing the needs of the various modes of travel.

GOAL 5 – MULTI-JURISDICTION COORDINATION: DEVELOP AND MAINTAIN A TRANSPORTATION SYSTEM PLAN THAT IS CONSISTENT WITH THE GOALS AND OBJECTIVES OF THE CITY, MARION COUNTY, AND THE STATE.

Objective A. Coordinate with regional transit service efforts and seek improvements to public transit services to the City of Stayton.

Objective B. Ensure consistency with state, regional and local planning rules, regulations, and standards.

Objective C. Coordinate land use, financial, and environmental planning to prioritize strategic transportation investments.

GOAL 6 – STRATEGIC TRANSPORTATION FINANCING: SEEK FUNDING FOR AND INVEST IN FINANCIALLY FEASIBLE INFRASTRUCTURE PROJECTS THAT WILL SERVE THE CITY FOR YEARS TO COME.

Objective A. Preserve and protect the function of locally and regionally significant transportation corridors.

Objective B. Develop and support reasonable alternative mobility targets for motor vehicles that align with economic and physical limitations on state highways and city streets where necessary.

Objective C. Preserve and maintain the existing transportation system assets to extend their useful life.

Objective D. Improve travel reliability and efficiency of existing major travel routes in the city before adding capacity.

Objective E. Pursue grants and collaboration with other agencies to efficiently fund transportation improvements and supporting programs.

Objective F. Identify and maintain stable and diverse revenue sources to meet the need for transportation investments in the city.

Objective G. Identify new and creative funding sources to leverage high priority transportation projects.

Objective H. Review existing development requirements related to traffic impact study submittal requirements and criteria to ensure that future developments will be responsible for mitigating their direct traffic impacts

Objective I. Upon TSP adoption, update the current transportation system development charge methodology and update the current list of SDC-eligible projects.

GOAL 7 – HEALTH: PROVIDE A TRANSPORTATION SYSTEM THAT ENHANCES THE HEALTH OF RESIDENTS AND USERS.

Objective A. Identify and seek funding for programs that encourage walking and bicycling and rideshare/carpool through community awareness and education.

Objective B. Identify and seek funding for programs that provide education regarding good traffic behavior and consideration for all users.

Objective C. Provide convenient and direct pedestrian and bicycle facilities and routes to promote health and the physical and social well-being of [jurisdiction] residents, to reduce vehicular traffic congestion, to provide community and recreational alternatives, and to support economic development.

Objective D. Ensure that the findings of recent studies [Health Impact Assessments, Road Safety Audits, etc.] inform transportation system planning and strategic investment.

Objective E. Plan for a multi-modal system that limits users' exposure to pollution and that enhances air quality.

GOAL 8– LAND USE AND TRANSPORTATION INTEGRATION: CREATE A BALANCED BUILT ENVIRONMENT WHERE DESIRED EXISTING AND PLANNED LAND USES ARE SUPPORTED BY AN EFFICIENT MULTI-MODAL TRANSPORTATION SYSTEM.

Objective A. Identify areas where encouraging more compact, walkable, mixed use, and/or transit-oriented development could significantly shorten trip lengths or reduce the need for motor vehicle travel within the city.

Objective B. Identify the 20-year roadway system needs to accommodate developing or undeveloped areas; ensure adequate capacity for future travel demand and minimize travel times.

Objective C. Review and revise where necessary local land use and development requirements to ensure that future land use decisions are consistent with the planned transportation system.

Objective D. Review and incorporate appropriate access management and land use measures consistent with the recommendations of the Sublimity Interchange Area Management Plan (IAMP).

GOAL 9 – COMMUNITY AND ECONOMIC VITALITY: PROVIDE A TRANSPORTATION SYSTEM THAT SUPPORTS EXISTING INDUSTRY AND ENCOURAGES ECONOMIC DEVELOPMENT IN THE CITY.

Objective A. Develop a plan for designated truck routes through the City that prioritize efficient fright movement and minimize truck traffic on other city roadways.

Objective B. Improve the movement of goods and delivery of services throughout the city while balancing the needs of all users with a variety of travel modes and preserving livability in residential areas and established neighborhoods.

Objective C. Identify lower cost options or provide funding mechanisms for transportation improvements necessary for development to occur.

Objective D. Program transportation improvements to facilitate the development of desired land uses and activities.

Objective E. Encourage recreational tourism by developing connections to and between major recreational locations and destinations and key services in the city.

Objective F. Encourage tourism by promoting and upgrading bicycle and pedestrian recreational routes and services through the city.

PROPOSED EVALUTATION CRITERIA

The proposed evaluation criteria are based on the proposed goals and objectives. A qualitative process using the evaluation criteria will be used to evaluate solutions and prioritize projects developed through the TSP update. The rating method used to evaluate the solutions is described below.

- Most Desirable: The concept addresses the criterion and/or makes substantial improvements in the criteria category. (+1)
- No Effect: The criterion does not apply to the concept or the concept has no influence on the criteria. (0)
- Least Desirable: The concept does not support the intent of and/or negatively impacts the criteria category. (-1)

At this level of screening, the criteria will not be weighted; the ratings will be used to inform discussions about the benefits and tradeoffs of each solution. Table 1 presents the evaluation criteria that will be used to qualitatively evaluate the solutions developed through the TSP update.

Table 1: Evaluation Criteria

Objective	Evaluation Criteria	Evaluation Score
Goal 1: Mobility and Efficiency		
Objective A	Could reduce reliance on any one single travel mode	+1
	Would not reduce reliance on any one single travel mode	0
	Could increase reliance on any one single travel mode	-1
Objective D	Will improve connectivity across travel modes	+1
	Will not improve connectivity across travel modes	0
	Will reduce connectivity across travel modes	-1
Objective E	Could reduce reliance on any one corridor	+1
	Would not impact reliance on any one corridor	0
	Could increase reliance on any one corridor	-1
Goal 2: Safety		
Objective C	Will address a known safety issue	+1
	Will not address a known safety issue	0
	Could worsen a known safety issue	-1
Objective E	Will improve access for emergency services vehicles	+1
	Will not improve access for emergency service vehicles	0
	Will reduce or limit access for emergency service vehicle	-1
Objective F	Will reduce potential for future conflicts	+1
	Will have no impact on the potential for future conflicts	0
	Will increase the potential for future conflicts	-1
Goal 3: Equity		
Objective A	Will improve access for underserved and vulnerable populations	+1
	Will not improve access for underserved and vulnerable populations	0
	Will reduce or limit access for underserved and vulnerable populations	-1
Goal 4: Multi-Jurisdiction Coordination		
Objective B	Will not impact natural resources	+1
	Will have a minimal impact to natural resources	0
	Will have a significant impact to natural resources	-1
Objective C	Could reduce the number of vehicle miles traveled	+1
	Would not change the number of vehicle miles traveled	0
	Could increase the number of vehicle miles traveled	-1
Objective E	Will support alternative vehicle types	+1
	Will not support alternative vehicle types	0
	Will reduce or limit opportunities for alternative vehicle types	-1
Goal 5: Strategic Investment		
Objective B	Is consistent with state, regional, and local planning	+1
	Is not impacted by or reflected in state, regional, and/or local planning	0
	Is inconsistent with state, regional, and/or local planning	-1
Goal 6: Strategic Transportation Financing		
Objective A	Will preserve and protect the function of locally and/or regionally significant corridors	+1
	Will not impact locally and/or regionally significant corridors	0
	Will degrade the function of locally and/or regionally significant corridors	-1
Objective D	Will improve travel reliability and efficiency of major travel routes	+1
	Will not impact travel reliability and efficiency of major travel routes	0
	Will degrade travel reliability and efficiency of major travel routes	-1
Goal 7: Health		
Objective A, B, an C	Could encourage the use of active modes of transportation	+1
	Would not encourage the use of active modes of transportation	0
	Could discourage the use of active modes of transportation	-1

Objective	Evaluation Criteria	Evaluation Score
Objective D	Will contribute to the development of a multi-modal system	+1
	Will not contribute to the development of a multi-modal system	0
	Will impede development of a multi-modal transportation system	-1
Goal 8: Land Use and Transportation Integration		
Objective A	Will encourage more compact, walkable, mixed-use and/or transit-oriented development	+1
	Will not encourage more compact, walkable, mixed-use and/or transit-oriented development	0
	Will discourage more compact, walkable, mixed-use and/or transit-oriented development	-1
Goal 9: Community and Economic Vitality		
Objective B	Could improve the movement of goods and delivery of services	+1
	Would not improve the movement of goods and delivery of services	0
	Could impede the movement of goods and delivery of services	-1
Objective E and F	Could encourage tourism and/or recreational tourism	+1
	Would not encourage tourism and/or recreational tourism	0
	Could discourage tourism and/or recreational tourism	-1

APPENDIX C: TECH MEMO #3: EXISTING AND FUTURE CONDITIONS

CITY OF STAYTON
TRANSPORTATION SYSTEM PLAN UPDATE

TECHNICAL MEMORANDUM #3

Date:	October 9, 2018	Project #: 22352
To:	Lance Ludwick and Dan Fleishman (City of Stayton)	
From:	Susan Wright, PE (Kittelson & Associates, Inc.) Darci Rudzinski (Angelo Planning Group)	
Subject:	Existing and Future Conditions Memo	

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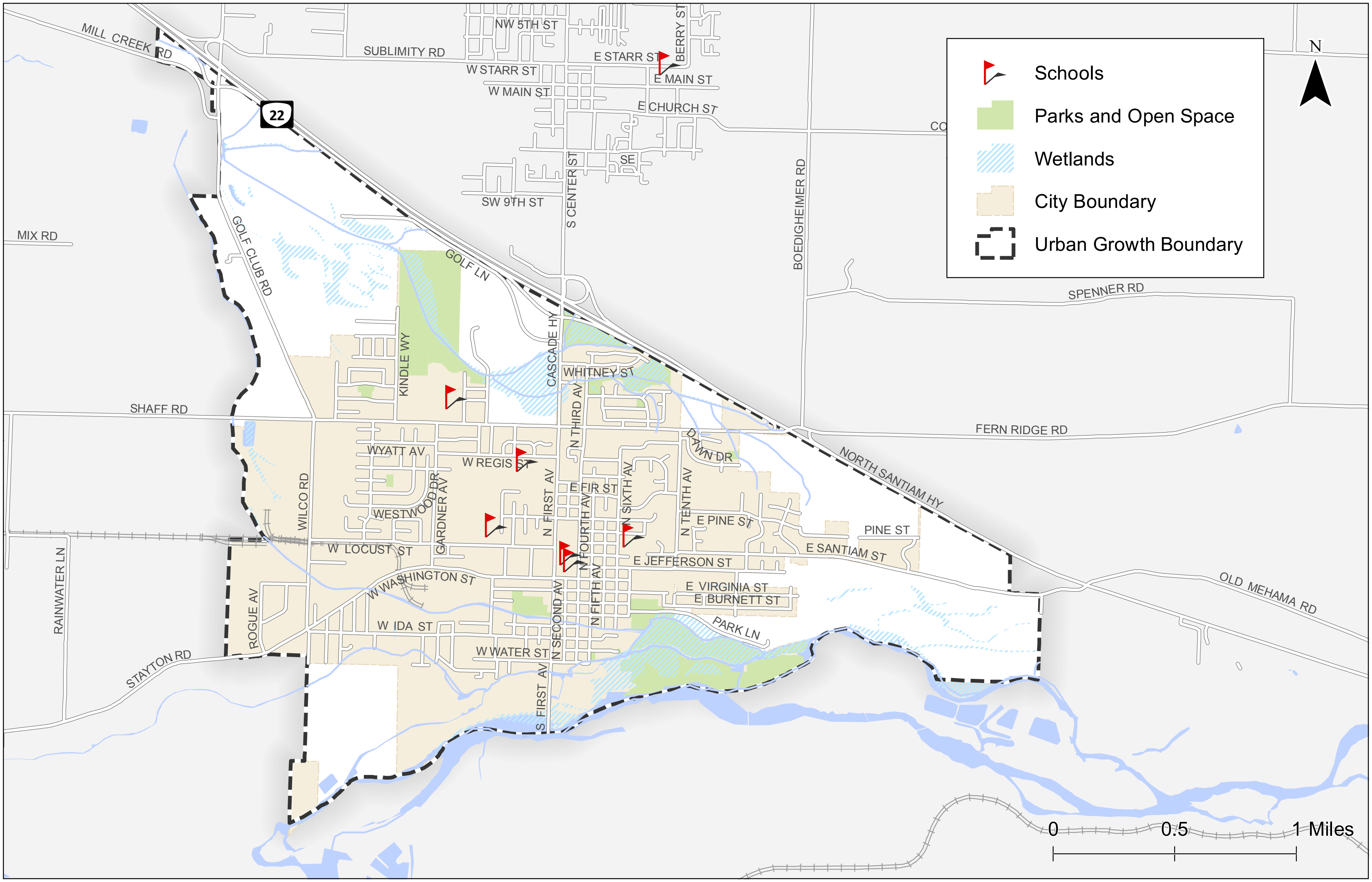
Appendices 46

PURPOSE AND INTRODUCTION

This memorandum assesses existing and future conditions and planned improvements for all transportation systems and services within the City of Stayton. Figure 1 illustrates the study area, including the city boundary and urban growth boundary (UGB). The information presented in this memorandum will serve as a baseline for evaluating transportation system needs and identifying

IN THIS MEMO

- ▶ Existing Operations and Safety
- ▶ Future Growth and Operations
- ▶ Funding Overview



Study Area
Stayton, Oregon

Figure
1

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

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potential solutions for the Transportation System Plan (TSP) update. The information is based on an inventory of existing transportation facilities and services and discussions with City staff. The information has also been updated based on input from the project advisory committee (PAC) and technical advisory committee (TAC), and will be updated based on input received from a public workshop.

This memorandum includes information on the existing motor vehicle, pedestrian, bicycle, and public transit modes within the city. This memorandum also includes information on existing operations and safety conditions within the city and an environmental justice analysis of city demographics. Lastly, it includes an operations analysis of the future forecast and a funding sources review.

EXISTING TRANSPORTATION SYSTEM

The transportation system of Stayton includes motor vehicle, pedestrian, bicycle, public transportation, and other transportation systems. Together, these systems allow for Stayton residents to travel the city and reach other cities and towns in the surrounding area. Different parts of the City of Stayton's transportation system are owned, operated, and maintained by various entities, including the Oregon Department of Transportation (ODOT), Marion County, and the City of Stayton.

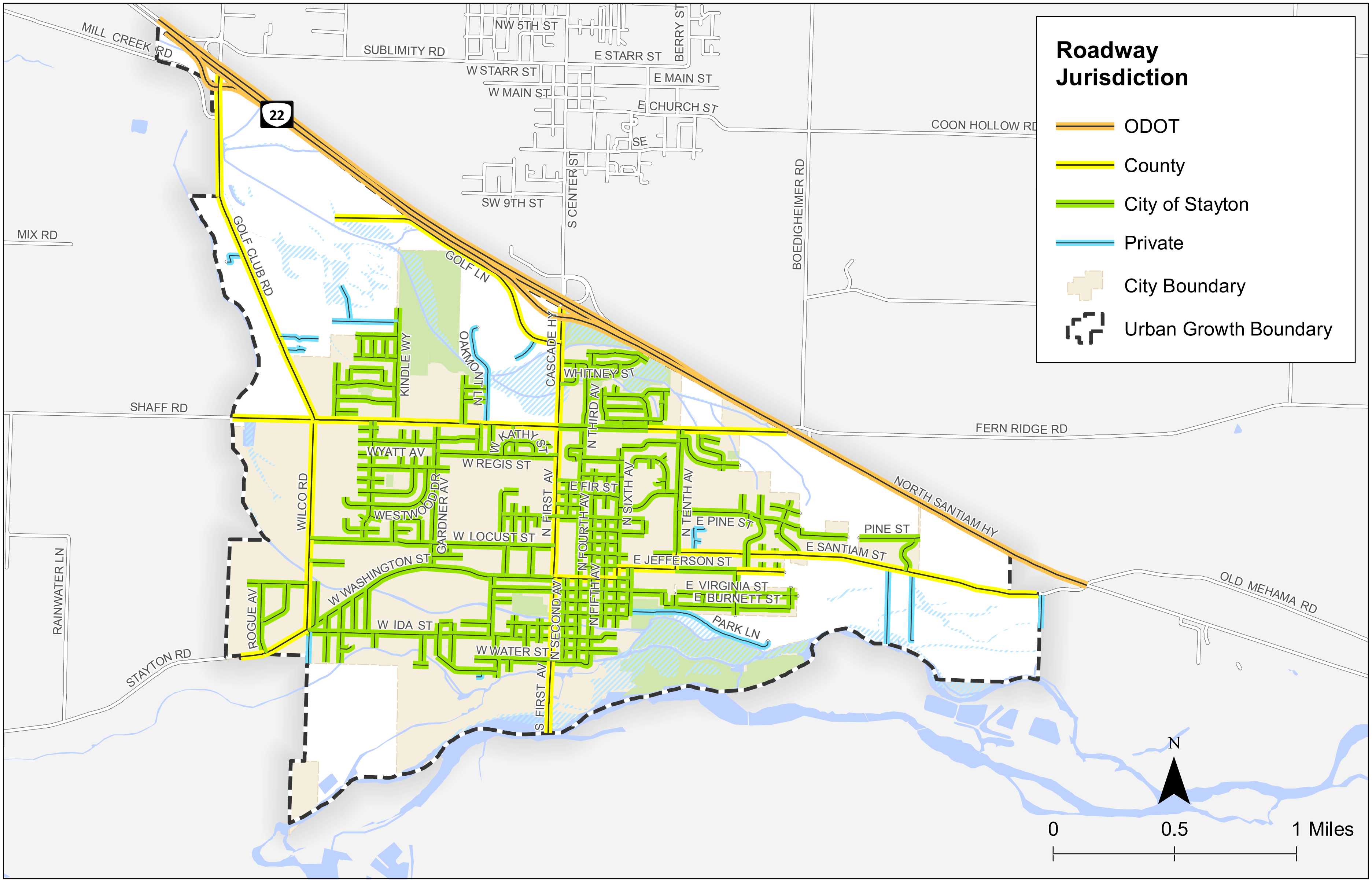
MOTOR VEHICLE SYSTEM

The motor vehicle system within Stayton includes private streets, city streets, county roads, and state highways. These facilities provide residents with the ability to access retail, commercial, recreational, and other land uses within Stayton and neighboring cities by vehicle. This section describes how the system has been developed to date and provides a review of how it is used and operated.

JURISDICTION

The streets within Stayton are owned and operated by the City of Stayton, Marion County, and the Oregon Department of Transportation (ODOT). Each jurisdiction is responsible for determining the functional classification of the streets, defining major design and multimodal features, and approving construction and access permits. Coordination is required among the jurisdictions to ensure that the streets are planned, operated, maintained, and improved to safely meet public needs. Figure 2 illustrates the jurisdiction (ownership and maintenance responsibilities) of streets within Stayton.

ODOT owns OR 22, the highest-volume roadway in Stayton. Marion County owns many of the major roads within the city, including Golf Club Road, N First Avenue, Wilco Road, and Shaff Road. The City of Stayton owns the remaining public roadways within the urban area. Some of the roadways in the city are classified as private.



Roadway Jurisdiction
Stayton, Oregon

Figure
2

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

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FUNCTIONAL CLASSIFICATION

A street's functional classification defines its role in the overall transportation system and defines the operational and design characteristics of the roadway, such as right-of-way requirements, pavement widths, pedestrian and bicycle features, and driveway spacing standards. The functional classifications of the streets within Stayton are shown in Figure 3. Descriptions of each type of functional classification can be found below.

Note that these classifications represent an update from the five classifications shown in the 2004 TSP: Principal arterial, minor arterial, major collector, minor collector, and local. The classifications shown below represent a way to further classify local streets and better prioritize maintenance of city-maintained streets.

Arterials

Arterials are roadways that are designed to facilitate traffic entering and leaving the urban area. The main function of arterials is to efficiently move traffic, although they may provide access to adjacent land uses. Arterials typically focus on longer distance trips than other roadways, with the goal of moving high volumes of traffic through as efficiently as possible. Principal Arterials typically have limited access and higher traffic speeds than other facilities except when traveling through a downtown area. Principal Arterials are usually served by other Arterials.

Collectors

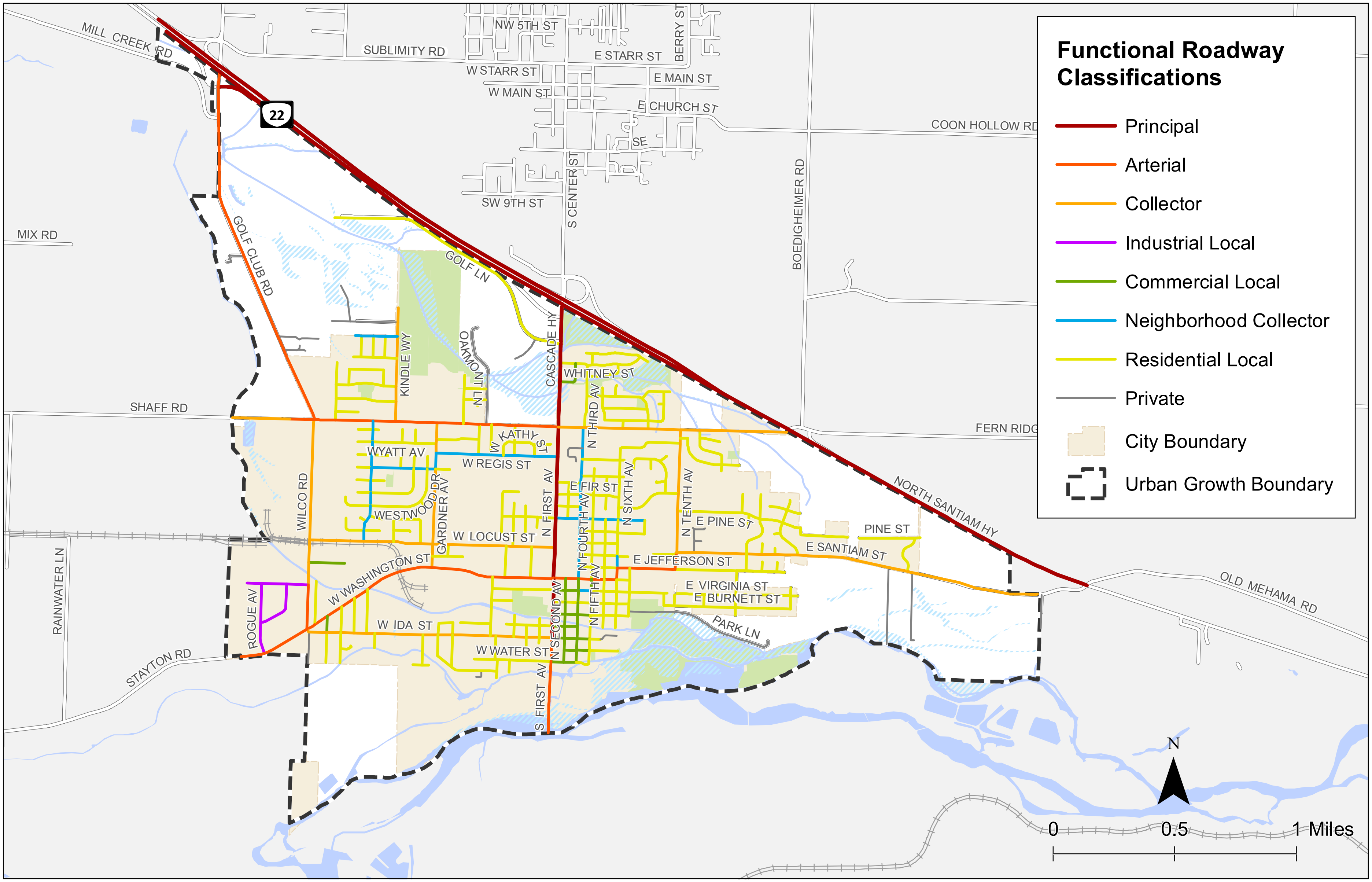
Collector roadways facilitate the movement of city traffic within the urban area. Collectors provide some degree of access to adjacent properties, while maintaining circulation and mobility for all users. Collectors can be two or three-lane facilities and are used to connect the various roadways of an urban area, although they are designed to carry lower traffic volumes at lower speeds than arterials.

Neighborhood Collectors

The function of Neighborhood Collectors is to connect neighborhoods with collectors and arterials, facilitate the movement of local traffic and provide access to abutting land uses. Speed on these facilities should remain low to ensure community livability and safety for pedestrians and bicyclists of all ages. On-street parking is more prevalent and pedestrian amenities are typically provided. Striped bike lanes are unnecessary for most neighborhood streets because the traffic volumes and speeds should allow cyclists to share the road with the motorists.

Local Streets

The goal of Local Streets is to provide access to adjacent land uses. These streets offer the lowest level of mobility and consequently tend to be short, low-speed facilities. As such, local streets should primarily serve passenger cars, pedestrians, and bicyclists; heavy truck traffic should be discouraged. On-street parking is common and sidewalks are typically present. The Local Streets within Stayton can be split into three categories: Industrial, Commercial, and Residential Local roadways, with all three categories providing access to their respective land uses. Table 1 summarizes the functional



Functional Roadway Classification
Stayton, Oregon

Figure
3

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

H:\22\22352 - Stayton Transportation System Plan\gis\Functional Roadway Classifications.mxd - jsommerville - 10:29 AM 9/5/2018 classification of the principal arterial, arterial, and collector streets within Stayton and the overlapping jurisdictional relationships that exist.

Table 1. Functional Classification of Collector and Higher Streets by Jurisdiction

Roadway	Roadway Extents	Jurisdiction	Functional Classification
OR 22	Western UGB limits to eastern UGB limits	ODOT	Principal Arterial OHP Statewide Highway NHS State Highway
Golf Club Road	OR 22 to Shaff Road	County	Arterial
Wilco Road	Shaff Road to Deschutes Drive	County	Collector
	Deschutes Drive to W Washington Street	County	Arterial
Cascade Highway	OR 22 to Shaff Road	County	Principal Arterial
N First Avenue	Shaff Road to W Ida Street	County	Principal Arterial
	W Ida Street to W Water Street	County	Arterial
S First Avenue	W Water Street to southern UGB limits	County	Arterial
N Sixth Avenue	E Jefferson Street to E Washington Street	County	Arterial
N Tenth Avenue	E Santiam Street to E Jefferson Street	County	Arterial
Shaff Road	Western UGB limits to Golf Club Road	County	Collector
	Golf Club Road to Cascade Highway	County	Arterial
Fern Ridge Road	N Tenth Avenue to OR 22	County	Collector
E Washington Street	N First Avenue to N Sixth Avenue	County	Arterial
E Jefferson Street	N Sixth Avenue to N Tenth Avenue	County	Arterial
E Santiam Street	N Scenic View Drive to OR 22	County	Collector
Stayton Road	Western UGB limits to Rogue Avenue	County	Arterial
E Santiam Street	N Tenth Avenue to N Scenic View Drive	County	Collector
Kindle Way	Northern terminus to Shaff Road	City	Collector
Gardner Avenue	Shaff Road to W Washington Street	City	Collector
N Tenth Avenue	Fern Ridge Road to E Santiam Street	City	Collector
Eagle Street	Quail Run Avenue to Kindle Way	City	Collector
Fern Ridge Road	Cascade Highway to N Tenth Avenue	City	Collector
W Locust Street	Wilco Road to N First Avenue	City	Collector
W Ida Street	Wilco Road to N First Avenue	City	Collector

ROADWAY CHARACTERISTICS

The characteristics of Principal Arterial, Arterial, and Collector Streets are summarized in Table 2. The data includes posted speed limits, street widths, number of lanes, lane widths, on-street bike lanes, and on-street parking. These characteristics define roadway capacity and operating speeds through the street system, which affects travel path choices for drivers in Stayton.

Table 2: Roadway Characteristics by Functional Classification

Corridor	Posted Speed (mph)	Number of Lanes	Lane Width (ft)	On-Street Bike Lanes	On-Street Parking
OR 22	55	2-4	12	No	No
Cascade Highway	45	2-3	11	Yes	No
First Avenue	30	2-3	12	No	No
Golf Club Road	45	2	12	No	No
Wilco Road	45	2	11	No	No
N First Avenue	30	2	13	No	No
S First Avenue	30	2	12	No	No
N Sixth Avenue	25	2	12	No	No
N Tenth Avenue	25	2	10	No	No
Shaff Road	35[1]	2	11	No	No
E Washington Street	25[1]	2	11	No	No
E Jefferson Street	25	2	10	No	No
Stayton Road	45	2	12	No	No
Wilco Road	45	2	12	No	No
Shaff Road	35	2	10	No	No

Corridor	Posted Speed (mph)	Number of Lanes	Lane Width (ft)	On-Street Bike Lanes	On-Street Parking
Fern Ridge Road	35	2	13	Yes	No
E Santiam Street	55	2	10	No	No
E Santiam Street	40	2	11	No	No
Kindle Way	25	2	10	No	No
Gardner Avenue	25[1]	2	13	Yes	No
N Tenth Avenue	25	2	10	Yes	No
W Locust Street	25[1]	2	10	No	Yes
W Ida Street	30	1	13	No	Yes

[1] A 20 mph school zone exists on part of this roadway

PEDESTRIAN SYSTEM

The pedestrian system of Stayton consists of sidewalks, enhanced sidewalks, off-street trails, and pedestrian crossings, which are both marked and unmarked; signalized and unsignalized. These facilities provide residents with the ability to access local retail/commercial centers, recreational areas, schools, and other land uses by foot. A safe, convenient, and continuous network of pedestrian facilities is essential to establishing a vibrant and healthy community while supporting the local economy within Stayton. The existing pedestrian facilities are shown in Figure 4.

Sidewalks

Sidewalks are provided along at least one side of most of the roadways categorized as collector or higher within the city of Stayton. However, there a few notable “sidewalk gaps”, or segments along roadways where there is no sidewalk. These sidewalk gaps are also shown in Figure 4. Notable sidewalk gaps occur on segments of W Washington Street, Shaff Road, N Third Avenue, N Tenth Avenue, Kindle Way, and Locust Street.

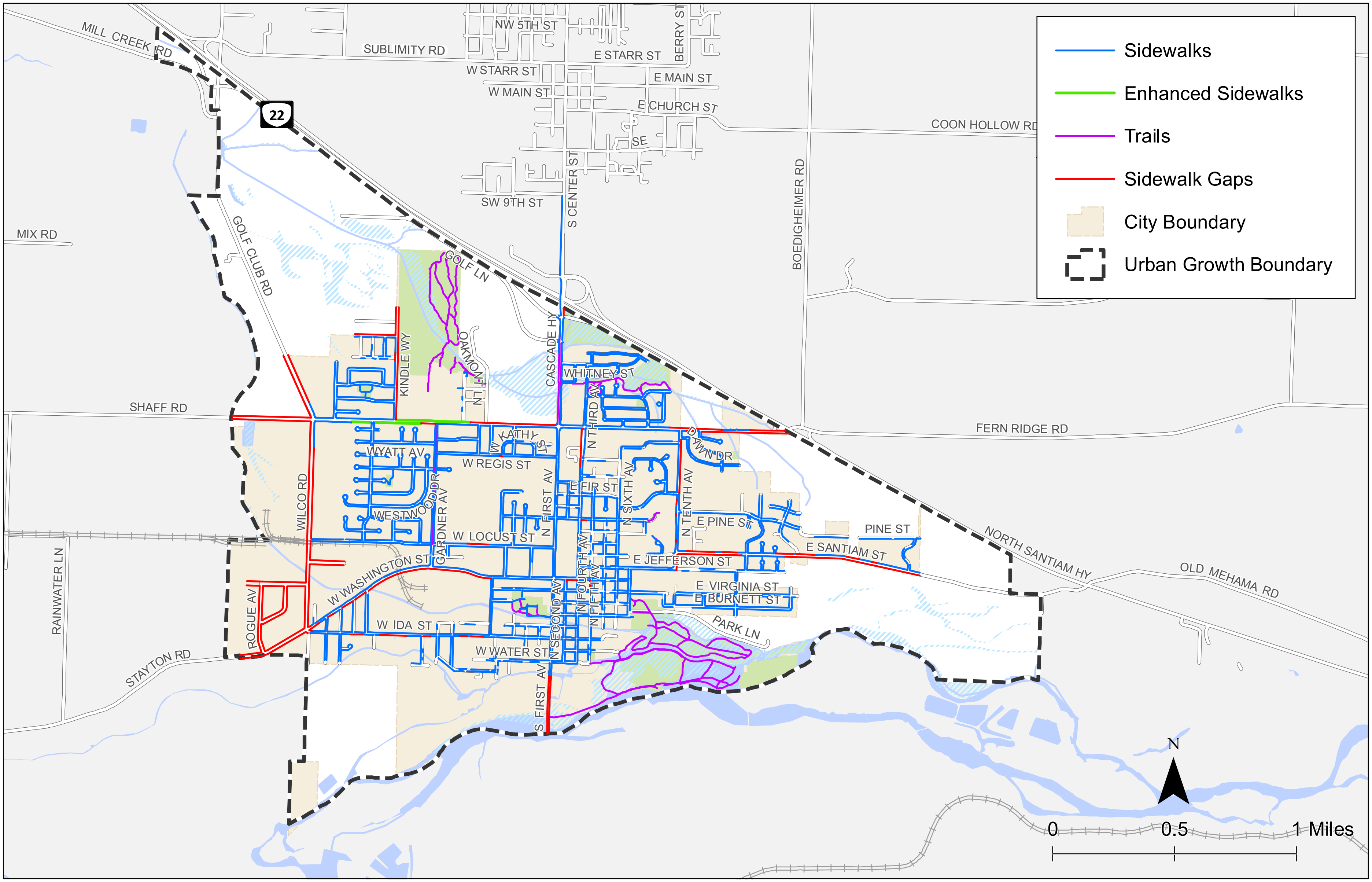
Off-Road Trails

Off-road trails are also present in Stayton. These trails range from multi-use paved paths to gravel trails. The following off-road trails exist within Stayton:

- The trails throughout Wilderness Park, which are a mix between paved and gravel.
- The trails on the Stayton Middle School Campus, which are mostly gravel.
- The path in and around Santiam Park, which is paved.
- The paths within Community Center Park, which are paved.
- The path near the Santiam Memorial Hospital, which is paved.

PEDESTRIAN QUALITATIVE LEVEL OF SERVICE (QLOS)

A Pedestrian Qualitative Level of Service (QLOS) analysis examines and scores the characteristics of sidewalk segments. The possible scores for a sidewalk segment are Good, Fair, and Poor. The QLOS judges a sidewalk segment on the presence of a sidewalk/path, lighting, and buffers, as well as the widths of the sidewalk and of the outside travel lane. The QLOS analysis for sidewalk segments along roadways of classification collector or higher within Stayton is shown in Table 3.



Existing Pedestrian Facilities
Stayton, Oregon

Figure
4

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

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Table 3: Qualitative LOS for Sidewalks Along Roadways of Classification Collector or Higher

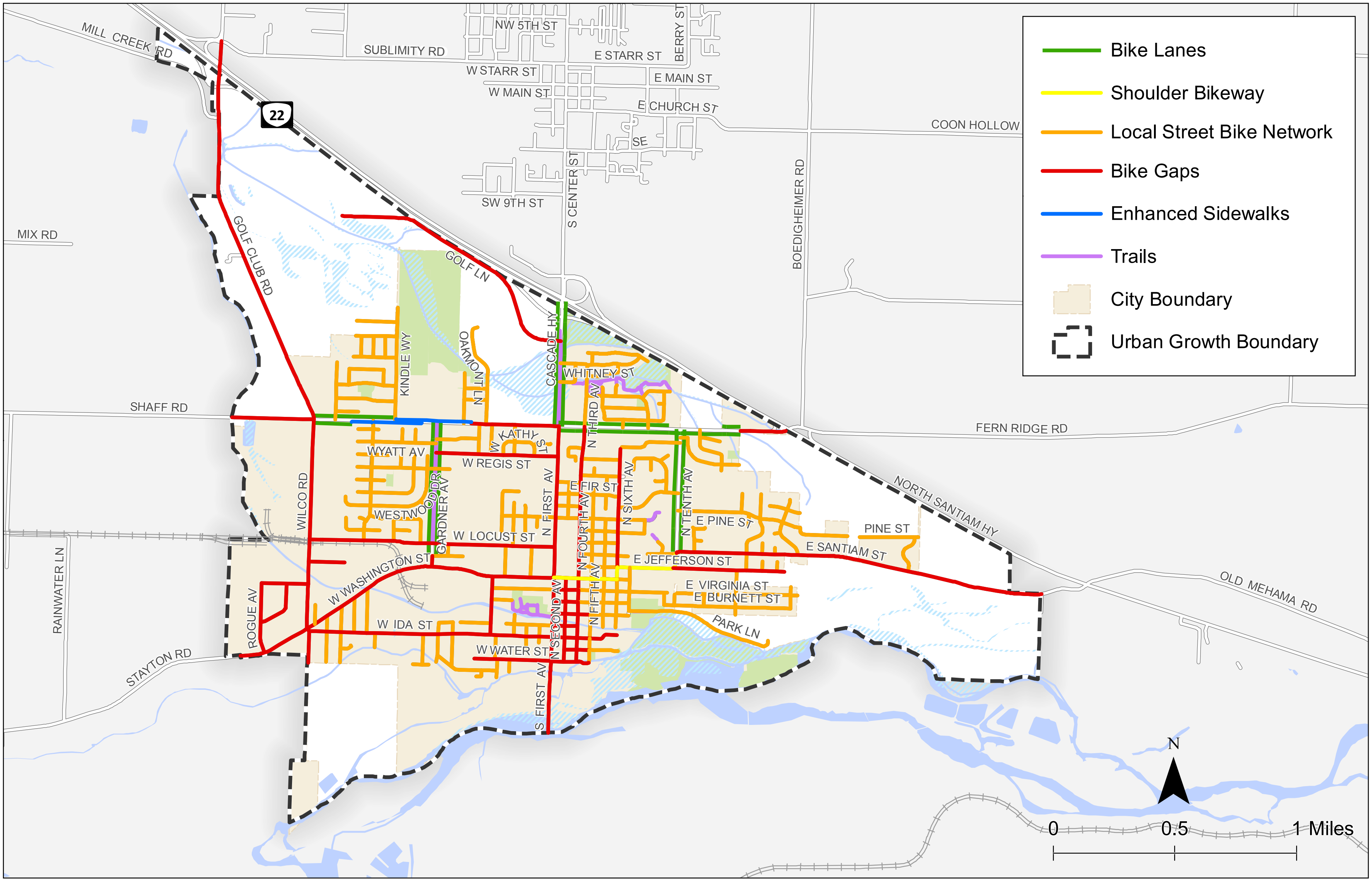
Roadway	Roadway Extents	Qualitative Level of Service
Golf Club Road	OR 22 to Shaff Road	Poor
Wilco Road	Shaff Road to W Washington Street	Poor
Cascade Highway	OR 22 to Shaff Road	Good
N First Avenue	Shaff Road to W Ida Street	Fair
S First Avenue	W Ida Street to southern UGB limits	Poor
N Sixth Avenue	E Jefferson Street to E Washington Street	Good
N Tenth Avenue	E Santiam Street to E Jefferson Street	Good
Shaff Road	Golf Club Road to Cascade Highway	Fair
Fern Ridge Road	Cascade Highway to N Tenth Avenue	Fair
	N Tenth Avenue to OR 22	Poor
E Washington Street	N First Avenue to N Sixth Avenue	Fair
E Jefferson Street	N Sixth Avenue to N Tenth Avenue	Fair
E Santiam Street	N Scenic View Drive to OR 22	Poor
Stayton Road	Western UGB limits to Rogue Avenue	Poor
E Santiam Street	N Tenth Avenue to N Scenic View Drive	Poor-Fair
Kindle Way	northern terminus to Shaff Road	Fair
Gardner Avenue	Shaff Road to W Washington Street	Fair
W Locust Street	Wilco Road to N First Avenue	Fair
W Ida Street	Wilco Road to N First Avenue	Fair

BICYCLE SYSTEM

The bicycle system within Stayton consists of on-street bike lanes, off street trails, enhanced sidewalks, other off-street bicycle facilities, and bicycle parking. These facilities provide residents with the ability to access local retail/commercial centers, recreational areas, and other land uses within Stayton by bicycle. A safe, convenient, and continuous network of bicycle facilities is essential to establishing a vibrant and healthy community while supporting the local economy within the City. Stayton currently does not have any bikeways listed on the Oregon State Parks Scenic Bikeways list, the Mid-Valley Bike Transportation map, or the Willamette Valley Scenic Bikeway list.

BICYCLE FACILITIES

To assess the adequacy of bicycle facilities in Stayton, GIS data of existing bicycle facilities was obtained from the City. Figure 5 shows the existing bicycle facilities within Stayton. The following provides a summary of the facilities, including existing gaps and deficiencies.



Existing Bicycle Facilities
Stayton, Oregon

Figure
5

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Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

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Bicycle Lanes

On-street bike lanes are provided along five roadway segments in Stayton. Bike lanes are present along Gardner Avenue from Shaff Road to W Darby Street, Cascade Highway from OR 22 to Shaff Road, N Tenth Avenue from Fern Ridge Road to E Santiam Street, Shaff Road from Golf Club Road to Kindle Way, and Fern Ridge Road from Cascade Highway to the eastern city limits.

Enhanced Sidewalks

Enhanced sidewalks are wide, separated facilities that can be used for walking or bicycling. Enhanced sidewalks are present along both sides of Shaff Road intermittently between Wilco Road and Oakmont Lane.

Shared Roadways

Some of the roadways within Stayton have shoulders, which, when wide enough, can act as a bicycle lane. The shoulders allow bicyclist to ride in a lane separated from traffic, which allows motor vehicles to pass safely. Shoulder bikeways aren't always ideal, however, as there are sometimes motor vehicles parked in the shoulder and there is oftentimes debris within the shoulder.

Off-Street Trails

Many of the trails available for pedestrians are also available to cyclists. Exceptions include Pioneer Park, Wilderness Park, Riverfront Park, and trails near the Mill Creek River. Trails available to cyclists are typically multi-use paved paths.

BICYCLE QUALITATIVE LEVEL OF SERVICE (QLOS)

A Bicycle Qualitative Level of Service (QLOS) analysis examines the characteristics of bicycle facilities and gives them a score. The possible scores for a bicycle facility are Good, Fair, or Poor. The QLOS judges a bicycle facility on the presence of a bicycle lane or "sharrow" markings, width of the bicycle lane (if applicable), volume of roadway, and obstructions present. The QLOS analysis for bicycle facilities along roadways of classification collector or higher within Stayton is shown in Table 4.

Table 4: Qualitative LOS for Bicycle Facilities Along Roadways of Classification Collector or Higher

Roadway	Roadway Extents	Type of Facility	Qualitative Level of Service
Golf Club Road	OR 22 to Shaff Road	No Facility	Poor
Wilco Road	Shaff Road to W Washington Street	No Facility	Poor
Cascade Highway	OR 22 to Shaff Road	Bicycle Lane	Good
N First Avenue	Shaff Road to W Ida Street	No Facility	Poor
S First Avenue	Shaff Road to southern city limits	Shoulder Bikeway	Poor
N Sixth Avenue	E Jefferson Road to E Washington Street	Shoulder Bikeway	Fair
N Tenth Avenue	E Santiam Street to E Jefferson Street	Bicycle Lane	Good
Shaff Road	Golf Club Road to Oakmont Lane	Bicycle Lane/ Enhanced Sidewalk	
Shaff Road	Oakmont Lane to Cascade Highway	No Facility	Poor
Fern Ridge Road	Cascade Highway to OR 22	Bicycle Lane	Good

Roadway	Roadway Extents	Type of Facility	Qualitative Level of Service
E Washington Street	N First Avenue to N Sixth Avenue	Shoulder Bikeway	Fair[1]
E Jefferson Street	N Sixth Avenue to N Tenth Avenue	Shoulder Bikeway	Fair[1]
E Santiam Street	N Scenic View Drive to OR 22	No Facility	Poor
Stayton Road	Western UGB limits to Rogue Avenue	No Facility	Poor
E Santiam Street	N Tenth Avenue to N Scenic View Drive	No Facility	Poor
Kindle Way	Northern terminus to Shaff Road	Low-Stress Facility	Fair
Gardner Avenue	Shaff Road to W Washington Street	Bicycle Lane	Good
W Locust Street	Wilco Road to N First Avenue	No Facility	Poor-Fair
W Ida Street	Wilco Road to N First Avenue	No Facility	Poor-Fair

[1] The public advisory committee noted that on-street parking makes bicycling more difficult on the shoulder bikeways on these roads

PUBLIC TRANSPORTATION SYSTEM

Public transportation service in Stayton is provided by Cherriots and the North Santiam School District. Transit provides residents the ability to access grocery, retail, and social opportunities within Stayton as well as to access Sublimity, Salem, and other surrounding towns. It also provides schoolchildren access to school.

TRANSIT SERVICES

Transit services within Stayton consist of fixed-route and school bus services.

Fixed Route Service

Cherriots Route 30X is a fixed route bus service that runs from Salem to Gates. The bus makes three stops within the city boundary of Stayton and two stops just north of the urban area. Cherriots Route 30X services each of these bus stops four times per day in both directions. The bus does not operate on weekends or holidays. The bus route and stop locations are shown in Figure 6.

School Bus Services

The North Santiam School District 29J, which includes Stayton Elementary, Middle, and High Schools, is serviced by the Mid-Columbia Bus Company (MIDCO). MIDCO has an office within Stayton and offers 19 different bus routes for the school district.

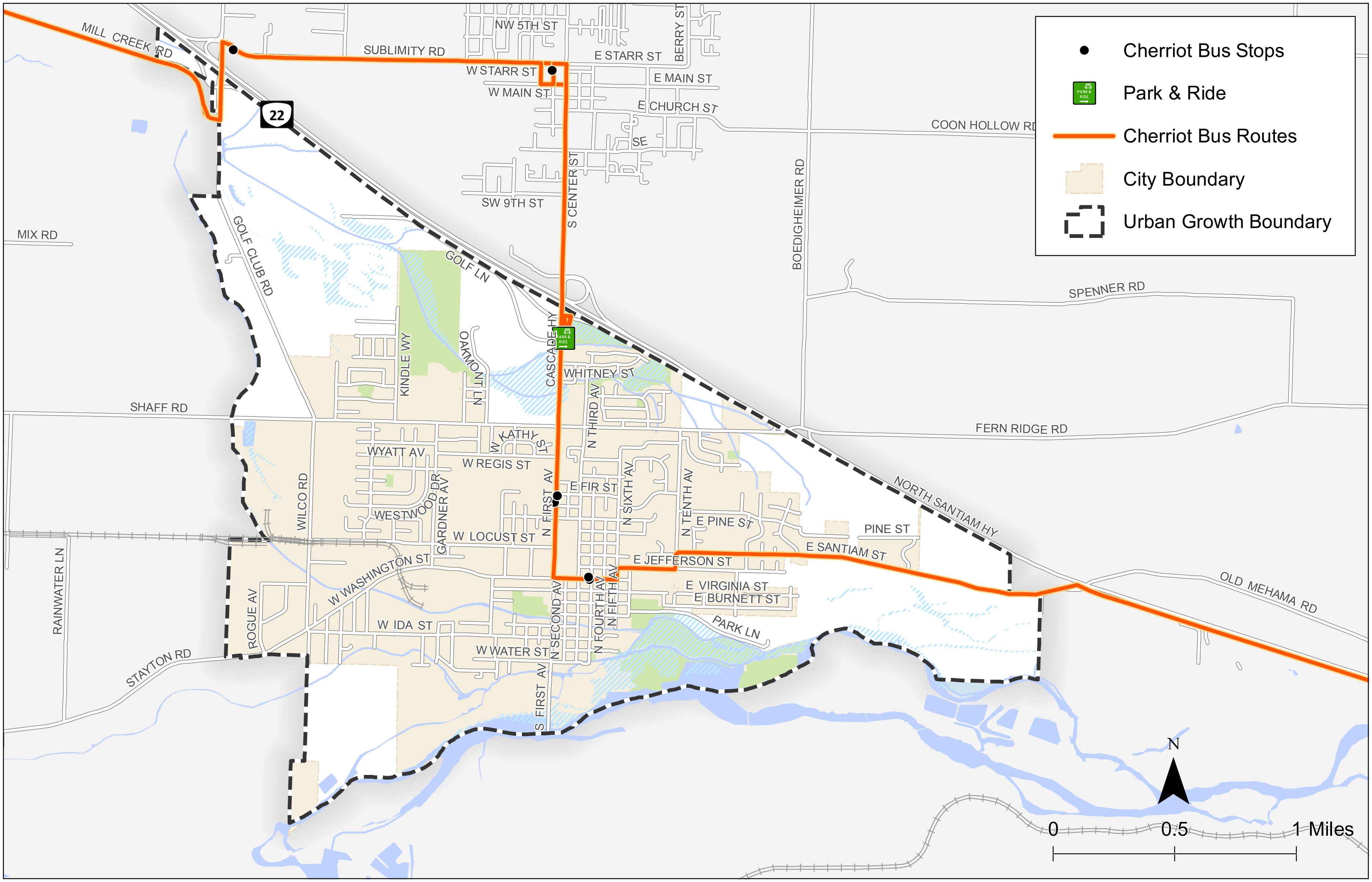
TRANSIT INFRASTRUCTURE

Park-and-Ride

There is one park-and-ride location within Stayton, located on Cascade Highway at the intersection of Golf Lane, shown in Figure 6. This park-and-ride is serviced by Cherriots Route 30X and has vehicle parking capacity for 94 vehicles and covered bicycle parking capacity for 5 bicycles.

Transit Stops

There are three transit stops within the Stayton city boundary and two stops just north of the urban area. Stop locations are:



Cherriots Route 30X from Salem to Gates runs four times per weekday in both directions on the route shown. Buses do not operate on holidays or weekends.

Existing Transit Facilities
Stayton, Oregon

Figure
6

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

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- E Washington Street/N Fourth Avenue in downtown Stayton
- Stayton Safeway near the intersection of N First Avenue/E Fir Street
- Stayton park-and-ride near the intersection of Cascade Highway SE/Golf Lane.
- NW Starr Street/NW Johnson Street in Sublimity
- Stayton DMV near the intersection of Sublimity Road SE/Golf Club Road SE.

Each of these transit stops are serviced by Cherriots Route 30X and are shown in Figure 6.

Transit Ridership

Daily average ridership for Cherriots Route 30X for April and the first three weeks of May of 2018 is shown in Table 5. This data shows bidirectional boardings and alightings and was collected by Cherriots transit drivers.

Table 5: Cherriots Route 30X Average Daily Ridership

Transit Stop	Boardings	Alightings	Total
Washington Street and Fourth Avenue	6	11	17
Stayton Safeway	25	26	51
Stayton Park-and-Ride	2	4	6
Johnson Street and Starr Road	1	2	3
Stayton DMV	0	0	0

EXISTING GAPS AND DEFICIENCIES

Stayton's current public transportation system does not offer specialized services for seniors or people with disabilities. The discontinued dial-a-ride service provided by CARTS offered a simple transit service for people who found it difficult to use the fixed Cherriots Route 30X. This curb-to-curb service deviated up to 0.75 miles from the fixed route for anyone who made a request with the call center at least 24 hours in advance. While Cherriots currently offers an origin-to-destination transportation service for people whose disabilities prevent them from using the Cherriots buses, this service only operates within the Salem-Keizer urban area. With a senior living center and hospital located in Stayton, this service would supplement the existing transit system for seniors and people with disabilities.

Currently, Cherriots Route 30X only services each transit stop four times per day. Increasing the frequency of buses along this route would encourage more transit ridership, as riders would have more options for the timing of their trips.

While transit schedule information is available online, schedules are not provided at stops and real-time arrival and departure information is not available online or at transit stops in Stayton. Providing real-time data online via a phone app or using digital screens or announcements would help inform riders about bus arrivals and service delays and improve customer satisfaction. Since the Cherriots Route 30X only services each stop four times a day, missing a bus currently delays a rider's trip substantially. Thus, knowing real-time information about bus arrival times would assist riders in planning their trips. Additionally, posting schedules at stops would make bus arrival time knowledge more readily available for those without access to smartphones.

FREIGHT SYSTEM

OR 22 is designated as a statewide National Highway System freight route by the 1999 Oregon Highway Plan (OHP).

OTHER TRANSPORTATION MODES

The following describes the other modes of transportation within Stayton including air, water, and natural gas pipeline facilities.

PRIVATE TRANSPORTATION PROVIDERS

Uber and Lyft both operate in the City of Stayton. They provide on-demand taxi services through a mobile phone application.

AIR TRANSPORTATION

The City of Stayton does not have an airport. The nearest commercial airport is the Portland International Airport, located 75 miles to the north of Stayton. There are several other small airstrips within 20 miles of Stayton. There is also a helistop located at the Santiam Memorial Hospital.

RAIL TRANSPORTATION

An unused rail spur runs from the west side of the city along W Locust Street to the NORPAC facility. The last rail activity on this line was over five years ago, and NORPAC has not used the line in over twenty years.

WATER TRANSPORTATION

Although the City of Stayton is situated along the North Santiam River, the river has not been used as a method of transportation, mainly due to the shallowness of the river. There are several boat ramps along the river; however, these are mostly used for small watercraft. The river is mainly used for recreation but is also a source of drinking water.

PIPELINE FACILITIES

The primary pipeline facilities in Stayton are associated with the city storm sewer, sanitary sewer, and water lines. Potable water is transported from the North Santiam River to Salem via two transmission mains that run through Stayton. There are no natural gas lines that are large enough to be classified as pipelines in the Stayton area.

EXISTING CONDITIONS ANALYSIS

TRAFFIC OPERATIONS

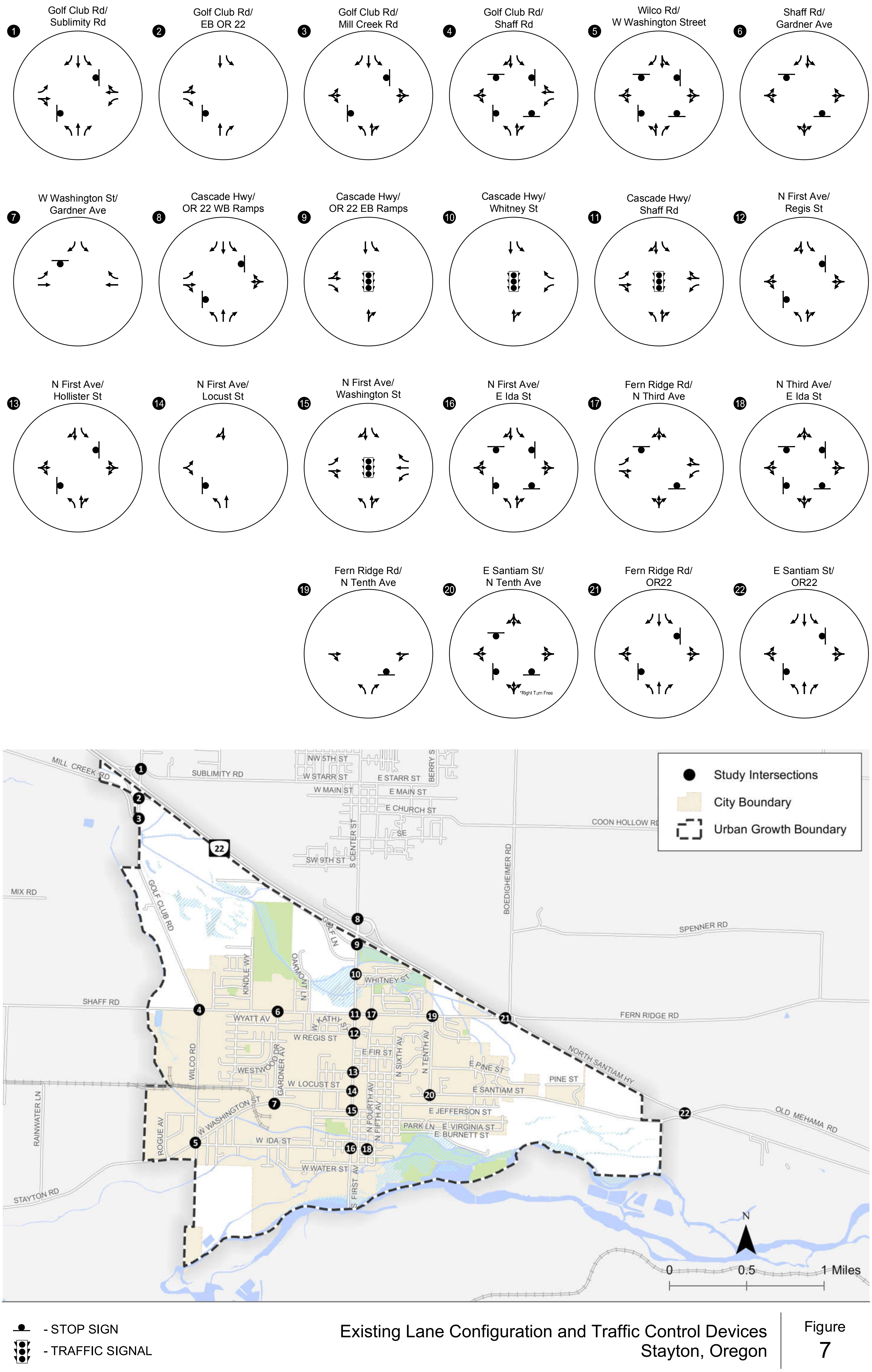
Traffic operations were evaluated at 22 study intersections in accordance with the Analysis Methodology and Assumptions Memorandum (Reference 1). Figure 7 shows the study intersections and summarizes the existing lane configurations and traffic control devices.

TRAFFIC VOLUMES

Manual turning movement counts were conducted at the study intersections in April 2018. The counts were conducted on a typical midweek day during the evening (4:00 to 6:00 pm) peak period while Stayton schools were in session. The system-wide peak hour for the study intersections was identified as 4:40 to 5:40 pm. Appendix A contains the turning movement counts.

PEAK HOUR OPERATIONS

Figure 8 summarizes the PM peak hour turning movement counts and operations at the study intersections under existing traffic conditions. The through movements of the turning movement counts along OR 22 were seasonally adjusted to 30th highest hour volumes (30HV) in accordance with the Seasonal Trend Table methodology identified in the Analysis Methodology and Assumptions Memorandum. Table 6 summarizes the results of the traffic operations analysis at the study intersection under existing traffic conditions. Appendix B contains the year 2018 existing traffic conditions worksheets.



Existing Lane Configuration and Traffic Control Devices
Stayton, Oregon

Figure
7

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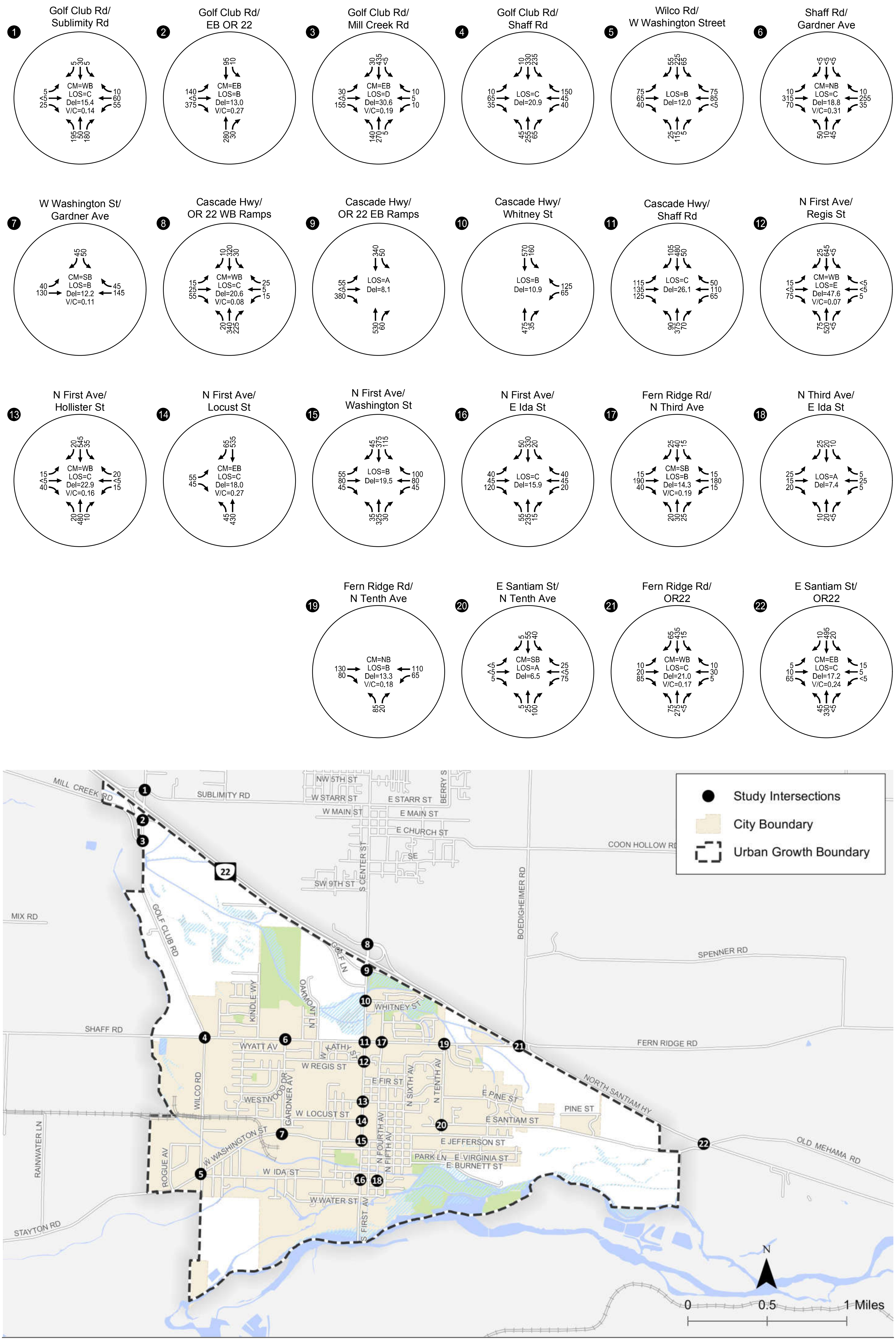


CM = CRITICAL MOVEMENT (TWSC)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED/AWSC) / CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED/AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
TWSC = TWO-WAY STOP CONTROL
AWSC = ALL-WAY STOP CONTROL

Existing Traffic Conditions
Weekday PM Peak Hour
Stayton, Oregon

Figure
8

Table 6. Existing Weekday PM Peak Hour Intersection Operations

#	Intersection	Level of Service (LOS)	Delay (Sec)	Volume/Capacity (v/c)	Measure of Effectiveness (MOE)		MOE Met?
					Agency	Maximum	
1	Golf Club Road at Sublimity Road/WB OR 22	C	15.4	0.14	ODOT	V/C 0.70[1]	Yes
2	Golf Club Road at EB OR 22	B	13.0	0.27	ODOT	V/C 0.80[1]	Yes
3	Golf Club Road at Mill Creek Road	D	30.6	0.19	County	LOS E[2]	Yes
4	Golf Club Road/Wilco Road at Shaff Road	D	20.9	-	County	LOS E[2]	Yes
5	Wilco Road at W Washington Street/Ida Street	B	12.0	-	County	LOS E[2]	Yes
6	Shaff Road at Gardner Road/Stayton Middle School	C	18.8	0.31	County	LOS E[2]	Yes
7	W Washington Street at Gardner Road	B	12.2	0.11	City	LOS E[3]	Yes
8	Cascade Highway at Sublimity Boulevard/WB OR 22	C	20.6	0.08	ODOT	V/C 0.70[1]	Yes
9	Cascade Highway at EB OR 22	A	8.1	-	ODOT	V/C 0.80[1]	Yes
10	Cascade Highway at Whitney Street	B	10.9	-	County	LOS E[2]	Yes
11	Cascade Highway/N First Avenue at Shaff Road/Fern Ridge Road	C	26.1	-	County	LOS E[2]	Yes
12	N First Avenue at Regis Street	E	47.6	0.07	City	LOS E[3]	Yes
13	N First Avenue at Hollister Street	C	22.9	0.16	City	LOS E[3]	Yes
14	N First Avenue at Locust Street	C	18.0	0.27	City	LOS E[3]	Yes
15	N First Avenue at Washington Street	B	19.5	-	County	LOS E[2]	Yes
16	N First Avenue at Ida Street	C	15.9	-	City	LOS E[3]	Yes
17	Fern Ridge Road at N Third Avenue	B	14.3	0.19	County	LOS E[2]	Yes
18	N Third Avenue at E Ida Street	A	7.4	-	City	LOS E[3]	Yes
19	Fern Ridge Road at N Tenth Avenue	B	13.3	0.18	County	LOS E[2]	Yes
20	N Tenth Avenue at E Santiam Street	A	6.5	-	County	LOS E[2]	Yes
21	Fern Ridge Road at OR 22	C	21.0	0.17	ODOT	V/C 0.80	Yes
22	E Santiam Street at OR 22	C	17.2	0.24	ODOT	V/C 0.70	Yes

[1] *This v/c ratio may be increased to 0.90 if it can be determined that vehicles queues will not extend onto the mainline or into the portion of the ramp needed to safely accommodate deceleration; and if an adopted Interchange Area Management Plan (IAMP) is present or can be developed.*

[2] *LOS F may be allowed depending on volume*

[3] *or LOS F with a v/c ratio of 0.95 or better*

Target measures of effectiveness for each agency are described in the Analysis Methodology and Assumptions Memorandum (Reference 1) and summarized in Table 6. As shown, all study intersections operate acceptably within their respective measures of effectiveness in the PM peak hour.

QUEUEING

A queueing analysis was conducted at the signalized study intersections. Table 7 summarizes the 95th percentile queues during the weekday PM peak hours under year 2018 existing traffic conditions. The storage lengths reflect the striped storage for each movement at the intersections. Appendix C contains the queueing reports for these study intersections.

Table 7. Existing Weekday PM Peak Hour Queueing

Intersection	Movement	95th Percentile Queue (feet)	Storage Length (feet)	Adequate?
Cascade Highway SE/ OR 22 EB Ramps	SBL	25	150	Yes
	EBR	75	575	Yes
Cascade Highway SE/Whitney Street	SBL	50	100	Yes
	WBL	100	150	Yes
Shaff Road/N First Avenue	NBL	125	175	Yes
	SBL	75	100	Yes
	EBL	100	125	Yes
	WBL	75	100	Yes
N First Avenue/E Washington Street	NBL	50	100	Yes
	SBL	100	150	Yes
	EBL	50	75	Yes
	WBL	50	75	Yes
	WBR	25	50	Yes

As shown in Table 7, 95th percentile queues do not exceed the striped storage for any turning movement at any study intersection.

PUBLIC OPERATIONS COMMENTS

At their August meeting, the Stayton TSP Public Advisory Committee described locations throughout Stayton that may be experiencing congestion not described in the analysis above. The committee noted the following:

- The intersection of OR 22 and Fern Ridge Road seems to be operating worse than described
- Though the intersection of N Tenth Avenue and E Santiam is operating acceptably now, its operations will degrade with growth.
- The intersection of Cascade Highway/Shaff Road experiences congestion in the AM peak hour
- The intersection of N First avenue/Washington Street operated better with a protected left turn.

TRAFFIC SAFETY

The crash histories of the study intersections and selected segments were reviewed in an effort to identify potential safety issues within the study area. Additionally, all fatal crashes and all pedestrian and bicycle crashes were reviewed to identify safety trends and the ODOT Statewide Priority Index System was reviewed to identify high crash locations within the study area.

INTERSECTION CRASH RATES

ODOT provided crash records for the five-year period from January 1, 2011 through December 31, 2015 for the 22 study intersections. Table 8 summarizes the data provided by ODOT for the study intersection by crash type and severity. Figure 9 illustrates city-wide data obtained from ODOT by crash type and severity. Appendix D contains the crash data provided by ODOT.

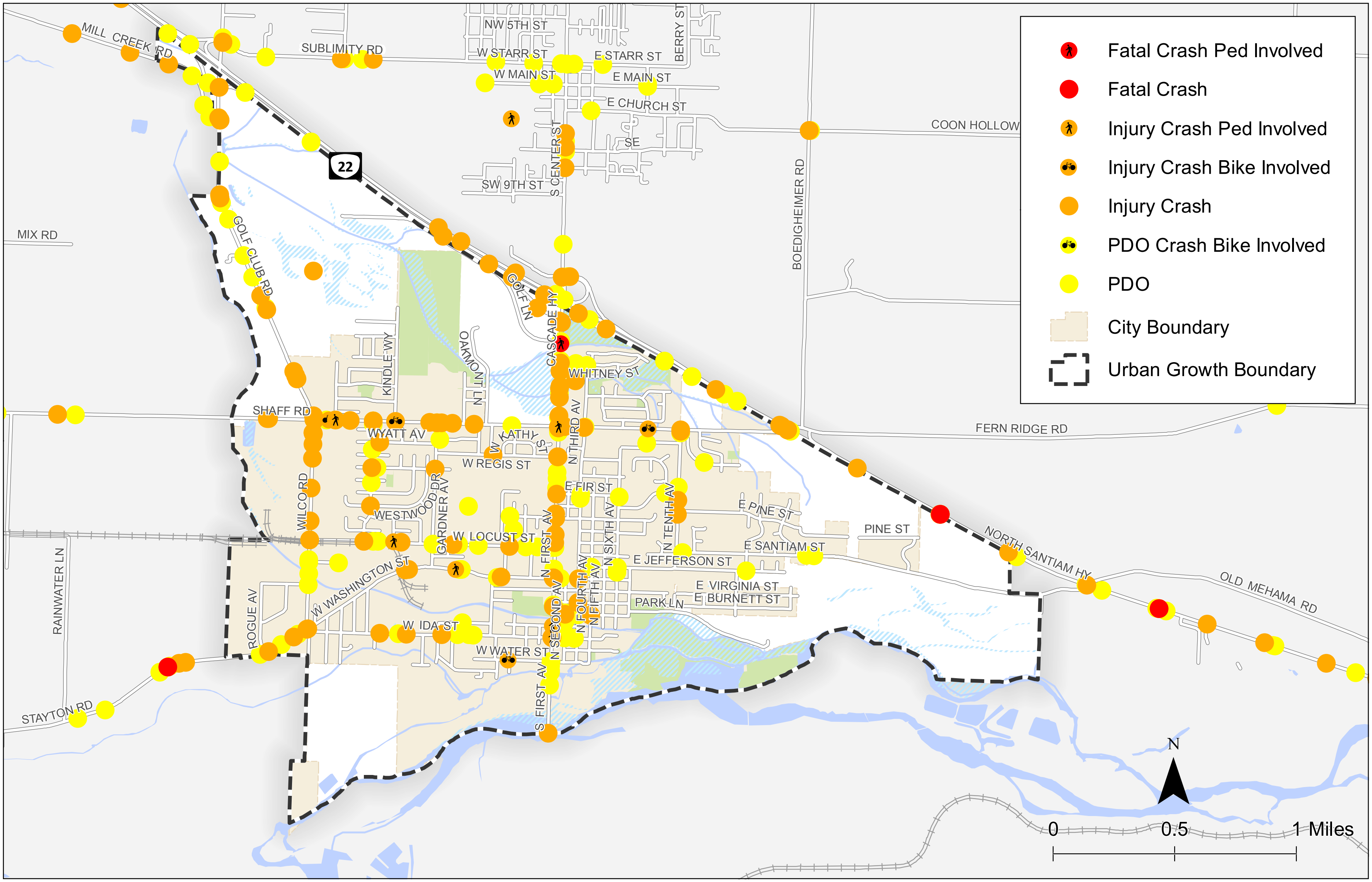
The crash rates shown in Table 8 were compared to the 90th percentile rates for similar facilities shown in Table 4-1 of the ODOT Analysis Procedures Manual (APM, Reference

Table 8. Intersection Crash Summary (January 1, 2011 to December 31, 2015)

#	Location	Crash Type							Severity			Total	PM Peak Hour Total Entering Vehicles	Intersection Class[2]	Critical Crash Rate	Crash Rate
		Rear End	Turning	Angle	Head On	Sideswipe	Pedestrian	Fixed Object	PDO[1]	Injury	Fatal					
1	Golf Club Road SE/Sublimity Rd SE	0	2	6	1	1	0	0	6	4	0	10	612	4 ST	0.41	**0.90**
2	Golf Club Road SE/OR 22 EB Ramps	1	0	0	0	0	0	1	0	2	0	2	933	4 ST	0.41	0.12
3	Golf Club Road SE/Mill Creek Rd SE	2	2	0	0	0	0	0	2	2	0	4	1094	4 ST	0.41	0.20
4	Wilco Rd/Shaff Rd SE	1	0	0	0	0	0	0	0	1	0	1	1292	4 ST	0.41	0.04
5	W Ida St&Jetters Way-Wilco Road/Stayton Rd SE-W Washington St	0	0	3	0	0	0	0	1	2	0	3	831	4 ST	0.41	0.20
6	N Gardner Ave/Shaff Rd SE	3	1	0	0	0	0	1	3	2	0	5	801	4 ST	0.41	0.34
7	N Gardner Ave/W Washington St	0	0	0	0	0	0	0	0	0	0	0	455	3 ST	0.29	0.00
8	Cascade Hwy SE/OR 22 WB Ramps	0	6	3	0	0	0	0	5	4	0	9	1085	4 ST	0.41	**0.45**
9	Cascade Hwy SE/OR 22 EB Ramps	23	1	0	0	0	0	0	15	9	0	24	1413	4 SG	0.86	**0.93**
10	Cascade Hwy SE/Whitney St	0	2	0	0	0	0	0	1	1	0	2	1432	3 SG	0.51	0.08
11	N First Ave/Shaff Rd SE	5	1	7	0	0	1	0	7	7	0	14	1769	4 SG	0.86	0.43
12	N First Ave/W Regis St	2	0	0	0	0	0	0	0	2	0	2	1361	4 ST	0.41	0.08
13	N First Ave/E Hollister St	0	0	1	0	0	0	0	0	1	0	1	1206	4 ST	0.41	0.05
14	N First Ave/W Locust St	2	2	0	0	0	0	0	4	0	0	4	1172	3 ST	0.29	0.19
15	N First Ave/E Washington St	1	8	1	0	0	0	0	4	6	0	10	1328	4 SG	0.86	0.41
16	N First Ave/E Ida St	1	3	2	0	0	1	0	2	5	0	7	1015	4 ST	0.41	0.38
17	N Third Ave/Fern Ridge Rd SE	0	0	4	0	0	0	0	3	1	0	4	611	4 ST	0.41	0.36
18	N Third Ave/E Ida St	0	0	0	0	0	0	0	0	0	0	0	180	4 ST	0.41	0.00
19	N Tenth Ave/Fern Ridge Rd SE	0	1	0	0	0	0	0	0	1	0	1	490	3 ST	0.29	0.11
20	N Tenth Ave/Stayton Rd SE	0	0	0	0	0	0	0	0	0	0	0	346	4 ST	0.41	0.00
21	OR 22/Fern Ridge Rd SE	1	3	8	0	0	0	1	6	7	0	13	1021	4 ST	0.41	**0.70**
22	OR 22/E Santiam St	0	1	1	0	0	0	0	1	1	0	2	1003	4 ST	0.41	0.11

1. Property Damage Only

2. All Contexts Urban



Reported Crashes from 2011 - 2015
Stayton, Oregon

Figure
9

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

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2). Per the APM, any intersection that has a crash rate equal to or greater than the corresponding 90th percentile rate is considered a high-risk intersection and is recommended for further review. Based on these criteria, four intersections are recommended for further review as described below.

Golf Club Road SE/Sublimity Road SE (Intersection #1)

The intersection of Golf Club Road SE/Sublimity Road SE is a westbound on and off ramp to OR 22 on the northwest side of the Stayton study area. The crash data summarized in Table 8 shows a high proportion of angle and turning crashes at this intersection. The intersection is stop controlled on the minor approaches, and eight of the ten crashes resulted from a failure to properly yield the right of way by vehicles at a stop sign. Four of the crashes resulted in injuries and none resulted in a fatality.

Cascade Highway SE/OR 22 WB Ramps (Intersection #8)

The intersection of Cascade Highway SE/OR 22 WB Ramps is a westbound on and off ramp to OR 22 on the north side of the Stayton study area. The crash data summarized in Table 8 shows that all crashes at this intersection in the study period were angle or turning crashes. All the crashes resulted from a failure to properly yield the right of way by vehicles at a stop-controlled approach or failure to stop at a stop sign. Four of the crashes at this intersection resulted in injuries and none resulted in a fatality.

Cascade Highway SE/OR 22 EB Ramps (Intersection #9)

The intersection of Cascade Highway SE/OR 22 EB Ramps is an eastbound on and off ramp to OR 22 on the north side of the Stayton study area. The crash data summarized in Table 8 shows that 23 of the 24 crashes were rear end crashes. All these crashes involved eastbound vehicles that had just exited OR 22 and 17 of the 23 crashes involved vehicles using the yield-controlled channelized right turn. These 17 rear end crashes likely occurred when the first eastbound vehicle to approach the intersection was required to yield to a southbound vehicle and the second eastbound vehicle to approach the intersection did not anticipate a need to stop. Nine of the crashes at this intersection resulted in injuries and none resulted in a fatality.

OR 22/Fern Ridge Road SE (Intersection #21)

The intersection of OR 22/Fern Ridge Road SE is an at-grade, minor approach stop-controlled intersection between a state facility and a county road. The crash data summarized in Table 8 shows that 11 of the 13 crashes involved angle or turning movements. Each of these 11 crashes resulted from a failure to properly yield the right of way by vehicles at a stop-controlled approach. Seven of the crashes at this intersection resulted in injuries and none resulted in a fatality.

SEGMENT CRASH RATES

The crash history of selected segments was reviewed to identify potential safety issues within the study area. City-wide crash data by crash type and severity obtained from ODOT is illustrated in Figure 9. Table 9 summarizes the data provided by ODOT for the study segments by crash type and severity.

Table 9. Segment Crash Summary (January 1, 2011 to December 31, 2015)

#	Roadway	Roadway Extents	Crash Type						Severity			Total	Functional Classification	Average Rate	Crash Rate
			Rear End	Turning	Angle	Head On	Pedestrian	Fixed Object	PDO[1]	Injury	Fatal				
1	Golf Club Road	OR 22 to Shaff Road	5	0	0	1	0	8	6	8	0	14	Arterial	1.30	0.46
2	Wilco Road	Shaff Road to Deschutes Drive	8	0	0	0	0	1	2	7	0	9	Collector	1.53	0.92
3		Deschutes Drive to W Washington Street	0	0	0	0	0	0	0	0	0	0	Arterial	1.30	0.00
4	Cascade Highway	OR 22 to Shaff Road	6	0	0	0	1	2	3	5	1	8	Principal Arterial	1.45	0.69
5	N First Avenue	Shaff Road to W Ida Street	3	3	1	0	0	1	5	3	0	8	Principal Arterial	1.45	0.41
6		W Ida Street to W Water Street	0	0	0	0	0	0	0	0	0	0	Principal Arterial	1.45	0.00
7	S First Avenue	W Water Street to southern UGB limits	0	0	0	0	0	4	4	0	0	4	Arterial	1.30	0.94

The crash rates shown in Table 9 were compared to the average rates for similar segments shown in ODOT Crash Rate Table II (Reference 3). Per the APM, any segment that has a crash rate equal to or greater than the corresponding average rate is considered a high-risk segment and is recommended for further review. Based on these criteria, no segments have a crash rate equal to or greater than the corresponding average rate and thus no segments are recommended for further review.

SAFETY PRIORITY INDEX SYSTEM

The ODOT Statewide Priority Index System (SPIS) identifies sites along both state highways and non-state facilities where safety issues warrant further investigation. The SPIS is a method developed by ODOT for identifying hazardous locations on state highways through consideration of crash frequency, crash rate, and crash severity. Sites identified within the top 5 percent are investigated by ODOT staff and reported to the Federal Highway Administration (FHWA). Per the most recent SPIS list, published in 2016, a segment immediately north of Cascade Highway SE/Whitney Street is identified by ODOT as within the top 10% of statewide SPIS sites over the last five-year period. Note that the ODOT SPIS shows that a fatal pedestrian crash occurred just north of the Cascade Highway SE/Whitney Street intersection and was not intersection-related.

PEDESTRIAN AND BICYCLE CRASH REVIEW

Seven pedestrian crashes and six bicycle crashes occurred within the study area from 2011 to 2015:

Pedestrian Crashes:

Shaff Road/Quail Run Avenue

At 10:00 AM on November 21, 2015, a passenger vehicle exiting a commercial driveway from the south onto Shaff Road SE struck a pedestrian in the intersection. The driver of the vehicle failed to yield the right of way to the pedestrian. The pedestrian sustained a minor injury (not visible but leading to a complaint of pain) from the crash.

Fern Ridge Road/N First Avenue

At 7:00 AM on January 20, 2012, a passenger vehicle traveling west on Fern Ridge Road and attempting to turn south onto N First Avenue struck a pedestrian in the intersection. The driver of the vehicle failed to yield the right of way to the pedestrian. The pedestrian sustained a minor injury (not visible but leading to a complaint of pain) from the crash.

W Locust Street/Heritage Loop

At 6:00 AM on December 19, 2015, a passenger vehicle traveling east on W Locust Road and attempting to turn north onto Heritage Loop struck a pedestrian 50 feet north of the intersection. The driver failed to see or yield to the pedestrian, who was wearing dark clothing. The pedestrian sustained an incapacitating injury from the crash.

W Washington Street East of N Gardner Avenue

At 2:00 PM on June 15, 2012, a passenger vehicle traveling west on W Locust Road struck two pedestrians off the roadway. The driver was driving inattentively and lost control of the vehicle, causing it to run off the roadway and hit the pedestrians. One pedestrian sustained an incapacitating injury from the crash and the other sustained a minor injury (not visible but leading to a complaint of pain) from the crash.

Cascade Highway SE, South of Golf Lane SE Intersection

At 5:00 PM on December 10, 2014, a southbound passenger vehicle struck and killed a pedestrian on Cascade Highway SE. Conditions at the time of the crash were dark with heavy rain and the pedestrian attempted to cross at a location without a crosswalk.

N First Avenue/W High Street

At 2:00 PM on December 10, 2015, a passenger vehicle traveling south on N First Avenue struck a pedestrian in the intersection. The driver failed to yield the right of way to the pedestrian. The pedestrian sustained a minor injury (not visible but leading to a complaint of pain) injury from the crash.

N First Avenue/W Ida Street

At 7:00 PM on March 11, 2014, a passenger vehicle traveling north on N First Avenue and attempting to turn west onto Ida Street struck a pedestrian in the intersection. The driver failed to yield the right of way to the pedestrian. The pedestrian sustained a non-incapacitating injury from the crash.

Bicycle Crashes:

Shaff Road East of Golf Club Road

At 4:00 PM on March 1, 2011, a passenger vehicle exiting a commercial driveway from the south onto Shaff Road SE struck a bicyclist in the bicycle lane or sidewalk. The driver of the vehicle failed to yield the right of way to the bicyclist. The bicyclist sustained a non-incapacitating injury from the crash.

Shaff Road/Quail Run Avenue

At 7:00 AM on August 8, 2015, a passenger vehicle attempting to make an eastbound left turn at the intersection of Shaff Road SE/Quail Run Avenue failed to yield the right of way and struck a westbound bicyclist. The bicyclist sustained a non-incapacitating injury from the crash.

Shaff Road/Kindle Way

At 7:00 AM on May 1, 2015, a passenger vehicle attempting to make a southbound left turn at the intersection of Shaff Road SE/Kindle Way SE failed to yield the right of way to a westbound bicyclist. As a result, the bicyclist struck the vehicle and sustained a minor injury (not visible but leading to a complaint of pain) injury.

W Water Street East of S Douglas Avenue

At 7:00 PM on June 1, 2012, a passenger vehicle proceeding from west to east failed to yield the right of way and struck a bicyclist. Conditions were rainy and wet and the bicyclist sustained a non-incapacitating injury.

N First Avenue/E Fir Street

At 2:00 PM on August 21, 2014, a passenger vehicle proceeding from north to south failed to yield the right of way and struck a bicyclist. The driver's view was obscured by her vehicle. The bicyclist did not sustain an injury.

Fern Ridge Road/Wildflower Drive

At 3:00 PM on February 20, 2013, a southbound passenger vehicle at the intersection of Fern Ridge Road/Wildflower Drive failed to yield the right of way to a westbound bicyclist. The bicyclist sustained a non-incapacitating injury.

FATAL CRASH REVIEW

Two fatal crashes occurred within the study area from 2011 to 2015.

OR 22, West of E Santiam Street Intersection

At 1:00 PM on November 11, 2011, a westbound passenger vehicle on OR 22 crossed over the center line and into the oncoming traffic line, hitting an eastbound passenger vehicle head on. The driver of the former vehicle was killed in the crash. Per police, the driver may have suffered a medical emergency before the crash occurred, causing the illegal maneuver.

Cascade Highway SE, South of Golf Lane SE Intersection

At 5:00 PM on December 10, 2014, a southbound passenger vehicle struck and killed a pedestrian on Cascade Highway SE. Conditions at the time of the crash were dark with heavy rain and the pedestrian attempted to cross at a location without a crosswalk. This crash was also described in the pedestrian and bicycle crash review.

Cascade Highway SE at Whitney Street

ODOT has verified all crashes occurring through 2015; however, more recent crash data is available in preliminary form. Crash data from 2017 shows that a fatal crash occurred at the intersection of Cascade Highway SE and Whitney Street at 9:00 AM on September 7, 2017. In this crash, a westbound left-turning vehicle and a northbound through-moving vehicle collided, resulting in one fatality, one incapacitating injury, and one minor (not visible but leading to a complaint of pain) injury. This crash was the result of the northbound driver disregarding the traffic signal.

PUBLIC TRAFFIC SAFETY COMMENTS

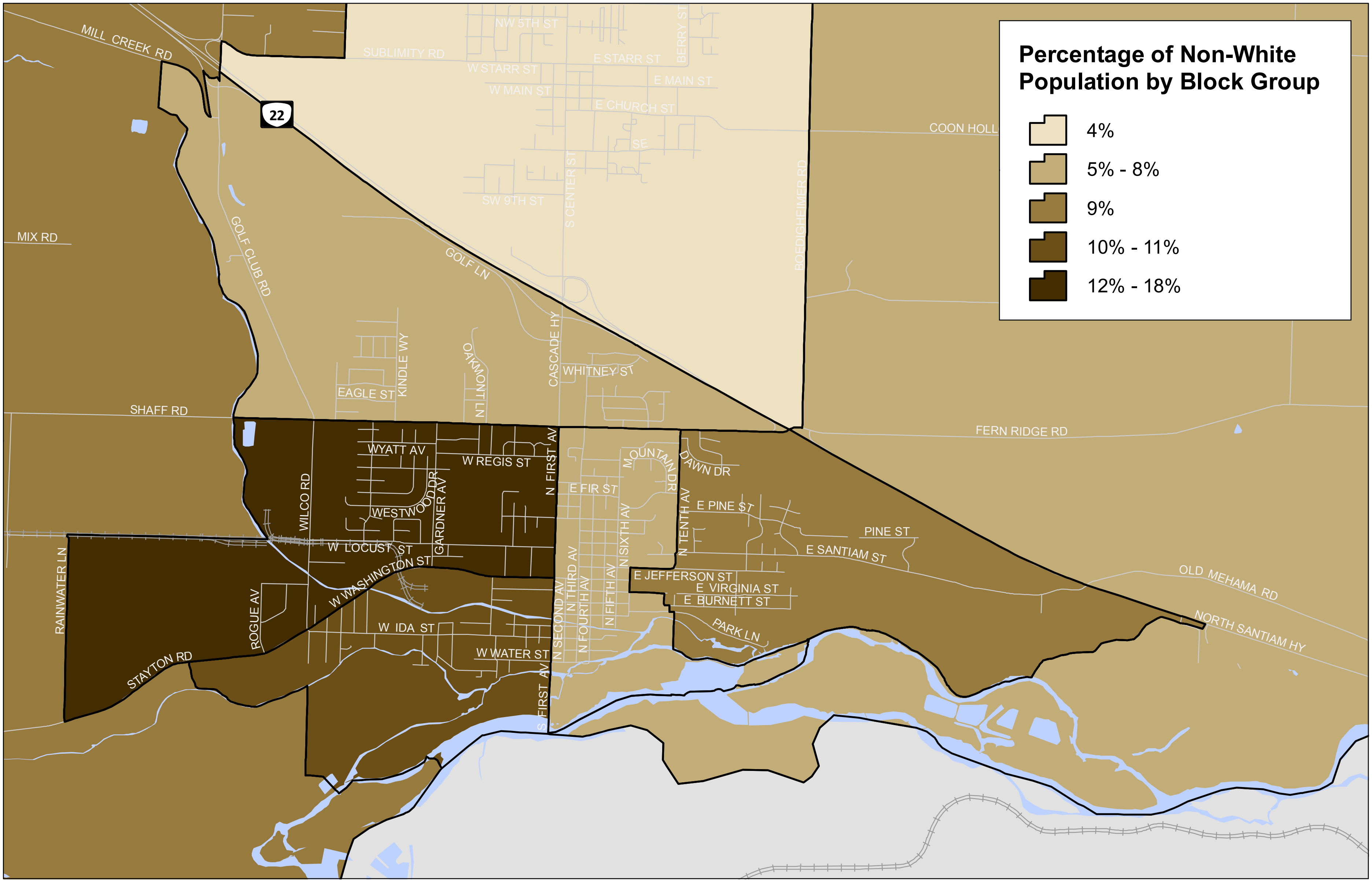
At their August meeting, the Stayton TSP Public Advisory Committee described locations throughout Stayton that have experienced close calls or that have the potential to be improved from a safety perspective. These locations were:

- School crosswalks across N First Avenue
- N First Avenue/Washington Street intersection
- N Tenth Avenue/E Santiam Street intersection
- N Third Avenue/Fern Ridge Road intersection

ENVIRONMENTAL JUSTICE ANALYSIS

The socio-economically sensitive populations within the City of Stayton consist of minorities, elderly people (people 65 years of age or older), youth (people 17 years of age or younger), people who do not speak English, disabled people, and people who live below the poverty line. 2010 census data was collected at the census block group level to show the concentrations of these populations as a percentage of the overall population. The data was combined with a general understanding of local conditions to ensure that the existing transportation system meets the needs of these individuals. Figures 10 through 16 illustrate the locations of these populations within Stayton.

- Minorities – As shown in Figure 10, the south and west sides of the city contain the highest concentration of minorities. The block group southwest of W Washington Street has a 10-11% concentration of non-white population while the block group on the west side between Shaff Road and W Washington Street has a 12-18% concentration of non-white population. The remaining portions of the city all have a less than 10% concentration of non-white population.
- Elderly People – As shown in Figure 11, the part of the city north of Shaff Road/Fern Ridge Road and the central part of the city have the highest concentration of people age 65 and older at 17%. Other parts of the city have an elderly population mostly under 12%.
- Youth – As shown in Figure 12, the west side of the city has the highest youth population at 28-29% of the population. The east side of the city has a similarly high youth population at 26-27% of the population. The northern and central parts of the city have lower youth populations at under 25% of the population.
- Non-English Speaking – As shown in Figure 13, the west side of the city has the highest population of people who do not speak English at 17-26% of the population. The east side of the city has a similarly high population of people who do not speak English at 16%. In the northern part of the city, 6-15% of the population does not speak English and less than 4% of people do not speak English in the central and southern part of the city. In total, about 15% of Stayton residents do not speak English.
- People with Disabilities – As shown in Figure 14, the north side of the city has the highest population of people with disabilities with 29%-32% of the population. The east and west sides of the city have a low population of people with disabilities at less than 18% while the central part of the city has 26-27% of the population with disabilities.



Minority Population
Stayton, Oregon

Figure
10

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
2010 Census Redistricting Data (Public Law 94-171) Summary File

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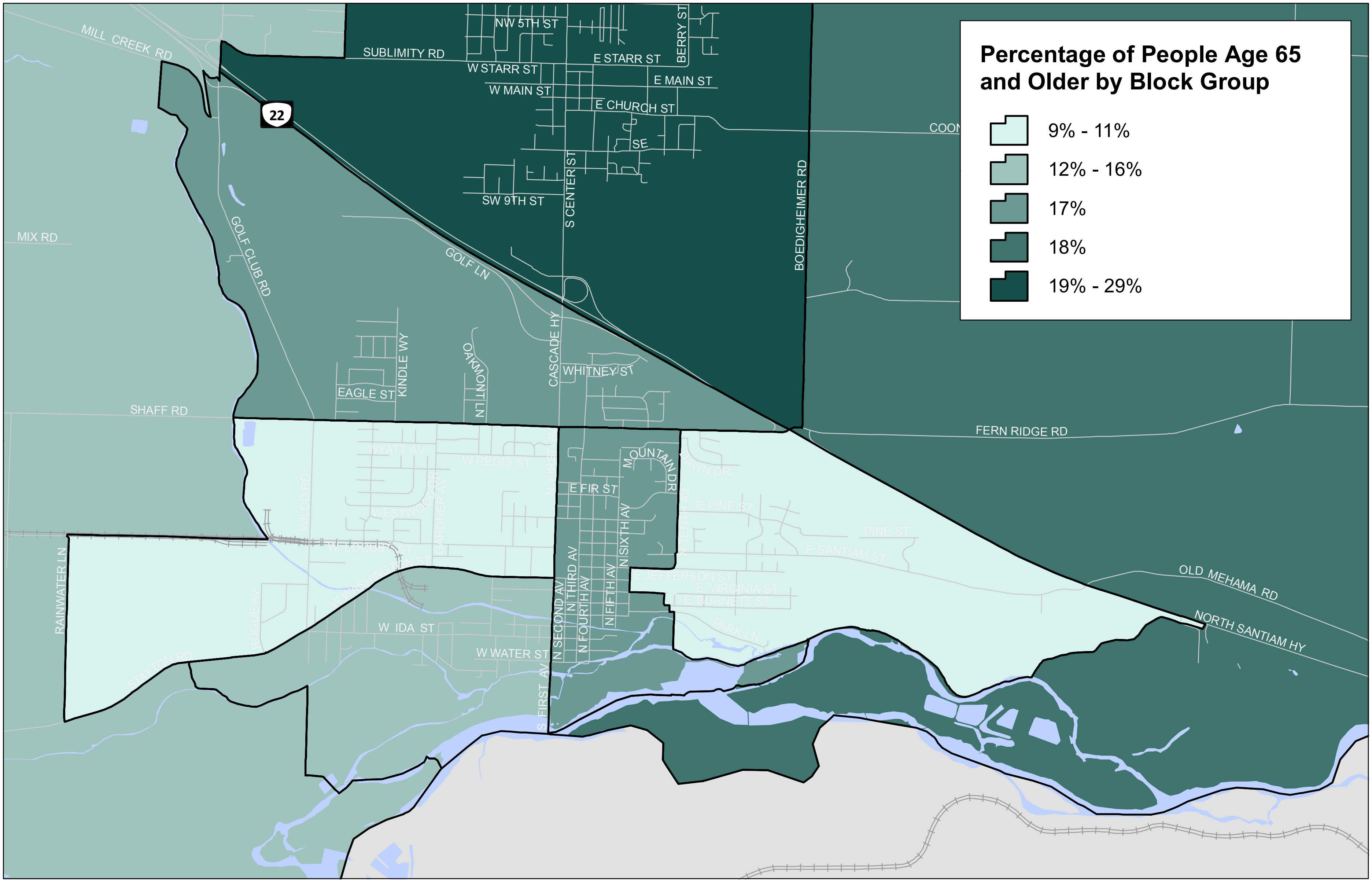

Elderly Population
Stayton, Oregon

Figure
11

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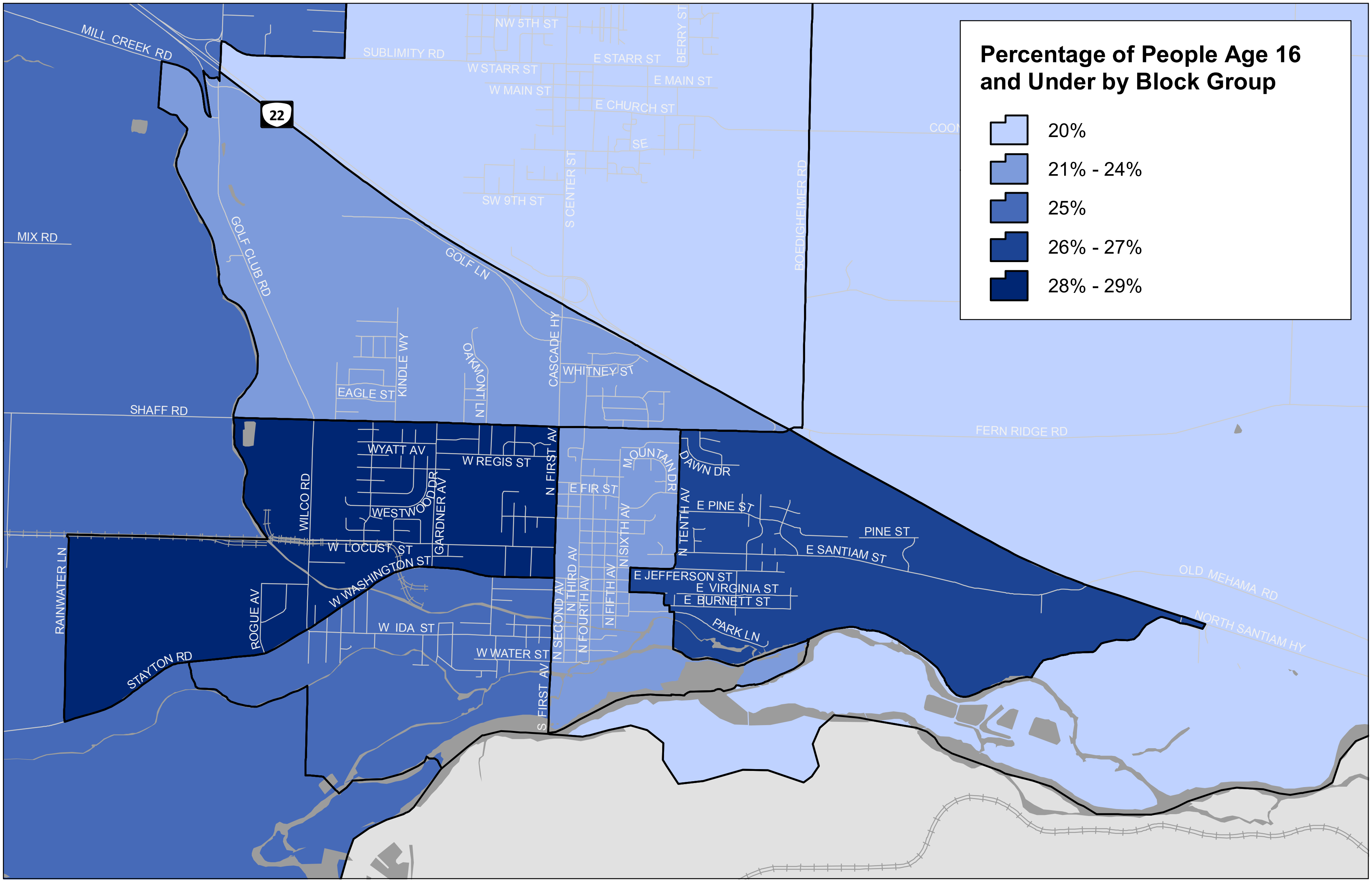
Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
2010 Census Table DEC_10_SF1_P12



Youth Population
Stayton, Oregon

Figure
12

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Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
2010 Census Table DEC_10_SF1_P14

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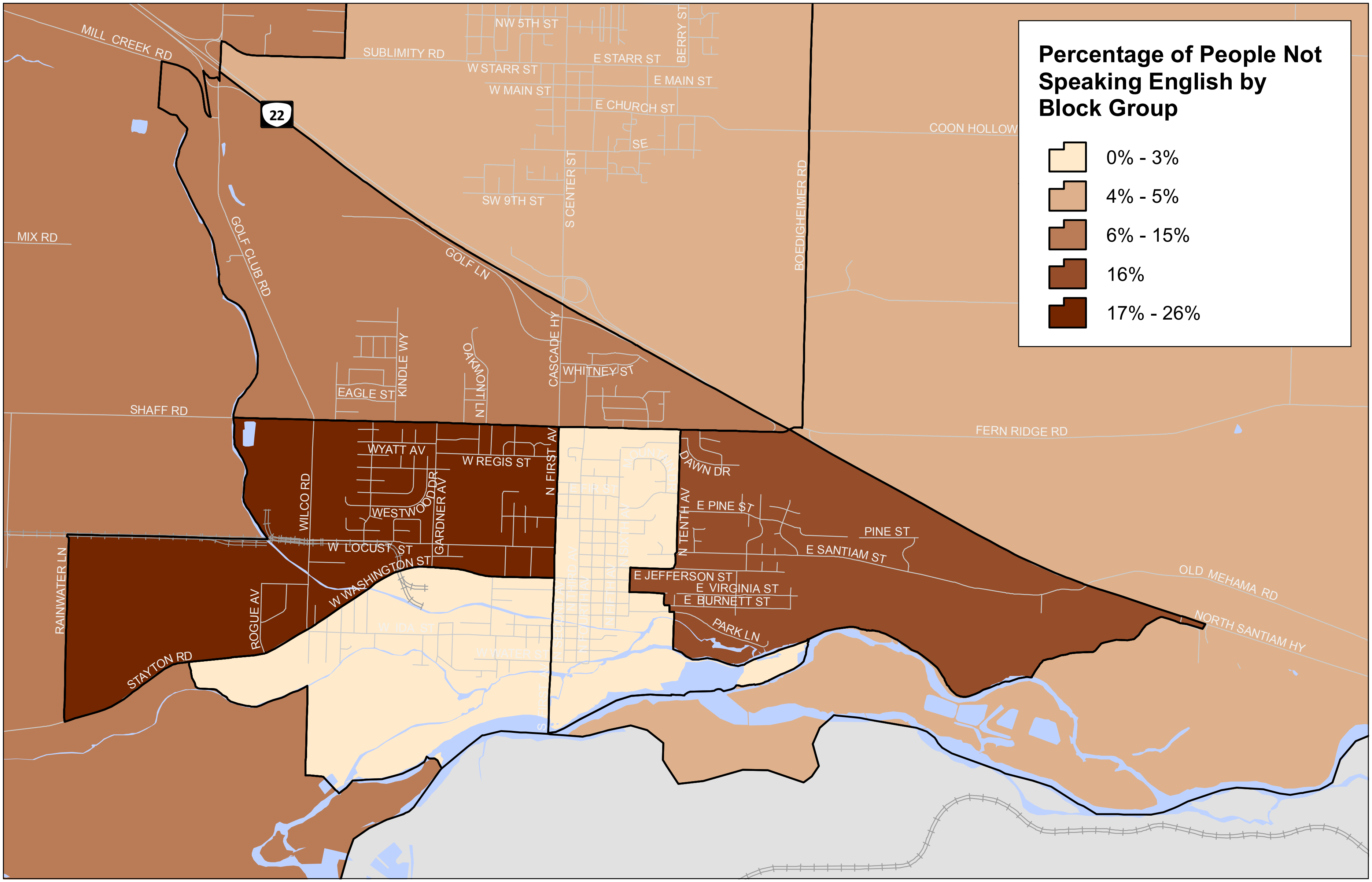

Non-English Speaking Population
Stayton, Oregon

Figure
13

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
2016 ACS Table ACS_16_5YR_B99163

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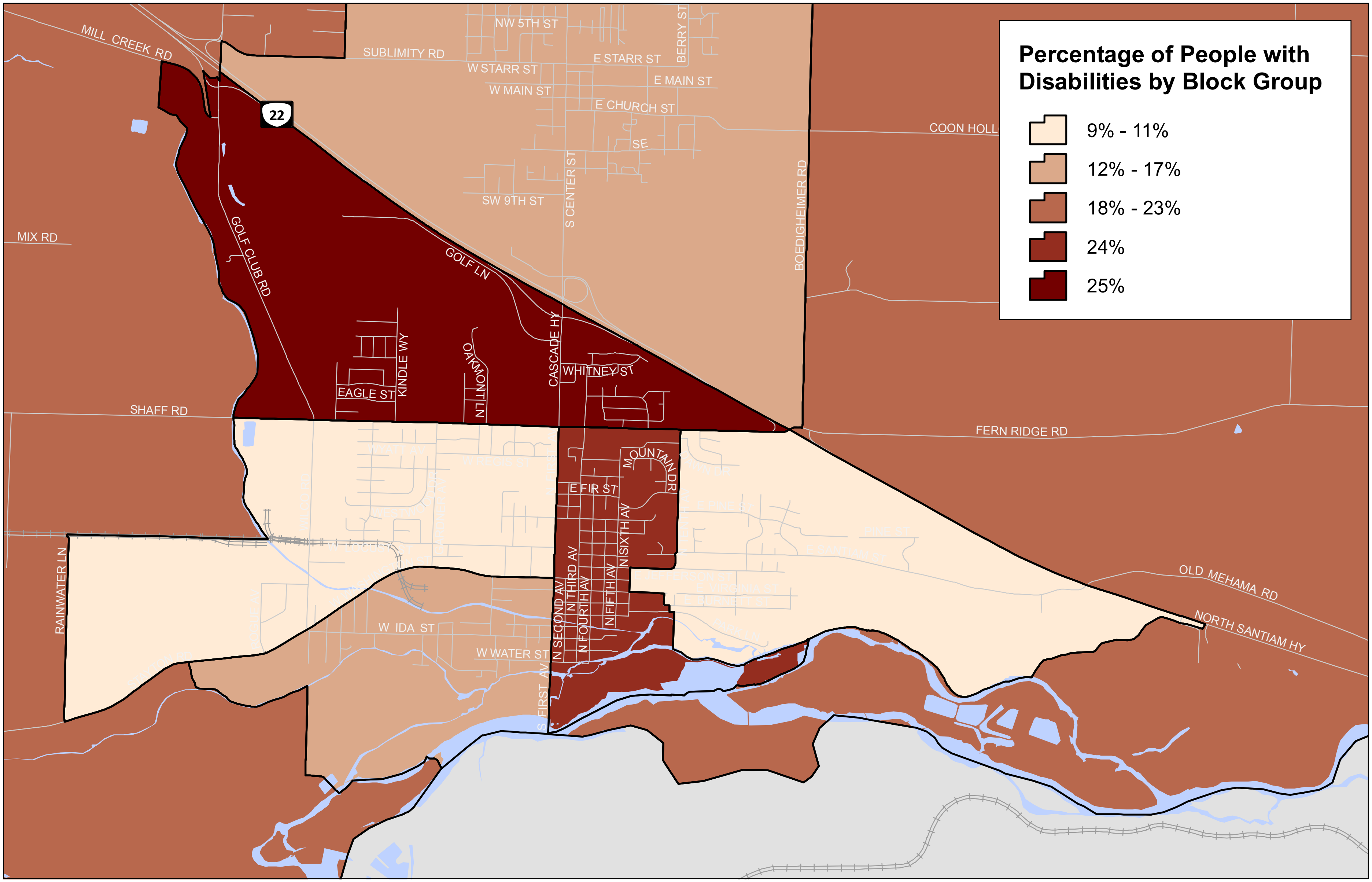

Disabled Population
Stayton, Oregon

Figure
14

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Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
2016 ACS Table ACS_16_5YR_C21007

- Households without Access to a Personal Vehicle – As shown in Figure 15, the north and west sides of the city have the highest portion of households without access to a personal vehicle, at 14-17%. Overall, 9% of the households in Stayton do not have access to a personal vehicle. These households are more likely to rely on walking, bicycling, and public transportation for their transportation needs.

- People with Low income – As shown in Figure 16, the southwest corner of the city has the highest percentage of people earning less than twice the federal poverty level at 50-88% of the population. The west side of the city has 37-49% of people in this category, while the north and east side of the city has 28-36% of people in this category.

The socioeconomic conditions within the city will be considered in the development of the TSP update to ensure that the future transportation system meets the needs of the entire population while not creating adverse conditions for select segments of the population.

FUTURE GROWTH ASSUMPTIONS

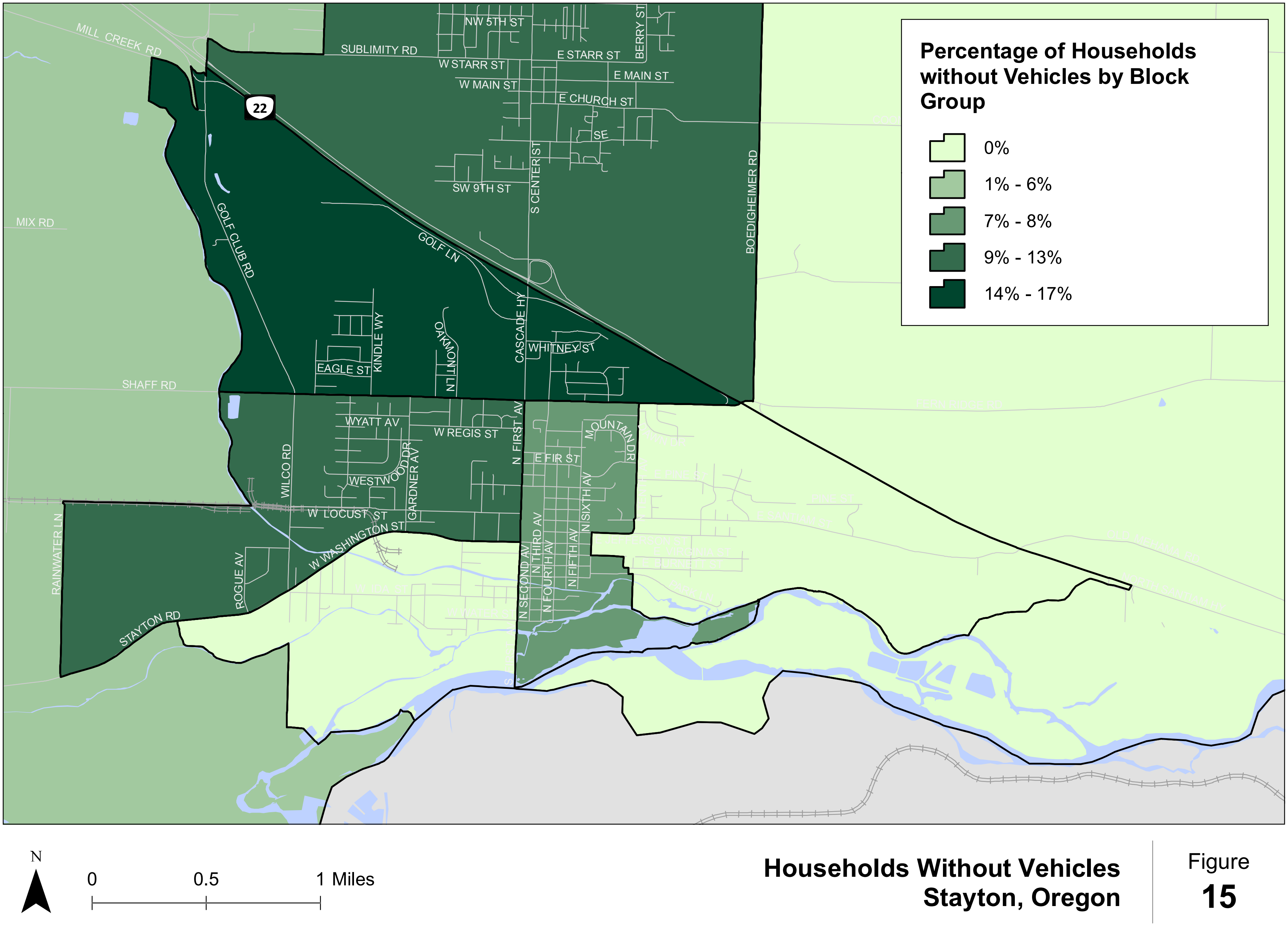
Analysis below shows projected 2040 operations at the 22 study intersections. To determine 2040 traffic conditions, traffic growth between present day and 2040 was projected through an understanding of expected household and employment growth in the area and accompanying trip generation.

PROJECTED LAND USES

Land use plays an important role in developing a comprehensive transportation system. The amount of land that is planned to be developed, the type of land uses, and how the land uses are mixed together all have a direct impact on how the transportation system will operate in the future. Understanding land use is critical to taking actions to maintain or enhance the transportation system. Population and employment growth play a significant role in determining future land use. The following provides a summary of the population and employment projections prepared for the Stayton TSP update. Appendix E contains a more detailed discussion on the projections.

POPULATION AND HOUSEHOLD FORECAST

Population data for Stayton was obtained from Portland State University's Population Research Center (PRC). The PRC's Coordinated Population Forecast for Marion County and Larger Sub Areas includes base year 2017 and forecast year 2035 and 2067 population estimates for Stayton as well as estimates of persons per household. Based on the data, the population is currently 8,138 persons and is projected to be 9,767 persons in the year 2040; this reflects an Average Annual Growth Rate (AAGR) of approximately 0.80 percent per year between 2017 and 2035 and an AAGR of approximately 0.70 percent per year between 2035 and 2040. The persons per household is currently 2.6 and is



Households Without Vehicles
Stayton, Oregon

Figure
15

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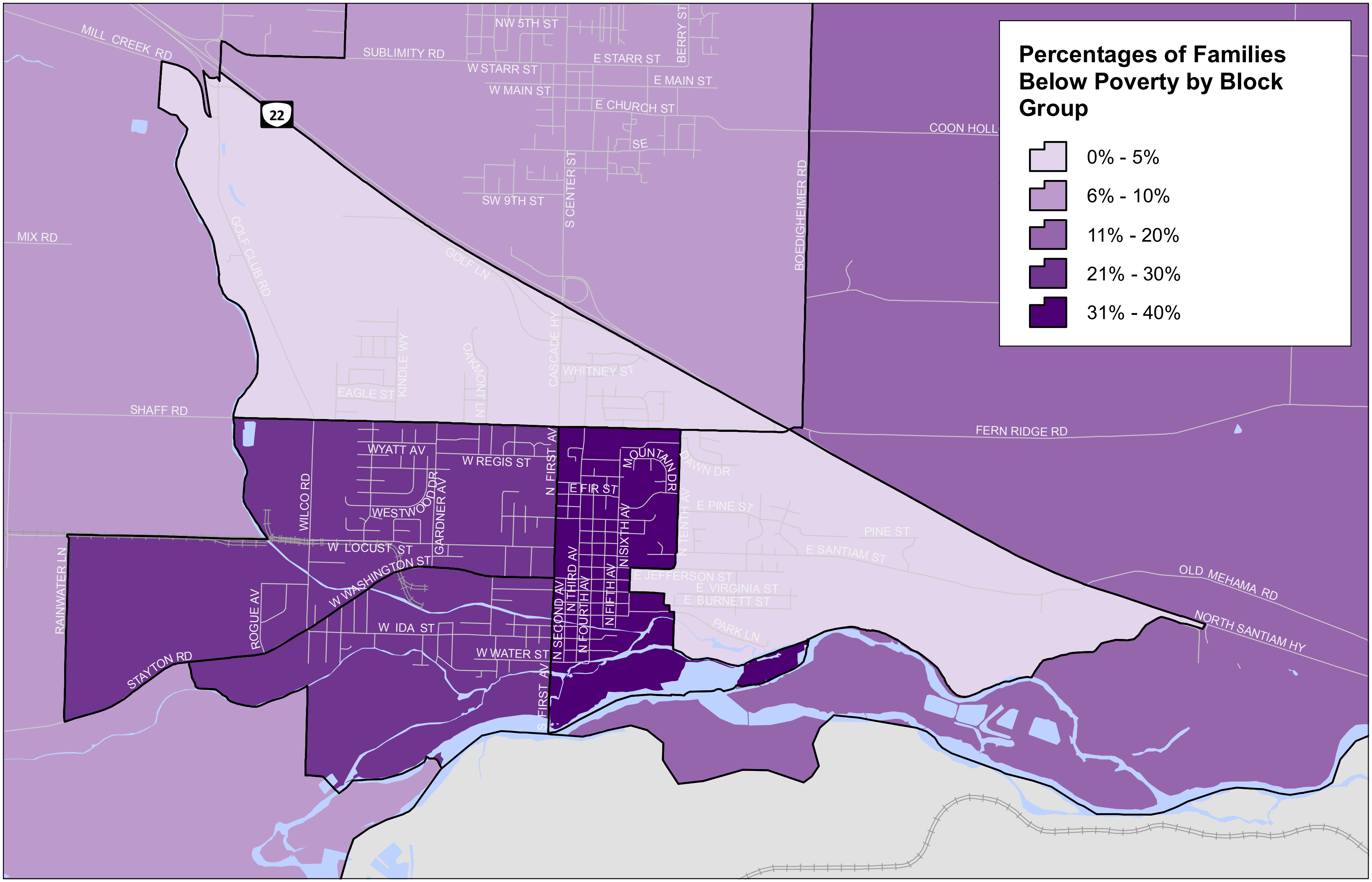
Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
2016 ACS 5-Year Estimates Table B25044



Low Income Population
Stayton, Oregon

Figure
16

H:\22\22352 - Stayton Transportation System Plan\gis\16 Low Income Population.mxd - jsommerville - 10:29 AM 9/5/2018

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
2016 ACS Table ACS_16_5YR_B17010

projected to be 2.6 in 2040. Therefore, there is a need for approximately 627 new homes in 2040. However, if the occupancy rate remains at 95 percent, there may be a need for 31 additional homes, or 658 new homes.

EMPLOYMENT FORECAST

Employment data for Stayton was obtained through the US Census Bureau's Center for Economic Studies "On the Map" tool and the State of Oregon's Mid-Valley Industry Employment Projections for the Linn, Marion, Polk, and Yamhill County. While the "On the Map" data shows a steady decline in jobs within the City since 2005, the State projects a 12 percent growth rate within the County, or an average annual growth rate of 1.2 percent. The State's projected growth rates vary considerably between job sectors, with the greatest growth occurring in manufacturing and health care jobs. Based on the data, there are currently 3,060 jobs within Stayton and there are projected to be 4,135 jobs in 2040, or an increase of 1,075 jobs. The job data was further divided into North American Industry Classification System (NAICS) sectors and converted to square-feet. Based on the data there is currently 282,410 square-feet of commercial and 622,159 square-feet of industrial space within the City and there is projected to be 380,802 square-feet of commercial and 829,986 square-feet of industrial space in the future

Table 10 summarizes the population and employment data for year 2017 and forecast year 2040 conditions. As shown, employment is expected to grow at a slightly higher rate than the population over the 23-year period.

Note that this growth estimate is more conservative than the growth estimate shown in the 2004 TSP. The 2004 TSP anticipated rapid growth that did not occur; the growth estimate shown below anticipates more conservative growth that will lead to lower projected volumes than shown in the 2004 TSP.

Table 10: Stayton Population and Employment Growth Summary

Land Use	2017	2040	Change	Annual Percent Change
Population	8,138	9,767	1,629	0.80%/0.70%
Households	3,130	3,757	627	0.80%/0.70%
Employment	3,060	4,135	1,075	1.2%
Square-feet (Com/Ind)	282K/622K	381K/830K	98K/207K	1.2%

The population and employment data shown in Table 10 was distributed throughout the Stayton based on information provided by the City on planned developments, information provided by the US Census, and information provided in the City's comprehensive plan and zoning designation map. The population and employment data was distributed based on Transportation Analysis Zones (TAZs) developed for the TSP update based on the current zoning designations and the location of major roadways and intersections throughout the City. The TAZs provide a convenient way of evaluating and summarizing the population and employment data for the City as well as a way to establish origin and destinations for new trips. Trip generation based on expected growth and origin-destination tables showing the distribution of this trip generation to and from the TAZs is shown in Appendix F. Figure 17 shows the distribution of this trip generation onto the transportation network.

FUTURE CONDITIONS ANALYSIS

TRAFFIC OPERATIONS

Year 2040 traffic conditions were determined by applying the future growth assumptions outlined above to the existing traffic conditions. Lane configurations and traffic control devices were assumed to be identical to existing conditions. Figure 18 summarizes the PM peak hour turning movement counts and operations at the study intersections under 2040 traffic conditions. Table 11 summarizes the results of the traffic operations analysis at the study intersection under existing traffic conditions. Appendix G contains the year 2040 traffic conditions worksheets.

Table 11. 2040 Weekday PM Peak Hour Intersection Operations

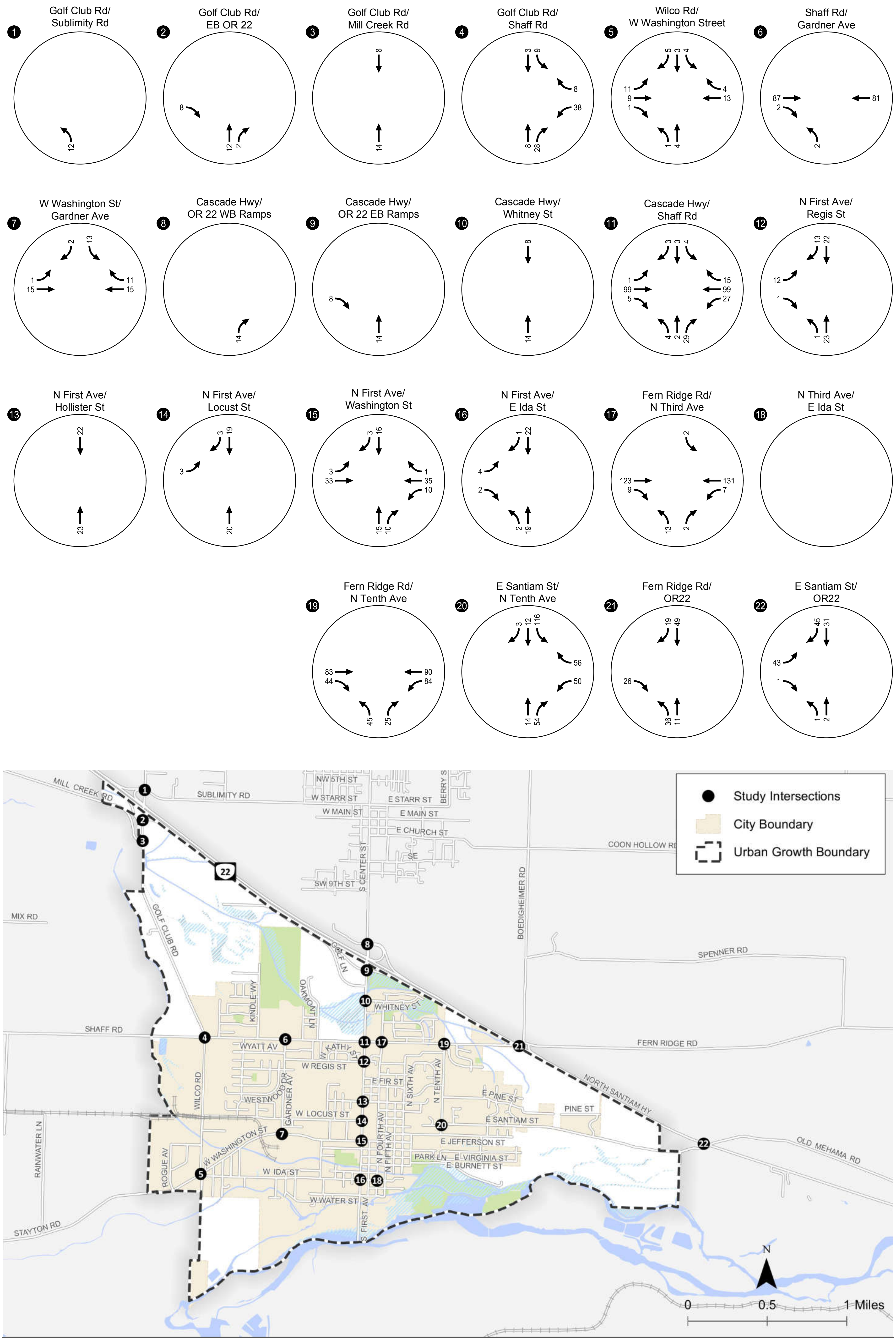
#	Intersection	Level of Service (LOS)	Delay (Sec)	Volume/Capacity (v/c)	Measure of Effectiveness (MOE)		MOE Met?
					Agency	Maximum	
1	Golf Club Road at Sublimity Road/WB OR 22	C	16.0	0.15	ODOT	V/C 0.70[1]	Yes
2	Golf Club Road at EB OR 22	B	13.2	0.27	ODOT	V/C 0.80[1]	Yes
3	Golf Club Road at Mill Creek Road	D	31.8	0.20	County	LOS E[2]	Yes
4	Golf Club Road/Wilco Road at Shaff Road	D	25.3	-	County	LOS E[2]	Yes
5	Wilco Road at W Washington Street/Ida Street	B	13.6	-	County	LOS E[2]	Yes
6	Shaff Road at Gardner Road/Stayton Middle School	D	26.3	0.42	County	LOS E[2]	Yes
7	W Washington Street at Gardner Road	B	12.9	0.15	City	LOS E[3]	Yes
8	Cascade Highway at Sublimity Boulevard/WB OR 22	C	20.6	0.08	ODOT	V/C 0.70[1]	Yes
9	Cascade Highway at EB OR 22	A	8.2	-	ODOT	V/C 0.80[1]	Yes
10	Cascade Highway at Whitney Street	B	11.0	-	County	LOS E[2]	Yes
11	Cascade Highway/N First Avenue at Shaff Road/Fern Ridge Road	C	34.6	-	County	LOS E[2]	Yes
12	N First Avenue at Regis Street	F	52.7	0.08	City	LOS E[3]	Yes
13	N First Avenue at Hollister Street	C	24.4	0.17	City	LOS E[3]	Yes
14	N First Avenue at Locust Street	C	18.9	0.30	City	LOS E[3]	Yes
15	N First Avenue at Washington Street	C	20.1	-	County	LOS E[2]	Yes
16	N First Avenue at Ida Street	C	18.2	-	City	LOS E[3]	Yes
17	Fern Ridge Road at N Third Avenue	C	23.5	0.35	County	LOS E[2]	Yes
18	N Third Avenue at E Ida Street	A	7.4	-	City	LOS E[3]	Yes
19	Fern Ridge Road at N Tenth Avenue	D	31.9	0.52	County	LOS E[2]	Yes
20	N Tenth Avenue at E Santiam Street	A	8.9	-	County	LOS E[2]	Yes
21	Fern Ridge Road at OR 22	D	26.6	0.22	ODOT	V/C 0.80	Yes
22	E Santiam Street at OR 22	E	36.9	0.57	ODOT	V/C 0.70	Yes

[1] *This v/c ratio may be increased to 0.90 if it can be determined that vehicles queues will not extend onto the mainline or into the portion of the ramp needed to safely accommodate deceleration; and if an adopted Interchange Area Management Plan (IAMP) is present or can be developed.*

[2] *LOS F may be allowed depending on volume*

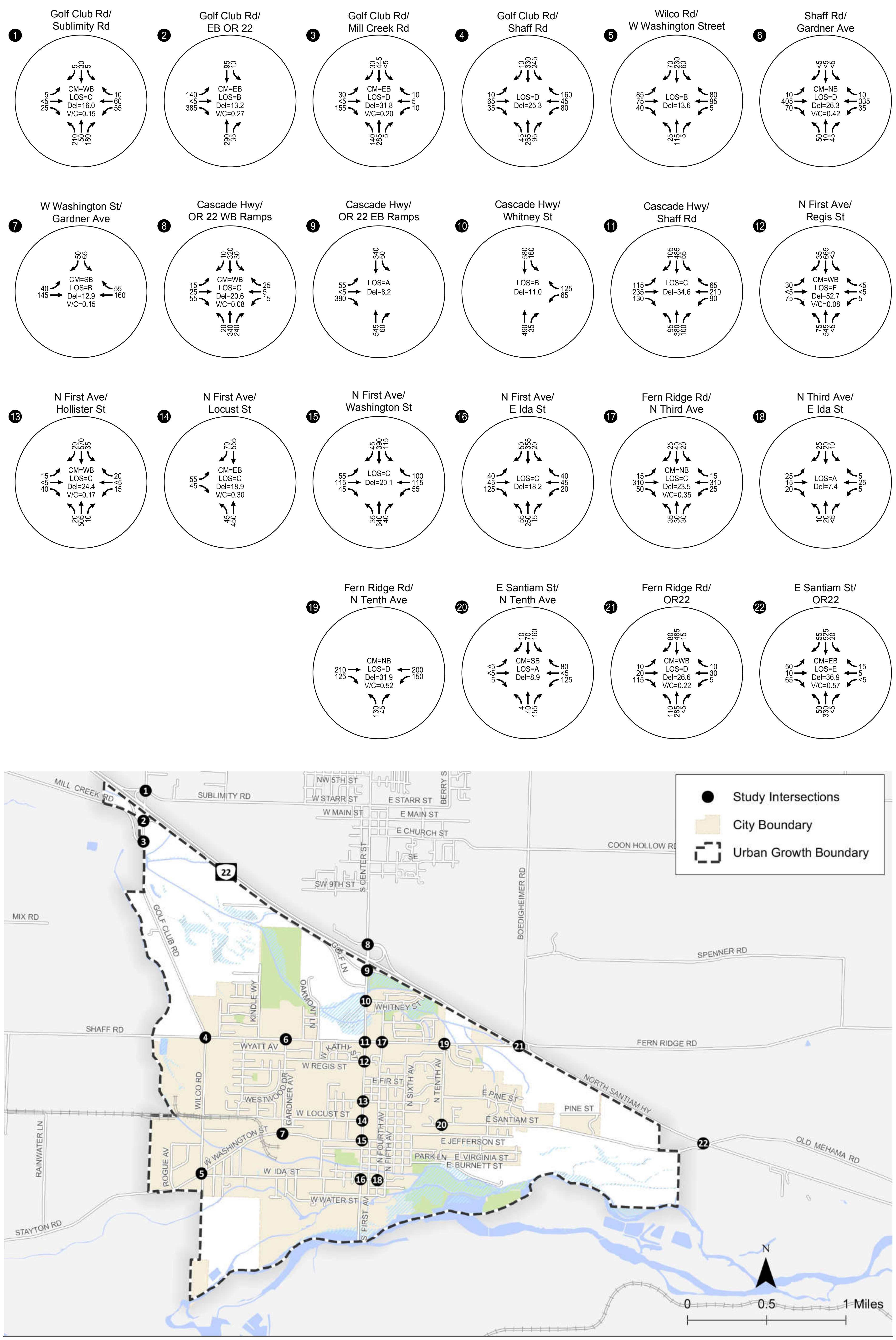
[3] *or LOS F with a v/c ratio of 0.95 or better*

Target measures of effectiveness for each agency are described in the Analysis Methodology and Assumptions Memorandum (Reference 1) and summarized in Table 11. As shown, all study intersections operate acceptably within their respective measures of effectiveness in the PM peak hour. Note that while the intersection of N First Avenue at



New Trips
Weekday PM Peak Hour
Stayton, Oregon

Figure
17



CM = CRITICAL MOVEMENT (TWSC)
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED/AWSC) / CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED/AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO
TWSC = TWO-WAY STOP CONTROL
AWSC = ALL-WAY STOP CONTROL

Future Traffic Conditions
Weekday PM Peak Hour
Stayton, Oregon

Figure
18

H:\22\22352 - Stayton Transportation System Plan\dwg\22352_Fig01.dwg Sep 14, 2018 - 4:46pm - bgraveline Layout Tab: Future PM

Regis Street operates at LOS F, the v/c ratio of the critical movement is better than 0.95. Therefore, this intersection meets City of Stayton mobility standards.

QUEUEING

A queueing analysis was conducted at the signalized study intersections. Table 12 summarizes the 95th percentile queues during the weekday PM peak hours under year 2040 traffic conditions. The storage lengths reflect the striped storage for each movement at the intersections. Appendix H contains the queueing reports for these study intersections.

Table 12. Future Weekday PM Peak Hour Queueing

Intersection	Movement	95th Percentile Queue	Storage Length (feet)	Adequate?
Cascade Highway SE/ OR 22 EB Ramps	SBL	25	150	Yes
	EBR	75	575	Yes
Cascade Highway SE/Whitney Street	SBL	50	100	Yes
	WBL	100	150	Yes
Shaff Road/N First Avenue	NBL	125	175	Yes
	SBL	100	100	Yes
	EBL	100	125	Yes
	WBL	100	100	Yes
N First Avenue/E Washington Street	NBL	50	100	Yes
	SBL	100	150	Yes
	EBL	50	75	Yes
	WBL	50	75	Yes
	WBR	25	50	Yes

As shown in Table 12, 95th percentile queues do not exceed the striped storage for any turning movement at any study intersection.

GOLF LANE REALIGNMENT

Note that per the Whitney Street/Cascade Highway operational analysis study (Reference 4), Golf Lane should be realigned to intersect Cascade Highway directly opposite Whitney Street. See the May 19, 2003 Memorandum of Understanding between Marion County and the City of Stayton for further details regarding this area.

TRANSPORTATION FUNDING

The following provides an overview of the City of Stayton's transportation funding and provides a forecast of potential funds for implementing the TSP based on existing funding sources. Additional funding sources could provide additional funding in the future.

EXISTING REVENUE SOURCES

The primary revenue sources contributing to transportation funding for Stayton are the state gas tax, ODOTs surface transportation program (STP), and the City's street maintenance fee, System Development Charges (SDCs), and most recently, a local gas tax. Exhibit 1 illustrates the revenues from these sources over the past six years as well as projected for Fiscal Year (FY) 2018-19.

Exhibit 1: City of Stayton Transportation Revenue Sources

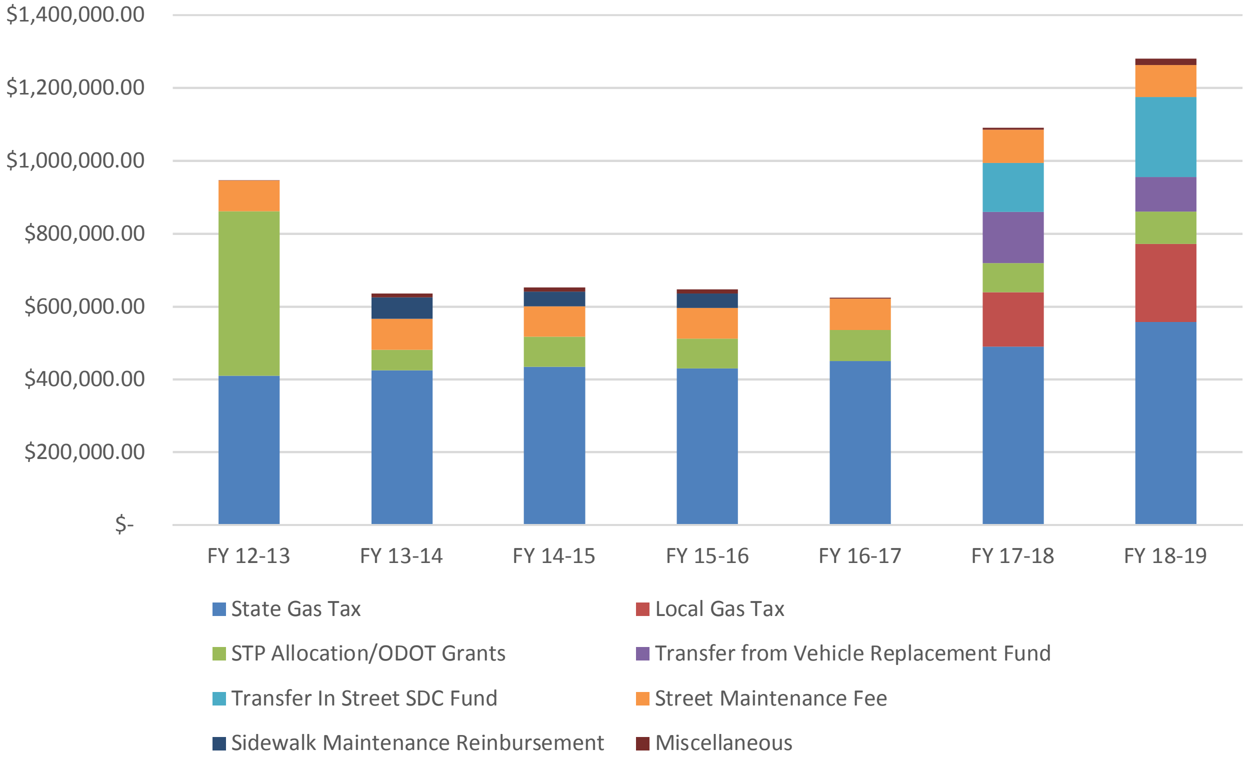


Table 13. City of Stayton Transportation Revenue

	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19
State Gas Tax	$410,000	$425,000	$435,000	$430,000	$450,000	$490,000	$556,800
Local Gas Tax						$149,000	$215,000
STP Allocation/ ODOT Grants	$451,119	$56,269	$81,876	$81,876	$85,000	$80,000	$88,100
Transfer from Vehicle Replacement Fund						$140,100	$95,700
Transfer In Street SDC Fund						$135,000	$219,000
Street Maintenance Fee	$84,000	$84,000	$84,000	$84,000	$87,000	$90,300	$87,900
Sidewalk Maintenance Reimbursement		$60,000	$40,000	$40,000			
Miscellaneous	$500	$10,450	$11,150	$11,150	$1,900	$6,000	$17,500
Total	**$945,619**	**$635,719**	**$652,026**	**$647,026**	**$623,900**	**$1,090,400**	**$1,280,000**

As shown in Exhibit 1 and Table 13, transportation funding has increased in the last two fiscal years in due to the local gas tax as well as SDCs. The following describes the most significant funding sources and their projections for the future.

STATE GAS TAX

State gas taxes are comprised of proceeds from excise taxes imposed by the state and federal government to generate revenue for transportation funding. The proceeds from these taxes are distributed to Oregon counties and cities in accordance with Oregon Revised Statute (ORS) 366.764, by county registered vehicle number, and ORS 366.805, by city population. The Oregon Constitution states that revenue from the state gas tax is to be used for the construction, reconstruction, improvement, maintenance, operation and use of public highways, roads, streets, and roadside rest areas.

Based on data provided by the City, total revenue from the state gas tax has increased over the last two years due to adjustments in the population estimate used by the state to determine the amount of funding to distribute to the City. The population is expected to increase by approximately 1.0 percent per year over the next several years (see Appendix E for the population and employment assumptions), therefore revenue from the state gas tax is estimated to increase by 1% each year.

LOCAL GAS TAX

In 2017, Stayton voters passed a $0.03 per gallon gas tax for the construction, reconstruction, improvement, repair, and maintenance of streets within the city. The tax was estimated to raise approximately $162,000 per year but is projected to generate $215,000 in Fiscal Year 2018-19. This funding source is estimated to increase by 1% each year based on local growth and growth of traffic on Highway 22.

SURFACE TRANSPORTATION PROGRAM (STP) ALLOCATION

The surface transportation program (STP) provides flexible funding that may be used by States and local municipalities for projects to preserve and improve the transportation system by reconstructing any Federal-aid highway, bridge, and/or tunnel projects on public roads, pedestrian and bicycle infrastructure, and transit capital projects, including bus terminals.

ODOT distributes STP funds to municipalities based on population. The funds may be distributed on an annual basis or may be saved up and distributed all at once for larger projects. Based on data provided by the City, STP funds have averaged approximately $85,000 per year over the past several years. Stayton also received a larger grant in FY 2012-13 for the Tenth Avenue project. The projections provided below assume annual STP funds of $85,000 per year plus $500,000 every five years for special grant funded projects.

SYSTEM DEVELOPMENT CHARGES

System Development Charges (SDCs) are fees assessed on developments for impacts to public infrastructure. All revenue is dedicated to transportation capital improvement projects designed to accommodate growth. The City can offer SDC credits to developers that provide public improvements beyond the required street frontage, including those that can be constructed by the private sector at a lower cost. For example, SDC credits might be given for providing off-site improvements, such as sidewalks and bike lanes that connect the site to nearby schools or other amenities.

Based on data provided by the City, revenue from SDCs have begun again after a period of little development. Based on the growth assumptions of an additional 646 households (597 single-family and 49 multi-family homes) and 1,074 jobs (resulting in approximately an additional 100,000 s.f. of commercial space and 200,000 s.f. of industrial space), it is assumed the City may average approximately $84,000 per year in SDCs from residential development and $54,000 per year from commercial and industrial development for a total future SDC assumption of $138,000 per year.

STREET MAINTENANCE FEE

The City of Stayton Transportation Maintenance Fee began in February 2011 and included on monthly utility bills. The fee is listed as a "Street Fee" and the funds from this fee must be used for street repair and maintenance. As the number of households in Stayton is anticipated to increase 1% per year over the TSP planning horizon, it is assumed that the Street Maintenance Fee will increase by 1% per year as well.

PROJECTED REVENUES

Overall transportation funding has increased over the last five years and is assumed to continue to increase over the TSP planning horizon. Table 14 provides an estimate of potential transportation funding over the TSP horizon based on the existing revenue sources and the growth assumptions described above. As shown, approximately $28 million dollars are anticipated to be available for transportation over the next 21 years. However, only a portion is assumed to be available for street improvements and capital projects (as opposed to pavement preservation alone). The following section describes what portions of that may be available for enhancements to the transportation system.

Table 14. Projected Transportation Funding

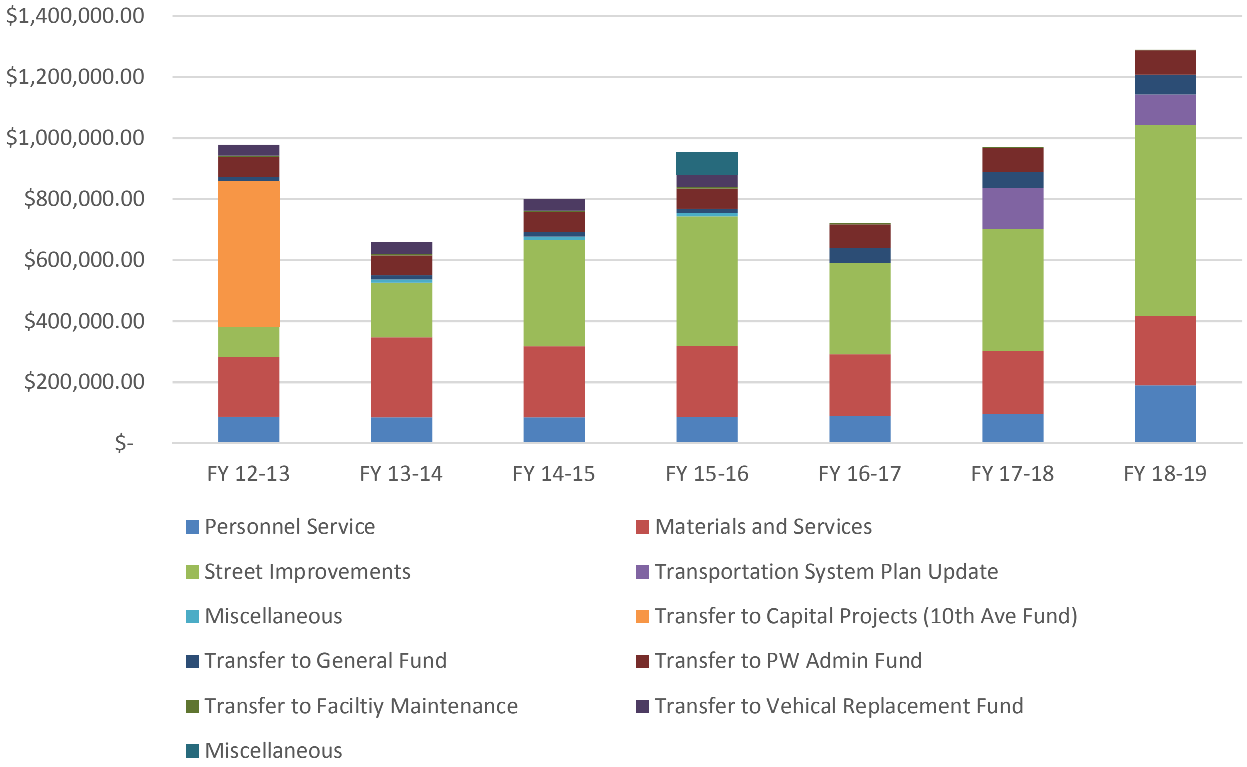
	FY 19-20	5-Year	10-Year	2040
State Gas Tax	$ 562,368	$ 2,867,520	$ 5,904,307	$ 13,080,123
Local Gas Tax	$ 217,150	$ 1,107,250	$ 2,279,860	$ 5,050,694
STP Allocation/ ODOT Grants	$ 85,000	$ 925,000	$ 1,850,000	$ 3,785,000
Transfer from Vehicle Replacement Fund	$ 33,686	$ 168,429	$ 336,857	$ 707,400

	FY 19-20	5-Year	10-Year	2040
Transfer In Street SDC Fund	$ 138,000	$ 690,000	$ 1,380,000	$ 2,898,000
Street Maintenance Fee	$ 88,779	$ 452,685	$ 932,092	$ 2,064,912
Sidewalk Maintenance Reimbursement	$ 20,000	$ 100,000	$ 200,000	$ 420,000
Miscellaneous	$ 8,379	$ 41,893	$ 83,786	$ 175,950
Total	**$ 1,153,362**	**$ 6,352,777**	**$ 12,966,902**	**$ 28,182,079**

TRANSPORTATION EXPENDITURES

The City's transportation expenditures are summarized by five main categories including personnel services, materials and services, capital improvements, fund transfers, and contingencies. Exhibit 2 illustrates the City's transportation expenditures over the past six fiscal years and projected for FY 2018-19.

Exhibit 2: City of Stayton Transportation Expenditures



As shown in Exhibit 2, transportation spending has increased steadily over the last five years with the exception of FY 2016-17. Table 15 shows the portions of the transportation expenditures that have been spent on street improvements and capital projects. Overtime these have averaged approximately 44% of the transportation budget over seven years including the projected FY 2018-19.

Table 15. City of Stayton Transportation Expenditures

	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19
Personnel Service	$ 86,275	$ 84,096	$ 84,470	$ 85,460	$ 88,600	$ 95,600	$ 189,600
Materials and Services	$ 196,030	$ 262,030	$ 232,780	$ 232,780	$ 201,900	$ 206,300	$ 228,000
Street Improvements	$ 100,000	$ 180,000	$ 350,000	$ 425,000	$ 300,000	$ 399,000	$ 625,000
Transportation System Plan Update						$ 135,000	$ 100,000
Miscellaneous		$ 10,000	$ 10,000	$ 10,000			
Transfer to Capital Projects (Tenth Ave Fund)	$ 476,500						
Transfer to General Fund	$ 13,900	$ 14,180	$ 14,180	$ 14,605	$ 50,000	$ 53,500	$ 65,000
Transfer to PW Admin Fund	$ 65,000	$ 65,000	$ 65,000	$ 66,950	$ 76,400	$ 78,200	$ 80,000
Transfer to Facility Maintenance	$ 4,922	$ 4,922	$ 4,922	$ 4,922	$ 4,700	$ 2,500	$ 2,500
Transfer to Vehicle Replacement Fund	$ 34,835	$ 38,835	$ 38,835	$ 38,835			
Miscellaneous				$ 75,000			
Total Transportation Expenditures	$ 977,462	$ 659,063	$ 800,187	$ 878,552	$ 721,600	$ 970,100	$ 1,290,100
Total Spent on Street Improvements and Capital Projects	**$ 576,500**	**$ 180,000**	**$ 350,000**	**$ 425,000**	**$ 300,000**	**$ 399,000**	**$ 625,000**
% Spent on Street Improvements and Capital Projects	59%	27%	44%	48%	42%	41%	48%

PROJECTED FUNDING FOR STREET IMPROVEMENTS AND CAPITAL PROJECTS

As described above, approximately $28 million dollars are anticipated to be available for transportation over the next 21 years. However, only a portion is assumed to be available for street improvements and capital projects (as opposed to street maintenance such as pavement preservation). STP Allocation, ODOT grants, and SDC funds are assumed to be used for street improvements and capital projects in the future along with a portion of state and local gas tax based on past transportation spending which averaged approximately 42% of gas taxes supporting street improvements (as opposed to street maintenance).

Table 16 illustrates the projected revenues for street improvements and capital projects over the next 1, 5, 10 and 21-year periods. Three scenarios are provided that vary in the assumed portion of gas taxes that could go towards these projects from the historical rate of 42%, 20% and 0%. As shown, depending upon street maintenance needs, between $6.68 and $14.4 million could be available for street improvements and capital projects over the next 21 years.

Table 16. Potential Funding for Street Improvements and Capital Projects

	FY 19-20	5-Year	10-Year	2040
State Gas Tax	$ 562,368	$ 2,867,520	$ 5,904,307	$ 13,080,123
Local Gas Tax	$ 217,150	$ 1,107,250	$ 2,279,860	$ 5,050,694
STP Allocation/ ODOT Grants	$ 85,000	$ 925,000	$ 1,850,000	$ 3,785,000
Transfer In Street SDC Fund	$ 138,000	$ 690,000	$ 1,380,000	$ 2,898,000
Estimated Revenues for Street Improvements and Capital Projects (42% of gas tax)	**$ 550,398**	**$ 3,284,403**	**$ 6,667,350**	**$ 14,297,943**
Estimated Revenues for Street Improvements and Capital Projects (20% of gas tax)	**$ 378,904**	**$ 2,409,954**	**$ 4,866,833**	**$ 10,309,163**
Estimated Revenues for Street Improvements and Capital Projects (0% of gas tax)	**$ 223,000**	**$ 1,615,000**	**$ 3,230,000**	**$ 6,683,000**

REFERENCES

1. Analysis Methodology and Assumptions Memorandum. *May 2018.* Kittelson & Associates, Inc.
2. Analysis Procedures Manual Version 1. *July 2018.* Oregon Department of Transportation.
3. Five-Year Comparison of State Highway Crash Rates. *2015.* Oregon Department of Transportation.
4. Whitney Street/Cascade Highway Operational Analysis. *August 2001.* Kittelson & Associates, Inc.

APPENDICES

A. Turning Movement Counts
B. Existing PM Operations
C. Existing PM Queueing
D. Crash History
E. Population and Employment Forecast
F. Trip Generation and Origin-Destination Tables
G. 2040 PM Operations
H. 2040 PM Queueing

Appendix A Turning Movement Counts

Type of peak hour being reported: Intersection Peak

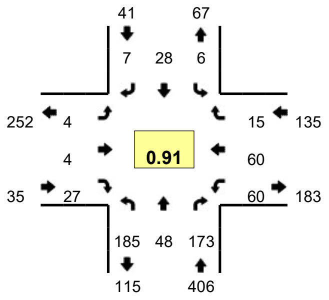
Method for determining peak hour: Total Entering Volume

LOCATION: Golf Club Rd SE -- Sublimity Rd SE

QC JOB #: 14664201

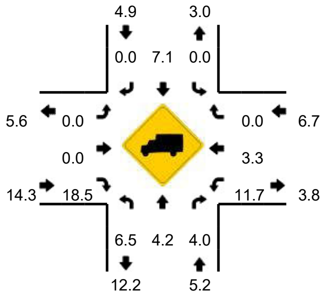
CITY/STATE: Aumsville, OR

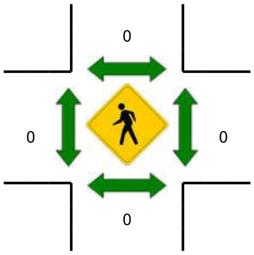
DATE: Tue, Apr 17 2018

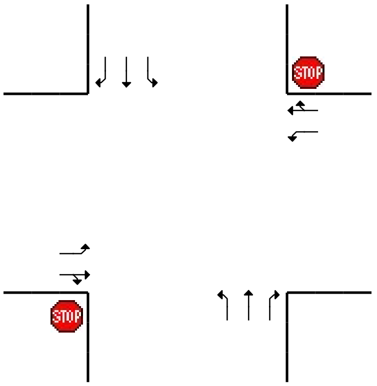


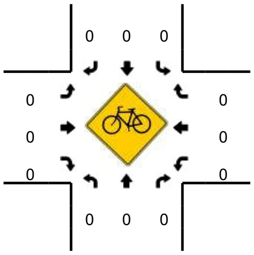
Peak-Hour: 4:10 PM -- 5:10 PM

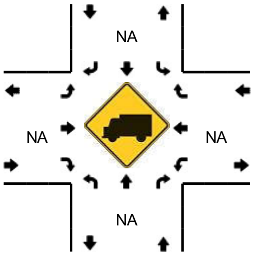
Peak 15-Min: 4:35 PM -- 4:50 PM

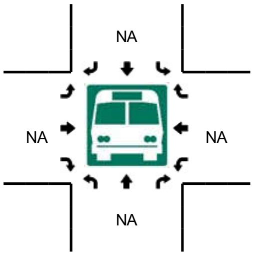












5-Min Count Period Beginning At	Golf Club Rd SE (Northbound)				Golf Club Rd SE (Southbound)				Sublimity Rd SE (Eastbound)				Sublimity Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	13	4	20	0	0	1	1	0	0	1	4	0	4	8	0	0	56	
4:05 PM	15	5	8	0	1	1	0	0	1	0	2	0	6	5	0	0	44	
4:10 PM	13	3	18	0	0	1	0	0	0	1	3	0	8	3	0	0	50	
4:15 PM	18	3	14	0	1	0	2	0	0	1	1	0	4	5	3	0	52	
4:20 PM	23	4	11	0	0	2	0	0	0	0	1	0	4	7	0	0	52	
4:25 PM	10	1	15	0	1	5	0	0	0	1	3	0	5	5	2	0	48	
4:30 PM	11	5	13	0	1	1	0	0	0	1	1	0	7	4	1	0	45	
4:35 PM	13	6	12	0	1	3	0	0	0	0	1	0	6	7	2	0	51	
4:40 PM	16	3	22	0	1	3	2	0	1	0	5	0	6	5	2	0	66	
4:45 PM	14	2	19	0	0	0	1	0	0	0	3	0	5	7	2	0	53	
4:50 PM	13	5	8	0	0	1	0	0	0	0	2	0	6	6	1	0	42	
4:55 PM	15	6	13	0	0	5	1	0	1	0	2	0	4	2	2	0	51	610
5:00 PM	11	5	15	0	0	6	1	0	1	0	3	0	1	2	0	0	45	599
5:05 PM	28	5	13	0	1	1	0	0	1	0	2	0	4	7	0	0	62	617
5:10 PM	14	4	13	0	0	1	0	0	1	0	0	0	0	6	0	0	39	606
5:15 PM	17	3	10	0	1	3	0	0	0	0	1	0	3	6	2	0	46	600
5:20 PM	18	2	12	0	0	0	0	0	0	1	1	0	6	3	0	0	43	591
5:25 PM	15	8	25	0	0	1	0	0	0	0	1	0	7	8	1	0	66	609
5:30 PM	19	2	13	0	0	4	1	0	0	0	1	0	7	1	1	0	49	613
5:35 PM	14	3	13	0	0	3	1	0	0	0	2	0	5	5	0	0	46	608
5:40 PM	24	3	14	0	2	2	1	0	0	1	2	0	2	5	0	0	56	598
5:45 PM	29	6	14	0	0	2	0	0	0	0	1	0	6	5	1	0	64	609
5:50 PM	9	2	15	0	0	5	1	0	1	0	4	0	2	0	1	0	40	607
5:55 PM	5	4	8	0	1	0	0	0	0	0	0	0	2	4	0	0	24	580

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	172	44	212	0	8	24	12	0	4	0	36	0	68	76	24	0	680
Heavy Trucks	12	4	12		0	0	0		0	0	12		4	0	0		44
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

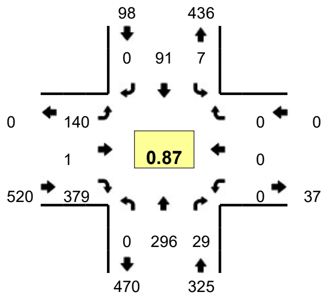
Comments:

Report generated on 4/26/2018 4:10 PM

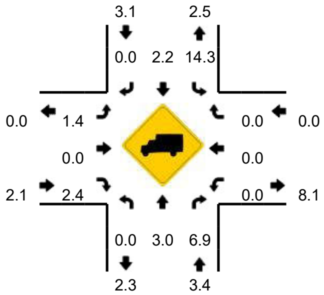
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

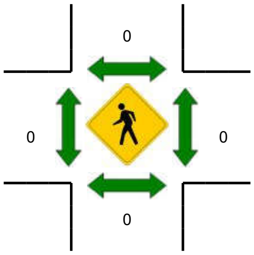
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

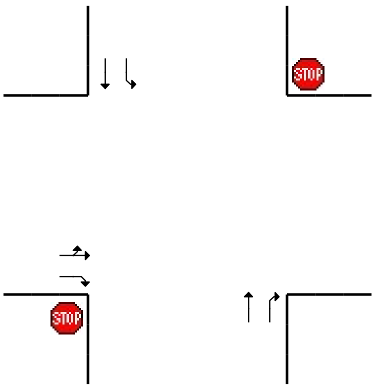
LOCATION: Golf Club Rd SE -- OR 22 EB Ramps | **QC JOB #:** 14664202
CITY/STATE: Sublimity, OR | **DATE:** Tue, Apr 17 2018

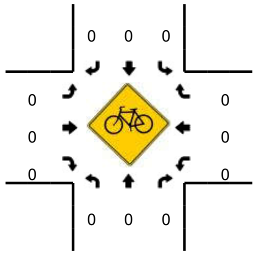


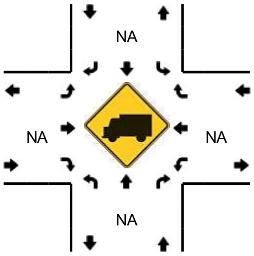
Peak-Hour: 4:50 PM -- 5:50 PM
Peak 15-Min: 5:20 PM -- 5:35 PM

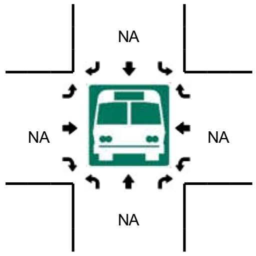












5-Min Count Period Beginning At	Golf Club Rd SE (Northbound)				Golf Club Rd SE (Southbound)				OR 22 EB Ramps (Eastbound)				OR 22 EB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	20	5	0	1	7	0	0	18	0	21	0	0	0	0	0	72	
4:05 PM	0	16	1	0	1	8	0	0	12	0	20	0	0	0	0	0	58	
4:10 PM	0	22	3	0	0	13	0	0	11	1	26	0	0	0	0	0	76	
4:15 PM	0	25	5	0	0	4	0	0	14	0	41	0	0	0	0	0	89	
4:20 PM	0	26	2	0	2	5	0	0	10	0	31	0	0	0	0	0	76	
4:25 PM	0	20	0	0	0	12	0	0	8	0	28	0	0	0	0	0	68	
4:30 PM	0	14	3	0	2	7	0	0	11	1	32	0	0	0	0	0	70	
4:35 PM	0	24	0	0	2	8	0	0	9	0	20	0	0	0	0	0	63	
4:40 PM	0	28	2	0	1	12	0	0	15	0	21	0	0	0	0	0	79	
4:45 PM	0	22	2	0	1	8	0	0	10	0	28	0	0	0	0	0	71	
4:50 PM	0	17	2	0	0	9	0	0	9	0	36	0	0	0	0	0	73	
4:55 PM	0	25	1	0	0	10	0	0	8	0	38	0	0	0	0	0	82	877
5:00 PM	0	16	2	0	2	9	0	0	15	0	18	0	0	0	0	0	62	867
5:05 PM	0	35	0	0	0	7	0	0	10	0	24	0	0	0	0	0	76	885
5:10 PM	0	22	3	0	0	1	0	0	11	0	24	0	0	0	0	0	61	870
5:15 PM	0	23	1	0	1	6	0	0	8	0	47	0	0	0	0	0	86	867
5:20 PM	0	20	3	0	0	7	0	0	13	0	34	0	0	0	0	0	77	868
5:25 PM	0	31	7	0	0	8	0	0	19	0	35	0	0	0	0	0	100	900
5:30 PM	0	21	3	0	2	9	0	0	13	0	45	0	0	0	0	0	93	923
5:35 PM	0	20	5	0	2	9	0	0	11	0	25	0	0	0	0	0	72	932
5:40 PM	0	28	2	0	0	5	0	0	13	1	28	0	0	0	0	0	77	930
5:45 PM	0	38	0	0	0	11	0	0	10	0	25	0	0	0	0	0	84	943
5:50 PM	0	13	1	0	1	7	0	0	17	0	31	0	0	0	0	0	70	940
5:55 PM	0	9	1	0	0	5	0	0	5	0	24	0	0	0	0	0	44	902

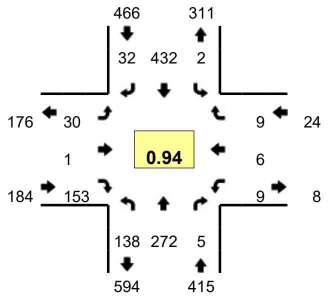
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	288	52	0	8	96	0	0	180	0	456	0	0	0	0	0	1080
Heavy Trucks	0	0	0		0	0	0		0	0	12		0	0	0		12
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

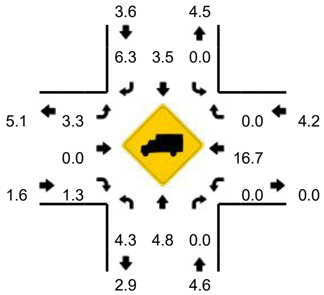
Report generated on 4/26/2018 4:10 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

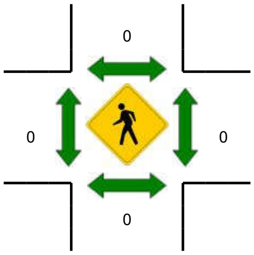
Type of peak hour being reported: Intersection Peak   Method for determining peak hour: Total Entering Volume

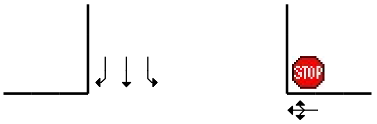
LOCATION: Golf Club Rd SE -- Mill Creek Rd SE   **QC JOB #:** 14664203
CITY/STATE: Aumsville, OR   **DATE:** Tue, Apr 17 2018

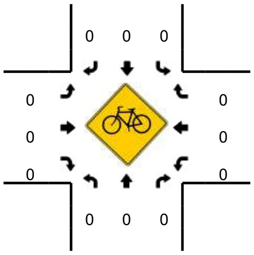


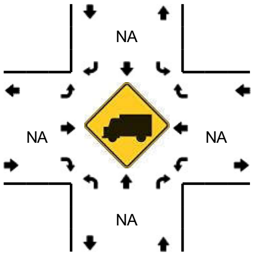
Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

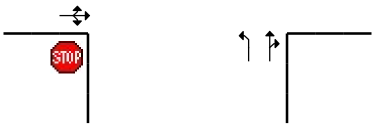


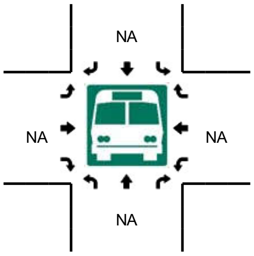












5-Min Count Period Beginning At	Golf Club Rd SE (Northbound)				Golf Club Rd SE (Southbound)				Mill Creek Rd SE (Eastbound)				Mill Creek Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	22	1	0	0	25	3	0	2	0	9	0	0	0	0	0	73	
4:05 PM	9	17	0	0	0	25	2	0	1	0	9	0	0	0	0	0	63	
4:10 PM	13	20	0	0	1	27	8	0	4	0	11	0	0	0	0	0	84	
4:15 PM	8	27	0	0	1	43	2	0	4	0	10	0	0	0	1	0	96	
4:20 PM	10	23	0	0	3	33	3	0	2	0	14	0	0	0	0	0	88	
4:25 PM	15	18	0	0	1	35	4	0	3	0	12	0	0	0	0	0	88	
4:30 PM	7	15	0	0	0	34	5	0	1	0	15	0	0	0	1	0	78	
4:35 PM	8	22	0	0	0	23	6	0	1	0	9	0	0	0	0	0	69	
4:40 PM	12	30	0	0	0	27	3	0	1	0	12	0	0	0	0	0	85	
4:45 PM	11	15	1	0	1	35	3	0	9	0	13	0	0	0	0	0	88	
4:50 PM	12	17	0	0	0	39	5	0	4	0	18	0	1	0	0	0	96	
4:55 PM	11	22	0	0	0	45	1	0	2	0	10	0	0	0	0	0	91	999
5:00 PM	17	17	1	0	0	27	3	0	1	0	14	0	0	0	0	0	80	1006
5:05 PM	8	35	0	0	0	28	2	0	2	0	11	0	1	1	0	0	88	1031
5:10 PM	16	22	1	0	0	24	1	0	2	0	17	0	1	1	1	0	86	1033
5:15 PM	11	21	2	0	0	52	2	0	2	1	10	0	1	0	1	0	103	1040
5:20 PM	6	19	0	0	0	38	3	0	3	0	16	0	1	3	0	0	89	1041
5:25 PM	8	30	0	0	1	37	3	0	3	0	9	0	3	0	4	0	98	1051
5:30 PM	14	21	0	0	0	49	4	0	0	0	8	0	0	1	2	0	99	1072
5:35 PM	12	23	0	0	0	31	2	0	1	0	15	0	1	0	1	0	86	1089
5:40 PM	6	29	0	0	0	30	1	0	2	0	13	0	0	0	0	0	81	1085
5:45 PM	11	33	0	0	0	35	1	0	3	0	6	0	0	0	0	0	89	1086
5:50 PM	9	12	1	0	0	35	4	0	2	0	11	0	0	0	1	0	75	1065
5:55 PM	8	7	0	0	0	25	3	0	3	0	9	0	2	0	0	0	57	1031

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	100	280	8	0	4	508	32	0	32	4	140	0	20	12	20	0	1160
Heavy Trucks	4	0	0		0	8	0		0	0	0		0	0	0		12
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 4/26/2018 4:10 PM   SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

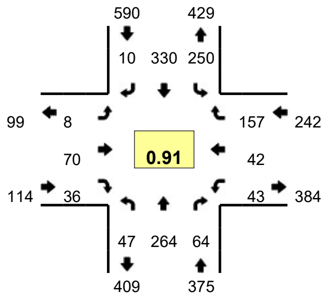
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

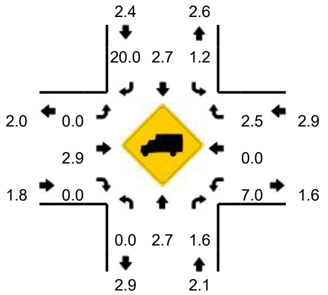
LOCATION: Wilco Rd -- Shaff Rd SE | **QC JOB #:** 14664204

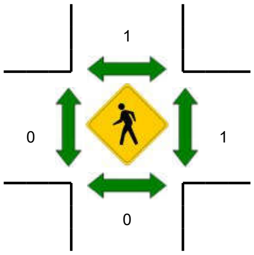
CITY/STATE: Stayton, OR | **DATE:** Tue, Apr 17 2018

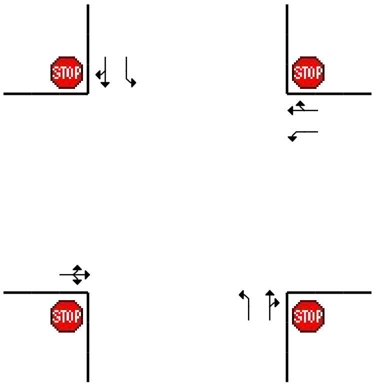
Peak-Hour: 4:50 PM -- 5:50 PM

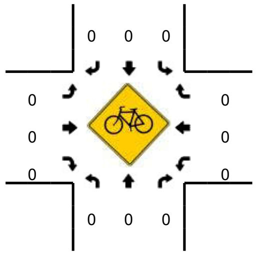
Peak 15-Min: 5:20 PM -- 5:35 PM

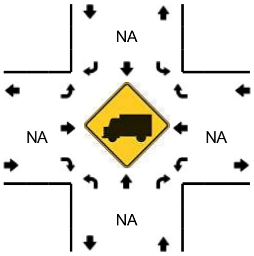


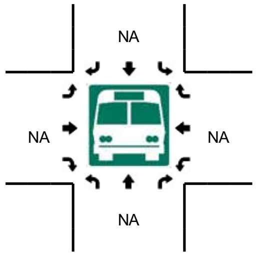












5-Min Count Period Beginning At	Wilco Rd (Northbound)				Wilco Rd (Southbound)				Shaff Rd SE (Eastbound)				Shaff Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	15	6	0	11	28	1	0	0	0	1	0	2	4	11	0	81	
4:05 PM	7	17	7	0	18	17	2	0	1	7	4	0	4	3	15	0	102	
4:10 PM	4	24	10	0	13	17	1	0	0	2	1	0	1	7	7	0	87	
4:15 PM	6	16	1	0	18	31	1	0	0	5	5	0	7	5	13	0	108	
4:20 PM	2	29	2	0	15	29	1	0	0	2	1	0	2	1	8	0	92	
4:25 PM	0	21	3	0	13	31	1	0	1	3	1	0	7	10	7	0	98	
4:30 PM	3	18	3	0	17	30	0	0	1	3	3	0	2	3	10	0	93	
4:35 PM	3	24	6	0	14	22	0	0	0	3	1	0	4	2	11	0	90	
4:40 PM	3	27	7	0	12	23	1	0	1	4	3	0	2	3	8	0	94	
4:45 PM	4	19	2	0	14	20	2	0	2	3	3	0	3	6	9	0	87	
4:50 PM	3	17	6	0	24	37	3	0	1	11	2	0	2	3	13	0	122	
4:55 PM	3	19	8	0	19	26	0	0	2	5	4	0	1	1	11	0	99	1153
5:00 PM	8	20	5	0	27	29	0	0	1	0	3	0	5	5	15	0	118	1190
5:05 PM	5	29	6	0	19	23	0	0	3	6	1	0	4	4	12	0	112	1200
5:10 PM	5	18	4	0	16	28	1	0	0	5	0	0	3	2	18	0	100	1213
5:15 PM	1	16	5	0	16	24	0	0	0	3	4	0	8	3	13	0	93	1198
5:20 PM	3	22	6	0	33	30	3	0	0	10	6	0	6	2	8	0	129	1235
5:25 PM	4	22	6	0	19	26	2	0	0	10	2	0	4	6	21	0	122	1259
5:30 PM	3	24	8	0	25	27	0	0	1	5	5	0	3	3	9	0	113	1279
5:35 PM	3	23	3	0	11	35	0	0	0	4	4	0	1	5	14	0	103	1292
5:40 PM	5	26	4	0	23	26	1	0	0	6	3	0	2	6	14	0	116	1314
5:45 PM	4	28	3	0	18	19	0	0	0	5	2	0	4	2	9	0	94	1321
5:50 PM	3	12	2	0	17	28	1	0	0	6	5	0	5	7	11	0	97	1296
5:55 PM	0	13	6	0	22	22	0	0	0	3	1	0	5	5	6	0	83	1280

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	40	272	80	0	308	332	20	0	4	100	52	0	52	44	152	0	1456
Heavy Trucks	0	0	0		4	8	0		0	8	0		0	0	0		20
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 4/26/2018 4:10 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Quality Counts
TRANSPORTATION DATA
COLLECTION SERVICES

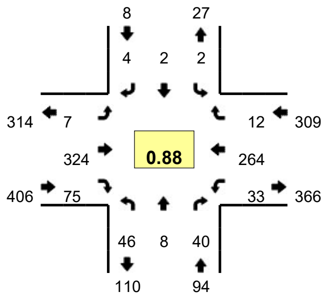
Location: Wilco Rd/Jetters Way & Stayton Rd SE
Date: 4/17/2018
Site Code: 14664205

	Wilco Rd Southbound					W Washington St Westbound					W Ida St Northbound					Jetters Way Northeastbound					Stayton Rd SE Eastbound				
Start Time	Right	Thru to Jetters Way	Thru	Left	U-Turns	Right	Thru	Left to Jetters Way	Left	U-Turns	Right	Thru	Left	Left to Jetters Way	U-Turns	Right to W Ida St	Right to W Washington St	Thru to Wilco Rd	Left to Stayton Rd SE	U-Turns	Right to Jetters Way	Right	Thru	Left	U-Turns
04:00 PM	8	1	16	5	0	4	3	0	0	0	1	9	3	1	0	1	1	3	0	0	0	1	6	6	0
04:05 PM	2	0	7	5	0	6	3	0	0	0	0	8	3	0	0	0	1	1	0	0	0	2	1	5	0
04:10 PM	4	2	12	2	0	5	1	0	0	0	0	11	3	0	0	0	0	0	0	0	0	2	8	3	0
04:15 PM	5	0	18	2	0	9	2	0	1	0	0	11	2	1	0	0	0	1	0	0	0	5	5	4	0
04:20 PM	5	2	16	2	0	8	6	0	0	0	0	12	3	1	0	0	0	0	0	0	0	2	2	5	0
04:25 PM	5	0	18	6	0	3	7	0	0	0	2	8	5	0	0	0	0	0	0	0	0	2	5	6	0
04:30 PM	1	2	23	6	0	8	5	0	0	0	1	8	2	2	0	0	0	0	0	0	0	6	5	2	0
04:35 PM	3	0	19	8	0	9	3	0	1	0	0	10	2	0	0	0	0	0	0	0	0	4	6	9	0
04:40 PM	7	0	13	0	0	5	9	0	2	0	1	8	4	1	0	1	1	0	0	0	0	1	3	4	0
04:45 PM	3	1	16	4	0	11	5	0	0	0	0	7	3	0	0	1	0	0	0	0	0	1	4	7	0
04:50 PM	3	1	22	3	0	8	5	0	0	0	0	5	1	1	0	0	0	0	0	0	0	3	5	2	0
04:55 PM	2	1	14	3	0	7	7	0	0	0	0	14	0	1	0	1	0	0	0	0	0	2	6	5	0
05:00 PM	3	1	21	7	0	7	11	0	0	0	0	13	0	0	0	0	0	1	0	0	0	5	6	3	0
05:05 PM	8	1	18	5	0	2	5	0	0	0	0	5	2	0	0	1	0	0	0	0	0	5	2	5	0
05:10 PM	5	1	14	9	0	4	5	0	0	0	0	8	4	1	0	0	2	0	0	0	0	5	5	4	0
05:15 PM	8	0	20	5	0	6	9	1	0	0	0	7	1	0	0	0	0	1	0	0	0	1	2	5	0
05:20 PM	7	0	22	7	0	7	4	1	0	0	1	14	1	0	0	0	0	0	0	0	0	6	6	10	0
05:25 PM	6	0	23	6	0	4	4	0	0	0	0	11	3	0	0	0	0	0	0	0	0	4	11	11	0
05:30 PM	5	0	18	3	0	7	7	0	0	0	0	9	4	0	0	0	0	0	0	0	0	4	9	12	0
05:35 PM	6	0	20	5	0	7	11	1	0	0	0	10	2	0	0	0	0	0	0	0	0	2	8	5	0
05:40 PM	7	0	20	6	0	6	5	0	0	0	1	9	2	0	0	1	0	1	0	0	0	5	4	8	0
05:45 PM	4	0	8	5	0	8	5	0	1	0	0	7	1	0	0	1	2	0	0	0	0	4	4	4	0
05:50 PM	7	2	13	7	0	4	6	0	0	0	0	8	2	2	0	0	0	0	0	0	0	2	5	2	0
05:55 PM	8	1	20	3	0	2	8	0	1	0	1	9	2	0	0	0	0	0	0	0	0	4	12	8	0
Total	**122**	**16**	**411**	**114**	**0**	**147**	**136**	**3**	**6**	**0**	**8**	**221**	**55**	**11**	**0**	**7**	**7**	**8**	**0**	**0**	**0**	**78**	**130**	**135**	**0**

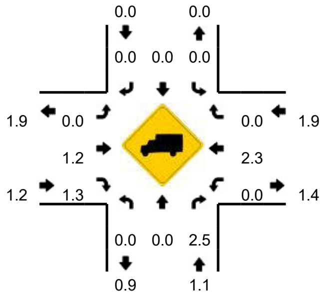
Peak Hour: 5:00 PM - 6:00 PM
Peak 15: 5:20 PM - 5:35 PM
PHF: 0

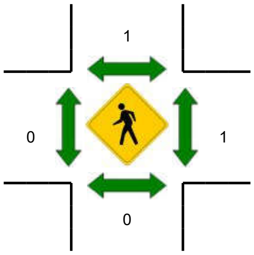
Type of peak hour being reported: Intersection Peak   Method for determining peak hour: Total Entering Volume

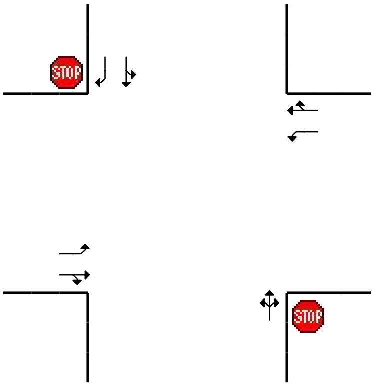
LOCATION: N Gardner Ave -- Shaff Rd SE   **QC JOB #:** 14664206
CITY/STATE: Stayton, OR   **DATE:** Tue, Apr 17 2018

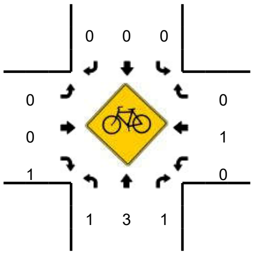


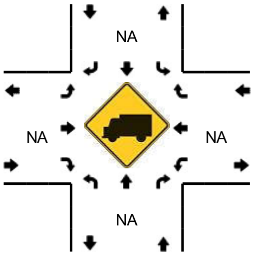
Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:20 PM -- 5:35 PM

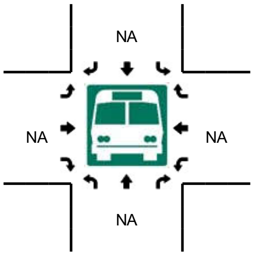












5-Min Count Period Beginning At	N Gardner Ave (Northbound)				N Gardner Ave (Southbound)				Shaff Rd SE (Eastbound)				Shaff Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	2	3	0	1	1	1	0	0	27	3	0	2	19	1	0	62	
4:05 PM	4	1	2	0	6	1	0	0	2	27	3	0	4	20	1	0	71	
4:10 PM	4	0	4	0	1	2	0	0	1	28	5	0	2	18	0	0	65	
4:15 PM	4	2	1	0	2	1	0	0	0	19	4	0	0	28	1	0	62	
4:20 PM	5	0	1	0	0	1	2	0	1	22	4	0	5	13	0	0	54	
4:25 PM	1	0	3	0	0	0	0	0	0	21	7	0	1	21	0	0	54	
4:30 PM	3	0	2	0	0	0	0	0	0	19	8	0	3	17	0	0	52	
4:35 PM	3	0	2	0	0	0	3	0	0	29	9	0	3	25	0	0	74	
4:40 PM	1	0	4	0	0	0	1	0	0	24	6	0	3	21	0	0	60	
4:45 PM	7	0	1	0	0	0	0	0	0	23	3	0	2	24	0	0	60	
4:50 PM	1	0	3	0	0	0	0	0	0	25	11	0	3	23	0	0	66	
4:55 PM	2	1	2	0	0	0	0	0	1	23	9	0	2	19	0	0	59	739
5:00 PM	0	0	1	0	0	0	0	0	0	32	5	0	7	23	0	0	68	745
5:05 PM	3	0	3	0	0	0	0	0	0	26	3	0	6	25	0	0	66	740
5:10 PM	6	0	7	0	0	1	0	0	1	23	4	0	2	25	1	0	70	745
5:15 PM	6	1	1	0	0	0	0	0	0	24	6	0	1	21	2	0	62	745
5:20 PM	6	1	2	0	0	1	0	0	1	27	10	0	3	19	4	0	74	765
5:25 PM	8	3	6	0	0	0	0	0	2	34	6	0	1	23	2	0	85	796
5:30 PM	3	2	8	0	2	0	0	0	2	34	3	0	0	16	3	0	73	817
5:35 PM	7	0	6	0	0	0	0	0	1	22	4	0	3	15	0	0	58	801
5:40 PM	6	0	7	0	0	0	0	0	0	23	8	0	2	22	0	0	68	809
5:45 PM	4	0	6	0	0	1	0	0	2	23	2	0	6	14	1	0	59	808
5:50 PM	5	0	6	0	0	0	0	0	0	23	4	0	4	25	0	0	67	809
5:55 PM	5	1	0	0	1	1	0	0	0	24	9	0	3	15	2	0	61	811

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	68	24	64	0	8	4	0	0	20	380	76	0	16	232	36	0	928
Heavy Trucks	0	0	0		0	0	0		0	8	4		0	0	0		12
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

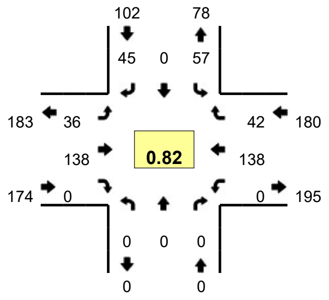
Report generated on 4/26/2018 4:10 PM   SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

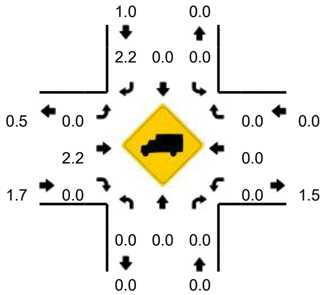
Method for determining peak hour: Total Entering Volume

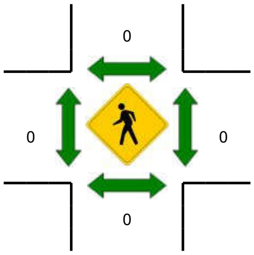
LOCATION: N Gardner Ave -- W Washington St
CITY/STATE: Marion, OR

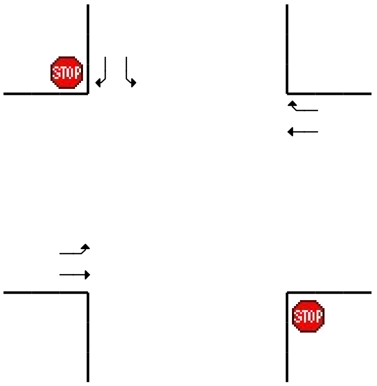
QC JOB #: 14664207
DATE: Tue, Apr 17 2018

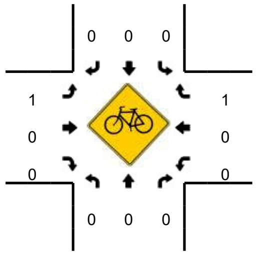


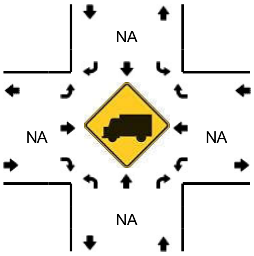
Peak-Hour: 4:50 PM -- 5:50 PM
Peak 15-Min: 5:25 PM -- 5:40 PM

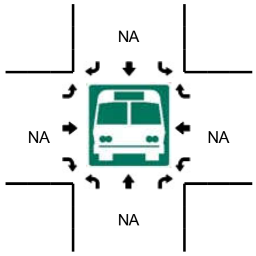












5-Min Count Period Beginning At	N Gardner Ave (Northbound)				N Gardner Ave (Southbound)				W Washington St (Eastbound)				W Washington St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	3	0	4	0	1	12	0	0	0	9	6	0	35	
4:05 PM	0	0	0	0	5	0	2	0	1	13	0	0	0	5	2	0	28	
4:10 PM	0	0	0	0	6	0	4	0	2	6	0	0	0	7	3	0	28	
4:15 PM	0	0	0	0	2	0	1	0	3	7	0	0	0	13	7	0	33	
4:20 PM	0	0	0	0	4	0	2	0	4	5	0	0	0	10	2	0	27	
4:25 PM	0	0	0	0	1	0	3	0	4	9	0	0	0	12	4	0	33	
4:30 PM	0	0	0	0	5	0	3	0	3	6	0	0	0	15	8	0	40	
4:35 PM	0	0	0	0	5	0	1	0	3	13	0	0	0	6	5	0	33	
4:40 PM	0	0	0	0	3	0	4	0	1	7	0	0	0	15	2	0	32	
4:45 PM	0	0	0	0	3	0	2	0	5	5	0	0	0	12	2	0	29	
4:50 PM	0	0	0	0	5	0	2	0	2	14	0	0	0	8	3	0	34	
4:55 PM	0	0	0	0	7	0	5	0	3	8	0	0	0	16	2	0	41	393
5:00 PM	0	0	0	0	2	0	2	0	4	10	0	0	0	11	4	0	33	391
5:05 PM	0	0	0	0	4	0	4	0	4	10	0	0	0	5	5	0	32	395
5:10 PM	0	0	0	0	5	0	3	0	3	17	0	0	0	12	5	0	45	412
5:15 PM	0	0	0	0	5	0	3	0	2	10	0	0	0	8	3	0	31	410
5:20 PM	0	0	0	0	3	0	3	0	2	15	0	0	0	13	3	0	39	422
5:25 PM	0	0	0	0	4	0	4	0	7	9	0	0	0	9	6	0	39	428
5:30 PM	0	0	0	0	6	0	7	0	6	10	0	0	0	17	3	0	49	437
5:35 PM	0	0	0	0	5	0	8	0	1	13	0	0	0	19	5	0	51	455
5:40 PM	0	0	0	0	4	0	1	0	2	8	0	0	0	10	1	0	26	449
5:45 PM	0	0	0	0	7	0	3	0	0	14	0	0	0	10	2	0	36	456
5:50 PM	0	0	0	0	5	0	3	0	1	8	0	0	0	9	7	0	33	455
5:55 PM	0	0	0	0	5	0	5	0	1	13	0	0	0	12	4	0	40	454

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	0	0	0	0	60	0	76	0	56	128	0	0	0	180	56	0	556
Heavy Trucks	0	0	0		0	0	4		0	4	0		0	0	0		8
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

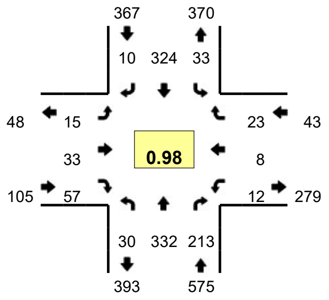
Report generated on 4/26/2018 4:10 PM

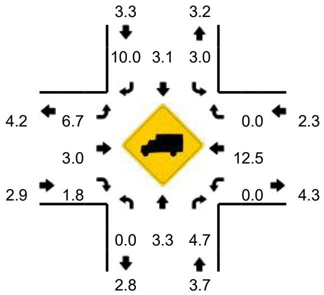
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

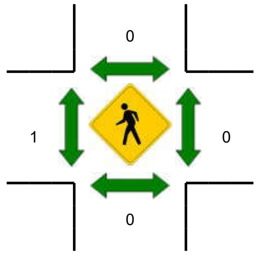
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

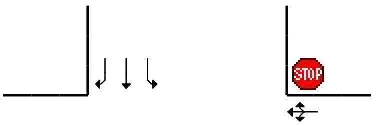
LOCATION: Cascade Hwy SE -- OR 22 WB Ramps | **QC JOB #:** 14664208
CITY/STATE: Marion, OR | **DATE:** Tue, Apr 17 2018

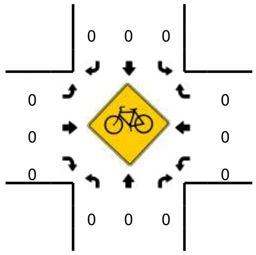
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:50 PM -- 5:05 PM

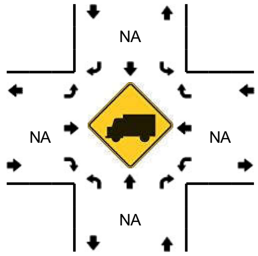


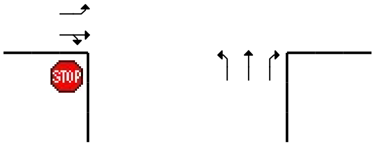


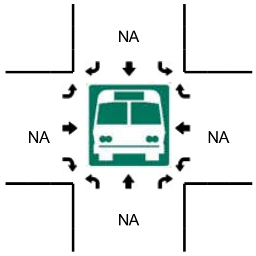












5-Min Count Period Beginning At	Cascade Hwy SE (Northbound)				Cascade Hwy SE (Southbound)				OR 22 WB Ramps (Eastbound)				OR 22 WB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	28	15	0	3	19	0	0	0	1	6	0	0	0	2	0	75	
4:05 PM	4	31	17	0	3	24	2	0	2	2	1	0	2	0	6	0	94	
4:10 PM	2	24	20	0	3	22	1	0	1	1	1	0	2	2	1	0	80	
4:15 PM	3	19	15	0	2	18	2	0	3	2	1	1	1	0	3	0	70	
4:20 PM	4	29	19	0	4	18	0	0	1	3	1	0	0	0	1	0	80	
4:25 PM	5	28	16	0	3	36	0	0	1	2	0	0	0	0	2	0	93	
4:30 PM	5	23	14	0	4	27	1	0	1	5	8	0	0	0	1	0	89	
4:35 PM	4	28	13	0	2	30	1	0	0	3	3	0	1	3	1	0	89	
4:40 PM	4	27	21	0	3	21	1	0	1	1	4	0	2	0	5	0	90	
4:45 PM	2	27	18	0	5	24	0	0	1	3	5	0	0	1	2	0	88	
4:50 PM	2	26	26	0	3	34	0	0	2	1	3	0	2	1	0	0	100	
4:55 PM	3	29	12	0	3	28	0	0	0	4	4	0	0	1	1	0	85	1033
5:00 PM	1	24	19	0	1	28	0	0	2	5	12	0	2	0	0	0	94	1052
5:05 PM	0	22	21	0	1	29	2	0	2	4	2	0	2	1	2	0	88	1046
5:10 PM	3	37	17	0	1	27	0	0	1	3	4	0	0	1	3	0	97	1063
5:15 PM	3	26	16	0	1	25	0	0	0	1	4	0	0	0	3	0	79	1072
5:20 PM	1	27	10	0	6	27	2	0	1	1	4	0	3	0	3	0	85	1077
5:25 PM	2	36	26	0	3	24	3	0	4	2	4	0	0	0	2	0	106	1090
5:30 PM	0	31	20	0	1	22	0	0	2	2	7	0	1	0	2	0	88	1089
5:35 PM	1	14	18	0	2	30	0	0	1	0	3	0	1	0	2	0	72	1072
5:40 PM	4	21	22	0	3	22	1	0	0	2	4	0	0	0	1	0	80	1062
5:45 PM	0	31	22	0	3	35	1	0	3	0	2	0	0	0	3	0	100	1074
5:50 PM	1	30	16	0	2	16	0	0	2	1	0	0	2	0	1	0	71	1045
5:55 PM	2	22	14	0	3	24	1	0	1	2	0	0	0	0	3	0	72	1032

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	24	316	228	0	28	360	0	0	16	40	76	0	16	8	4	0	1116
Heavy Trucks	0	12	8		0	12	0		0	4	0		0	4	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																	

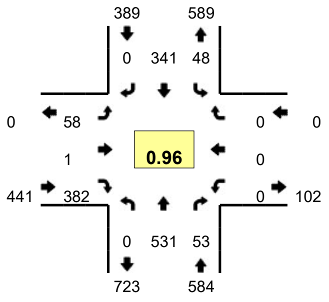
Comments:

Report generated on 4/26/2018 4:10 PM

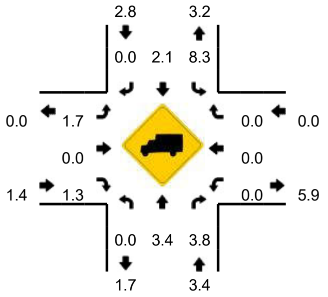
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

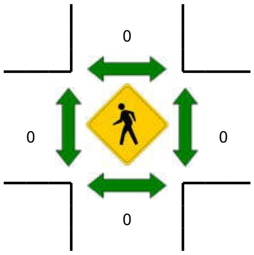
Type of peak hour being reported: Intersection Peak　　Method for determining peak hour: Total Entering Volume

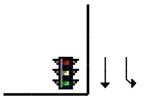
LOCATION: Cascade Hwy SE -- OR 22 EB Ramps　　**QC JOB #:** 14664209
CITY/STATE: Marion, OR　　**DATE:** Tue, Apr 17 2018

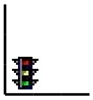


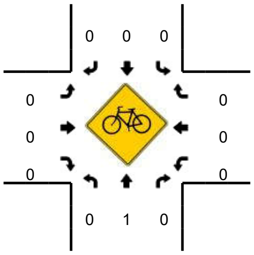
Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:20 PM -- 5:35 PM

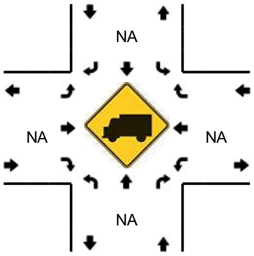


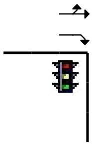


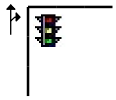


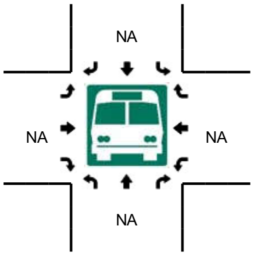












5-Min Count Period Beginning At	Cascade Hwy SE (Northbound)				Cascade Hwy SE (Southbound)				OR 22 EB Ramps (Eastbound)				OR 22 EB Ramps (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	33	3	0	3	18	0	0	10	0	24	0	0	0	0	0	91	
4:05 PM	0	35	3	0	3	32	0	0	6	0	35	0	0	0	0	0	114	
4:10 PM	0	41	2	0	2	23	0	0	3	0	35	0	0	0	0	0	106	
4:15 PM	0	33	2	0	2	16	0	0	4	0	26	0	0	0	0	0	83	
4:20 PM	0	49	4	0	1	20	0	0	8	0	34	0	0	0	0	0	116	
4:25 PM	0	39	6	0	5	27	0	0	5	0	27	0	0	0	0	0	109	
4:30 PM	0	35	5	0	3	32	0	0	12	0	34	0	0	0	0	0	121	
4:35 PM	0	34	4	0	4	31	0	0	7	0	31	0	0	0	0	0	111	
4:40 PM	0	49	2	0	1	28	0	0	3	0	35	0	0	0	0	0	118	
4:45 PM	0	46	7	0	2	27	0	0	4	0	32	0	0	0	0	0	118	
4:50 PM	0	49	5	0	4	35	0	0	5	0	32	0	0	0	0	0	130	
4:55 PM	0	41	5	0	4	27	0	0	6	0	25	0	0	0	0	0	108	1325
5:00 PM	0	42	3	0	4	36	0	0	2	0	31	0	0	0	0	0	118	1352
5:05 PM	0	37	3	0	5	30	0	0	4	0	35	0	0	0	0	0	114	1352
5:10 PM	0	53	3	0	6	23	0	0	7	1	27	0	0	0	0	0	120	1366
5:15 PM	0	44	3	0	9	19	0	0	2	0	32	0	0	0	0	0	109	1392
5:20 PM	0	33	6	0	6	29	0	0	7	0	34	0	0	0	0	0	115	1391
5:25 PM	0	56	4	0	2	28	0	0	4	0	35	0	0	0	0	0	129	1411
5:30 PM	0	47	8	0	1	28	0	0	7	0	33	0	0	0	0	0	124	1414
5:35 PM	0	35	9	0	4	25	0	0	2	0	30	0	0	0	0	0	105	1408
5:40 PM	0	44	8	0	3	25	0	0	4	0	32	0	0	0	0	0	116	1406
5:45 PM	0	49	6	0	4	33	0	0	1	0	18	0	0	0	0	0	111	1399
5:50 PM	0	44	2	0	1	19	0	0	6	0	30	0	0	0	0	0	102	1371
5:55 PM	0	33	4	0	5	14	0	0	4	0	24	0	0	0	0	0	84	1347

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	0	544	72	0	36	340	0	0	72	0	408	0	0	0	0	0	1472
Heavy Trucks	0	8	0		8	0	0		0	0	4		0	0	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 4/26/2018 4:10 PM　　SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

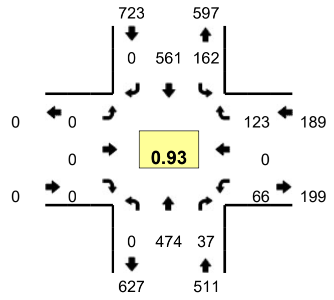
Method for determining peak hour: Total Entering Volume

LOCATION: Cascade Hwy SE -- Whitney St

CITY/STATE: Marion, OR

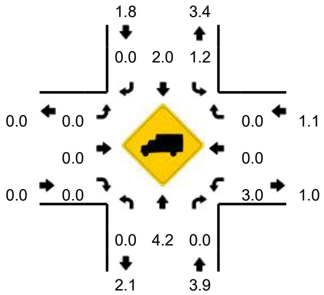
QC JOB #: 14664210

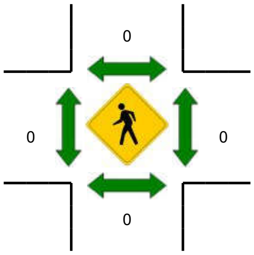
DATE: Tue, Apr 17 2018

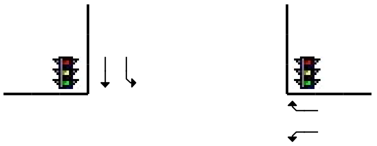


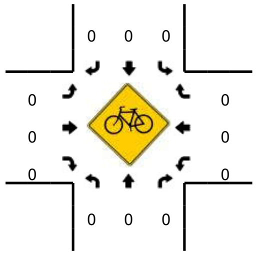
Peak-Hour: 4:40 PM -- 5:40 PM

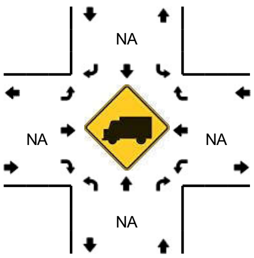
Peak 15-Min: 4:40 PM -- 4:55 PM

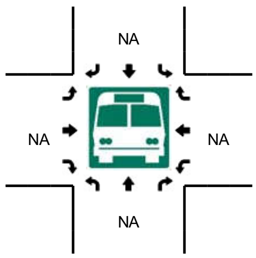












5-Min Count Period Beginning At	Cascade Hwy SE (Northbound)				Cascade Hwy SE (Southbound)				Whitney St (Eastbound)				Whitney St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	35	6	0	8	44	0	0	0	0	0	0	4	0	10	0	107	
4:05 PM	0	32	5	0	15	49	0	0	0	0	0	0	5	0	5	0	111	
4:10 PM	0	39	3	0	10	44	0	0	0	0	0	0	4	0	8	0	108	
4:15 PM	0	30	2	0	9	38	0	0	0	0	0	0	12	0	7	0	98	
4:20 PM	0	45	3	0	8	35	0	0	0	0	0	0	3	0	12	0	106	
4:25 PM	0	31	5	0	13	49	0	0	0	0	0	0	4	0	5	0	107	
4:30 PM	0	31	3	0	17	55	0	0	0	0	0	0	3	0	11	0	120	
4:35 PM	0	23	4	0	15	47	0	0	0	0	0	0	13	0	12	0	114	
4:40 PM	0	43	1	0	18	45	0	0	0	0	0	0	5	0	11	0	123	
4:45 PM	0	48	2	0	16	49	0	0	0	0	0	0	7	0	15	0	137	
4:50 PM	0	34	4	0	14	54	0	0	0	0	0	0	6	0	9	0	121	
4:55 PM	0	39	3	0	13	40	0	0	0	0	0	0	10	0	8	0	113	1365
5:00 PM	0	33	1	0	16	48	0	0	0	0	0	0	2	0	8	0	108	1366
5:05 PM	0	40	3	0	9	61	0	0	0	0	0	0	4	0	8	0	125	1380
5:10 PM	0	47	2	0	5	42	0	0	0	0	0	0	6	0	6	0	108	1380
5:15 PM	0	32	5	0	11	39	0	0	0	0	0	0	7	0	12	0	106	1388
5:20 PM	0	34	0	0	15	44	0	0	0	0	0	0	6	0	8	0	107	1389
5:25 PM	0	45	4	0	13	50	0	0	0	0	0	0	7	0	18	0	137	1419
5:30 PM	0	42	5	0	14	48	0	0	0	0	0	0	3	0	10	0	122	1421
5:35 PM	0	37	7	0	18	41	0	0	0	0	0	0	3	0	10	0	116	1423
5:40 PM	0	33	3	0	6	45	0	0	0	0	0	0	4	0	8	0	99	1399
5:45 PM	0	42	1	0	9	44	0	0	0	0	0	0	1	0	11	0	108	1370
5:50 PM	0	38	1	0	9	40	0	0	0	0	0	0	5	0	6	0	99	1348
5:55 PM	0	32	2	0	7	27	0	0	0	0	0	0	2	0	7	0	77	1312

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	0	500	28	0	192	592	0	0	0	0	0	0	72	0	140	0	1524
Heavy Trucks	0	28	0		0	28	0		0	0	0		8	0	0		64
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

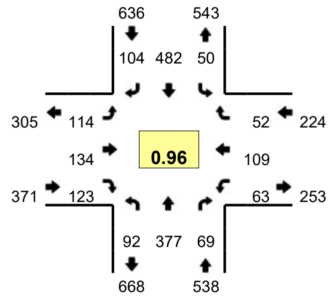
Comments:

Report generated on 4/26/2018 4:10 PM

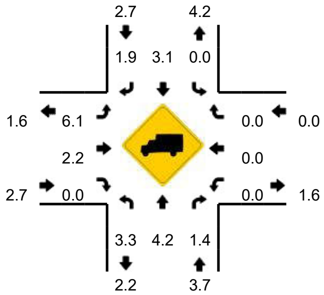
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

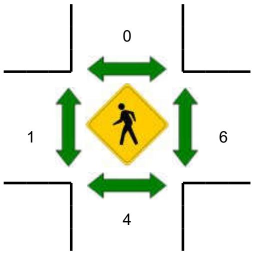
Type of peak hour being reported: Intersection Peak — Method for determining peak hour: Total Entering Volume

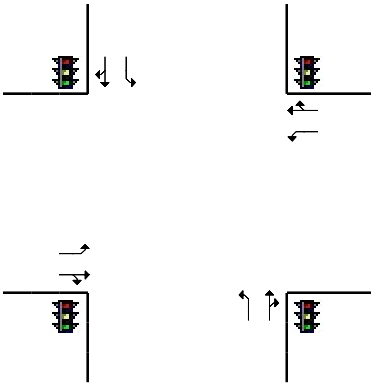
LOCATION: N First Ave -- Shaff Rd SE — **QC JOB #:** 14664211
CITY/STATE: Marion, OR — **DATE:** Tue, Apr 17 2018

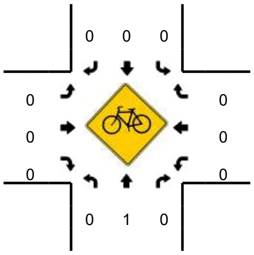


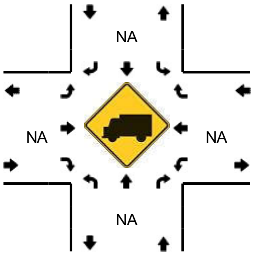
Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:20 PM -- 5:35 PM

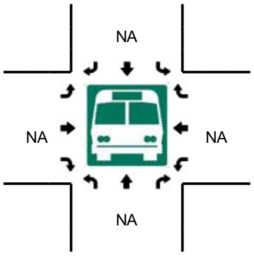












5-Min Count Period Beginning At	N First Ave (Northbound)				N First Ave (Southbound)				Shaff Rd SE (Eastbound)				Shaff Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	24	7	0	2	42	7	0	11	13	15	0	5	14	5	0	150	
4:05 PM	8	24	5	0	4	30	10	0	8	14	6	0	7	5	6	0	127	
4:10 PM	8	35	10	0	3	47	4	0	8	10	16	0	8	12	4	0	165	
4:15 PM	7	25	10	0	3	39	6	0	8	9	8	0	10	7	7	0	139	
4:20 PM	5	34	6	0	6	34	3	0	5	7	7	0	6	12	12	0	137	
4:25 PM	15	25	5	0	3	37	3	0	6	7	11	0	2	5	3	0	122	
4:30 PM	7	31	7	0	9	33	8	0	5	6	13	0	5	9	6	0	139	
4:35 PM	2	15	5	0	2	54	10	0	10	6	8	0	4	10	6	0	132	
4:40 PM	11	35	4	0	2	40	9	0	5	13	8	0	6	9	6	0	148	
4:45 PM	6	37	5	0	2	39	7	0	11	15	4	0	4	12	5	0	147	
4:50 PM	9	24	6	0	5	47	12	0	10	4	10	0	4	6	3	0	140	
4:55 PM	5	32	5	0	5	42	10	0	8	6	13	0	9	7	2	0	144	1690
5:00 PM	12	31	9	0	3	38	11	0	9	4	14	0	3	7	1	0	142	1682
5:05 PM	6	27	6	0	6	43	13	0	7	10	11	0	3	9	4	0	145	1700
5:10 PM	7	41	4	0	1	36	9	0	12	13	5	0	6	10	7	0	151	1686
5:15 PM	6	26	7	0	9	30	5	0	8	14	10	0	7	15	7	0	144	1691
5:20 PM	4	27	3	0	6	42	12	0	10	14	9	0	7	7	6	0	147	1701
5:25 PM	14	35	4	0	7	41	6	0	10	6	14	0	3	11	4	0	155	1734
5:30 PM	7	32	7	0	1	33	5	0	16	23	17	0	6	8	4	0	159	1754
5:35 PM	5	30	9	0	3	51	5	0	8	12	8	0	5	8	3	0	147	1769
5:40 PM	10	25	3	0	4	34	4	0	9	11	11	0	3	7	9	0	130	1751
5:45 PM	2	37	5	0	5	41	9	0	4	9	10	0	5	7	5	0	139	1743
5:50 PM	8	28	5	0	2	34	9	0	8	7	12	0	4	10	4	0	131	1734
5:55 PM	8	24	5	0	1	22	5	0	7	10	8	0	7	12	6	0	115	1705

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	100	376	56	0	56	464	92	0	144	172	160	0	64	104	56	0	1844
Heavy Trucks	0	0	0		0	4	0		12	8	0		0	0	0		24
Pedestrians		4				0				0				12			16
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 4/26/2018 4:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

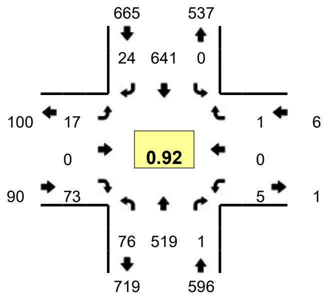
Method for determining peak hour: Total Entering Volume

LOCATION: N First Ave -- W Regis St

CITY/STATE: Stayton, OR

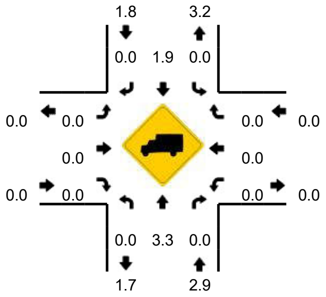
QC JOB #: 14664212

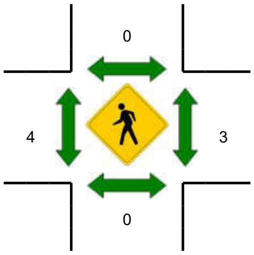
DATE: Tue, Apr 17 2018

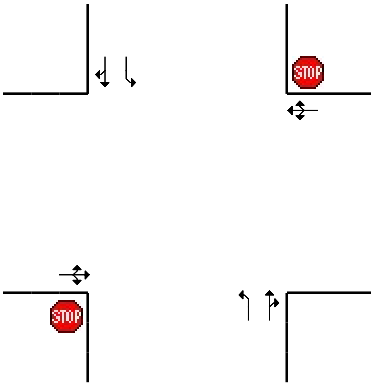


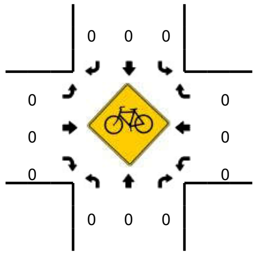
Peak-Hour: 4:40 PM -- 5:40 PM

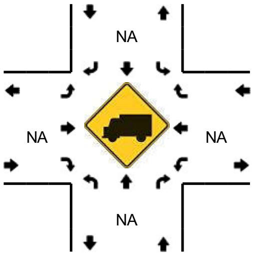
Peak 15-Min: 5:25 PM -- 5:40 PM

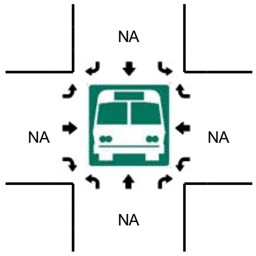












5-Min Count Period Beginning At	N First Ave (Northbound)				N First Ave (Southbound)				W Regis St (Eastbound)				W Regis St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	41	0	0	1	61	0	0	2	0	6	0	0	0	0	0	114	
4:05 PM	4	40	0	0	0	43	2	0	0	0	4	0	0	0	0	0	93	
4:10 PM	6	46	0	0	0	68	1	0	0	0	3	0	0	0	0	0	124	
4:15 PM	8	48	0	0	0	56	2	0	0	0	4	0	0	0	0	0	118	
4:20 PM	7	40	1	0	0	46	3	0	0	0	6	0	0	0	0	0	103	
4:25 PM	2	38	0	0	0	46	1	0	0	0	5	0	0	0	0	0	92	
4:30 PM	2	46	0	0	0	48	4	0	0	0	2	0	0	0	0	0	102	
4:35 PM	5	30	0	0	0	63	1	0	0	0	1	0	0	0	0	0	100	
4:40 PM	3	43	0	0	0	57	0	0	0	0	4	0	0	0	0	0	107	
4:45 PM	5	48	0	0	0	43	1	0	0	0	2	0	0	0	0	0	99	
4:50 PM	3	41	1	0	0	63	0	0	1	0	4	0	0	0	0	0	113	
4:55 PM	2	47	0	0	0	59	5	0	0	0	3	0	0	0	0	0	116	1281
5:00 PM	8	42	0	0	0	50	2	0	0	0	2	0	4	0	1	0	109	1276
5:05 PM	9	45	0	0	0	52	2	0	1	0	7	0	1	0	0	0	117	1300
5:10 PM	8	43	0	0	0	45	4	0	4	0	6	0	0	0	0	0	110	1286
5:15 PM	8	40	0	0	0	46	1	0	2	0	12	0	0	0	0	0	109	1277
5:20 PM	5	38	0	0	0	55	1	0	2	0	6	0	0	0	0	0	107	1281
5:25 PM	15	43	0	0	0	52	3	0	3	0	7	0	0	0	0	0	123	1312
5:30 PM	6	45	0	0	0	53	3	0	2	0	10	0	0	0	0	0	119	1329
5:35 PM	4	44	0	0	0	66	2	0	2	0	10	0	0	0	0	0	128	1357
5:40 PM	4	33	0	0	0	50	0	0	4	0	6	0	0	0	0	0	97	1347
5:45 PM	7	39	0	0	0	46	3	0	2	0	7	0	0	0	0	0	104	1352
5:50 PM	4	39	0	0	0	55	0	0	1	0	4	0	0	0	0	0	103	1342
5:55 PM	4	32	0	0	0	39	0	0	3	0	9	0	0	0	0	0	87	1313

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	Total
All Vehicles	100	528	0	0	0	684	32	0	28	0	108	0	0	0	0	0	1480
Heavy Trucks	0	4	0		0	4	0		0	0	0		0	0	0		8
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 4/26/2018 4:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

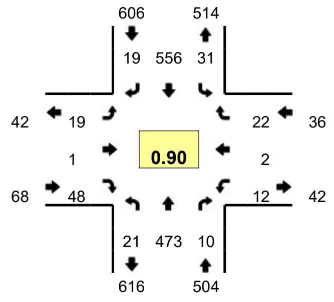
Method for determining peak hour: Total Entering Volume

LOCATION: N First Ave -- E Hollister St

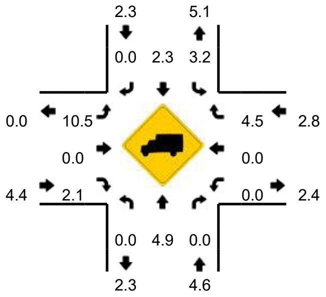
CITY/STATE: Marion, OR

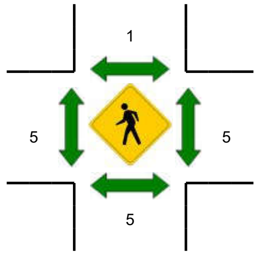
QC JOB #: 14664213

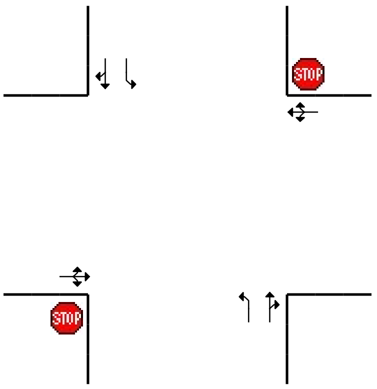
DATE: Tue, Apr 17 2018

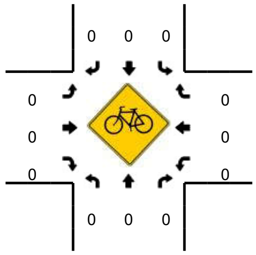


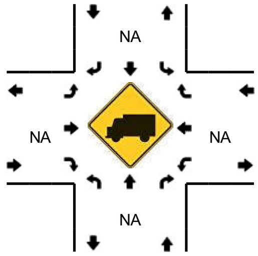
Peak-Hour: 4:10 PM -- 5:10 PM
Peak 15-Min: 4:10 PM -- 4:25 PM

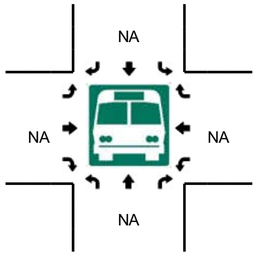












5-Min Count Period Beginning At	N First Ave (Northbound) Left	Thru	Right	U	N First Ave (Southbound) Left	Thru	Right	U	E Hollister St (Eastbound) Left	Thru	Right	U	E Hollister St (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	2	37	1	0	1	39	4	0	1	0	1	0	0	0	2	0	88	
4:05 PM	2	29	2	0	2	41	2	0	2	0	7	0	2	2	4	0	95	
4:10 PM	1	34	0	0	2	53	1	0	1	0	6	0	0	0	3	0	101	
4:15 PM	3	47	3	0	2	56	0	0	3	0	8	0	0	0	1	0	123	
4:20 PM	2	45	1	0	5	44	6	0	2	0	2	0	1	1	4	0	113	
4:25 PM	1	35	0	0	3	42	3	0	1	0	4	0	1	1	4	0	95	
4:30 PM	1	37	1	0	2	42	1	0	1	0	2	0	0	0	1	0	88	
4:35 PM	1	33	1	0	4	48	0	0	2	0	0	0	1	0	2	0	92	
4:40 PM	2	36	1	0	3	47	0	0	2	1	3	0	1	0	2	0	98	
4:45 PM	1	45	0	0	0	42	2	0	1	0	3	0	1	0	0	0	95	
4:50 PM	0	33	1	0	3	48	0	0	2	0	4	0	4	0	1	0	96	
4:55 PM	4	44	1	0	3	56	1	0	1	0	5	0	1	0	2	0	118	1202
5:00 PM	3	38	0	0	2	40	3	0	3	0	4	0	2	0	0	0	95	1209
5:05 PM	2	46	1	0	2	38	2	0	0	0	7	0	0	0	2	0	100	1214
5:10 PM	0	41	0	0	5	40	0	0	2	0	1	0	2	0	2	0	93	1206
5:15 PM	2	45	0	0	4	46	2	0	1	1	5	0	1	0	2	0	109	1192
5:20 PM	0	38	0	0	4	45	1	0	2	0	1	0	0	0	3	0	94	1173
5:25 PM	4	46	1	0	2	46	3	0	0	0	1	0	1	1	5	0	110	1188
5:30 PM	2	37	3	0	1	51	2	0	0	0	3	0	2	0	2	0	103	1203
5:35 PM	1	31	3	0	5	47	3	0	1	0	4	0	0	0	0	0	95	1206
5:40 PM	2	37	2	0	0	47	0	0	2	1	1	0	0	0	1	0	93	1201
5:45 PM	1	36	0	0	4	33	2	0	1	1	1	0	0	0	3	0	82	1188
5:50 PM	0	27	1	0	3	43	2	0	1	0	0	0	1	0	1	0	79	1171
5:55 PM	0	30	2	0	2	47	1	0	0	0	2	0	2	0	2	0	88	1141

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	24	504	16	0	36	612	28	0	24	0	64	0	4	4	32	0	1348
Heavy Trucks	0	28	0		0	16	0		0	0	0		0	0	0		44
Pedestrians		4				0				4				8			16
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

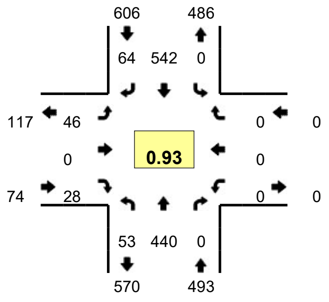
Comments:

Report generated on 4/26/2018 4:10 PM

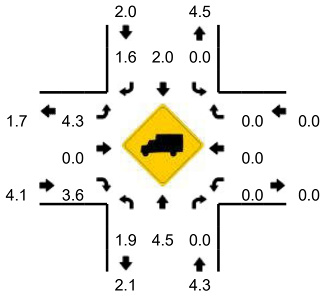
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

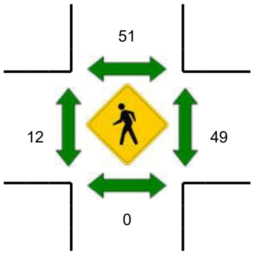
Type of peak hour being reported: Intersection Peak Method for determining peak hour: Total Entering Volume

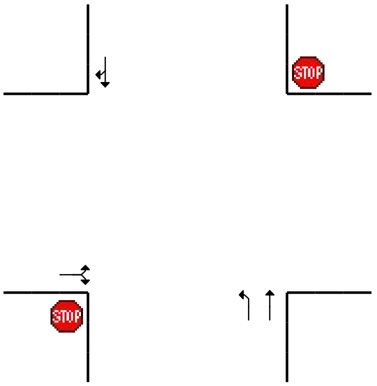
LOCATION: N First Ave -- W Locust St **QC JOB #:** 14664214
CITY/STATE: Marion, OR **DATE:** Tue, Apr 17 2018

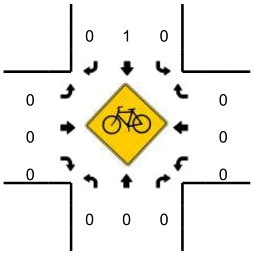


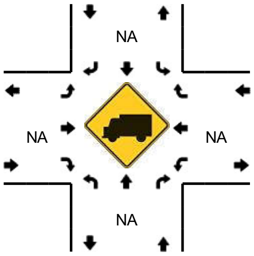
Peak-Hour: 4:10 PM -- 5:10 PM
Peak 15-Min: 4:10 PM -- 4:25 PM

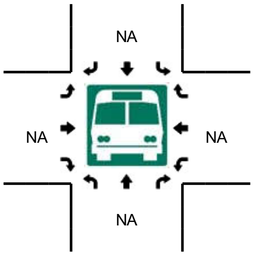












5-Min Count Period Beginning At	N First Ave (Northbound)				N First Ave (Southbound)				W Locust St (Eastbound)				W Locust St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	37	0	0	0	41	1	0	2	0	4	0	0	0	0	0	90	
4:05 PM	1	27	0	0	0	41	5	0	6	0	3	0	0	0	0	0	83	
4:10 PM	4	29	0	0	0	57	4	0	4	0	1	0	0	0	0	0	99	
4:15 PM	5	46	0	0	0	55	8	0	4	0	3	0	0	0	0	0	121	
4:20 PM	1	42	0	0	0	36	10	0	5	0	2	0	0	0	0	0	96	
4:25 PM	2	31	0	0	0	41	3	0	2	0	2	0	0	0	0	0	81	
4:30 PM	6	32	0	0	0	38	4	0	5	0	4	0	0	0	0	0	89	
4:35 PM	4	30	0	0	0	42	4	0	5	0	2	0	0	0	0	0	87	
4:40 PM	3	34	0	0	0	46	8	0	4	0	2	0	0	0	0	0	97	
4:45 PM	4	39	0	0	0	40	2	0	1	0	1	0	0	0	0	0	87	
4:50 PM	4	34	0	0	0	55	3	0	5	0	0	0	0	0	0	0	101	
4:55 PM	4	45	0	0	0	47	11	0	3	0	5	0	0	0	0	0	115	1146
5:00 PM	10	32	0	0	0	45	3	0	2	0	2	0	0	0	0	0	94	1150
5:05 PM	6	46	0	0	0	40	4	0	6	0	4	0	0	0	0	0	106	1173
5:10 PM	0	32	0	0	0	42	3	0	4	0	7	0	0	0	0	0	88	1162
5:15 PM	5	36	0	0	0	45	4	0	8	0	6	0	0	0	0	0	104	1145
5:20 PM	4	32	0	0	0	42	2	0	2	0	3	0	0	0	0	0	85	1134
5:25 PM	2	42	0	0	0	43	12	0	4	0	3	0	0	0	0	0	106	1159
5:30 PM	2	33	0	0	0	45	7	0	7	0	5	0	0	0	0	0	99	1169
5:35 PM	1	24	0	0	0	46	6	0	7	0	6	0	0	0	0	0	90	1172
5:40 PM	3	30	0	0	0	46	3	0	9	0	2	0	0	0	0	0	93	1168
5:45 PM	5	31	0	0	0	29	4	0	6	0	5	0	0	0	0	0	80	1161
5:50 PM	8	19	0	0	0	35	4	0	9	0	0	0	0	0	0	0	75	1135
5:55 PM	0	26	0	0	0	42	7	0	3	0	6	0	0	0	0	0	84	1104

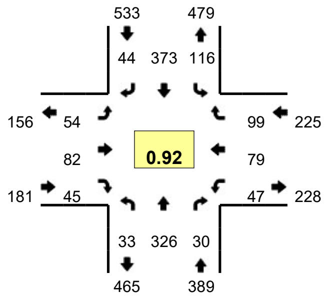
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	40	468	0	0	0	592	88	0	52	0	24	0	0	0	0	0	1264
Heavy Trucks	4	20	0		0	16	0		4	0	0		0	0	0		44
Pedestrians		0				92				24				84			200
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

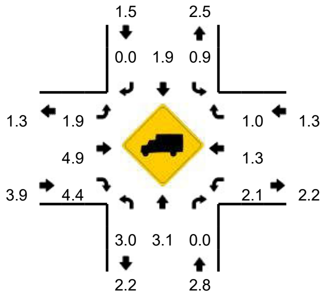
Report generated on 4/26/2018 4:10 PM SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

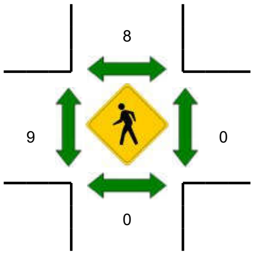
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

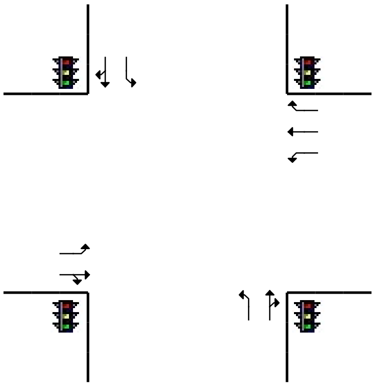
LOCATION: N First Ave -- E Washington St | **QC JOB #:** 14664215
CITY/STATE: Marion, OR | **DATE:** Tue, Apr 17 2018

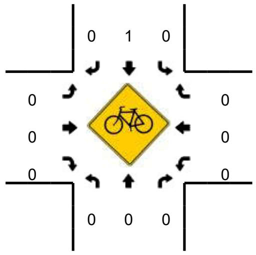


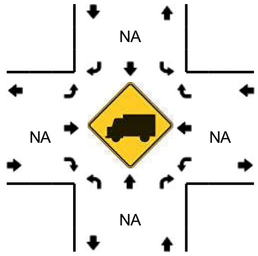
Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

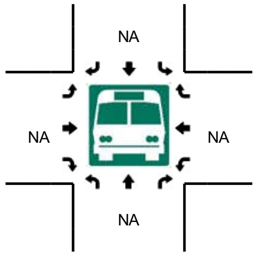












5-Min Count Period Beginning At	N First Ave (Northbound)				N First Ave (Southbound)				E Washington St (Eastbound)				E Washington St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	21	3	0	8	28	4	0	3	10	2	0	1	6	14	0	101	
4:05 PM	3	19	4	0	10	26	1	0	6	5	2	0	2	4	6	0	88	
4:10 PM	1	25	4	0	10	35	3	0	2	4	5	0	3	3	12	0	107	
4:15 PM	2	32	2	0	12	36	6	0	4	9	0	0	3	5	5	0	116	
4:20 PM	4	34	0	0	7	24	3	0	3	5	4	0	6	9	9	0	108	
4:25 PM	5	20	2	0	12	27	5	0	3	7	1	0	1	4	10	0	97	
4:30 PM	4	21	2	0	10	23	5	0	5	7	4	0	2	14	8	0	105	
4:35 PM	2	24	4	0	2	36	3	0	3	11	4	0	1	8	11	0	109	
4:40 PM	3	22	1	0	8	37	6	0	5	9	5	0	4	3	6	0	109	
4:45 PM	3	32	2	0	5	22	4	0	3	2	1	0	3	5	11	0	93	
4:50 PM	1	31	3	0	6	39	7	0	3	5	2	0	2	1	5	0	105	
4:55 PM	2	32	3	0	13	27	4	0	7	5	4	0	2	7	10	0	116	1254
5:00 PM	4	26	3	0	3	39	1	0	3	6	6	0	2	9	14	0	116	1269
5:05 PM	6	33	5	0	10	33	3	0	11	5	3	0	3	2	9	0	123	1304
5:10 PM	4	28	2	0	13	32	1	0	5	10	3	0	5	12	5	0	120	1317
5:15 PM	3	30	1	0	15	32	4	0	2	9	4	0	3	4	5	0	112	1313
5:20 PM	2	23	3	0	16	26	3	0	2	7	6	0	5	7	11	0	111	1316
5:25 PM	2	26	4	0	9	25	2	0	4	6	5	0	5	6	11	0	105	1324
5:30 PM	2	27	3	0	12	23	6	0	1	6	5	0	6	7	6	0	104	1323
5:35 PM	1	16	0	0	6	38	3	0	8	12	1	0	7	16	6	0	114	1328
5:40 PM	1	22	1	0	9	27	4	0	5	7	4	0	3	2	6	0	91	1310
5:45 PM	1	25	4	0	7	23	2	0	5	7	0	0	10	9	2	0	95	1312
5:50 PM	2	20	0	0	6	25	2	0	3	8	5	0	3	7	5	0	86	1293
5:55 PM	1	18	2	0	12	29	3	0	4	8	2	0	4	10	5	0	98	1275

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	56	348	40	0	104	416	20	0	76	84	48	0	40	92	112	0	1436
Heavy Trucks	0	20	0		4	4	0		0	8	4		0	4	0		44
Pedestrians		0				16				12				0			28
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

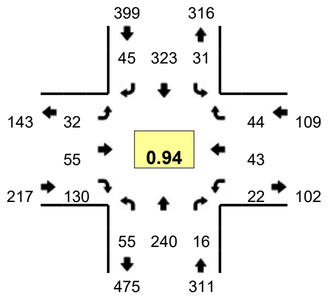
Comments:

Report generated on 4/26/2018 4:10 PM

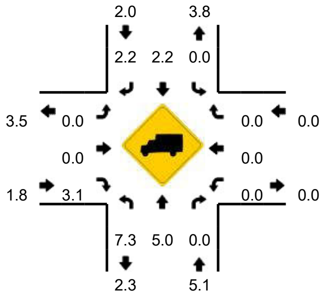
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

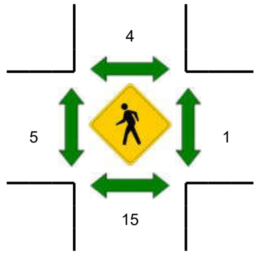
Type of peak hour being reported: Intersection Peak   Method for determining peak hour: Total Entering Volume

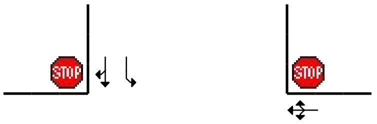
LOCATION: N First Ave -- E Ida St   **QC JOB #:** 14664216
CITY/STATE: Marion, OR   **DATE:** Tue, Apr 17 2018

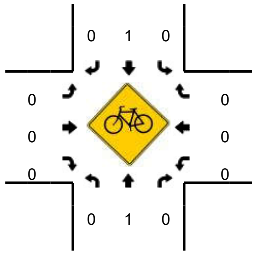


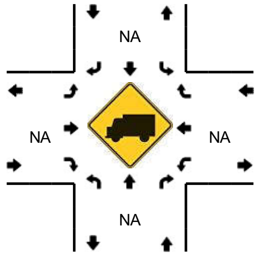
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

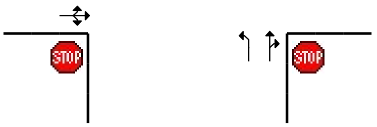


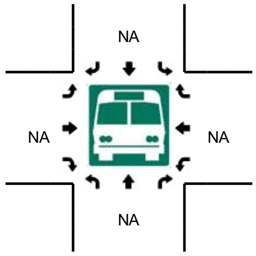












5-Min Count Period Beginning At	N First Ave (Northbound)				N First Ave (Southbound)				E Ida St (Eastbound)				E Ida St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	19	1	0	2	25	5	0	2	4	4	0	2	5	1	0	75	
4:05 PM	7	19	0	0	1	20	1	0	1	7	12	0	1	3	2	0	74	
4:10 PM	5	16	1	0	2	31	3	0	2	4	5	0	3	3	5	0	80	
4:15 PM	6	15	1	0	3	28	6	0	3	5	10	0	2	1	6	0	86	
4:20 PM	9	17	0	0	5	23	3	0	3	4	12	0	2	1	5	0	84	
4:25 PM	9	14	2	0	1	17	3	0	3	6	5	0	4	2	1	1	68	
4:30 PM	6	16	1	0	5	18	2	0	0	5	17	0	0	4	5	0	79	
4:35 PM	4	21	1	0	4	26	4	0	2	10	8	0	2	5	1	0	88	
4:40 PM	3	19	2	0	2	29	7	0	2	2	9	0	6	1	3	0	85	
4:45 PM	4	25	1	0	3	27	3	0	3	7	7	0	1	5	3	0	89	
4:50 PM	4	22	2	0	1	36	1	0	3	3	6	0	0	3	3	0	84	
4:55 PM	9	22	2	0	2	22	4	0	0	4	6	0	1	8	5	0	85	977
5:00 PM	3	17	0	0	3	30	4	0	1	6	11	0	4	5	6	0	90	992
5:05 PM	6	24	2	0	1	26	9	0	5	2	18	0	2	1	5	0	101	1019
5:10 PM	1	20	0	0	2	29	1	0	6	6	13	0	3	2	3	0	86	1025
5:15 PM	2	16	2	0	0	29	2	0	5	5	11	0	2	2	4	0	80	1019
5:20 PM	7	20	2	0	5	26	4	0	1	1	16	0	1	5	2	0	90	1025
5:25 PM	6	18	1	0	3	25	4	0	4	4	8	0	0	2	4	0	79	1036
5:30 PM	5	17	0	0	0	22	2	0	5	3	7	0	1	4	1	0	67	1024
5:35 PM	5	13	0	0	0	31	7	0	3	2	9	0	1	5	3	0	79	1015
5:40 PM	1	14	0	0	3	25	2	0	1	4	10	0	1	3	1	0	65	995
5:45 PM	8	18	2	0	2	27	0	0	3	2	14	0	4	1	3	0	84	990
5:50 PM	5	13	2	0	0	20	2	0	1	2	5	0	2	5	3	0	60	966
5:55 PM	2	12	3	0	2	30	2	0	3	4	10	0	0	3	3	0	74	955

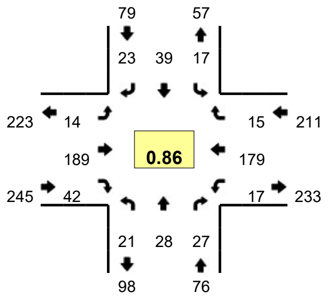
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	40	244	8	0	24	340	56	0	48	56	168	0	36	32	56	0	1108
Heavy Trucks	0	20	0		0	4	0		0	0	12		0	0	0		36
Pedestrians		20				12				8				0			40
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

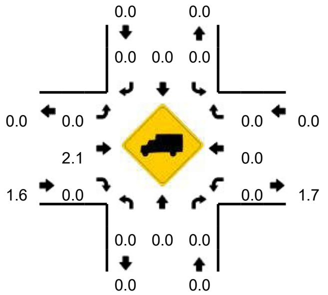
Report generated on 4/26/2018 4:10 PM   SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

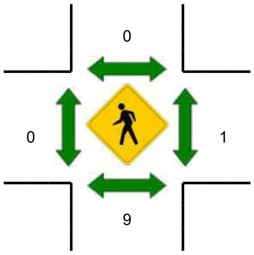
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

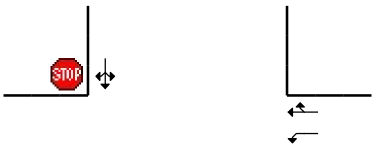
LOCATION: N 3rd Ave -- Fern Ridge Rd SE | **QC JOB #:** 14664217
CITY/STATE: Marion, OR | **DATE:** Tue, Apr 17 2018

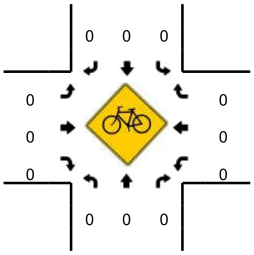


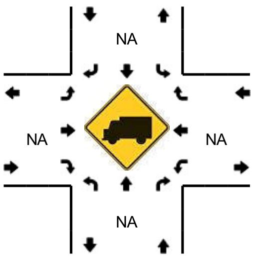
Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

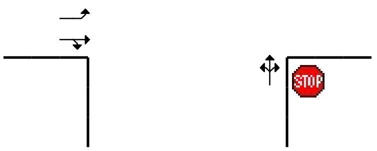


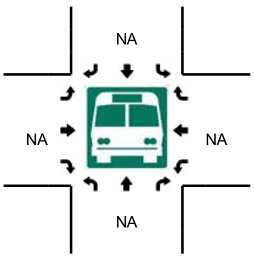












5-Min Count Period Beginning At	N 3rd Ave (Northbound)				N 3rd Ave (Southbound)				Fern Ridge Rd SE (Eastbound)				Fern Ridge Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	1	0	0	4	1	2	0	1	14	3	0	1	13	1	0	45	
4:05 PM	2	3	1	0	1	4	2	0	2	13	7	1	1	14	2	0	53	
4:10 PM	1	4	0	0	1	3	5	0	5	16	3	0	0	18	3	0	59	
4:15 PM	3	2	1	0	3	3	3	0	0	11	4	0	1	13	1	0	45	
4:20 PM	2	5	3	0	0	6	4	0	2	16	2	0	1	21	0	0	62	
4:25 PM	1	1	2	0	2	1	3	0	1	13	0	0	1	8	0	0	33	
4:30 PM	1	2	3	0	0	1	2	0	1	19	2	0	1	18	5	0	55	
4:35 PM	0	3	1	0	2	2	1	0	0	14	0	0	1	14	0	0	38	
4:40 PM	1	2	5	0	2	4	2	0	2	14	3	0	1	21	4	0	61	
4:45 PM	0	5	0	0	1	3	2	0	1	17	4	0	0	20	0	0	53	
4:50 PM	1	1	2	0	0	0	1	0	0	13	2	0	0	11	1	0	32	
4:55 PM	2	1	1	0	1	3	0	0	0	10	4	0	4	12	0	0	38	574
5:00 PM	0	0	3	0	3	6	5	0	0	15	3	0	2	11	1	0	49	578
5:05 PM	3	1	1	0	2	2	1	0	2	17	2	0	2	10	0	0	43	568
5:10 PM	2	3	1	0	0	3	2	0	3	10	5	0	2	24	1	0	56	565
5:15 PM	0	2	4	0	1	4	2	0	2	17	7	0	1	17	1	0	58	578
5:20 PM	3	4	2	0	2	4	0	0	1	18	5	0	1	21	2	0	63	579
5:25 PM	4	4	0	0	0	3	2	0	0	14	1	0	1	13	3	0	45	591
5:30 PM	4	2	5	0	0	1	3	0	1	29	3	0	2	10	0	0	60	596
5:35 PM	1	3	3	0	5	6	3	0	2	15	3	0	1	9	2	0	53	611
5:40 PM	2	3	1	0	1	7	2	0	3	14	4	0	0	13	0	0	50	600
5:45 PM	1	3	0	0	2	2	3	0	2	14	2	0	1	13	1	0	44	591
5:50 PM	3	3	2	0	1	2	1	0	0	14	0	0	1	14	0	0	41	600
5:55 PM	2	0	2	0	1	0	3	0	0	12	2	0	0	20	4	0	46	608

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	20	36	28	0	12	44	16	0	24	180	68	0	16	248	16	0	708
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	0	0		4
Pedestrians		8				0				0				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 4/26/2018 4:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: N 3rd Ave -- E Ida St

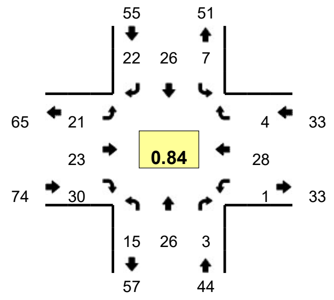
CITY/STATE: Marion, OR

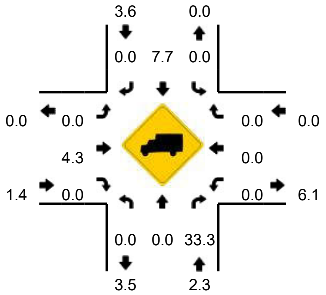
QC JOB #: 14664218

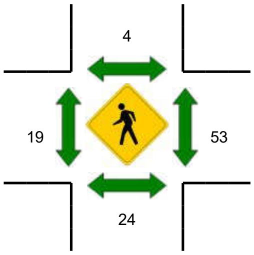
DATE: Tue, Apr 17 2018

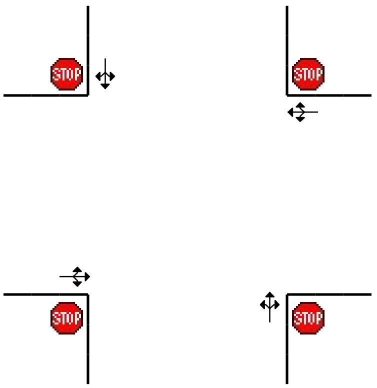
Peak-Hour: 4:05 PM -- 5:05 PM

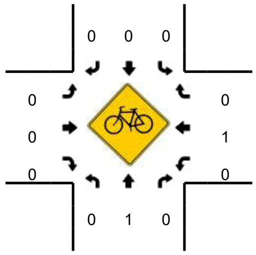
Peak 15-Min: 4:50 PM -- 5:05 PM

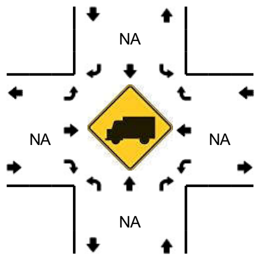


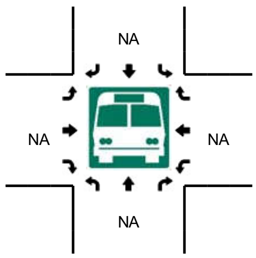












5-Min Count Period Beginning At	N 3rd Ave (Northbound)				N 3rd Ave (Southbound)				E Ida St (Eastbound)				E Ida St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	2	0	0	0	4	4	0	0	0	3	0	1	1	0	0	15	
4:05 PM	1	0	0	0	1	2	1	0	0	4	1	0	0	1	0	0	11	
4:10 PM	3	2	0	0	0	2	2	0	3	1	1	0	0	2	1	0	17	
4:15 PM	1	2	1	0	1	4	2	0	1	1	3	0	0	1	0	0	17	
4:20 PM	1	7	0	0	0	1	0	0	0	1	3	0	0	1	1	0	15	
4:25 PM	0	1	1	0	0	2	2	0	1	3	4	0	0	1	0	0	15	
4:30 PM	1	3	0	0	0	4	1	0	1	1	5	0	0	4	0	0	20	
4:35 PM	2	2	0	0	0	2	1	0	3	3	3	0	0	3	0	0	19	
4:40 PM	1	3	0	0	0	3	4	0	2	3	1	0	1	2	0	0	20	
4:45 PM	0	1	0	0	0	1	0	0	4	1	1	0	0	3	0	0	11	
4:50 PM	1	3	1	0	0	5	2	0	1	2	3	0	0	2	0	0	20	
4:55 PM	1	1	0	0	2	0	4	0	2	1	2	0	0	4	1	0	18	198
5:00 PM	3	1	0	0	3	0	3	0	3	2	3	0	0	4	1	0	23	206
5:05 PM	1	2	0	0	0	1	1	0	2	0	0	0	1	2	1	0	11	206
5:10 PM	2	3	0	0	1	1	1	0	3	2	1	0	0	1	1	0	16	205
5:15 PM	0	2	0	0	0	0	3	0	3	1	3	0	0	1	0	0	13	201
5:20 PM	0	2	0	0	2	4	4	0	0	2	2	0	0	3	0	0	19	205
5:25 PM	1	2	0	0	0	0	3	0	1	1	3	0	0	1	0	0	12	202
5:30 PM	0	2	0	0	0	2	1	0	3	0	0	0	1	3	1	0	13	195
5:35 PM	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	4	180
5:40 PM	1	3	0	0	0	2	1	0	3	2	2	0	1	3	0	0	18	178
5:45 PM	2	0	0	0	0	1	2	0	1	3	2	0	0	2	0	0	13	180
5:50 PM	1	0	0	0	1	2	5	0	2	2	0	0	0	3	0	0	16	176
5:55 PM	1	0	0	0	0	1	3	0	6	3	2	0	0	1	1	0	18	176

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	20	20	4	0	20	20	36	0	24	20	32	0	0	40	8	0	244
Heavy Trucks	0	0	4		0	8	0		0	0	0		0	0	0		12
Pedestrians		20				12				12				0			44
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

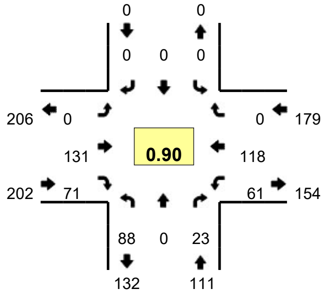
Comments:

Report generated on 4/26/2018 4:10 PM

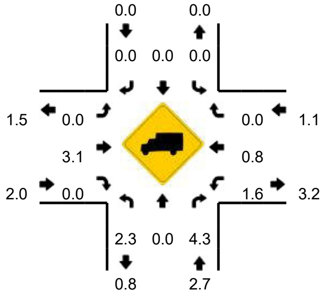
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

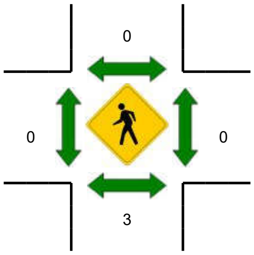
Type of peak hour being reported: Intersection Peak　　Method for determining peak hour: Total Entering Volume

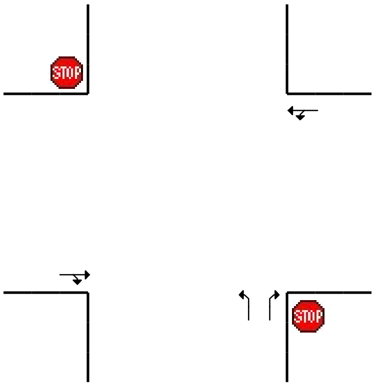
LOCATION: N 10th Ave -- Fern Ridge Rd SE　　**QC JOB #:** 14664219
CITY/STATE: Marion, OR　　**DATE:** Tue, Apr 17 2018

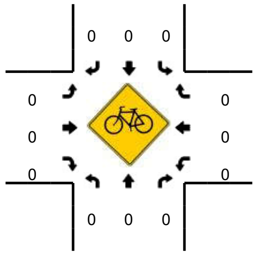


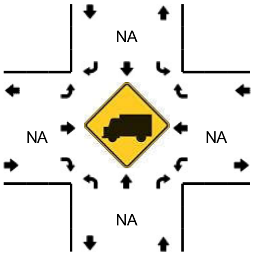
Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:20 PM -- 5:35 PM

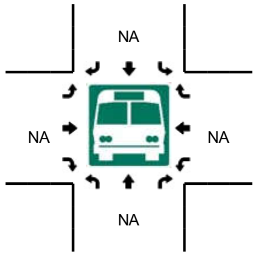












5-Min Count Period Beginning At	N 10th Ave (Northbound)				N 10th Ave (Southbound)				Fern Ridge Rd SE (Eastbound)				Fern Ridge Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	7	0	2	0	0	0	0	0	0	8	5	0	1	8	0	0	31	
4:05 PM	6	0	1	0	0	0	0	0	0	7	8	0	2	6	0	0	30	
4:10 PM	13	0	3	0	0	0	0	0	0	12	4	0	4	8	0	0	44	
4:15 PM	6	0	1	0	0	0	0	0	0	6	6	0	2	9	0	0	30	
4:20 PM	7	0	1	0	0	0	0	0	0	12	8	0	3	13	0	0	44	
4:25 PM	5	0	0	0	0	0	0	0	0	11	6	0	5	6	0	0	33	
4:30 PM	10	0	1	0	0	0	0	0	0	10	9	0	3	9	0	0	42	
4:35 PM	9	0	2	0	0	0	0	0	0	13	1	0	3	11	0	0	39	
4:40 PM	6	0	1	0	0	0	0	0	0	7	10	0	1	15	0	0	40	
4:45 PM	12	0	2	0	0	0	0	0	0	13	5	0	2	10	0	0	44	
4:50 PM	2	0	0	0	0	0	0	0	0	10	7	0	10	11	0	0	40	
4:55 PM	4	0	3	0	0	0	0	0	0	7	3	0	3	9	0	0	29	446
5:00 PM	8	0	1	0	0	0	0	0	0	14	4	0	3	6	0	0	36	451
5:05 PM	5	0	2	0	0	0	0	0	0	10	11	0	6	7	0	0	41	462
5:10 PM	10	0	5	0	0	0	0	0	0	4	7	0	3	15	0	0	44	462
5:15 PM	10	0	1	0	0	0	0	0	0	14	6	0	6	6	0	0	43	475
5:20 PM	7	0	1	0	0	0	0	0	0	10	8	0	7	14	0	0	47	478
5:25 PM	11	0	5	0	0	0	0	0	0	7	5	0	9	6	0	0	43	488
5:30 PM	4	0	0	0	0	0	0	0	0	22	4	0	8	8	0	0	46	492
5:35 PM	4	0	1	0	0	0	0	0	0	10	10	0	7	5	0	0	37	490
5:40 PM	7	0	4	0	0	0	0	0	0	7	5	0	4	6	0	0	33	483
5:45 PM	3	0	0	0	0	0	0	0	0	13	6	0	6	7	0	0	35	474
5:50 PM	5	0	4	0	0	0	0	0	0	5	5	0	4	15	0	0	38	472
5:55 PM	11	0	3	0	0	0	0	0	0	8	6	0	4	11	0	0	43	486

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	88	0	24	0	0	0	0	0	0	156	68	0	96	112	0	0	544
Heavy Trucks	4	0	0		0	0	0		0	12	0		4	0	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																	

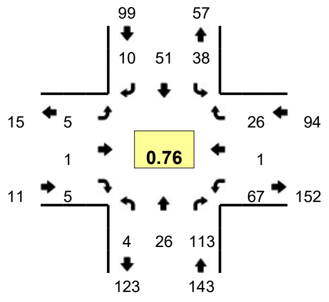
Comments:

Report generated on 4/26/2018 4:10 PM　　SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

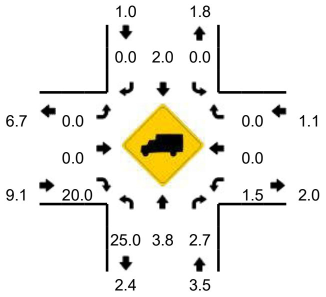
LOCATION: N 10th Ave -- Stayton Rd SE | **QC JOB #:** 14664220

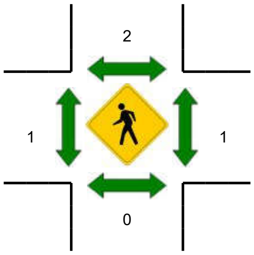
CITY/STATE: Stayton, OR | **DATE:** Tue, Apr 17 2018

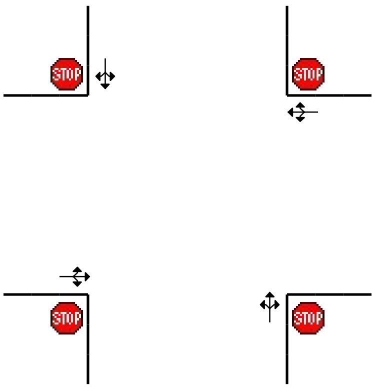


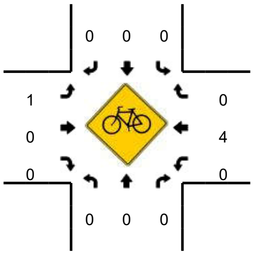
Peak-Hour: 5:00 PM -- 6:00 PM

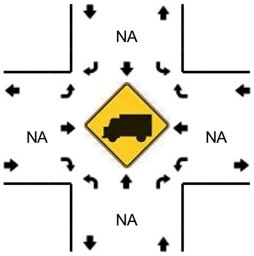
Peak 15-Min: 5:15 PM -- 5:30 PM

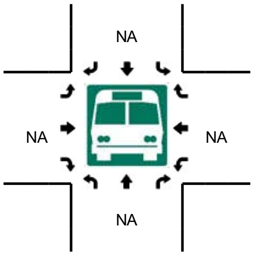












5-Min Count Period Beginning At	N 10th Ave (Northbound)				N 10th Ave (Southbound)				Stayton Rd SE (Eastbound)				Stayton Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	2	7	0	6	5	0	0	0	0	0	0	5	0	2	0	27	
4:05 PM	0	5	7	0	4	5	1	0	0	0	1	0	6	0	0	0	29	
4:10 PM	2	2	8	0	1	3	0	0	1	0	1	0	6	0	3	0	27	
4:15 PM	0	4	11	0	0	6	0	0	0	0	0	0	7	0	0	0	28	
4:20 PM	0	3	4	0	1	4	0	0	0	1	0	0	8	0	2	0	23	
4:25 PM	0	1	8	0	4	4	0	0	0	0	0	0	8	0	0	0	25	
4:30 PM	0	1	9	0	6	5	2	0	0	0	1	0	5	0	1	0	30	
4:35 PM	0	3	12	0	2	4	0	0	0	0	0	0	5	0	2	0	28	
4:40 PM	0	3	7	0	5	6	1	0	0	0	1	0	8	0	1	0	32	
4:45 PM	1	2	3	0	2	3	0	0	0	0	0	0	9	0	0	0	20	
4:50 PM	0	2	4	0	5	7	0	0	0	0	0	0	9	0	2	0	29	
4:55 PM	0	1	9	0	2	4	0	0	0	0	0	0	4	0	1	0	21	319
5:00 PM	0	2	8	0	1	3	1	0	0	0	0	0	1	0	1	0	17	309
5:05 PM	1	3	9	0	3	6	0	0	0	0	1	0	4	0	1	0	28	308
5:10 PM	0	1	12	0	3	3	1	0	1	0	0	0	1	0	3	0	25	306
5:15 PM	0	4	11	0	7	1	0	0	0	0	2	0	5	0	7	0	37	315
5:20 PM	0	4	10	0	2	6	0	0	0	1	1	0	10	1	3	0	38	330
5:25 PM	0	0	11	0	8	7	3	0	0	0	0	0	8	0	2	0	39	344
5:30 PM	1	0	6	0	2	6	0	0	1	0	1	0	5	0	3	0	25	339
5:35 PM	1	4	11	0	2	5	1	0	0	0	0	0	10	0	1	0	35	346
5:40 PM	0	2	8	0	2	4	0	0	1	0	0	0	8	0	3	0	28	342
5:45 PM	1	2	9	0	2	2	2	0	1	0	0	0	4	0	0	0	23	345
5:50 PM	0	1	8	0	2	3	0	0	0	0	0	0	6	0	1	0	21	337
5:55 PM	0	3	10	0	4	5	2	0	1	0	0	0	5	0	1	0	31	347

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	0	32	128	0	68	56	12	0	0	4	12	0	92	4	48	0	456
Heavy Trucks	0	4	0		0	0	0		0	0	4		0	0	0		8
Pedestrians		0				4				0				4			8
Bicycles	0	0	0		0	0	0		1	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

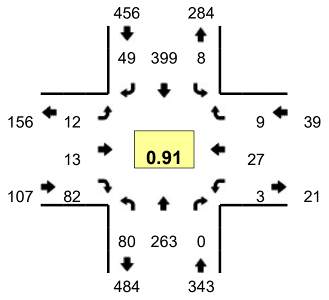
Comments:

Report generated on 4/26/2018 4:10 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

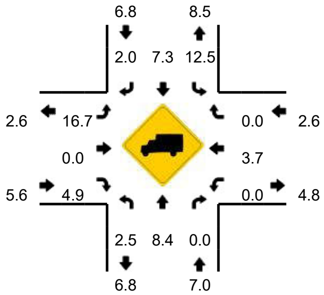
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

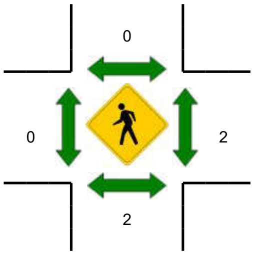
LOCATION: OR 22 -- Fern Ridge Rd SE | **QC JOB #:** 14664221

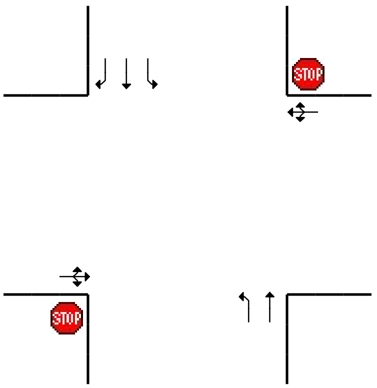
CITY/STATE: Marion, OR | **DATE:** Tue, Apr 17 2018

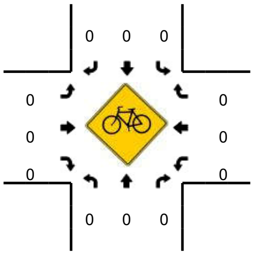


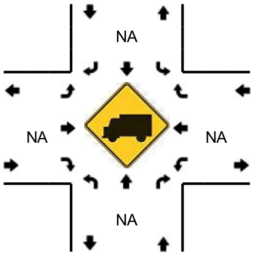
Peak-Hour: 4:25 PM -- 5:25 PM
Peak 15-Min: 4:25 PM -- 4:40 PM

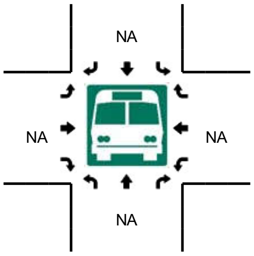












5-Min Count Period Beginning At	OR 22 (Northbound)				OR 22 (Southbound)				Fern Ridge Rd SE (Eastbound)				Fern Ridge Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	25	0	0	0	21	3	0	1	0	4	0	0	3	1	0	63	
4:05 PM	5	33	0	0	3	25	3	0	0	0	7	0	1	1	2	0	80	
4:10 PM	6	24	0	0	1	29	2	0	5	2	7	0	0	3	0	0	79	
4:15 PM	7	28	0	0	2	33	3	0	0	1	7	0	0	2	0	0	83	
4:20 PM	7	13	0	0	0	24	5	0	1	1	7	0	0	2	2	0	62	
4:25 PM	6	23	0	0	2	46	4	0	1	0	8	0	0	0	1	0	91	
4:30 PM	7	22	0	0	0	38	3	0	0	1	6	0	1	1	0	0	79	
4:35 PM	7	29	0	0	1	34	3	0	3	1	11	0	0	2	0	0	91	
4:40 PM	12	35	0	0	0	23	3	0	1	1	6	0	0	1	1	0	83	
4:45 PM	5	25	0	0	1	32	4	0	1	2	11	0	0	3	2	0	86	
4:50 PM	4	16	0	0	1	31	6	0	0	1	6	0	0	4	0	0	69	
4:55 PM	4	9	0	0	1	23	6	0	1	0	5	0	0	2	1	0	52	918
5:00 PM	4	27	0	0	2	36	2	0	1	1	9	0	1	4	2	0	89	944
5:05 PM	2	20	0	0	0	24	7	0	1	1	6	0	0	0	0	0	61	925
5:10 PM	12	21	0	0	0	36	1	0	2	3	2	0	1	6	1	0	85	931
5:15 PM	5	19	0	0	0	37	7	0	0	1	9	0	0	1	0	0	79	927
5:20 PM	12	17	0	0	0	39	3	0	1	1	3	0	0	3	1	0	80	945
5:25 PM	4	15	0	0	3	34	8	0	1	7	7	0	1	1	1	0	82	936
5:30 PM	6	14	0	0	3	31	9	0	1	0	13	0	1	3	0	0	81	938
5:35 PM	5	16	0	0	2	27	7	0	2	2	10	0	0	1	1	0	73	920
5:40 PM	2	10	0	0	2	36	3	0	1	1	9	0	0	1	4	0	69	906
5:45 PM	5	18	0	0	2	32	5	0	0	0	6	0	0	2	0	0	70	890
5:50 PM	8	14	0	0	1	21	3	0	2	2	5	0	1	5	0	0	62	883
5:55 PM	4	18	0	0	0	28	5	0	2	1	6	0	0	2	0	0	66	897

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	296	0	0	12	472	40	0	16	8	100	0	4	12	4	0	1044
Heavy Trucks	8	36	0		0	56	0		0	0	4		0	0	0		104
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

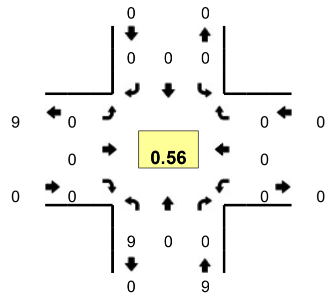
Comments:

Report generated on 4/26/2018 4:10 PM

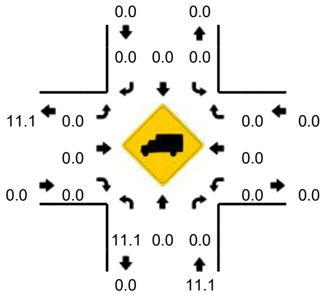
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

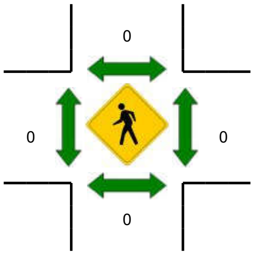
Type of peak hour being reported: Intersection Peak   Method for determining peak hour: Total Entering Volume

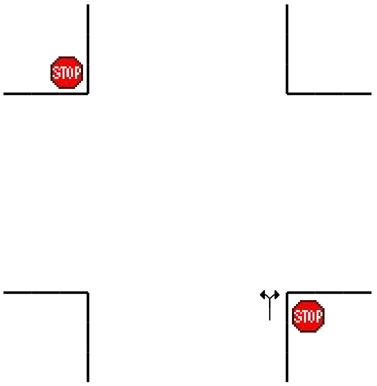
LOCATION: OR 22 WB Off Ramp -- Fern Ridge Rd SE   **QC JOB #:** 14664222
CITY/STATE: Marion, OR   **DATE:** Tue, Apr 17 2018

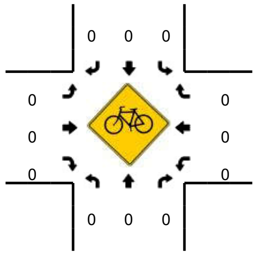


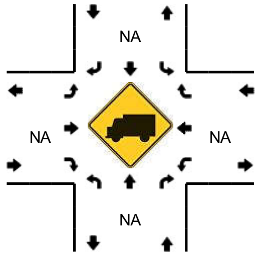
Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

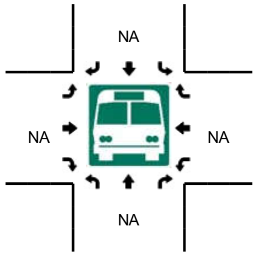












5-Min Count Period Beginning At	OR 22 WB Off Ramp (Northbound)				OR 22 WB Off Ramp (Southbound)				Fern Ridge Rd SE (Eastbound)				Fern Ridge Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:40 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:55 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:10 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:20 PM	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7
5:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
5:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8
5:35 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9
5:40 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8

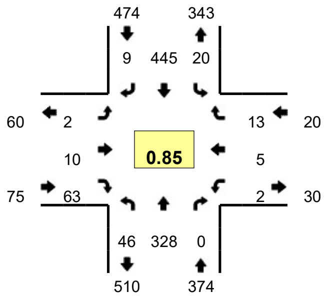
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

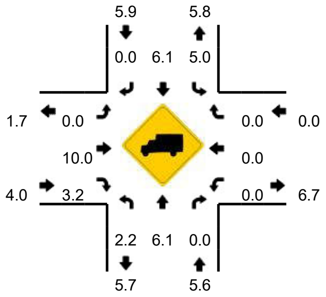
Report generated on 4/26/2018 4:10 PM   SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

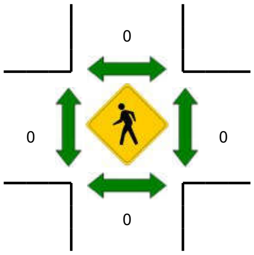
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

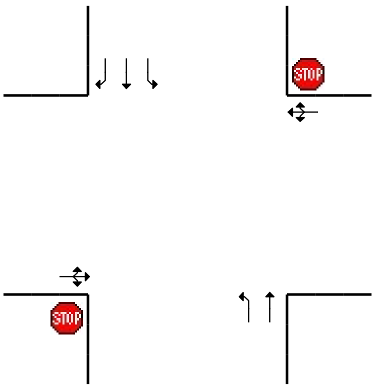
LOCATION: OR 22 -- Old Mehama Rd SE | **QC JOB #:** 14664223
CITY/STATE: Marion, OR | **DATE:** Tue, Apr 17 2018

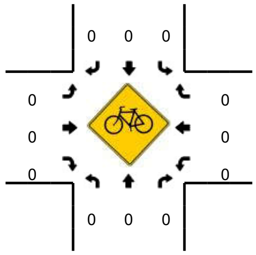


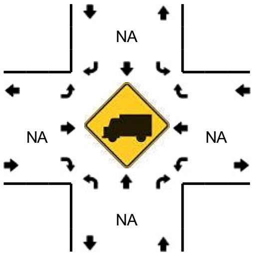
Peak-Hour: 4:25 PM -- 5:25 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

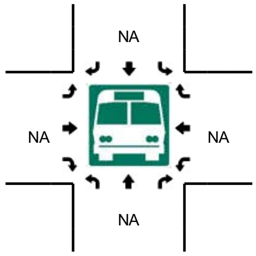












5-Min Count Period Beginning At	OR 22 (Northbound) Left	Thru	Right	U	OR 22 (Southbound) Left	Thru	Right	U	Old Mehama Rd SE (Eastbound) Left	Thru	Right	U	Old Mehama Rd SE (Westbound) Left	Thru	Right	U	Total	Hourly Totals
4:00 PM	4	33	0	0	2	25	0	0	0	0	4	0	0	0	3	0	71	
4:05 PM	1	35	0	0	3	25	1	0	0	1	0	0	0	1	1	0	68	
4:10 PM	7	27	0	0	4	29	2	0	3	0	5	0	0	0	0	0	77	
4:15 PM	3	29	0	0	2	33	0	0	0	0	3	0	0	1	1	0	72	
4:20 PM	6	25	0	0	3	32	0	0	0	3	6	0	0	0	0	0	75	
4:25 PM	8	33	0	0	2	29	2	0	0	0	2	0	0	0	3	0	79	
4:30 PM	0	25	0	0	4	51	0	0	0	1	9	0	0	0	1	0	91	
4:35 PM	7	35	0	0	2	42	2	0	0	1	5	0	0	0	1	0	95	
4:40 PM	2	40	0	0	1	31	1	0	0	3	9	0	1	0	2	0	90	
4:45 PM	5	21	0	0	0	37	1	0	0	1	1	0	1	3	0	0	70	
4:50 PM	5	20	0	0	0	41	0	0	0	0	3	0	0	0	0	0	69	
4:55 PM	0	20	0	0	1	22	1	0	0	0	3	0	0	0	1	0	48	905
5:00 PM	2	28	0	0	2	40	0	0	0	1	4	0	0	0	1	0	78	912
5:05 PM	1	23	0	0	1	33	0	0	0	0	5	0	0	0	1	0	64	908
5:10 PM	3	25	0	0	1	39	0	0	0	1	10	0	0	0	3	0	82	913
5:15 PM	8	32	0	0	2	42	2	0	1	0	6	0	0	0	0	0	93	934
5:20 PM	5	26	0	0	4	38	0	0	1	2	6	0	0	2	0	0	84	943
5:25 PM	1	17	0	0	1	43	0	0	3	1	5	0	0	0	3	0	74	938
5:30 PM	10	14	0	0	4	35	0	0	1	0	6	0	0	0	1	0	71	918
5:35 PM	5	22	0	0	5	33	3	0	0	0	6	0	0	1	3	0	78	901
5:40 PM	2	12	0	0	3	34	1	0	0	0	11	0	0	1	1	0	65	876
5:45 PM	3	22	0	0	2	39	0	0	0	0	5	0	0	0	3	0	74	880
5:50 PM	3	21	0	0	2	32	1	0	0	1	6	0	0	3	1	0	70	881
5:55 PM	3	21	0	0	2	22	0	0	0	1	9	0	0	0	0	0	58	891

Peak 15-Min Flowrates	Northbound Left	Thru	Right	U	Southbound Left	Thru	Right	U	Eastbound Left	Thru	Right	U	Westbound Left	Thru	Right	U	Total
All Vehicles	36	400	0	0	28	496	12	0	0	20	92	0	4	0	16	0	1104
Heavy Trucks	0	32	0		0	48	0		0	4	0		0	0	0		84
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

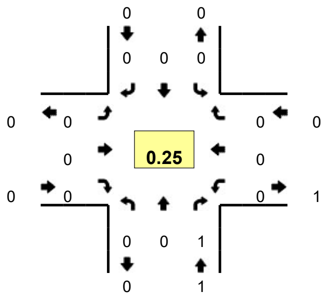
Report generated on 4/26/2018 4:10 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

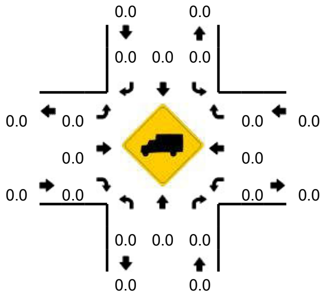
Type of peak hour being reported: Intersection Peak
Method for determining peak hour: Total Entering Volume

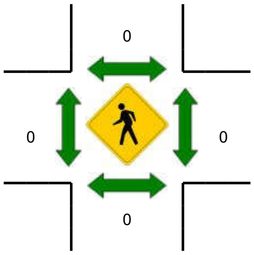
LOCATION: OR 22 WB Off Ramp -- Old Mehama Rd SE
CITY/STATE: Marion, OR

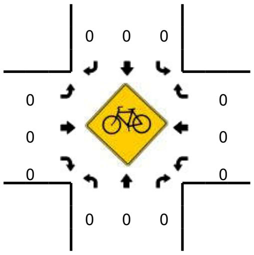
QC JOB #: 14664224
DATE: Tue, Apr 17 2018

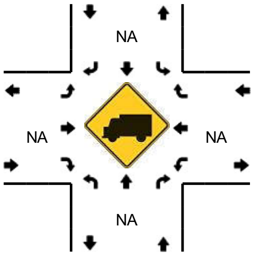


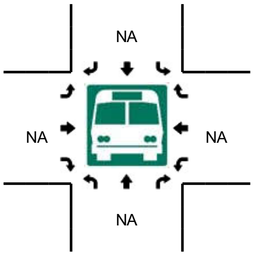
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:30 PM -- 4:45 PM











5-Min Count Period Beginning At	OR 22 WB Off Ramp (Northbound)				OR 22 WB Off Ramp (Southbound)				Old Mehama Rd SE (Eastbound)				Old Mehama Rd SE (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	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	0	0	0	0	0	0	
4:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:40 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	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	1
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:10 PM	0	0	0	0	0	0	0	0	0	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	1
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:40 PM	0	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	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	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	0	0	0	0	0	0

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	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
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 4/26/2018 4:10 PM
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Appendix B Existing PM Operations

HCM 6th TWSC
101: Golf Club Rd SE & Sublimity Rd SE

09/06/2018

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	5	1	23	54	58	11	196	48	178	3	28	7
Future Vol, veh/h	5	1	23	54	58	11	196	48	178	3	28	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	Yield
Storage Length	210	-	-	165	-	-	150	-	210	190	-	260
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, %	0	0	13	6	2	0	3	2	2	0	4	0
Mvmt Flow	5	1	24	57	62	12	209	51	189	3	30	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	542	505	30	518	505	51	30	0	0	51	0	0
Stage 1	36	36	-	469	469	-	-	-	-	-	-	-
Stage 2	506	469	-	49	36	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.33	7.16	6.52	6.2	4.13	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.16	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.16	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.417	3.554	4.018	3.3	2.227	-	-	2.2	-	-
Pot Cap-1 Maneuver	454	473	1014	462	470	1023	1576	-	-	1568	-	-
Stage 1	985	869	-	567	561	-	-	-	-	-	-	-
Stage 2	552	564	-	954	865	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	357	409	1014	404	407	1023	1576	-	-	1568	-	-
Mov Cap-2 Maneuver	357	409	-	404	407	-	-	-	-	-	-	-
Stage 1	854	867	-	492	486	-	-	-	-	-	-	-
Stage 2	413	489	-	928	863	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	15	3.5	0.6
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1576	-	-	357	955	404	450	1568	-	-
HCM Lane V/C Ratio	0.132	-	-	0.015	0.027	0.142	0.163	0.002	-	-
HCM Control Delay (s)	7.6	-	-	15.2	8.9	15.4	14.6	7.3	-	-
HCM Lane LOS	A	-	-	C	A	C	B	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0	0.1	0.5	0.6	0	-	-

HCM 6th TWSC
102: Golf Club Rd SE & OR 22 EB Ramps

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑	↱					↑	↱	↰	↑	
Traffic Vol, veh/h	142	0	375	0	0	0	0	280	31	9	96	0
Future Vol, veh/h	142	0	375	0	0	0	0	280	31	9	96	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	240	-	-	-	-	-	250	115	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	1	0	3	0	0	0	0	4	3	11	4	0
Mvmt Flow	165	0	436	0	0	0	0	326	36	10	112	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	458	458	112				-	0	0	326	0	0
Stage 1	132	132	-				-	-	-	-	-	-
Stage 2	326	326	-				-	-	-	-	-	-
Critical Hdwy	6.41	6.5	6.23				-	-	-	4.21	-	-
Critical Hdwy Stg 1	5.41	5.5	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.41	5.5	-				-	-	-	-	-	-
Follow-up Hdwy	3.509	4	3.327				-	-	-	2.299	-	-
Pot Cap-1 Maneuver	563	502	938				0	-	-	1185	-	0
Stage 1	897	791	-				0	-	-	-	-	0
Stage 2	734	652	-				0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	558	0	938				-	-	-	1185	-	-
Mov Cap-2 Maneuver	614	0	-				-	-	-	-	-	-
Stage 1	890	0	-				-	-	-	-	-	-
Stage 2	734	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	614	938	1185	-
HCM Lane V/C Ratio	-	-	0.269	0.465	0.009	-
HCM Control Delay (s)	-	-	13	12.1	8.1	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	1.1	2.5	0	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑	↗		✥		↖	↑↱		↖	↑	↗
Traffic Vol, veh/h	30	1	153	9	6	9	138	272	5	2	437	32
Future Vol, veh/h	30	1	153	9	6	9	138	272	5	2	437	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	50	-	-	-	100	-	-	50	-	260
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, %	3	0	1	0	17	0	4	5	0	0	3	6
Mvmt Flow	32	1	163	10	6	10	147	289	5	2	465	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1063	1057	465	1137	1055	292	465	0	0	294	0	0
Stage 1	469	469	-	586	586	-	-	-	-	-	-	-
Stage 2	594	588	-	551	469	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.5	6.21	7.1	6.67	6.2	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.13	5.5	-	6.1	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.5	-	6.1	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4	3.309	3.5	4.153	3.3	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	200	227	599	181	212	752	1086	-	-	1279	-	0
Stage 1	573	564	-	500	474	-	-	-	-	-	-	0
Stage 2	490	499	-	522	536	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	172	196	599	117	183	752	1086	-	-	1279	-	-
Mov Cap-2 Maneuver	172	196	-	117	183	-	-	-	-	-	-	-
Stage 1	496	563	-	433	410	-	-	-	-	-	-	-
Stage 2	412	432	-	379	535	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.1	26	2.9	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT
Capacity (veh/h)	1086	-	-	173	599	197	1279	-
HCM Lane V/C Ratio	0.135	-	-	0.191	0.272	0.13	0.002	-
HCM Control Delay (s)	8.8	-	-	30.6	13.2	26	7.8	-
HCM Lane LOS	A	-	-	D	B	D	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.7	1.1	0.4	0	-

104: Wilco Rd & Shaff Rd SE

Intersection	
Intersection Delay, s/veh	20.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥		↰	↱		↰	↱		↰	↱	
Traffic Vol, veh/h	11	66	37	42	43	151	45	256	66	235	328	12
Future Vol, veh/h	11	66	37	42	43	151	45	256	66	235	328	12
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	3	0	7	0	3	0	5	2	1	3	17
Mvmt Flow	12	74	42	47	48	170	51	288	74	264	369	13
Number of Lanes	0	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	14.4	15.1	23.8	22.7
HCM LOS	B	C	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	10%	100%	0%	100%	0%
Vol Thru, %	0%	80%	58%	0%	22%	0%	96%
Vol Right, %	0%	20%	32%	0%	78%	0%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	322	114	42	194	235	340
LT Vol	45	0	11	42	0	235	0
Through Vol	0	256	66	0	43	0	328
RT Vol	0	66	37	0	151	0	12
Lane Flow Rate	51	362	128	47	218	264	382
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.107	0.711	0.287	0.111	0.44	0.538	0.726
Departure Headway (Hd)	7.649	7.076	8.063	8.469	7.272	7.341	6.839
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	468	510	444	423	495	491	527
Service Time	5.4	4.827	6.128	6.221	5.024	5.09	4.588
HCM Lane V/C Ratio	0.109	0.71	0.288	0.111	0.44	0.538	0.725
HCM Control Delay	11.3	25.5	14.4	12.3	15.7	18.4	25.7
HCM Lane LOS	B	D	B	B	C	C	D
HCM 95th-tile Q	0.4	5.6	1.2	0.4	2.2	3.1	6

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			↰	↱		↰	↱
Traffic Vol, veh/h	73	67	39	2	85	75	25	113	5	63	227	57
Future Vol, veh/h	73	67	39	2	85	75	25	113	5	63	227	57
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	18	10	13	0	6	8	8	9	0	3	2	9
Mvmt Flow	76	70	41	2	89	78	26	118	5	66	236	59
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.5	10.3	11	13.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	18%	0%	41%	1%	22%	0%
Vol Thru, %	82%	0%	37%	52%	78%	0%
Vol Right, %	0%	100%	22%	46%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	138	5	179	162	290	57
LT Vol	25	0	73	2	63	0
Through Vol	113	0	67	85	227	0
RT Vol	0	5	39	75	0	57
Lane Flow Rate	144	5	186	169	302	59
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.251	0.008	0.305	0.254	0.498	0.084
Departure Headway (Hd)	6.287	5.5	5.891	5.417	5.929	5.092
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	571	649	610	662	607	703
Service Time	4.033	3.247	3.938	3.466	3.665	2.828
HCM Lane V/C Ratio	0.252	0.008	0.305	0.255	0.498	0.084
HCM Control Delay	11.1	8.3	11.5	10.3	14.4	8.3
HCM Lane LOS	B	A	B	B	B	A
HCM 95th-tile Q	1	0	1.3	1	2.8	0.3

HCM 6th TWSC
106: N Gardner Ave & Shaff Rd SE
09/06/2018

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	8	317	70	33	254	12	50	8	44	2	2	1
Future Vol, veh/h	8	317	70	33	254	12	50	8	44	2	2	1
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	45
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, %	0	1	1	0	2	0	0	0	2	0	0	0
Mvmt Flow	9	369	81	38	295	14	58	9	51	2	2	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	310	0	0	450	0	0	808	814	411	838	847	303
Stage 1	-	-	-	-	-	-	428	428	-	379	379	-
Stage 2	-	-	-	-	-	-	380	386	-	459	468	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	1262	-	-	1121	-	-	302	315	641	288	301	741
Stage 1	-	-	-	-	-	-	609	588	-	647	618	-
Stage 2	-	-	-	-	-	-	646	614	-	586	565	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1261	-	-	1121	-	-	288	299	640	248	285	740
Mov Cap-2 Maneuver	-	-	-	-	-	-	288	299	-	248	285	-
Stage 1	-	-	-	-	-	-	603	582	-	640	592	-
Stage 2	-	-	-	-	-	-	616	588	-	525	559	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.9	18.8	17
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	379	1261	-	-	1121	-	-	265	740
HCM Lane V/C Ratio	0.313	0.007	-	-	0.034	-	-	0.018	0.002
HCM Control Delay (s)	18.8	7.9	0	-	8.3	0	-	18.8	9.9
HCM Lane LOS	C	A	A	-	A	A	-	C	A
HCM 95th %tile Q(veh)	1.3	0	-	-	0.1	-	-	0.1	0

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑	↱	↰	↱
Traffic Vol, veh/h	40	128	145	43	52	47
Future Vol, veh/h	40	128	145	43	52	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	70	-	-	110	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	2	1	0	0	2
Mvmt Flow	49	156	177	52	63	57

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	229	0	-	0	431	177
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	254	-
Critical Hdwy	4.1	-	-	-	6.4	6.22
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	1351	-	-	-	585	866
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	793	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1351	-	-	-	564	866
Mov Cap-2 Maneuver	-	-	-	-	564	-
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	793	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1351	-	-	-	564	866
HCM Lane V/C Ratio	0.036	-	-	-	0.112	0.066
HCM Control Delay (s)	7.8	-	-	-	12.2	9.5
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4	0.2

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗		↰	↗	↖	↑	↗	↖	↑	↗
Traffic Vol, veh/h	17	27	56	13	5	25	22	339	224	30	319	8
Future Vol, veh/h	17	27	56	13	5	25	22	339	224	30	319	8
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	120	-	25	-	-	25	160	-	300	160	-	230
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	6	4	0	0	20	0	0	3	4	0	3	0
Mvmt Flow	18	28	58	14	5	26	23	353	233	31	332	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	810	794	333	840	802	353	341	0	0	353	0	0
Stage 1	395	395	-	399	399	-	-	-	-	-	-	-
Stage 2	415	399	-	441	403	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.54	6.2	7.1	6.7	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.16	5.54	-	6.1	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.54	-	6.1	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4.036	3.3	3.5	4.18	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	294	318	713	287	298	695	1229	-	-	1217	-	-
Stage 1	622	601	-	631	572	-	-	-	-	-	-	-
Stage 2	607	599	-	599	570	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	270	304	712	237	285	695	1228	-	-	1217	-	-
Mov Cap-2 Maneuver	270	304	-	237	285	-	-	-	-	-	-	-
Stage 1	610	585	-	619	561	-	-	-	-	-	-	-
Stage 2	568	588	-	510	555	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14	14.7	0.3	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1228	-	-	270	304	712	249	695	1217	-	-
HCM Lane V/C Ratio	0.019	-	-	0.066	0.093	0.082	0.075	0.037	0.026	-	-
HCM Control Delay (s)	8	-	-	19.3	18	10.5	20.6	10.4	8	-	-
HCM Lane LOS	A	-	-	C	C	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.3	0.3	0.2	0.1	0.1	-	-

HCM 6th Signalized Intersection Summary
109: Cascade Hwy SE & OR 22 EB Ramps

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↱		↰	↑	
Traffic Volume (veh/h)	53	1	381	0	0	0	0	532	58	48	340	0
Future Volume (veh/h)	53	1	381	0	0	0	0	532	58	48	340	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1723	1750	1723				0	1709	1709	1641	1723	0
Adj Flow Rate, veh/h	55	1	0				0	554	60	50	354	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	2				0	3	3	8	2	0
Cap, veh/h	113	2					0	762	83	431	1170	0
Arrive On Green	0.07	0.07	0.00				0.00	0.50	0.50	0.06	0.68	0.00
Sat Flow, veh/h	1638	30	1460				0	1512	164	1563	1723	0
Grp Volume(v), veh/h	56	0	0				0	0	614	50	354	0
Grp Sat Flow(s),veh/h/ln	1668	0	1460				0	0	1675	1563	1723	0
Q Serve(g_s), s	1.3	0.0	0.0				0.0	0.0	11.6	0.5	3.4	0.0
Cycle Q Clear(g_c), s	1.3	0.0	0.0				0.0	0.0	11.6	0.5	3.4	0.0
Prop In Lane	0.98		1.00				0.00		0.10	1.00		0.00
Lane Grp Cap(c), veh/h	116	0					0	0	844	431	1170	0
V/C Ratio(X)	0.48	0.00					0.00	0.00	0.73	0.12	0.30	0.00
Avail Cap(c_a), veh/h	1236	0					0	0	1448	1103	1489	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.2	0.0	0.0				0.0	0.0	7.9	5.5	2.6	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.0				0.0	0.0	2.3	0.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0				0.0	0.0	2.5	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	0.0				0.0	0.0	10.2	5.6	2.9	0.0
LnGrp LOS	C	A					A	A	B	A	A	A
Approach Vol, veh/h		56	A					614			404	
Approach Delay, s/veh		20.5						10.2			3.2	
Approach LOS		C						B			A	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		33.2			7.1	26.1		7.3				
Change Period (Y+Rc), s		5.7			4.5	5.7		4.5				
Max Green Setting (Gmax), s		35.0			20.0	35.0		30.0				
Max Q Clear Time (g_c+I1), s		5.4			2.5	13.6		3.3				
Green Ext Time (p_c), s		3.8			0.1	6.8		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	8.1
HCM 6th LOS	A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
110: Cascade Hwy SE & Whitney St

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↱		↰	↑
Traffic Volume (veh/h)	66	123	474	37	162	570
Future Volume (veh/h)	66	123	474	37	162	570
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1709	1750	1695	1695	1736	1723
Adj Flow Rate, veh/h	71	132	510	40	174	613
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	0	4	4	1	2
Cap, veh/h	207	188	702	55	448	1116
Arrive On Green	0.13	0.13	0.45	0.45	0.09	0.65
Sat Flow, veh/h	1628	1483	1552	122	1654	1723
Grp Volume(v), veh/h	71	132	0	550	174	613
Grp Sat Flow(s),veh/h/ln	1628	1483	0	1673	1654	1723
Q Serve(g_s), s	1.9	4.2	0.0	13.1	2.4	9.5
Cycle Q Clear(g_c), s	1.9	4.2	0.0	13.1	2.4	9.5
Prop In Lane	1.00	1.00		0.07	1.00	
Lane Grp Cap(c), veh/h	207	188	0	757	448	1116
V/C Ratio(X)	0.34	0.70	0.00	0.73	0.39	0.55
Avail Cap(c_a), veh/h	1333	1215	0	1714	1649	1764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	20.4	0.0	10.9	7.7	4.7
Incr Delay (d2), s/veh	0.7	3.5	0.0	2.6	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.2	0.0	3.7	0.4	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.2	23.9	0.0	13.5	8.1	5.5
LnGrp LOS	C	C	A	B	A	A
Approach Vol, veh/h	203		550			787
Approach Delay, s/veh	22.6		13.5			6.1
Approach LOS	C		B			A

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		37.6		11.2	9.5	28.1
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0
Max Green Setting (Gmax), s		50.0		40.0	40.0	50.0
Max Q Clear Time (g_c+I1), s		11.5		6.2	4.4	15.1
Green Ext Time (p_c), s		8.3		0.5	0.3	7.0

Intersection Summary			
HCM 6th Ctrl Delay			10.9
HCM 6th LOS			B

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	114	134	123	63	109	52	92	377	69	50	482	104
Future Volume (veh/h)	114	134	123	63	109	52	92	377	69	50	482	104
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1668	1723	1723	1750	1750	1750	1709	1695	1695	1750	1709	1709
Adj Flow Rate, veh/h	119	140	128	66	114	54	96	393	72	52	502	108
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	6	2	2	0	0	0	3	4	4	0	3	3
Cap, veh/h	294	166	152	205	190	90	119	715	131	70	659	142
Arrive On Green	0.08	0.20	0.20	0.05	0.17	0.17	0.07	0.52	0.52	0.04	0.48	0.48
Sat Flow, veh/h	1589	824	754	1667	1118	529	1628	1387	254	1667	1361	293
Grp Volume(v), veh/h	119	0	268	66	0	168	96	0	465	52	0	610
Grp Sat Flow(s),veh/h/ln	1589	0	1578	1667	0	1647	1628	0	1642	1667	0	1654
Q Serve(g_s), s	5.0	0.0	13.5	2.7	0.0	7.8	4.8	0.0	15.8	2.5	0.0	24.9
Cycle Q Clear(g_c), s	5.0	0.0	13.5	2.7	0.0	7.8	4.8	0.0	15.8	2.5	0.0	24.9
Prop In Lane	1.00		0.48	1.00		0.32	1.00		0.15	1.00		0.18
Lane Grp Cap(c), veh/h	294	0	318	205	0	279	119	0	846	70	0	801
V/C Ratio(X)	0.40	0.00	0.84	0.32	0.00	0.60	0.80	0.00	0.55	0.74	0.00	0.76
Avail Cap(c_a), veh/h	553	0	573	530	0	598	394	0	846	404	0	801
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.2	0.0	31.7	27.1	0.0	31.7	37.7	0.0	13.5	39.1	0.0	17.4
Incr Delay (d2), s/veh	0.3	0.0	2.4	0.3	0.0	0.8	4.7	0.0	2.6	5.6	0.0	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	5.1	1.0	0.0	3.0	2.0	0.0	5.9	1.1	0.0	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.5	0.0	34.1	27.5	0.0	32.5	42.4	0.0	16.1	44.7	0.0	24.2
LnGrp LOS	C	A	C	C	A	C	D	A	B	D	A	C
Approach Vol, veh/h		387			234			561			662	
Approach Delay, s/veh		31.4			31.1			20.6			25.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	44.0	10.5	18.0	7.5	46.6	7.9	20.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	16.8	26.9	7.0	9.8	4.5	17.8	4.7	15.5
Green Ext Time (p_c), s	0.0	0.7	0.0	0.2	0.0	0.7	0.0	0.3

Intersection Summary			
HCM 6th Ctrl Delay			26.1
HCM 6th LOS			C

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣		↰	↱		↰	↱	
Traffic Vol, veh/h	17	0	73	5	0	1	76	520	1	0	644	24
Future Vol, veh/h	17	0	73	5	0	1	76	520	1	0	644	24
Conflicting Peds, #/hr	0	0	0	0	0	0	4	0	3	3	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	350	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	2	0
Mvmt Flow	18	0	79	5	0	1	83	565	1	0	700	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1449	1452	717	1488	1465	569	730	0	0	569	0	0
Stage 1	717	717	-	735	735	-	-	-	-	-	-	-
Stage 2	732	735	-	753	730	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	110	132	433	103	129	525	883	-	-	1013	-	-
Stage 1	424	437	-	414	428	-	-	-	-	-	-	-
Stage 2	416	428	-	405	431	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	101	119	431	78	116	524	880	-	-	1010	-	-
Mov Cap-2 Maneuver	101	119	-	78	116	-	-	-	-	-	-	-
Stage 1	382	435	-	374	386	-	-	-	-	-	-	-
Stage 2	376	386	-	330	429	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.1	47.6	1.2	0
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	880	-	-	267	91	1010	-	-
HCM Lane V/C Ratio	0.094	-	-	0.366	0.072	-	-	-
HCM Control Delay (s)	9.5	-	-	26.1	47.6	0	-	-
HCM Lane LOS	A	-	-	D	E	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.6	0.2	0	-	-

HCM 6th TWSC
113: N First Ave & E Hollister St

09/06/2018

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣		↰	↱		↰	↱	
Traffic Vol, veh/h	15	2	41	15	1	21	21	480	11	34	546	19
Future Vol, veh/h	15	2	41	15	1	21	21	480	11	34	546	19
Conflicting Peds, #/hr	0	0	4	4	0	0	1	0	3	3	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	350	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	7	0	0	0	0	5	0	2	9	6	2	0
Mvmt Flow	16	2	43	16	1	22	22	500	11	35	569	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1211	1208	584	1229	1213	509	590	0	0	514	0	0
Stage 1	650	650	-	553	553	-	-	-	-	-	-	-
Stage 2	561	558	-	676	660	-	-	-	-	-	-	-
Critical Hdwy	7.17	6.5	6.2	7.1	6.5	6.25	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.17	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.563	4	3.3	3.5	4	3.345	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	155	185	515	156	183	558	995	-	-	1031	-	-
Stage 1	450	468	-	521	518	-	-	-	-	-	-	-
Stage 2	503	515	-	446	463	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	142	174	513	135	172	556	994	-	-	1028	-	-
Mov Cap-2 Maneuver	142	174	-	135	172	-	-	-	-	-	-	-
Stage 1	440	452	-	508	505	-	-	-	-	-	-	-
Stage 2	472	502	-	392	447	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.4	22.9	0.4	0.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	994	-	-	294	239	1028	-	-
HCM Lane V/C Ratio	0.022	-	-	0.205	0.161	0.034	-	-
HCM Control Delay (s)	8.7	-	-	20.4	22.9	8.6	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.6	0.1	-	-

114: N First Ave & W Locust St

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		↰	↑	↱	
Traffic Vol, veh/h	53	44	45	429	536	65
Future Vol, veh/h	53	44	45	429	536	65
Conflicting Peds, #/hr	4	0	9	0	0	9
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	350	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	0	3	1	2
Mvmt Flow	57	47	48	461	576	70

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1181	620	655	0	-	0
Stage 1	620	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	210	488	942	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	571	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	196	484	934	-	-	-
Mov Cap-2 Maneuver	323	-	-	-	-	-
Stage 1	504	-	-	-	-	-
Stage 2	566	-	-	-	-	-

Approach	EB		NB		SB	
HCM Control Delay, s	18		0.9		0	
HCM LOS	C					

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	934	-	380	-	-
HCM Lane V/C Ratio	0.052	-	0.274	-	-
HCM Control Delay (s)	9.1	-	18	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.1	-	-

HCM 6th Signalized Intersection Summary
115: N First Ave & E Washington St

09/06/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	54	82	45	47	79	99	33	326	30	116	373	44
Future Volume (veh/h)	54	82	45	47	79	99	33	326	30	116	373	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1682	1682	1723	1736	1736	1709	1709	1709	1736	1723	1723
Adj Flow Rate, veh/h	59	89	49	51	86	108	36	354	33	126	405	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	5	5	2	1	1	3	3	3	1	2	2
Cap, veh/h	582	481	265	581	821	690	257	624	58	307	610	72
Arrive On Green	0.47	0.47	0.47	0.47	0.47	0.47	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	1088	1016	559	1145	1736	1459	855	1538	143	922	1505	178
Grp Volume(v), veh/h	59	0	138	51	86	108	36	0	387	126	0	453
Grp Sat Flow(s),veh/h/ln	1088	0	1575	1145	1736	1459	855	0	1681	922	0	1684
Q Serve(g_s), s	2.4	0.0	3.7	2.0	2.0	3.1	2.6	0.0	13.2	9.0	0.0	16.2
Cycle Q Clear(g_c), s	4.4	0.0	3.7	5.7	2.0	3.1	18.8	0.0	13.2	22.2	0.0	16.2
Prop In Lane	1.00		0.36	1.00		1.00	1.00		0.09	1.00		0.11
Lane Grp Cap(c), veh/h	582	0	745	581	821	690	257	0	682	307	0	683
V/C Ratio(X)	0.10	0.00	0.19	0.09	0.10	0.16	0.14	0.00	0.57	0.41	0.00	0.66
Avail Cap(c_a), veh/h	582	0	745	581	821	690	257	0	682	307	0	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.0	0.0	11.3	12.9	10.8	11.1	25.6	0.0	17.0	25.6	0.0	17.9
Incr Delay (d2), s/veh	0.3	0.0	0.5	0.3	0.3	0.5	1.1	0.0	3.4	4.0	0.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.3	0.5	0.8	1.0	0.6	0.0	5.3	2.2	0.0	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.4	0.0	11.8	13.2	11.1	11.6	26.7	0.0	20.4	29.6	0.0	22.9
LnGrp LOS	B	A	B	B	B	B	C	A	C	C	A	C
Approach Vol, veh/h		197			245			423			579	
Approach Delay, s/veh		12.0			11.7			20.9			24.4	
Approach LOS		B			B			C			C	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		39.5		34.5		39.5		34.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		35.0		30.0		35.0		30.0
Max Q Clear Time (g_c+I1), s		6.4		24.2		7.7		20.8
Green Ext Time (p_c), s		1.1		1.8		1.1		1.7

Intersection Summary			
HCM 6th Ctrl Delay			19.5
HCM 6th LOS			B

HCM 6th AWSC
116: N First Ave & E Ida St

09/06/2018

Intersection	
Intersection Delay, s/veh	15.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↱		↰	↱	
Traffic Vol, veh/h	38	45	121	22	43	42	55	233	14	22	332	48
Future Vol, veh/h	38	45	121	22	43	42	55	233	14	22	332	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	2	0	0	0	4	4	0	0	2	2
Mvmt Flow	41	49	132	24	47	46	60	253	15	24	361	52
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.5	11.2	13.7	20.6
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	19%	21%	100%	0%
Vol Thru, %	0%	94%	22%	40%	0%	87%
Vol Right, %	0%	6%	59%	39%	0%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	247	204	107	22	380
LT Vol	55	0	38	22	22	0
Through Vol	0	233	45	43	0	332
RT Vol	0	14	121	42	0	48
Lane Flow Rate	60	268	222	116	24	413
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.113	0.465	0.367	0.209	0.044	0.689
Departure Headway (Hd)	6.783	6.233	5.963	6.465	6.566	6.003
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	525	575	596	558	542	599
Service Time	4.572	4.022	4.062	4.465	4.345	3.781
HCM Lane V/C Ratio	0.114	0.466	0.372	0.208	0.044	0.689
HCM Control Delay	10.4	14.4	12.5	11.2	9.7	21.2
HCM Lane LOS	B	B	B	B	A	C
HCM 95th-tile Q	0.4	2.4	1.7	0.8	0.1	5.4

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱			✣			✣	
Traffic Vol, veh/h	14	189	42	17	179	15	21	28	27	17	39	23
Future Vol, veh/h	14	189	42	17	179	15	21	28	27	17	39	23
Conflicting Peds, #/hr	0	0	9	9	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	350	-	-	-	-	-	-	-	-
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, %	0	2	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	16	220	49	20	208	17	24	33	31	20	45	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	225	0	0	278	0	0	579	551	255	567	567	217
Stage 1	-	-	-	-	-	-	286	286	-	257	257	-
Stage 2	-	-	-	-	-	-	293	265	-	310	310	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1356	-	-	1296	-	-	429	445	789	437	436	828
Stage 1	-	-	-	-	-	-	726	679	-	752	699	-
Stage 2	-	-	-	-	-	-	719	693	-	705	663	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1356	-	-	1285	-	-	370	429	781	387	420	828
Mov Cap-2 Maneuver	-	-	-	-	-	-	370	429	-	387	420	-
Stage 1	-	-	-	-	-	-	711	665	-	743	688	-
Stage 2	-	-	-	-	-	-	640	682	-	635	649	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.6	14.1	14.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	485	1356	-	-	1285	-	-	480
HCM Lane V/C Ratio	0.182	0.012	-	-	0.015	-	-	0.191
HCM Control Delay (s)	14.1	7.7	-	-	7.8	-	-	14.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.7	0	-	-	0	-	-	0.7

HCM 6th AWSC
118: N Third Ave & E Ida St

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	25	15	19	3	27	5	11	22	1	8	18	26
Future Vol, veh/h	25	15	19	3	27	5	11	22	1	8	18	26
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	0	0	0	0	0	0	0	0	100	0	11	0
Mvmt Flow	34	20	26	4	36	7	15	30	1	11	24	35
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.4	7.5	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	32%	42%	9%	15%
Vol Thru, %	65%	25%	77%	35%
Vol Right, %	3%	32%	14%	50%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	34	59	35	52
LT Vol	11	25	3	8
Through Vol	22	15	27	18
RT Vol	1	19	5	26
Lane Flow Rate	46	80	47	70
Geometry Grp	1	1	1	1
Degree of Util (X)	0.054	0.089	0.054	0.076
Departure Headway (Hd)	4.221	4.028	4.094	3.886
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	839	881	866	911
Service Time	2.293	2.091	2.163	1.955
HCM Lane V/C Ratio	0.055	0.091	0.054	0.077
HCM Control Delay	7.5	7.5	7.4	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.2	0.2

HCM 6th TWSC
119: N Tenth Ave & Fern Ridge Rd SE

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↰	↰	↱
Traffic Vol, veh/h	128	80	65	112	83	22
Future Vol, veh/h	128	80	65	112	83	22
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	115	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	0	3	1	2	5
Mvmt Flow	142	89	72	124	92	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	234	0	458	190
Stage 1	-	-	-	-	190	-
Stage 2	-	-	-	-	268	-
Critical Hdwy	-	-	4.13	-	6.42	6.25
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.345
Pot Cap-1 Maneuver	-	-	1328	-	561	844
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	777	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1324	-	527	842
Mov Cap-2 Maneuver	-	-	-	-	527	-
Stage 1	-	-	-	-	791	-
Stage 2	-	-	-	-	777	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	527	842	-	-	1324	-
HCM Lane V/C Ratio	0.175	0.029	-	-	0.055	-
HCM Control Delay (s)	13.3	9.4	-	-	7.9	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.2	-

120: N 10th Ave & Stayton Rd SE Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.2		0.2	0.1	0.1	0.1	0.0	0.0	0.0
Total Del/Veh (s)	3.8	3.0	2.8	1.3		0.9	4.7	1.3	1.7	6.5	4.7	3.8

120: N 10th Ave & Stayton Rd SE Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	2.5

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	12	20	87	4	29	10	75	274	0	13	434	63
Future Vol, veh/h	12	20	87	4	29	10	75	274	0	13	434	63
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	Stop
Storage Length	-	-	-	-	-	-	265	-	0	200	-	0
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, %	17	0	6	0	3	0	0	8	0	15	5	5
Mvmt Flow	13	21	93	4	31	11	80	291	0	14	462	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	962	943	464	1002	943	293	462	0	0	293	0	0
Stage 1	490	490	-	453	453	-	-	-	-	-	-	-
Stage 2	472	453	-	549	490	-	-	-	-	-	-	-
Critical Hdwy	7.27	6.5	6.26	7.1	6.53	6.2	4.1	-	-	4.25	-	-
Critical Hdwy Stg 1	6.27	5.5	-	6.1	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.27	5.5	-	6.1	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.653	4	3.354	3.5	4.027	3.3	2.2	-	-	2.335	-	-
Pot Cap-1 Maneuver	221	265	590	223	262	751	1110	-	-	1198	-	-
Stage 1	533	552	-	590	568	-	-	-	-	-	-	-
Stage 2	545	573	-	524	547	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	184	242	589	164	240	750	1110	-	-	1196	-	-
Mov Cap-2 Maneuver	184	242	-	164	240	-	-	-	-	-	-	-
Stage 1	495	545	-	546	526	-	-	-	-	-	-	-
Stage 2	469	531	-	419	540	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18	21	1.8	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1110	-	-	403	271	1196	-	-
HCM Lane V/C Ratio	0.072	-	-	0.314	0.169	0.012	-	-
HCM Control Delay (s)	8.5	-	-	18	21	8	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.3	0.6	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	6	9	64	2	6	15	47	328	1	22	495	8
Future Vol, veh/h	6	9	64	2	6	15	47	328	1	22	495	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	Stop
Storage Length	-	-	-	-	-	-	270	-	0	235	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	3	0	0	7	0	7	0	5	5	0
Mvmt Flow	7	10	74	2	7	17	54	377	1	25	569	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1116	1104	569	1146	1104	377	569	0	-	377	0	0
Stage 1	619	619	-	485	485	-	-	-	-	-	-	-
Stage 2	497	485	-	661	619	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.23	7.1	6.5	6.27	4.1	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.327	3.5	4	3.363	2.2	-	-	2.245	-	-
Pot Cap-1 Maneuver	187	213	520	178	213	659	1013	-	0	1165	-	-
Stage 1	480	483	-	567	555	-	-	-	0	-	-	-
Stage 2	559	555	-	455	483	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	167	197	520	138	197	659	1013	-	-	1165	-	-
Mov Cap-2 Maneuver	167	197	-	138	197	-	-	-	-	-	-	-
Stage 1	455	473	-	537	526	-	-	-	-	-	-	-
Stage 2	509	526	-	374	473	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.2	16.5	1.1	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1013	-	386	340	1165	-	-
HCM Lane V/C Ratio	0.053	-	0.235	0.078	0.022	-	-
HCM Control Delay (s)	8.8	-	17.2	16.5	8.2	-	-
HCM Lane LOS	A	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.9	0.3	0.1	-	-

Appendix C Existing PM Queueing

Queues
109: Cascade Hwy SE & OR 22 EB Ramps

	→	↘	↑	↘	↓
Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	56	397	614	50	354
v/c Ratio	0.25	0.73	0.63	0.11	0.30
Control Delay	27.6	12.0	14.9	3.7	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.6	12.0	14.9	3.7	4.8
Queue Length 50th (ft)	20	0	148	4	35
Queue Length 95th (ft)	51	72	#363	16	98
Internal Link Dist (ft)	734		854		786
Turn Bay Length (ft)		600		160	
Base Capacity (vph)	837	939	1002	698	1596
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.42	0.61	0.07	0.22

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
110: Cascade Hwy SE & Whitney St

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	71	132	550	174	613
v/c Ratio	0.37	0.45	0.69	0.31	0.50
Control Delay	37.5	12.1	20.8	4.4	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	12.1	20.8	4.4	6.0
Queue Length 50th (ft)	29	0	176	17	90
Queue Length 95th (ft)	78	50	345	38	172
Internal Link Dist (ft)	503		600		854
Turn Bay Length (ft)		160		120	
Base Capacity (vph)	926	910	1200	1023	1716
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.15	0.46	0.17	0.36

Intersection Summary

Queues

111: N First Ave & Shaff Rd SE

	↗	→	↙	←	↖	↑	↘	↓
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	119	268	66	168	96	465	52	610
v/c Ratio	0.43	0.75	0.29	0.60	0.60	0.56	0.42	0.76
Control Delay	27.7	43.3	25.4	39.9	55.7	20.7	52.3	29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.7	43.3	25.4	39.9	55.7	20.7	52.3	29.9
Queue Length 50th (ft)	49	124	26	76	51	167	28	266
Queue Length 95th (ft)	96	231	59	153	114	361	73	#628
Internal Link Dist (ft)		1212		498		611		700
Turn Bay Length (ft)	100		100		175		125	
Base Capacity (vph)	431	594	453	613	388	835	400	799
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.45	0.15	0.27	0.25	0.56	0.13	0.76

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

115: N First Ave & E Washington St

	↗	→	↙	←	↖	↖	↑	↘	↓
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	59	138	51	86	108	36	387	126	453
v/c Ratio	0.10	0.18	0.09	0.11	0.15	0.16	0.56	0.45	0.66
Control Delay	11.5	8.1	11.4	11.3	3.1	16.4	20.5	22.5	23.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.5	8.1	11.4	11.3	3.1	16.4	20.5	22.5	23.0
Queue Length 50th (ft)	14	22	12	21	0	10	129	41	159
Queue Length 95th (ft)	34	52	31	44	24	30	214	91	259
Internal Link Dist (ft)		1317		1291			1211		581
Turn Bay Length (ft)	90		70		55	100		145	
Base Capacity (vph)	563	775	542	819	731	225	686	280	689
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.18	0.09	0.11	0.15	0.16	0.56	0.45	0.66

Intersection Summary

Appendix D Crash History

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Golf Club Rd & OR 22 Westbound Ramps
January 1, 2011 through December 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	3	2	5	0	4	0	3	1	5	0	5	0	0
2015 TOTAL	0	3	2	5	0	4	0	3	1	5	0	5	0	0
YEAR: 2013														
ANGLE	0	1	0	1	0	2	0	1	0	1	0	1	0	0
2013 TOTAL	0	1	0	1	0	2	0	1	0	1	0	1	0	0
YEAR: 2012														
HEAD-ON	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
2012 TOTAL	0	0	2	2	0	0	0	0	2	1	1	2	0	0
YEAR: 2011														
ANGLE	0	1	0	1	0	2	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	1	0	1	0	0
2011 TOTAL	0	1	1	2	0	2	0	1	1	2	0	2	0	0
FINAL TOTAL	0	5	5	10	0	8	0	5	4	9	1	10	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Golf Club Rd & OR 22 Eastbound Ramps
January 1, 2011 through December 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	1	0	1	0	1	0	0
2015 TOTAL	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR: 2014														
FIXED / OTHER OBJECT	0	1	0	1	0	1	0	0	1	1	0	1	0	1
2014 TOTAL	0	1	0	1	0	1	0	0	1	1	0	1	0	1
FINAL TOTAL	0	2	0	2	0	2	0	1	1	2	0	2	0	1

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

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CDS380     4/12/2018                                                       OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION                                                       PAGE: 1
                                                                                  TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                CONTINUOUS SYSTEM CRASH LISTING

162 NORTH SANTIAM                                                                             Golf Club Rd & OR 22 Eastbound Ramps
                                                                                           January 1, 2011 through December 31, 2015

       S   D
       P   R S W                              RD#  FC   CONN #                        INT-TYP                                   SPCL USE
SER#   E A U C O DATE       COUNTY            CMPT/MLG  FIRST  STREET       RD CHAR (MEDIAN)  INT-REL  OFFRD WTHR  CRASH TYP    TRLR QTY  MOVE                  A  S
INVEST E L G H R DAY/TIME   CITY              MILEPNT   SECOND STREET       DIRECT     LEGS   TRAF-    RNDBT SURF  COLL TYP     OWNER     FROM      PRTC INJ    G  E LICNS PED
UNLOC? D C S L K LAT/LONG   URBAN AREA        LRS       INTERSECTION SEQ#   LOCTN    (#LANES) CNTL     DRVWY LIGHT SVRTY     V# VEH TYPE  TO     P# TYPE SVRTY  E  X RES   LOC  ERROR        ACTN EVENT        CAUSE

02116  N N N N N 06/27/2014 MARION            1    14   2                   INTER      CROSS  N           Y CLR   FIX OBJ    01 NONE   0  TURN-R                                                  058          21
STATE            Fri    7P                    CN    0                       UN                STOP SIGN   N WET   FIX           PRVTE     S  E                                               000  058          21
                            STAYTON UA         11.53                        09            1               N DAY   INJ          PSNGR CAR         01 DRVR INJC  18  F OR-Y       017          017               00
No     44 49 45.82  -122 49 24.67             0162BG100S00                                                                                                           OR<25

03268  N N N     08/31/2015 MARION            1    14   1                   INTER      CROSS  N           N CLR   S-1STOP    01 NONE   0  STRGHT                                                               29
NONE             Mon    3P                    CN    0                       W                 STOP SIGN   N DRY   REAR          PRVTE     W  E                                               000               00
                            STAYTON UA         11.57                        06            0               N DAY   INJ          PSNGR CAR         01 DRVR NONE  60  M OR-Y       026          000               29
No     44 49 45.82  -122 49 24.67             0162BF100S00                                                                                                           OR<25

                                                                                                                             02 NONE   0  STOP
                                                                                                                                PRVTE     W  E                                               011               00
                                                                                                                               PSNGR CAR         01 DRVR INJC  55  F OR-Y       000          000               00
                                                                                                                                                                     OR<25
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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Golf Club Rd & Mill Creek Rd
January 1, 2011 through December 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														
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	0	1	1	0	0
2015 TOTAL	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR: 2014														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2014 TOTAL	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR: 2011														
REAR-END	0	1	1	2	0	4	0	2	0	2	0	2	0	0
2011 TOTAL	0	1	1	2	0	4	0	2	0	2	0	2	0	0
FINAL TOTAL	0	2	2	4	0	5	0	4	0	3	1	4	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

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                                    OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
                                          TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                             COUNTY ROAD CRASH LISTING
MARION COUNTY                                                       Golf Club Rd & Mill Creek Rd
                                                         January 1, 2011 through December 31, 2015

       S   D
       P   R S W                       COUNTY ROADS                                    INT-TYP                                     SPCL USE
SER#   E A U C O DATE         MILEPNT  FIRST  STREET                            RD CHAR   (MEDIAN) INT-REL   OFF-RD WTHR  CRASH TYP     TRLR QTY  MOVE                     A S
INVEST E L G H R DAY/TIME     DIST FROM SECOND STREET                           DIRECT     LEGS    TRAF-     RNDBT  SURF  COLL TYP      OWNER     FROM      PRTC  INJ    G  E  LICNS PED
UNLOC? D C S L K LAT/LONG     INTERSECT INTERSECTION SEQ #                      LOCTN     (#LANES) CONTL     DRVWY  LIGHT SVRTY      V# VEH TYPE  TO     P# TYPE  SVRTY E  X  RES   LOC ERROR        ACTN EVENT        CAUSE

03041  N N N     9/14/2011     0.03    GOLF CLUB RD SE                          INTER      3-LEG   N            N   CLR   S-1STOP    01 NONE   0  STRGHT                                                         07
NONE             Wed    1P                                                      S                  UNKNOWN      N   DRY   REAR          PRVTE     S   N                                               000             00
No     44 49 38.82  -122  49 24.03                                              06           0                  N   DAY   PDO          PSNGR CAR         01 DRVR  NONE  19 F OR-Y      026          000             07
                                                                                                                                                                       OR<25

                                                                                                                                 02 NONE   0  STOP
                                                                                                                                    PRVTE     S   N                                               012             00
                                                                                                                                   PSNGR CAR         01 DRVR  NONE  67 F OR-Y      000          000             00
                                                                                                                                                                       OR<25
00224  N N N     1/21/2015     0.03    GOLF CLUB RD SE                          INTER      3-LEG   N            N   CLR   ANGL-OTH   01 NONE   0  TURN-L                                                         02
NO RPT           Wed    5P                                                      CN                 STOP SIGN    N   DRY   TURN          PRVTE     W   N                                               015             00
No     44 49 39.25  -122  49 24.50                                              03           1                  N   DLIT  INJ          PSNGR CAR         01 DRVR  NONE  30 F OR-Y      028          000             02
                                                                                                                                                                       OR<25

                                                                                                                                 02 NONE   0  STRGHT
                                                                                                                                    PRVTE     N   S                                               000             00
                                                                                                                                   PSNGR CAR         01 DRVR  INJC  42 F OR-Y      000          000             00
                                                                                                                                                                       OR<25
00341  N N N     2/4/2011      2.16    MILL CR RD SE                            INTER      3-LEG   N            N   CLR   S-1STOP    01 NONE   0  TURN-R                                                         03
COUNTY           Fri   12P                                                      W                  STOP SIGN    N   DRY   REAR          PRVTE     W   S                                               000             00
No     44 49 38.82  -122  49 24.03                                              06           0                  N   DAY   INJ          PSNGR CAR         01 DRVR  INJC  57 M OR-Y      021          028             03
                                                                                                                                                                       OR<25

                                                                                                                                 02 NONE   0  STOP
                                                                                                                                    PRVTE     W   E                                               012             00
                                                                                                                                   PSNGR CAR         01 DRVR  INJC  52 F OR-Y      000          000             00
                                                                                                                                                                       OR<25
                                                                                                                                                     02 PSNG  INJC  06 F           000          000             00
                                                                                                                                                     03 PSNG  INJC  39 F           000          000             00
03063  N N N     9/5/2014      2.16    MILL CR RD SE                            INTER      3-LEG   N            N   CLR   O-1 L-TURN 01 NONE   0  TURN-L                                                         02
NO RPT           Fri    2P                                                      CN                 STOP SIGN    N   DRY   TURN          PRVTE     W   N                                               000             00
No     44 49 39.25  -122  49 24.50                                              02           1                  Y   DAY   PDO          PSNGR CAR         01 DRVR  NONE  68 M OR-Y      028,004      000             02
                                                                                                                                                                       OR<25

                                                                                                                                 02 NONE   0  STRGHT
                                                                                                                                    PRVTE     E   W                                               018             00
                                                                                                                                   PSNGR CAR         01 DRVR  NONE  00 M OR-Y      000          000             00
                                                                                                                                                                       OR<25
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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF STAYTON, MARION COUNTY

Golf Club Rd / Wilco Rd & Shaff Rd
January 1, 2011 through December 31, 2015

```
       S   D
       P   R S W                    CITY STREET                       INT-TYP                                     SPCL USE
SER#   E A U C O  DATE              FIRST STREET            RD CHAR  (MEDIAN) INT-REL OFF-RD WTHR  CRASH TYP      TRLR QTY  MOVE                 A  S
INVEST E L G H R  DAY/TIME   FC     SECOND STREET           DIRECT    LEGS    TRAF-   RNDBT  SURF  COLL TYP       OWNER     FROM      PRTC INJ   G  E LICNS PED
UNLOC? D C S L K  LAT/LONG   DISTNC INTERSECTION SEQ #      LOCTN    (#LANES) CONTL   DRVWY  LIGHT SVRTY      V#  VEH TYPE  TO     P# TYPE SVRTY E  X RES   LOC ERROR       ACTN EVENT      CAUSE

03764  N N N      10/25/2014 16     GOLF CLUB RD            INTER      CROSS  N           N  RAIN  S-1STOP    01  NONE    0 STRGHT                                                          32,29
CITY              Sat  4P     0     SHAFF RD                N                 STOP SIGN   N  WET   REAR           PRVTE     N   S                                          000            00
No     44 48 35.21  -122 48 53.21    1                      06           0                N  DAY   INJ          PSNGR CAR         01 DRVR NONE  23 M OR-Y      052,014,026 000            32,29
                                                                                                                                                      OR<25

                                                                                                              02  NONE    0 STOP
                                                                                                                  PRVTE     N   S                                          011            00
                                                                                                                PSNGR CAR         01 DRVR INJC  54 F OR-Y      000         000            00
                                                                                                                                                      OR<25
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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Golf Club Rd / Wilco Rd & Shaff Rd
January 1, 2011 through December 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														
REAR-END	0	1	0	1	0	1	0	0	1	1	0	1	0	0
2014 TOTAL	0	1	0	1	0	1	0	0	1	1	0	1	0	0
FINAL TOTAL	0	1	0	1	0	1	0	0	1	1	0	1	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Wilco Rd & W Washington St / Ida St
January 1, 2011 through December 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	3	0	1	0	1	0	1	0	0
2015 TOTAL	0	1	0	1	0	3	0	1	0	1	0	1	0	0
YEAR: 2013														
ANGLE	0	1	1	2	0	1	0	2	0	2	0	2	0	0
2013 TOTAL	0	1	1	2	0	1	0	2	0	2	0	2	0	0
FINAL TOTAL	0	2	1	3	0	4	0	3	0	3	0	3	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

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CDS380     4/9/2018                                                        OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION                                                        PAGE: 1
                                                                                 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                   URBAN NON-SYSTEM CRASH LISTING
CITY OF STAYTON,  MARION COUNTY                                                               Wilco Rd & W Washington St / Ida St
                                                                                           January 1, 2011 through December 31, 2015

        S   D
        P   R S W                       CITY STREET                            INT-TYP                                      SPCL USE
SER#    E A U C O   DATE                FIRST STREET               RD CHAR    (MEDIAN) INT-REL OFF-RD  WTHR  CRASH TYP       TRLR QTY  MOVE                    A  S
INVEST  E L G H R   DAY/TIME    FC      SECOND STREET              DIRECT      LEGS    TRAF-   RNDBT   SURF  COLL TYP        OWNER     FROM        PRTC INJ    G  E LICNS  PED
UNLOC?  D C S L K   LAT/LONG    DISTNC  INTERSECTION SEQ #         LOCTN      (#LANES) CONTL   DRVWY   LIGHT SVRTY       V#  VEH TYPE  TO      P#  TYPE SVRTY  E  X RES    LOC  ERROR       ACTN EVENT        CAUSE

02542   N N N N N   07/06/2015  16      WASHINGTON ST              INTER       CROSS   N            N  CLR   ANGL-OTH    01  NONE   0  STRGHT                                                                 02
CITY                Mon    2P    0      WILCO RD                   CN                  STOP SIGN    N  DRY   ANGL            PRVTE     NE  SW                                               000               00
No      44 47 50.32  -122 48 53.28       1                         01             0                 N  DAY   INJ           PSNGR CAR           01  DRVR NONE   67 M OR-Y        000         000               00
                                                                                                                                                                    OR<25

                                                                                                                         02  NONE   0  STRGHT
                                                                                                                             PRVTE     N   S                                                015               00
                                                                                                                           PSNGR CAR           01  DRVR INJC   20 M OR-Y        028         000               02
                                                                                                                                                                    OR<25
                                                                                                                                               02  PSNG INJC   16 F             000         000               00
                                                                                                                                               03  PSNG INJC   15 M             000         000               00
02846   N N N N N   08/23/2013  16      WASHINGTON ST              INTER       CROSS   N            N  CLR   ANGL-OTH    01  NONE   0  STRGHT                                                    013,080,057  03
CITY                Fri    11A   0      WILCO RD                   CN                  STOP SIGN    N  DRY   ANGL            PRVTE     SW  NE                                               015               00
No      44 47 50.21  -122 48 53.50       1                         02             1                 N  DAY   PDO           PSNGR CAR           01  DRVR NONE   51 M OR-Y        000         000               00
                                                                                                                                                                    OR<25

                                                                                                                         02  NONE   0  STRGHT
                                                                                                                             RENTL     E   W                                                000  013,057      00
                                                                                                                           PSNGR CAR           01  DRVR NONE   59 F OTH-Y       021         000               03
                                                                                                                                                                    N-RES

                                                                                                                         03  NONE   0  STOP
                                                                                                                             PRVTE     NE  SW                                               011  080,057      00
                                                                                                                           PSNGR CAR           01  DRVR NONE   49 M OR-Y        000         000               00
                                                                                                                                                                    OR<25
03814   N N N       10/31/2013  16      WASHINGTON ST              INTER       CROSS   N            N  CLR   ANGL-OTH    01  NONE   0  STRGHT                                                                 02
NONE                Thu     7A   0      WILCO RD                   CN                  STOP SIGN    N  DRY   ANGL            PRVTE     N   S                                                000               00
No      44 47 50.21  -122 48 53.50       1                         03             0                 N  DAY   INJ           PSNGR CAR           01  DRVR NONE   53 F OR-Y        028         000               02
                                                                                                                                                                    OR<25

                                                                                                                         02  NONE   0  STRGHT
                                                                                                                             PRVTE     NE  SW                                               015               00
                                                                                                                           PSNGR CAR           01  DRVR INJC   62 F OR-Y        000         000               00
                                                                                                                                                                    OR<25
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                                                                            TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                          URBAN NON-SYSTEM CRASH LISTING
CITY OF STAYTON,  MARION COUNTY                                                               Shaff Rd & Gardner Ave
                                                                                     January 1, 2011 through December 31, 2015
       S   D
       P   R S W                    CITY STREET                       INT-TYP                                       SPCL USE
SER#   E A U C O  DATE              FIRST STREET            RD CHAR  (MEDIAN) INT-REL OFF-RD WTHR  CRASH TYP        TRLR QTY  MOVE                   A S
INVEST E L G H R  DAY/TIME   FC     SECOND STREET           DIRECT     LEGS   TRAF-   RNDBT  SURF  COLL TYP         OWNER     FROM       PRTC INJ    G E LICNS  PED
UNLOC? D C S L K  LAT/LONG   DISTNC INTERSECTION SEQ #      LOCTN    (#LANES) CONTL   DRVWY  LIGHT SVRTY         V# VEH TYPE  TO      P# TYPE SVRTY  E X RES    LOC ERROR      ACTN EVENT       CAUSE

03133  Y N N Y N  09/17/2012 16     GARDNER AVE             INTER      3-LEG  N           N  CLR   S-1STOP       01 NONE   0  STRGHT                                                004         07,30
CITY              Mon   6P    0     SHAFF RD                E                 UNKNOWN     N  DRY   REAR             PRVTE     E   W                                             000             00
No    44 48 35.31  -122 48 16.04     1                      06           0                N  DAY   PDO             PSNGR CAR          01 DRVR NONE  17 M OR-Y       043,050,026 000             07,30
                                                                                                                                                         OR<25

                                                                                                                 02 NONE   0  STOP
                                                                                                                    PRVTE     E   W                                             011 004         00
                                                                                                                   PSNGR CAR          01 DRVR NONE  47 F OR-Y       000         000             00
                                                                                                                                                         OR<25

04442  N N N N N  12/24/2012 16     GARDNER AVE             INTER      3-LEG  N           N  CLR   S-1STOP       01 NONE   1  STRGHT                                                            32,27
CITY              Mon   4P    0     SHAFF RD                E                 UNKNOWN     N  DRY   REAR             PRVTE     E   W                                             000             00
No    44 48 35.31  -122 48 16.04     1                      06           0                N  DAY   INJ             PSNGR CAR          01 DRVR NONE  47 M OR-Y       052,016,026 000             32,27
                                                                                                                                                         OR<25

                                                                                                                 02 NONE   0  STOP
                                                                                                                    PRVTE     E   W                                             012             00
                                                                                                                   PSNGR CAR          01 DRVR INJC  23 M OR-Y       000         000             00
                                                                                                                                                         OR<25
                                                                                                                                      02 PSNG INJC  19 M            000         000             00

03922  N N N      10/11/2015 16     GARDNER AVE             INTER      3-LEG  N           N  CLR   S-1STOP       01 NONE   0  STRGHT                                                058         29
CITY              Sun  10A    0     SHAFF RD                E                 STOP SIGN   N  DRY   REAR             PRVTE     E   W                                             000             00
No    44 48 35.31  -122 48 16.04     1                      06           0                N  DAY   PDO             PSNGR CAR          01 DRVR NONE  31 M OR-Y       026         000             29
                                                                                                                                                         OR<25
                                                                                                                                      02 PSNG NO<5  04 M            000         000             00

                                                                                                                 02 NONE   0  STOP
                                                                                                                    PRVTE     E   W                                             012 058         00
                                                                                                                   PSNGR CAR          01 DRVR NONE  20 F OR-Y       000         000             00
                                                                                                                                                         OR<25

00581  Y N N Y N  02/24/2011 16     GARDNER AVE             INTER      3-LEG  N           Y  SNOW  FIX OBJ       01 NONE   0  STRGHT                                                124,058,059 01
NONE              Thu   7A    0     SHAFF RD                W                 SCHL X-ING  N  SNO   FIX              PRVTE     W   E                                             000 124,058,059 00
No    44 48 35.31  -122 48 16.02     1                      05           0                N  DAWN  PDO             PSNGR CAR          01 DRVR NONE  35 M OR-Y       047,080,081 017             01
                                                                                                                                                         OR<25

00623  N N N      02/19/2015 16     GARDNER AVE             INTER      3-LEG  N           N  CLR   ANGL-OTH      01 NONE   0  TURN-L                                                            02
NONE              Thu   5P    0     SHAFF RD                CN                STOP SIGN   N  DRY   TURN             PRVTE     S   W                                             000             00
No    44 48 35.31  -122 48 16.04     1                      02           0                N  DAY   INJ             PSNGR CAR          01 DRVR NONE  35 M OR-Y       028         000             02
                                                                                                                                                         OR<25

                                                                                                                 02 NONE   0  TURN-L
                                                                                                                    PRVTE     E   S                                             000             00
                                                                                                                   PSNGR CAR          01 DRVR INJC  53 M OR-Y       000         000             00
                                                                                                                                                         OR<25
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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Shaff Rd & Gardner Ave
January 1, 2011 through December 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	0	1	0	1	0	1	0	1	0	1	0	0
2015 TOTAL	0	1	1	2	0	1	0	2	0	2	0	2	0	0
YEAR: 2012														
REAR-END	0	1	1	2	0	2	0	2	0	2	0	2	0	0
2012 TOTAL	0	1	1	2	0	2	0	2	0	2	0	2	0	0
YEAR: 2011														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	0	1	0	1	1	0	1
2011 TOTAL	0	0	1	1	0	0	0	0	1	0	1	1	0	1
FINAL TOTAL	0	2	3	5	0	3	0	4	1	4	1	5	0	1

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

W. Washington St & Gardner Ave
January 1, 2011 through December 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:														
TOTAL														
FINAL TOTAL														

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Center St & Sublimity Blvd / OR 22 Westbound Ramps
January 1, 2011 through December 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														
TURNING MOVEMENTS	0	1	2	3	0	1	0	2	1	0	3	3	0	0
2015 TOTAL	0	1	2	3	0	1	0	2	1	0	3	3	0	0
YEAR: 2014														
ANGLE	0	1	0	1	0	1	0	1	0	1	0	1	0	0
2014 TOTAL	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR: 2012														
ANGLE	0	1	0	1	0	4	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	1	2	0	2	0	2	0	2	0	2	0	0
2012 TOTAL	0	2	1	3	0	6	0	3	0	3	0	3	0	0
YEAR: 2011														
ANGLE	0	0	1	1	0	0	1	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2011 TOTAL	0	0	2	2	0	0	1	2	0	2	0	2	0	0
FINAL TOTAL	0	4	5	9	0	8	1	8	1	6	3	9	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

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                                                                                                 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                            CONTINUOUS SYSTEM CRASH LISTING

162 NORTH SANTIAM                                                                                      Center St & Sublimity Blvd / OR 22 Westbound Ramps
                                                                                                           January 1, 2011 through December 31, 2015

       S   D
       P   R S W                               RD#  FC   CONN #                        INT-TYP                                  SPCL USE
SER#   E A U C O DATE       COUNTY             CMPT/MLG  FIRST  STREET       RD CHAR (MEDIAN)  INT-REL  OFFRD WTHR  CRASH TYP    TRLR QTY  MOVE                    A S
INVEST E L G H R DAY/TIME   CITY               MILEPNT   SECOND STREET       DIRECT    LEGS    TRAF-    RNDBT SURF  COLL TYP     OWNER     FROM        PRTC INJ    G E LICNS PED
UNLOC? D C S L K LAT/LONG   URBAN AREA         LRS       INTERSECTION SEQ#   LOCTN    (#LANES) CNTL     DRVWY LIGHT SVRTY    V# VEH TYPE  TO       P# TYPE SVRTY E X RES   LOC ERROR         ACTN EVENT        CAUSE

02636  N N N     08/06/2014 MARION             1    02   4                   INTER      CROSS  N            N CLR   ANGL-OTH   01 NONE    0 STRGHT                                                                    02
COUNTY           Wed    1P  SUBLIMITY          CN    0   CENTER ST           CN                STOP SIGN    N DRY   ANGL           PRVTE      S  N                                                   000              00
                                                12.76   WB ENFR CENTER ST C4 04          1                  N DAY   INJ           PSNGR CAR        01 DRVR NONE  28 F OR-Y      000           000              00
No      44 49  7.31  -122 47 39.58             0162BQ100S00             1                                                                                             OR<25

                                                                                                                           02 NONE    0 STRGHT
                                                                                                                              PRVTE      W  E                                                   015              00
                                                                                                                             PSNGR CAR        01 DRVR INJC  17 F OR-Y      028           000              02
                                                                                                                                                                 OR<25

03673  N N N N N 09/25/2015 MARION             1    14   4                   INTER      CROSS  N            N CLR   O-1 L-TURN 01 NONE    0 TURN-L                                                                    02
COUNTY           Fri    5A  SUBLIMITY          CN    0   CENTER ST           CN                STOP SIGN    N DRY   TURN           PRVTE      N  E                                                   000              00
                            STAYTON UA          12.76   WB ENFR CENTER ST C4 04          1                  N DLIT  INJ           PSNGR CAR        01 DRVR INJB  32 F OR-Y      028,004       000              02
No      44 49  7.31  -122 47 39.58             0162BQ100S00             1                                                                                             OR<25

                                                                                                                           02 NONE    0 STRGHT
                                                                                                                              PRVTE      S  N                                                   000              00
                                                                                                                             PSNGR CAR        01 DRVR NONE  54 F OR-Y      000           000              00
                                                                                                                                                                 OR<25

04717  N N N N N 11/28/2015 MARION             1    14   4                   INTER      5-LEG  N            N CLR   O-1 L-TURN 01 NONE    0 TURN-L                                                                    02
COUNTY           Sat    6P  SUBLIMITY          CN    0   CENTER ST           CN                STOP SIGN    N DRY   TURN           PRVTE      N  E                                                   000              00
                            STAYTON UA          12.76   WB ENFR CENTER ST C4 04          1                  N DLIT  PDO           PSNGR CAR        01 DRVR NONE  44 M NONE      028,004       000              02
No      44 49  7.31  -122 47 39.58             0162BQ100S00             1                                                                                             OR<25

                                                                                                                           02 NONE    0 STRGHT
                                                                                                                              PRVTE      S  N                                                   000              00
                                                                                                                             PSNGR CAR        01 DRVR NONE  48 M OR-Y      000           000              00
                                                                                                                                                                 OR<25

05104  N N N N N 12/19/2015 MARION             1    14   4                   INTER      5-LEG  N            N RAIN  O-1 L-TURN 01 NONE    0 TURN-L                                                       087          02
COUNTY           Sat    8P  SUBLIMITY          CN    0   CENTER ST           CN                STOP SIGN    N WET   TURN           PRVTE      N  E                                                   000  087         00
                            STAYTON UA          12.76   WB ENFR CENTER ST C4 04          1                  N DLIT  PDO           PSNGR CAR        01 DRVR NONE  38 F OR-Y      028,004       000              02
No      44 49  7.31  -122 47 39.58             0162BQ100S00             1                                                                                             OR<25

                                                                                                                           02 NONE    0 STRGHT
                                                                                                                              PRVTE      S  N                                                   000  087         00
                                                                                                                             PSNGR CAR        01 DRVR NONE  59 F OR-Y      000           000              00
                                                                                                                                                                 OR<25
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CDS380     4/12/2018                                                        OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION                                                         PAGE: 1
                                                                                   TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                  URBAN NON-SYSTEM CRASH LISTING

CITY OF SUBLIMITY,  MARION COUNTY                                                       Center St & Sublimity Blvd / OR 22 Westbound Ramps
                                                                                             January 1, 2011 through December 31, 2015

        S   D
        P   R S W                        CITY STREET                           INT-TYP                                         SPCL USE
SER#    E A U C O   DATE                 FIRST STREET               RD CHAR    (MEDIAN) INT-REL OFF-RD  WTHR   CRASH TYP       TRLR QTY  MOVE                     A S
INVEST  E L G H R   DAY/TIME     FC      SECOND STREET              DIRECT       LEGS   TRAF-   RNDBT   SURF   COLL TYP        OWNER     FROM        PRTC  INJ    G E LICNS   PED
UNLOC?  D C S L K   LAT/LONG     DISTNC  INTERSECTION SEQ #         LOCTN      (#LANES) CONTL   DRVWY   LIGHT  SVRTY       V#  VEH TYPE  TO      P#  TYPE  SVRTY  E X RES     LOC  ERROR       ACTN  EVENT        CAUSE

01297   N N N N N   04/22/2011   06      CENTER ST                  INTER       CROSS   N            N  CLR    ANGL-OTH    01  NONE   0  STRGHT                                                                   03
CITY                Fri    12P    0      SUBLIMITY BLVD             CN                  STOP SIGN    N  DRY    ANGL            RENTL     E   W                                                 000                00
Yes    44 49  7.31   -122 47 39.55        1                         01             1                 N  DAY    PDO           PSNGR CAR           01  DRVR  NONE  69 M OTH-Y        021         000                03
                                                                                                                                                                      N-RES

                                                                                                                           02  NONE   0  STRGHT
                                                                                                                               PRVTE     N   S                                                 000                00
                                                                                                                             BOBTAIL             01  DRVR  NONE  31 M OR-Y         000         000                00
                                                                                                                                                                      OR>25

02766   N N N N N   08/17/2012   02      CENTER ST                  INTER       CROSS   N            N  CLR    ANGL-OTH    01  NONE   0  STRGHT                                                                   03
COUNTY              Fri     7P    0      SUBLIMITY BLVD             CN                  STOP SIGN    N  DRY    ANGL            PRVTE     S   N                                                 000                00
No     44 49  7.31   -122 47 39.58        1                         02             0                 N  DAY    INJ           PSNGR CAR           01  DRVR  INJB  23 F OR-Y         000         000                00
                                                                                                                                                                      OR<25
                                                                                                                                                 02  PSNG  INJB  19 F              000         000                00

                                                                                                                           02  NONE   0  STRGHT
                                                                                                                               PRVTE     E   W                                                 000                00
                                                                                                                             PSNGR CAR           01  DRVR  INJB  65 M OTH-Y        021         000                03
                                                                                                                                                                      N-RES
                                                                                                                                                 02  PSNG  INJB  54 F              000         000                00

03235   N N N       09/25/2012   02      CENTER ST                  INTER       CROSS   N            N  CLR    O-1 L-TURN  01  NONE   0  TURN-L                                                                   02
COUNTY              Tue    11A    0      SUBLIMITY BLVD             CN                  NONE         N  DRY    TURN            PRVTE     N   E                                                 000                00
No     44 49  7.31   -122 47 39.58        1                         04             1                 N  DAY    INJ           PSNGR CAR           01  DRVR  INJC  58 F OR-Y         004,028     000                02
                                                                                                                                                                      OR<25

                                                                                                                           02  NONE   0  STRGHT
                                                                                                                               PRVTE     S   N                                                 000                00
                                                                                                                             PSNGR CAR           01  DRVR  INJB  31 F OR-Y         000         000                00
                                                                                                                                                                      OR<25
                                                                                                                                                 02  PSNG  NO<5  02 M              000         000                00

03497   N N N N N   10/18/2011   06      CENTER ST                  INTER       CROSS   N            N  CLR    O-1 L-TURN  01  NONE   0  STRGHT                                                                   02
COUNTY              Tue     7A    0      WB ENFR CENTER ST C4       CN                  UNKNOWN      N  DRY    TURN            PRVTE     S   N                                                 000                00
Yes    44 49  7.31   -122 47 39.55        1                         04             0                 N  DAY    PDO           PSNGR CAR           01  DRVR  NONE  20 F OR-Y         000         000                00
                                                                                                                                                                      OR<25

                                                                                                                           02  NONE   0  TURN-L
                                                                                                                               PRVTE     N   E                                                 000                00
                                                                                                                             PSNGR CAR           01  DRVR  NONE  51 F OR-Y         004,028     000                02
                                                                                                                                                                      OR<25

01582   N N N       05/10/2012   02      CENTER ST                  INTER       CROSS   N            N  CLR    O-1 L-TURN  01  NONE   0  STRGHT                                                                   02
NONE                Thu     4P    0      WB ENFR CENTER ST C4       CN                  UNKNOWN      N  DRY    TURN            PRVTE     S   N                                                 000                00
No     44 49  7.31   -122 47 39.58        1                         04             1                 N  DAY    PDO           PSNGR CAR           01  DRVR  NONE  23 M OR-Y         000         000                00
                                                                                                                                                                      OR<25

                                                                                                                           02  NONE   0  TURN-L
                                                                                                                               PRVTE     N   E                                                 000                00
                                                                                                                             PSNGR CAR           01  DRVR  NONE  00 F UNK          004,028     000                02
                                                                                                                                                                      OR<25
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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Cascade Hwy & OR 22 Eastbound Ramps
January 1, 2011 through December 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	4	0	4	0	4	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2015 TOTAL	0	2	3	5	0	2	0	5	0	5	0	5	0	0
YEAR: 2014														
REAR-END	0	2	1	3	0	2	0	3	0	3	0	3	0	0
2014 TOTAL	0	2	1	3	0	2	0	3	0	3	0	3	0	0
YEAR: 2013														
REAR-END	0	2	4	6	0	3	0	4	2	4	2	6	0	0
2013 TOTAL	0	2	4	6	0	3	0	4	2	4	2	6	0	0
YEAR: 2012														
REAR-END	0	1	4	5	0	1	0	4	1	4	1	5	0	0
2012 TOTAL	0	1	4	5	0	1	0	4	1	4	1	5	0	0
YEAR: 2011														
REAR-END	0	2	3	5	0	2	0	4	1	4	1	5	0	0
2011 TOTAL	0	2	3	5	0	2	0	4	1	4	1	5	0	0
FINAL TOTAL	0	9	15	24	0	10	0	20	4	20	4	24	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

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162 NORTH SANTIAM                                                                          Cascade Hwy & OR 22 Eastbound Ramps
                                                                                        January 1, 2011 through December 31, 2015

       S  D
       P  R S W                                 RD#  FC   CONN #                         INT-TYP                                   SPCL USE
SER#   E A U C O DATE       COUNTY              CMPT/MLG  FIRST  STREET       RD CHAR (MEDIAN)  INT-REL  OFFRD WTHR  CRASH TYP     TRLR QTY  MOVE                     A  S
INVEST E L G H R DAY/TIME   CITY                MILEPNT   SECOND STREET       DIRECT    LEGS    TRAF-    RNDBT SURF  COLL TYP      OWNER     FROM      PRTC INJ     G  E  LICNS PED
UNLOC? D C S L K LAT/LONG   URBAN AREA          LRS       INTERSECTION SEQ#   LOCTN   (#LANES)  CNTL     DRVWY LIGHT SVRTY     V#  VEH TYPE  TO     P# TYPE SVRTY  E  X  RES   LOC ERROR        ACTN EVENT       CAUSE
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------
00895  N N N     03/22/2013 MARION              1    14  1                    INTER     CROSS  N            N CLR  S-1STOP   01 NONE   0 TURN-R                                                                07
NONE             Fri    7A                      CN    0                       SW               YIELD        N DRY  REAR         PRVTE    W  S                                                  000             00
                            STAYTON UA           13.25                        09          1                 N DAY  PDO         PSNGR CAR         01 DRVR NONE  41 F OR-Y        026          000             07
No      44 48 57.82  -122 47 40.19              0162BN100S00                                                                                                  OR<25

                                                                                                               02 NONE   0 STOP
                                                                                                                  PRVTE    W  S                                                  013             00
                                                                                                                 PSNGR CAR         01 DRVR NONE  24 F OR-Y        000          000             00
                                                                                                                                                                  OR>25

03268  N N N     09/22/2013 MARION              1    14  1                    INTER     CROSS  N            N RAIN S-1STOP   01 NONE   0 TURN-R                                                                07
NONE             Sun    3P                      CN    0                       SW               YIELD        N WET  REAR         PRVTE    W  S                                                  000             00
                            STAYTON UA           13.25                        09          1                 N DAY  PDO         PSNGR CAR         01 DRVR NONE  00 M UNK         026          000             07
No      44 48 57.82  -122 47 40.19              0162BN100S00                                                                                                  OR<25

                                                                                                               02 NONE   0 STOP
                                                                                                                  PRVTE    W  S                                                  013             00
                                                                                                                 PSNGR CAR         01 DRVR NONE  20 M OR-Y        000          000             00
                                                                                                                                                                  OR<25

04034  N N N     11/14/2013 MARION              1    14  1                    INTER     CROSS  N            N CLD  S-1STOP   01 NONE   0 STRGHT                                                                27
COUNTY           Thu    1P                      CN    0                       SW               YIELD        N DRY  REAR         PRVTE    W  E                                                  000             00
                            STAYTON UA           13.25                        09          1                 N DAY  INJ         PSNGR CAR         01 DRVR NONE  49 M OTH-Y       016,026      000             27
No      44 48 57.82  -122 47 40.19              0162BN100S00                                                                                                  N-RES

                                                                                                               02 NONE   0 STOP
                                                                                                                  PRVTE    W  E                                                  011             00
                                                                                                                 PSNGR CAR         01 DRVR INJB  70 F OR-Y        000          000             00
                                                                                                                                                                  OR<25
                                                                                                                                   02 PSNG INJC  74 M             000          000             00
03338  N N N     09/27/2013 MARION              1    14  1                    INTER     CROSS  N            N CLR  S-1STOP   01 NONE   0 STRGHT                                                                07
NONE             Fri    9P                      CN    0                       W                YIELD        N DRY  REAR         PRVTE    W  E                                                  000             00
                            STAYTON UA           13.25                        09          1                 N DARK PDO         PSNGR CAR         01 DRVR NONE  33 F OR-Y        026          000             07
No      44 48 57.82  -122 47 40.19              0162BN100S00                                                                                                  OR<25

                                                                                                               02 NONE   0 STOP
                                                                                                                  PRVTE    W  E                                                  011             00
                                                                                                                 PSNGR CAR         01 DRVR NONE  00 M UNK         000          000             00
                                                                                                                                                                  OR<25

03667  N N N N N 10/18/2014 MARION              1    14  1                    INTER     CROSS  N            N CLR  S-1STOP   01 NONE   0 STRGHT                                                                27,07
STATE            Sat    4P                      CN    0                       UN               YIELD        N DRY  REAR         PRVTE    W  E                                                  000             00
                            STAYTON UA           13.26                        09          1                 N DAY  INJ         PSNGR CAR         01 DRVR NONE  47 M OR-Y        016,026      038             27,07
No      44 48 57.59  -122 47 39.51              0162BN100S00                                                                                                  OR<25

                                                                                                               02 NONE   0 STOP
                                                                                                                  PRVTE    W  E                                                  011             00
                                                                                                                 PSNGR CAR         01 DRVR INJC  43 F OR-Y        000          000             00
                                                                                                                                                                  OR<25
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162 NORTH SANTIAM                                                                                  Cascade Hwy & OR 22 Eastbound Ramps
                                                                                               January 1, 2011 through December 31, 2015

       S   D
       P   R S W                              RD#  FC   CONN #                        INT-TYP                                   SPCL USE
SER#   E A U C O DATE       COUNTY            CMPT/MLG  FIRST  STREET       RD CHAR (MEDIAN)  INT-REL  OFFRD WTHR  CRASH TYP    TRLR QTY  MOVE                  A  S
INVEST E L G H R DAY/TIME   CITY              MILEPNT   SECOND STREET       DIRECT     LEGS   TRAF-    RNDBT SURF  COLL TYP     OWNER     FROM      PRTC INJ    G  E LICNS PED
UNLOC? D C S L K LAT/LONG   URBAN AREA        LRS       INTERSECTION SEQ#   LOCTN    (#LANES) CNTL     DRVWY LIGHT SVRTY    V# VEH TYPE   TO     P# TYPE SVRTY  E  X RES   LOC ERROR         ACTN EVENT       CAUSE

04447  N N N N N 12/11/2014 MARION            1    14   1                   INTER      CROSS  N           N CLR  S-1STOP    01 NONE     0 STRGHT                                                              07
CITY             Thu    2P                    CN    0                       UN                TRF SIGNAL  N DRY  REAR           PRVTE     W  E                                               000              00
                            STAYTON UA         13.26                        09            1               N DAY  PDO           PSNGR CAR         01 DRVR NONE   35 F OR-Y      043,026       000              07
No     44 48 57.59  -122 47 39.51             0162BN100S00                                                                                                           OR<25

                                                                                                                            02 NONE     0 STOP
                                                                                                                                PRVTE     W  E                                               011              00
                                                                                                                               PSNGR CAR         01 DRVR NONE   45 F OR-Y      000           000              00
                                                                                                                                                                     OR<25

00329  N N N N N 02/04/2011 MARION            1    19   1                   INTER      CROSS  N           N CLD  S-1STOP    01 NONE     0 STRGHT                                                              07
STATE            Fri    5P                    CN    0                       SW                WARNING     N DRY  REAR           PRVTE     W  E                                               000              00
                            STAYTON UA         13.26                        09            1               N DLIT INJ           PSNGR CAR         01 DRVR NONE   32 M OR-Y      026           000              07
No     44 48 57.59  -122 47 39.51             0162BN100S00                                                                                                           OR>25

                                                                                                                            02 NONE     0 STOP
                                                                                                                                PRVTE     W  E                                               011              00
                                                                                                                               PSNGR CAR         01 DRVR INJC   62 F OR-Y      000           000              00
                                                                                                                                                                     OR<25

01129  Y N N     04/02/2012 MARION            1    14   1                   INTER      CROSS  N           N CLR  S-1STOP    01 NONE     0 STRGHT                                                              01,07
NONE             Mon    5P                    CN    0                       SW                YIELD       N DRY  REAR           PRVTE     W  E                                               000              00
                            STAYTON UA         13.26                        09            1               N DAY  INJ           PSNGR CAR         01 DRVR NONE   37 F OR-Y      047,026       000              01,07
No     44 48 57.59  -122 47 39.51             0162BN100S00                                                                                                           OR<25

                                                                                                                            02 NONE     0 STOP
                                                                                                                                PRVTE     W  E                                               011              00
                                                                                                                               PSNGR CAR         01 DRVR INJC   44 F OR-Y      000           000              00
                                                                                                                                                                     OR<25

02795  N N N     08/21/2012 MARION            1    14   1                   INTER      CROSS  N           N CLR  S-1STOP    01 NONE     0 STRGHT                                                              07
NONE             Tue    5P                    CN    0                       SW                YIELD       N DRY  REAR           PRVTE     N  S                                               000              00
                            STAYTON UA         13.26                        09            1               N DAY  PDO           PSNGR CAR         01 DRVR NONE   00 F UNK       026           000  001         07
No     44 48 57.59  -122 47 39.51             0162BN100S00                                                                                                           OR<25

                                                                                                                            02 NONE     0 STOP
                                                                                                                                PRVTE     N  S                                               011              00
                                                                                                                               PSNGR CAR         01 DRVR NONE   57 F OR-Y      000           000              00
                                                                                                                                                                     OR<25

04216  N N N     12/10/2012 MARION            1    14   1                   INTER      CROSS  N           N RAIN S-1STOP    01 NONE     0 TURN-R                                                              07
NONE             Mon    6A                    CN    0                       SW                YIELD       N WET  REAR           PRVTE     W  S                                               000              00
                            STAYTON UA         13.26                        09            1               N DAWN PDO           PSNGR CAR         01 DRVR NONE   49 M OR-Y      026           000              07
No     44 48 57.59  -122 47 39.51             0162BN100S00                                                                                                           OR<25

                                                                                                                            02 NONE     0 STOP
                                                                                                                                PRVTE     W  S                                               013              00
                                                                                                                               PSNGR CAR         01 DRVR NONE   28 M OTH-Y     000           000              00
                                                                                                                                                                     N-RES
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                                                                           OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
                                                                                  TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                CONTINUOUS SYSTEM CRASH LISTING

162 NORTH SANTIAM                                                                             Cascade Hwy & OR 22 Eastbound Ramps
                                                                                           January 1, 2011 through December 31, 2015

       S   D
       P   R S W                              RD#  FC   CONN #                      INT-TYP                                  SPCL USE
SER#   E A U C O DATE       COUNTY            CMPT/MLG  FIRST  STREET        RD CHAR (MEDIAN) INT-REL OFFRD WTHR  CRASH TYP    TRLR QTY  MOVE                   A S
INVEST E L G H R DAY/TIME   CITY              MILEPNT   SECOND STREET        DIRECT    LEGS   TRAF-   RNDBT SURF  COLL TYP     OWNER     FROM       PRTC INJ    G E  LICNS PED
UNLOC? D C S L K LAT/LONG   URBAN AREA        LRS       INTERSECTION SEQ#    LOCTN   (#LANES) CNTL    DRVWY LIGHT SVRTY     V# VEH TYPE  TO      P# TYPE SVRTY  E X  RES   LOC  ERROR        ACTN EVENT       CAUSE

02709  N N N N N 08/12/2013 MARION            1    14   1                    INTER     CROSS  N           N CLR  S-1STOP    01 NONE    0 TURN-R                                                               07
STATE            Mon    4P                    CN    0                        SW               YIELD       N DRY  REAR          PRVTE     W  S                                                000              00
                            STAYTON UA         13.26                         09          1                N DAY  INJ          PSNGR CAR          01 DRVR NONE  44 F  OR-Y       043,026      000              07
No     44 48 57.59  -122 47 39.51             0162BN100S00                                                                                                       OR<25

                                                                                                                            02 NONE    0 STOP
                                                                                                                               PRVTE     W  S                                                011              00
                                                                                                                              PSNGR CAR          01 DRVR INJC  54 F  OR-Y       000          000              00
                                                                                                                                                                     OR<25

04091  Y N N     11/18/2013 MARION            1    14   1                    INTER     3-LEG  N           N RAIN S-STRGHT   01 NONE    0 TURN-R                                                               01
NONE             Mon    5P                    CN    0                        SW               YIELD       N WET  REAR          PRVTE     W  S                                                000              00
                            STAYTON UA         13.26                         09          1                N DUSK PDO          PSNGR CAR          01 DRVR NONE  00 M  OR-Y       042          000              01
No     44 48 57.59  -122 47 39.51             0162BN100S00                                                                                                       OR<25

                                                                                                                            02 NONE    0 TURN-R
                                                                                                                               PRVTE     W  S                                                006              00
                                                                                                                              PSNGR CAR          01 DRVR NONE  65 F  OR-Y       000          000              00
                                                                                                                                                                     OR<25

00214  N N N     01/21/2014 MARION            1    14   1                    INTER     CROSS  N           N CLR  S-1STOP    01 NONE    0 STRGHT                                                               07
NONE             Tue    2P                    CN    0                        SW               TRF SIGNAL  N DRY  REAR          PRVTE     NW SE                                               000              00
                            STAYTON UA         13.26                         09          1                N DAY  INJ          PSNGR CAR          01 DRVR NONE  51 F  OR-Y       026          000              07
No     44 48 57.59  -122 47 39.51             0162BN100S00                                                                                                       OR<25

                                                                                                                            02 NONE    0 STOP
                                                                                                                               PRVTE     NW SE                                               011              00
                                                                                                                              PSNGR CAR          01 DRVR INJC  52 F  OR-Y       000          000              00
                                                                                                                                                                     OR<25

01522  N N N     04/27/2015 MARION            1    14   1                    INTER     CROSS  N           N CLR  S-1STOP    01 NONE    0 STRGHT                                                               29
NONE             Mon    1P                    CN    0                        SW               YIELD       N DRY  REAR          PRVTE     NW SE                                               000              00
                            STAYTON UA         13.26                         09          1                N DAY  INJ          PSNGR CAR          01 DRVR NONE  46 F  OR-Y       026          000              29
No     44 48 57.59  -122 47 39.51             0162BN100S00                                                                                                       OR<25

                                                                                                                            02 NONE    0 STOP
                                                                                                                               PRVTE     NW SE                                               011              00
                                                                                                                              PSNGR CAR          01 DRVR INJC  52 F  OR-Y       000          000              00
                                                                                                                                                                     OR<25

01614  N N N     05/04/2015 MARION            1    14   1                    INTER     CROSS  N           N CLR  S-1STOP    01 NONE    0 STRGHT                                                               29
NONE             Mon   12P                    CN    0                        SW               YIELD       N DRY  REAR          PRVTE     NW SE                                               000              00
                            STAYTON UA         13.26                         09          1                N DAY  PDO          PSNGR CAR          01 DRVR NONE  56 M  OR-Y       026          000              29
No     44 48 57.59  -122 47 39.51             0162BN100S00                                                                                                       OR<25

                                                                                                                            02 NONE    0 STOP
                                                                                                                               PRVTE     NW SE                                               011              00
                                                                                                                              PSNGR CAR          01 DRVR NONE  57 F  OR-Y       000          000              00
                                                                                                                                                                     OR<25
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CDS380     4/12/2018                                                        OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION                                                        PAGE: 4
                                                                                  TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                 CONTINUOUS SYSTEM CRASH LISTING

162 NORTH SANTIAM                                                                              Cascade Hwy & OR 22 Eastbound Ramps
                                                                                            January 1, 2011 through December 31, 2015

       S   D
       P   R S W                               RD#  FC   CONN #                       INT-TYP                                   SPCL USE
SER#   E A U C O DATE       COUNTY             CMPT/MLG FIRST  STREET        RD CHAR (MEDIAN)  INT-REL OFFRD WTHR  CRASH TYP    TRLR QTY   MOVE                  A S
INVEST E L G H R DAY/TIME   CITY               MILEPNT  SECOND STREET        DIRECT     LEGS   TRAF-   RNDBT SURF  COLL TYP     OWNER      FROM      PRTC INJ    G E LICNS PED
UNLOC? D C S L K LAT/LONG   URBAN AREA         LRS      INTERSECTION SEQ#    LOCTN    (#LANES) CNTL    DRVWY LIGHT SVRTY     V# VEH TYPE   TO     P# TYPE SVRTY  E X RES   LOC ERROR        ACTN EVENT        CAUSE

04256  N N N     11/03/2015 MARION             1    14  1                    INTER     CROSS   N           N CLR  S-OTHER    01 NONE     0 TURN-R                                                             07
                 Tue    4P                     CN    0                       SW                YIELD       N DRY  TURN          PRVTE      W  S                                             000               00
                            STAYTON UA          13.26                        09           1                N DAY  PDO          PSNGR CAR          01 DRVR NONE  00 F UNK       042          000               07
No     44 48 57.59  -122 47 39.51              0162BN100S00                                                                                                          OR<25

                                                                                                                             02 NONE     0 TURN-R
                                                                                                                                PRVTE      W  S                                             000               00
                                                                                                                               PSNGR CAR          01 DRVR NONE  31 F OR-Y      000          000               00
                                                                                                                                                                     OR<25

00223  N N N     01/22/2011 MARION             1    19  1                    INTER     CROSS   N           N CLR  S-1STOP    01 NONE     0 STRGHT                                                             07
NONE             Sat    3P                     CN    0                       W                 TRF SIGNAL  N DRY  REAR          PRVTE      W  E                                             000               00
                            STAYTON UA          13.26                        06           1                N DAY  PDO          PSNGR CAR          01 DRVR NONE  00 M OR-Y      026          000               07
No     44 48 57.59  -122 47 39.51              0162BN100S00                                                                                                          OR>25

                                                                                                                             02 NONE     0 STOP
                                                                                                                                PRVTE      W  E                                             011               00
                                                                                                                               PSNGR CAR          01 DRVR NONE  43 F OR-Y      000          000               00
                                                                                                                                                                     OR<25

00985  N N N     03/29/2011 MARION             1    19  1                    INTER     CROSS   N           N RAIN S-1STOP    01 NONE     0 STRGHT                                                             07
NONE             Tue    5P                     CN    0                       W                 YIELD       N WET  REAR          PRVTE      W  E                                             000               00
                            STAYTON UA          13.26                        06           1                N DAY  PDO          PSNGR CAR          01 DRVR NONE  20 M OR-Y      026          000               07
No     44 48 57.59  -122 47 39.51              0162BN100S00                                                                                                          OR<25

                                                                                                                             02 NONE     0 STOP
                                                                                                                                PRVTE      W  E                                             011               00
                                                                                                                               PSNGR CAR          01 DRVR NONE  32 F OR-Y      000          000               00
                                                                                                                                                                     OR<25

01498  Y N N N N 05/09/2011 MARION             1    19  1                    INTER     3-LEG   N           N CLD  S-1STOP    01 NONE     0 STRGHT                                                             27,01
STATE            Mon    4P                     CN    0                       W                 YIELD       N DRY  REAR          PRVTE      W  E                                             000               00
                            STAYTON UA          13.26                        06           1                N DAY  INJ          PSNGR CAR          01 DRVR NONE  48 M OR-Y      016,047,026  000               27,01
No     44 48 57.59  -122 47 39.51              0162BN100S00                                                                                                          OR>25

                                                                                                                             02 NONE     0 STOP
                                                                                                                                PRVTE      W  E                                             011               00
                                                                                                                               PSNGR CAR          01 DRVR NONE  66 F OR-Y      000          000               00
                                                                                                                                                                     OR<25
                                                                                                                                                  02 PSNG INJC  43 M           000          000               00

04435  N N N     12/23/2011 MARION             1    19  1                    INTER     CROSS   N           N CLR  S-1STOP    01 NONE     0 STRGHT                                                             07
NONE             Fri    9A                     CN    0                       W                 YIELD       N DRY  REAR          PRVTE      W  E                                             000               00
                            STAYTON UA          13.26                        06           1                N DAY  PDO          PSNGR CAR          01 DRVR NONE  62 F OR-Y      026          000               07
No     44 48 57.59  -122 47 39.51              0162BN100S00                                                                                                          OR<25

                                                                                                                             02 NONE     0 STOP
                                                                                                                                PRVTE      W  E                                             011               00
                                                                                                                               PSNGR CAR          01 DRVR NONE  57 F OR-Y      000          000               00
                                                                                                                                                                     OR<25
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       S   D
       P   R S W                               RD#  FC   CONN #                        INT-TYP                                    SPCL USE
SER#   E A U C O DATE       COUNTY             CMPT/MLG  FIRST  STREET        RD CHAR (MEDIAN)  INT-REL OFFRD WTHR  CRASH TYP     TRLR QTY  MOVE                   A S
INVEST E L G H R DAY/TIME   CITY               MILEPNT   SECOND STREET        DIRECT     LEGS   TRAF-   RNDBT SURF  COLL TYP      OWNER     FROM      PRTC INJ     G E  LICNS PED
UNLOC? D C S L K LAT/LONG   URBAN AREA         LRS       INTERSECTION SEQ#    LOCTN    (#LANES) CNTL    DRVWY LIGHT SVRTY     V# VEH TYPE   TO     P# TYPE SVRTY   E X  RES   LOC ERROR         ACTN EVENT        CAUSE

01509  N N N     05/04/2012 MARION             1    14   1                    INTER     CROSS   N           N CLR  S-1STOP    01 NONE    0 STRGHT                                                                 07
NONE             Fri    2P                     CN    0                        W                 TRF SIGNAL  N DRY  REAR           PRVTE     W  E                                                000               00
                            STAYTON UA          13.26                         06           1                N DAY  PDO           PSNGR CAR         01 DRVR NONE   00 F  OR-Y      026           000               07
No     44 48 57.59  -122 47 39.51              0162BN100S00                                                                                                                             UNK

                                                                                                                              02 NONE    0 STOP
                                                                                                                                  PRVTE     W  E                                                011               00
                                                                                                                                 PSNGR CAR         01 DRVR NONE   57 M  OR-Y      000           000               00
                                                                                                                                                                        OR>25

04457  N N N     12/27/2012 MARION             1    14   1                    INTER     CROSS   N           N CLR  S-1STOP    01 NONE    0 STRGHT                                                                 07
NONE             Thu    2P                     CN    0                        W                 TRF SIGNAL  N DRY  REAR           PRVTE     W  E                                                000               00
                            STAYTON UA          13.26                         06           1                N DAY  PDO           PSNGR CAR         01 DRVR NONE   00 F  OR-Y      026           000               07
No     44 48 57.59  -122 47 39.51              0162BN100S00                                                                                                                             OR<25

                                                                                                                              02 NONE    0 STOP
                                                                                                                                  PRVTE     W  E                                                011               00
                                                                                                                                 PSNGR CAR         01 DRVR NONE   48 F  OR-Y      000           000               00
                                                                                                                                                                        OR<25

04028  N N N     10/19/2015 MARION             1    14   1                    INTER     CROSS   N           N CLR  S-1STOP    01 NONE    0 STRGHT                                                                 07
NO RPT           Mon    4P                     CN    0                        W                 TRF SIGNAL  N DRY  REAR           PRVTE     W  E                                                000               00
                            STAYTON UA          13.26                         06           1                N DAY  INJ           PSNGR CAR         01 DRVR NONE   58 F  OR-Y      026           000               07
No     44 48 57.59  -122 47 39.51              0162BN100S00                                                                                                                             OR<25

                                                                                                                              02 NONE    0 STOP
                                                                                                                                  PRVTE     W  E                                                011               00
                                                                                                                                 PSNGR CAR         01 DRVR INJC   59 F  OR-Y      000           000               00
                                                                                                                                                                        OR<25

01464  N N N     04/23/2015 MARION             1    14   1                    INTER     CROSS   N           N CLR  S-1STOP    01 NONE    0 STRGHT                                                                 29
NONE             Thu   12P                     CN    0                        W                 YIELD       N DRY  REAR           PRVTE     NW SE                                               000               00
                            STAYTON UA          13.26                         09           1                N DAY  PDO           PSNGR CAR         01 DRVR NONE   00 M  UNK       026           000               29
No     44 48 57.59  -122 47 39.51              0162BN100S00                                                                                                                             OR<25

                                                                                                                              02 NONE    0 STOP
                                                                                                                                  PRVTE     NW SE                                               011               00
                                                                                                                                 PSNGR CAR         01 DRVR NONE   65 F  OR-Y      000           000               00
                                                                                                                                                                        OR<25
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CDS380     4/12/2018                                                       OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION                                                       PAGE: 1
                                                                                  TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                 URBAN NON-SYSTEM CRASH LISTING
CITY OF STAYTON,  MARION COUNTY                                                                     Cascade Hwy & Whitney St
                                                                                           January 1, 2011 through December 31, 2015

        S   D
        P   R S W                       CITY STREET                           INT-TYP                                        SPCL USE
SER#    E A U C O  DATE                 FIRST STREET               RD CHAR    (MEDIAN) INT-REL OFF-RD WTHR   CRASH TYP       TRLR QTY  MOVE                    A  S
INVEST  E L G H R  DAY/TIME     FC      SECOND STREET              DIRECT      LEGS    TRAF-   RNDBT  SURF   COLL TYP        OWNER     FROM        PRTC INJ    G  E LICNS   PED
UNLOC?  D C S L K  LAT/LONG     DISTNC  INTERSECTION SEQ #         LOCTN      (#LANES) CONTL   DRVWY  LIGHT  SVRTY       V#  VEH TYPE  TO      P#  TYPE SVRTY  E  X RES     LOC ERROR       ACTN EVENT         CAUSE

04711   N N N N N  12/30/2014   14      CASCADE HWY                INTER       3-LEG   N           N  CLR    ANGL-OTH    01  NONE   0  STRGHT                                                                 04
CITY               Tue    7P     0      WHITNEY ST                 CN                  TRF SIGNAL  N  DRY    TURN            PRVTE     S   N                                                 000             00
No     44 48 48.85  -122 47 39.48        1                         02            0                 N  DLIT   PDO           PSNGR CAR           01  DRVR NONE   26 F OR-Y        020         000             04
                                                                                                                                                                    OR<25
                                                                                                                                               02  PSNG NO<5   03 M             000         000             00

                                                                                                                         02  NONE   0  TURN-L
                                                                                                                             PRVTE     E   S                                                 000             00
                                                                                                                           PSNGR CAR           01  DRVR NONE   21 M OR-Y        000         000             00
                                                                                                                                                                    OR<25
04292   N N N      11/29/2014   14      CASCADE HWY                INTER       3-LEG   N           N  CLR    O-1 L-TURN  01  NONE   0  STRGHT                                                                 02
CITY               Sat   11P     0      WHITNEY ST                 CN                  TRF SIGNAL  N  ICE    TURN            PRVTE     S   N                                                 000             00
No     44 48 48.85  -122 47 39.48        1                         04            0                 N  DLIT   INJ           PSNGR CAR           01  DRVR NONE   34 F OR-Y        000         000             00
                                                                                                                                                                    OR<25
                                                                                                                         02  NONE   0  TURN-L
                                                                                                                             PRVTE     N   E                                                 000             00
                                                                                                                           PSNGR CAR           01  DRVR NONE   26 F OR-Y        028,004     000             02
                                                                                                                                                                    OR<25
                                                                                                                                               02  PSNG INJA   50 F             000         000             00
```

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Cascade Hwy & Whitney St
January 1, 2011 through December 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														
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	0	2	2	0	0
2014 TOTAL	0	1	1	2	0	1	0	1	1	0	2	2	0	0
FINAL TOTAL	0	1	1	2	0	1	0	1	1	0	2	2	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF STAYTON, MARION COUNTY

Fatal Crashes in City of Stayton 01/01/2017 through 12/31/2017*
*Crash data file for 2017 is approximately 55% complete. The data is preliminary and subject to change.

```
        S   D
        P   R S W                       CITY STREET                           INT-TYP                                        SPCL USE
SER#    E A U C O   DATE                FIRST STREET               RD CHAR   (MEDIAN)  INT-REL OFF-RD WTHR   CRASH TYP       TRLR QTY   MOVE                   A  S
INVEST  E L G H R   DAY/TIME    FC      SECOND STREET              DIRECT      LEGS    TRAF-   RNDBT  SURF   COLL TYP        OWNER      FROM       PRTC  INJ   G  E LICNS   PED
UNLOC?  D C S L K   LAT/LONG    DISTNC  INTERSECTION SEQ #         LOCTN     (#LANES)  CONTL   DRVWY  LIGHT  SVRTY       V#  VEH TYPE   TO     P#  TYPE  SVRTY E  X RES     LOC ERROR        ACTN EVENT        CAUSE

03681   N N N N N   09/07/2017  16      CASCADE HWY                INTER       3-LEG   N            N CLD    ANGL-OTH    01  NONE   0   STRGHT                                                                 04
CITY                Thu    9A    0      WHITNEY ST                 CN                  TRF SIGNAL   N DRY    TURN            PRVTE      S   N                                                 000              00
No     44 48 48.85   -122 47 39.48       1                         02            0                  N DAY    FAT            PSNGR CAR          01  DRVR  INJC  72 M OR-Y        020           000              04
                                                                                                                                                                    OR<25

                                                                                                                         02  NONE   0   TURN-L
                                                                                                                             PRVTE      E   S                                                 000              00
                                                                                                                            PSNGR CAR          01  DRVR  KILL  55 F OR-Y        000           000              00
                                                                                                                                                                    OR<25
                                                                                                                                               02  PSNG  INJA  54 M             000           000              00
```

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Fatal Crashes in City of Stayton 01/01/2017 through 12/31/2017*
*Crash data file for 2017 is approximately 55% complete. The data is preliminary and subject to change.

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: 2017														
TURNING MOVEMENTS	1	0	0	1	1	2	0	1	0	1	0	1	0	0
2017 TOTAL	1	0	0	1	1	2	0	1	0	1	0	1	0	0
FINAL TOTAL	1	0	0	1	1	2	0	1	0	1	0	1	0	0

Disclaimers: *Effective 2016,* ***collection of “Property Damage Only” (PDO) crash data elements was reduced for vehicles and participants.*** *Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.*

A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable , non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre- 2011 crash statistics. For all disclaimers, see https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf.

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                                          OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
                                              TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                           URBAN NON-SYSTEM CRASH LISTING
CITY OF STAYTON,  MARION COUNTY                               Cascade Hwy / 1st Ave / Shaff Rd/ Fern Ridge Rd
                                                             January 1, 2011 through December 31, 2015
       S   D
       P   R S W                   CITY STREET                        INT-TYP                                 SPCL USE
SER#   E A U C O  DATE             FIRST STREET            RD CHAR   (MEDIAN) INT-REL OFF-RD WTHR  CRASH TYP    TRLR QTY MOVE                     A S
INVEST E L G H R  DAY/TIME    FC   SECOND STREET           DIRECT     LEGS    TRAF-   RNDBT  SURF  COLL TYP     OWNER    FROM      PRTC INJ    G E LICNS  PED
UNLOC? D C S L K  LAT/LONG    DISTNC INTERSECTION SEQ #    LOCTN     (#LANES) CONTL   DRVWY  LIGHT SVRTY     V# VEH TYPE TO     P# TYPE SVRTY  E X RES    LOC ERROR      ACTN EVENT     CAUSE

02526  N N N      07/31/2012  14   FERN RIDGE RD           INTER      CROSS   N           N CLR   S-1STOP   01 NONE   0 STRGHT                                                          07
NONE              Tue    6P    0   1ST AVE                 N                  TRF SIGNAL  N DRY   REAR         PRVTE    N   S                                            000           00
No     44 48 35.15  -122 47 39.51   1                      06           0                 N DAY   PDO        PSNGR CAR         01 DRVR NONE   00 M UNK          026        000           07
                                                                                                                                                 OR>25

                                                                                                    02 NONE   0 STOP
                                                                                                       PRVTE    N   S                                            011           00
                                                                                                     PSNGR CAR         01 DRVR NONE   42 F OR-Y         000        000           00
                                                                                                                                                 OR<25

04319  Y N N N N  12/06/2013  14   FERN RIDGE RD           INTER      CROSS   N           N SNOW  ANGL-STP  01 NONE   0 STRGHT                                               013     04,01
CITY              Fri   10A    0   1ST AVE                 N                  TRF SIGNAL  N ICE   ANGL         PRVTE    E   W                                            000           00
No     44 48 35.15  -122 47 39.51   1                      06           0                 N DAY   INJ        PSNGR CAR         01 DRVR NONE   42 F OR-Y         020,047    000           04,01
                                                                                                                                                 OR<25

                                                                                                    02 NONE   0 STOP
                                                                                                       PRVTE    N   S                                            012 013       00
                                                                                                     PSNGR CAR         01 DRVR INJC   49 F OR-Y         000        000           00
                                                                                                                                                 OR<25

                                                                                                    03 NONE   0 STOP
                                                                                                       PRVTE    N   S                                            022           00
                                                                                                     PSNGR CAR         01 DRVR NONE   49 M OR-Y         000        000           00
                                                                                                                                                 OR<25

03592  N N N      10/24/2012  17   FERN RIDGE RD           INTER      CROSS   N           N RAIN  S-1STOP   01 NONE   0 STRGHT                                                          07
NONE              Wed    5P    0   1ST AVE                 E                  TRF SIGNAL  N WET   REAR         PRVTE    E   W                                            000           00
No     44 48 35.15  -122 47 39.51   1                      06           0                 N DAY   PDO        PSNGR CAR         01 DRVR NONE   00 M OR-Y         026        000           07
                                                                                                                                                 UNK

                                                                                                    02 NONE   0 STOP
                                                                                                       PRVTE    E   W                                            011           00
                                                                                                     PSNGR CAR         01 DRVR NONE   36 F OR-Y         000        000           00
                                                                                                                                                 OR<25

00252  N N N      01/20/2012  14   FERN RIDGE RD           INTER      CROSS   N           N RAIN  PED       01 NONE   0 TURN-L                                                          02
CITY              Fri    7A    0   1ST AVE                 S                  TRF SIGNAL  N WET   PED          PRVTE    E   S                                            000           00
No     44 48 35.15  -122 47 39.51   1                      05           0                 N DAWN  INJ        PSNGR CAR         01 DRVR NONE   16 F OR-Y         029,017    000           02
                                                                                                                                                 OR<25
                                                                                                                        STRGHT 01 PED  INJC   14 M         01  000        035           00
                                                                                                                        W   E

01976  N N N N N  06/15/2012  14   FERN RIDGE RD           INTER      CROSS   N           N CLR   S-1STOP   01 NONE   0 STRGHT                                                          07
CITY              Fri    2P    0   1ST AVE                 S                  TRF SIGNAL  N DRY   REAR         PRVTE    S   N                                            000           00
No     44 48 35.15  -122 47 39.51   1                      06           0                 N DAY   PDO        PSNGR CAR         01 DRVR NONE   16 F OR-Y         043,026    000           07
                                                                                                                                                 OR<25

                                                                                                    02 NONE   0 STOP
                                                                                                       PRVTE    S   N                                            011           00
                                                                                                     PSNGR CAR         01 DRVR NONE   52 M OR-Y         000        000           00
                                                                                                                                                 OR>25

03852  N N N      11/13/2012  14   FERN RIDGE RD           INTER      CROSS   N           N CLR   ANGL-OTH  01 NONE   0 STRGHT                                                          04
CITY              Tue    8P    0   1ST AVE                 CN                 TRF SIGNAL  N WET   ANGL         PRVTE    E   W                                            000           00
No     44 48 35.15  -122 47 39.51   1                      02           0                 N DLIT  PDO        PSNGR CAR         01 DRVR NONE   19 M OR-Y         020        000           04
                                                                                                                                                 OR<25
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       S   D
       P   R S W                     CITY STREET                         INT-TYP                                    SPCL USE
SER#   E A U C O  DATE               FIRST STREET              RD CHAR  (MEDIAN) INT-REL OFF-RD WTHR  CRASH TYP     TRLR QTY  MOVE                   A S
INVEST E L G H R  DAY/TIME    FC     SECOND STREET             DIRECT     LEGS   TRAF-   RNDBT  SURF  COLL TYP      OWNER     FROM        PRTC INJ   G E LICNS  PED
UNLOC? D C S L K  LAT/LONG    DISTNC INTERSECTION SEQ #        LOCTN    (#LANES) CONTL   DRVWY  LIGHT SVRTY     V#  VEH TYPE  TO      P#  TYPE SVRTY E X RES    LOC ERROR       ACTN EVENT       CAUSE

                                                                                                                02  NONE   0  STRGHT
                                                                                                                    PRVTE     S   N                                              000              00
                                                                                                                   PSNGR CAR          01  DRVR NONE 19 F OR-Y       000         000              00
                                                                                                                                                         OR<25

01801  N N N N N  06/04/2011  14     FERN RIDGE RD             INTER      CROSS  N            N CLR   ANGL-OTH  01  NONE   0  STRGHT                                                             04
CITY              Sat    8A    0     1ST AVE                   CN                TRF SIGNAL   N DRY   ANGL          PRVTE     W   E                                              000              00
No     44 48 35.17 -122 47 39.51      1                        03            0                N DAY   INJ          PSNGR CAR          01  DRVR INJC 47 F OR-Y       097         000              00
                                                                                                                                                         OR<25

                                                                                                                02  NONE   0  STRGHT
                                                                                                                    PRVTE     N   S                                              000              00
                                                                                                                   PSNGR CAR          01  DRVR NONE 35 M OTH-Y      097         000              00
                                                                                                                                                         OR<25
                                                                                                                                      02  PSNG INJB 32 F            000         000              00
                                                                                                                                      03  PSNG INJB 07 F            000         000              00

03057  N N N N N  09/15/2011  17     FERN RIDGE RD             INTER      CROSS  N            N CLD   ANGL-OTH  01  NONE   0  STRGHT                                                             04
CITY              Thu    1P    0     1ST AVE                   CN                TRF SIGNAL   N DRY   ANGL          PRVTE     W   E                                              000              00
No     44 48 35.17 -122 47 39.51      1                        04            0                N DAY   INJ          PSNGR CAR          01  DRVR NONE 24 M OR-Y       020         000              04
                                                                                                                                                         OR>25

                                                                                                                02  NONE   0  STRGHT
                                                                                                                    PRVTE     S   N                                              000              00
                                                                                                                   PSNGR CAR          01  DRVR INJB 65 F OR-Y       000         000              00
                                                                                                                                                         OR<25

03644  N N N      10/27/2012  14     SHAFF RD                  INTER      CROSS  N            N RAIN  S-1STOP   01  NONE   0  STRGHT                                                             07
NONE              Sat   11A    0     1ST AVE                   N                 TRF SIGNAL   N WET   REAR          PRVTE     N   S                                              000              00
No     44 48 35.15 -122 47 39.51      1                        06            0                N DAY   PDO          PSNGR CAR          01  DRVR NONE 62 M OR-Y       026         000              07
                                                                                                                                                         OR<25

                                                                                                                02  NONE   0  STOP
                                                                                                                    PRVTE     N   S                                              011              00
                                                                                                                   PSNGR CAR          01  DRVR NONE 30 M OR-Y       000         000              00
                                                                                                                                                         OR<25

03967  N N N      11/20/2012  16     SHAFF RD                  INTER      CROSS  N            N CLR   S-1STOP   01  NONE   0  STRGHT                                                             07
NONE              Tue    6P    0     1ST AVE                   W                 TRF SIGNAL   N DRY   REAR          PRVTE     W   E                                              000              00
No     44 48 35.15 -122 47 39.51      1                        06            0                N DUSK  PDO          PSNGR CAR          01  DRVR NONE 00 M UNK        026         000              07
                                                                                                                                                         OR<25

                                                                                                                02  NONE   0  STOP
                                                                                                                    PRVTE     W   E                                              011              00
                                                                                                                   PSNGR CAR          01  DRVR NONE 43 F OR-Y       000         000              00
                                                                                                                                                         OR>25

01699  N N N      05/22/2012  16     SHAFF RD                  INTER      CROSS  N            N CLD   ANGL-OTH  01  NONE   0  STRGHT                                                             04
CITY              Tue    4P    0     1ST AVE                   CN                TRF SIGNAL   N WET   ANGL          PRVTE     N   S                                              000              00
No     44 48 35.15 -122 47 39.51      1                        03            0                N DAY   INJ          PSNGR CAR          01  DRVR NONE 27 M NONE       020         000              04
                                                                                                                                                         OR<25

                                                                                                                02  NONE   0  STRGHT
                                                                                                                    PRVTE     W   E                                              000              00
                                                                                                                   PSNGR CAR          01  DRVR NONE 52 M OR-Y       000         000              00
                                                                                                                                                         OR<25
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CDS380     4/12/2018                                                       OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION                                                       PAGE: 3
                                                                                 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                URBAN NON-SYSTEM CRASH LISTING
CITY OF STAYTON,  MARION COUNTY                                                         Cascade Hwy / 1st Ave / Shaff Rd/ Fern Ridge Rd
                                                                                           January 1, 2011 through December 31, 2015

        S   D
        P   R S W                       CITY STREET                           INT-TYP                                       SPCL USE
SER#    E A U C O   DATE                FIRST STREET               RD CHAR   (MEDIAN)  INT-REL OFF-RD WTHR   CRASH TYP       TRLR QTY   MOVE                   A  S
INVEST  E L G H R   DAY/TIME      FC    SECOND STREET              DIRECT       LEGS   TRAF-   RNDBT  SURF   COLL TYP        OWNER      FROM       PRTC  INJ   G  E LICNS   PED
UNLOC?  D C S L K   LAT/LONG    DISTNC  INTERSECTION SEQ #         LOCTN     (#LANES)  CONTL   DRVWY  LIGHT  SVRTY       V#  VEH TYPE   TO     P#  TYPE  SVRTY E  X RES     LOC ERROR       ACTN EVENT        CAUSE
                                                                                                                                               02  PSNG  INJC  69 F             000          000            00

02216   N N N N N   07/07/2012   14     SHAFF RD                   INTER       CROSS   N            N CLR    ANGL-OTH    01  NONE    0  TURN-L                                                                 04
CITY                Sat    6A     0     1ST AVE                    CN                  TRF SIGNAL   N DRY    TURN            PRVTE      N   E                                                 000            00
No     44 48 35.15   -122 47 39.51       1                         03            0                  N DAY    PDO            PSNGR CAR          01  DRVR  NONE  55 F OR-Y        097          000            00
                                                                                                                                                                    OR>25

                                                                                                                         02  NONE    0  TURN-L
                                                                                                                             PRVTE      W   N                                                 000            00
                                                                                                                            PSNGR CAR          01  DRVR  NONE  49 M OR-Y        097          000            00
                                                                                                                                                                    OR<25

02216   N N N N N   07/05/2014   14     SHAFF RD                   INTER       CROSS   N            N CLR    ANGL-OTH    01  NONE    0  STRGHT                                                                 04
CITY                Sat     7P    0     1ST AVE                    CN                  TRF SIGNAL   N DRY    ANGL            PRVTE      N   S                                                 000            00
No     44 48 35.23   -122 47 39.35       1                         03            0                  N DAY    INJ            PSNGR CAR          01  DRVR  INJB  84 M OR-Y        020          000            04
                                                                                                                                                                    OR<25

                                                                                                                         02  NONE    0  STRGHT
                                                                                                                             PRVTE      W   E                                                 000            00
                                                                                                                            PSNGR CAR          01  DRVR  INJB  51 M OR-Y        000          000            00
                                                                                                                                                                    OR<25

00624   N N N N N   02/22/2014   14     SHAFF RD                   INTER       CROSS   N            N CLR    ANGL-OTH    01  NONE    0  STRGHT                                                    010          04,27
CITY                Sat    3A     0     1ST AVE                    CN                  TRF SIGNAL   N DRY    ANGL            PRVTE      S   N                                                 000            00
No     44 48 35.23   -122 47 39.35       1                         04            0                  N DLIT   INJ            PSNGR CAR          01  DRVR  INJB  57 F OR-Y        000          000            00
                                                                                                                                                                    OR<25

                                                                                                                         02  NONE    0  STRGHT
                                                                                                                             PRVTE      W   E                                                 000 010        00
                                                                                                                            PSNGR CAR          01  DRVR  INJC  22 F OR-Y        020,016      038            04,27
                                                                                                                                                                    OR<25
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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Cascade Hwy / 1st Ave / Shaff Rd/ Fern Ridge Rd
January 1, 2011 through December 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	2	0	2	0	4	0	2	0	1	1	2	0	0
2014 TOTAL	0	2	0	2	0	4	0	2	0	1	1	2	0	0
YEAR: 2013														
ANGLE	0	1	0	1	0	1	0	0	1	1	0	1	0	0
2013 TOTAL	0	1	0	1	0	1	0	0	1	1	0	1	0	0
YEAR: 2012														
ANGLE	0	1	1	2	0	1	0	0	2	1	1	2	0	0
PEDESTRIAN	0	1	0	1	0	1	0	0	1	0	1	1	0	0
REAR-END	0	0	5	5	0	0	0	3	2	4	1	5	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2012 TOTAL	0	2	7	9	0	2	0	4	5	6	3	9	0	0
YEAR: 2011														
ANGLE	0	2	0	2	0	4	0	2	0	2	0	2	0	0
2011 TOTAL	0	2	0	2	0	4	0	2	0	2	0	2	0	0
FINAL TOTAL	0	7	7	14	0	11	0	8	6	10	4	14	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

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                                                                                 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                URBAN NON-SYSTEM CRASH LISTING
CITY OF STAYTON,  MARION COUNTY                                                                       1st Ave & Regis St
                                                                                           January 1, 2011 through December 31, 2015

        S   D
        P   R S W                       CITY STREET                            INT-TYP                                       SPCL USE
SER#    E A U C O   DATE                FIRST STREET               RD CHAR    (MEDIAN) INT-REL OFF-RD WTHR   CRASH TYP       TRLR QTY  MOVE                    A  S
INVEST  E L G H R   DAY/TIME    FC      SECOND STREET              DIRECT       LEGS   TRAF-   RNDBT  SURF   COLL TYP        OWNER     FROM        PRTC  INJ   G  E LICNS   PED
UNLOC?  D C S L K   LAT/LONG    DISTNC  INTERSECTION SEQ #         LOCTN      (#LANES) CONTL   DRVWY  LIGHT  SVRTY       V#  VEH TYPE  TO      P#  TYPE  SVRTY E  X RES     LOC ERROR       ACTN EVENT        CAUSE

01124   N N N       04/08/2014  14      REGIS ST                   INTER       3-LEG   N            N CLR    S-1STOP     01  NONE    0 STRGHT                                                     006,013      07
CITY                Tue   6P     0      1ST AVE                    N                   STOP SIGN    N DRY    REAR            PRVTE     N   S                                             000              00
No     44 48 28.68   -122 47 39.42       1                         06            0                  N DAY    INJ           PSNGR CAR         01  DRVR  NONE  79 M OR-Y        026        000              07
                                                                                                                                                                    OR<25

                                                                                                                         02  NONE    0 STOP
                                                                                                                             PRVTE     N   S                                             011 013          00
                                                                                                                           PSNGR CAR         01  DRVR  INJC  38 F OR-Y        000        000              00
                                                                                                                                                                    OR<25

                                                                                                                         03  NONE    0 STOP
                                                                                                                             PRVTE     N   S                                             022 006          00
                                                                                                                           PSNGR CAR         01  DRVR  INJC  57 F OR-Y        000        000              00
                                                                                                                                                                    OR<25
                                                                                                                                               02  PSNG  INJC  54 F             000        000              00

00997   N N N N N   04/03/2013  14      REGIS ST                   INTER       3-LEG   N            N CLR    S-1STOP     01  NONE    0 STRGHT                                                     004          07
CITY                Wed   3P     0      1ST AVE                    CN                  UNKNOWN      N DRY    REAR            PRVTE     N   S                                             000              00
No     44 48 28.68   -122 47 39.52       1                         03            0                  N DAY    INJ           PSNGR CAR         01  DRVR  INJB  38 F OR-Y        043,026    000              07
                                                                                                                                                                    OR<25
                                                                                                                                               02  PSNG  INJC  02 M             000        000              00

                                                                                                                         02  NONE    0 STOP
                                                                                                                             PRVTE     N   S                                             011 004          00
                                                                                                                           PSNGR CAR         01  DRVR  INJC  72 F OR-Y        000        000              00
                                                                                                                                                                    OR<25
                                                                                                                                               02  PSNG  INJC  70 F             000        000              00
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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

1st Ave & Regis St
January 1, 2011 through December 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														
REAR-END	0	1	0	1	0	3	0	1	0	1	0	1	0	0
2014 TOTAL	0	1	0	1	0	3	0	1	0	1	0	1	0	0
YEAR: 2013														
REAR-END	0	1	0	1	0	4	0	1	0	1	0	1	0	0
2013 TOTAL	0	1	0	1	0	4	0	1	0	1	0	1	0	0
FINAL TOTAL	0	2	0	2	0	7	0	2	0	2	0	2	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

1st Ave & Hollister St
January 1, 2011 through December 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: 2011														
ANGLE	0	1	0	1	0	2	0	1	0	1	0	1	0	0
2011 TOTAL	0	1	0	1	0	2	0	1	0	1	0	1	0	0
FINAL TOTAL	0	1	0	1	0	2	0	1	0	1	0	1	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

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CDS380     4/10/2018                                                       OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION                                                       PAGE: 1
                                                                                 TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                URBAN NON-SYSTEM CRASH LISTING
CITY OF STAYTON,  MARION COUNTY                                                                     1st Ave & Hollister St
                                                                                           January 1, 2011 through December 31, 2015
        S   D
        P   R S W                       CITY STREET                           INT-TYP                                        SPCL USE
SER#    E A U C O   DATE                FIRST STREET               RD CHAR   (MEDIAN)  INT-REL OFF-RD WTHR   CRASH TYP       TRLR QTY  MOVE                    A  S
INVEST  E L G H R   DAY/TIME    FC      SECOND STREET              DIRECT      LEGS    TRAF-   RNDBT  SURF   COLL TYP        OWNER     FROM       PRTC  INJ    G  E LICNS  PED
UNLOC?  D C S L K   LAT/LONG    DISTNC  INTERSECTION SEQ #         LOCTN     (#LANES)  CONTL   DRVWY  LIGHT  SVRTY       V#  VEH TYPE  TO      P# TYPE  SVRTY  E  X RES    LOC ERROR       ACTN EVENT         CAUSE

01948   N N N N N   06/17/2011  14      HOLLISTER ST               INTER       CROSS   N            N CLR    ANGL-OTH    01  NONE   0  STRGHT                                                                  03
CITY                Fri    5P    0      1ST AVE                    CN                  STOP SIGN    N DRY    ANGL            PRVTE     E   W                                                 000               00
No     44 48 15.62   -122 47 39.52       1                         01            0                  N DAY    INJ           PSNGR CAR           01 DRVR  NONE  26  M OR-Y        021          000               03
                                                                                                                                                                    OR<25
                                                                                                                                               02 PSNG  INJC  24  F             000          000               00
                                                                                                                                               03 PSNG  NO<5  01  M             000          000               00
                                                                                                                                               04 PSNG  INJC  03  F             000          000               00
                                                                                                                                               05 PSNG  NO<5  02  F             000          000               00

                                                                                                                         02  NONE   0  STRGHT
                                                                                                                             PRVTE     N   S                                                 000               00
                                                                                                                           PSNGR CAR           01 DRVR  NONE  22  F OR-Y        000          000               00
                                                                                                                                                                    OR<25
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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

1st Ave & Locust St
January 1, 2011 through December 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														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2015 TOTAL	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR: 2013														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2013 TOTAL	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR: 2012														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2012 TOTAL	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR: 2011														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2011 TOTAL	0	0	1	1	0	0	0	1	0	1	0	1	0	0
FINAL TOTAL	0	0	4	4	0	0	0	4	0	4	0	4	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

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CDS380     4/10/2018                                                         OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION                                                          PAGE: 1
                                                                                   TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                  URBAN NON-SYSTEM CRASH LISTING
CITY OF STAYTON,  MARION COUNTY                                                                         1st Ave & Locust St
                                                                                             January 1, 2011 through December 31, 2015

        S   D
        P   R S W                        CITY STREET                            INT-TYP                                         SPCL USE
SER#    E A U C O   DATE                 FIRST STREET                RD CHAR    (MEDIAN) INT-REL OFF-RD  WTHR   CRASH TYP       TRLR QTY   MOVE                    A  S
INVEST  E L G H R   DAY/TIME     FC      SECOND STREET               DIRECT      LEGS    TRAF-   RNDBT   SURF   COLL TYP        OWNER      FROM        PRTC  INJ   G  E LICNS   PED
UNLOC?  D C S L K   LAT/LONG     DISTNC  INTERSECTION SEQ #          LOCTN      (#LANES) CONTL   DRVWY   LIGHT  SVRTY       V#  VEH TYPE   TO      P#  TYPE  SVRTY E  X RES     LOC ERROR        ACTN EVENT        CAUSE

04050   N N N N N   10/20/2015   16      LOCUST ST                   INTER       3-LEG   N            N  CLR    ANGL-OTH    01  NONE   0   TURN-L                                                                  02
CITY                Tue    3P     0      1ST AVE                     N                   STOP SIGN    N  DRY    TURN            PRVTE      W   N                                                 000               00
No      44 48  9.26  -122 47 39.57        1                          05             0                 N  DAY    PDO           PSNGR CAR            01  DRVR  NONE  16 F OR-Y        028          000               02
                                                                                                                                                                        OR<25

                                                                                                                            02  NONE   0   STRGHT
                                                                                                                                PRVTE      S   N                                                 000               00
                                                                                                                              PSNGR CAR            01  DRVR  NONE  57 F OR-Y        000          000               00
                                                                                                                                                                        OR>25
03138   Y N N       09/22/2011   17      LOCUST ST                   INTER       CROSS   N            N  CLR    S-1STOP     01  NONE   0   STRGHT                                                                  01
NONE                Thu    6P     0      1ST AVE                     W                   STOP SIGN    N  DRY    REAR            PRVTE      W   E                                                 000               00
No      44 48  9.29  -122 47 39.57        1                          06             0                 N  DAY    PDO           PSNGR CAR            01  DRVR  NONE  31 F OR-Y        047,026      000               01
                                                                                                                                                                        OR<25
                                                                                                                                                   02  PSNG  NO<5  04 F             000          000               00

                                                                                                                            02  NONE   0   STOP
                                                                                                                                PRVTE      W   E                                                 011               00
                                                                                                                              PSNGR CAR            01  DRVR  NONE  17 F OR-Y        000          000               00
                                                                                                                                                                        OR<25
01025   N N N       03/23/2012   14      LOCUST ST                   INTER       3-LEG   N            N  CLR    S-1STOP     01  NONE   0   STRGHT                                                    004           07
NO RPT              Fri   12P     0      1ST AVE                     CN                  UNKNOWN      N  DRY    REAR            PRVTE      S   N                                                 000               00
No      44 48  9.26  -122 47 39.57        1                          02             0                 N  DAY    PDO           PSNGR CAR            01  DRVR  NONE  34 F OR-Y        026          000               07
                                                                                                                                                                        OR<25

                                                                                                                            02  NONE   0   STOP
                                                                                                                                PRVTE      S   N                                                 011 004           00
                                                                                                                              PSNGR CAR            01  DRVR  NONE  47 F OR-Y        000          000               00
                                                                                                                                                                        OR<25
01687   N N N Y     05/24/2013   14      LOCUST ST                   INTER       3-LEG   N            N  CLR    ANGL-OTH    01  NONE   0   TURN-L                                                                  02
CITY                Fri    2P     0      1ST AVE                     CN                  STOP SIGN    N  DRY    TURN            PRVTE      W   N                                                 015               00
No      44 48  9.26  -122 47 39.57        1                          02             0                 N  DAY    PDO           PSNGR CAR            01  DRVR  NONE  25 F OR-Y        028          000               02
                                                                                                                                                                        OR<25

                                                                                                                            02  NONE   0   STRGHT
                                                                                                                                PRVTE      S   N                                                 000               00
                                                                                                                              PSNGR CAR            01  DRVR  NONE  47 F OR-Y        000          000               00
                                                                                                                                                                        OR<25
                                                                                                                                                   02  PSNG  NO<5  02 M             000          000               00
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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

1st Ave & Washington St
January 1, 2011 through December 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														
TURNING MOVEMENTS	0	1	1	2	0	1	0	2	0	0	2	2	0	0
2014 TOTAL	0	1	1	2	0	1	0	2	0	0	2	2	0	0
YEAR: 2013														
ANGLE	0	1	0	1	0	1	0	1	0	1	0	1	0	0
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	2	0	2	0	2	1	1	1	2	0	2	0	0
2013 TOTAL	0	4	0	4	0	4	1	3	1	4	0	4	0	0
YEAR: 2012														
TURNING MOVEMENTS	0	1	1	2	0	2	0	2	0	2	0	2	0	0
2012 TOTAL	0	1	1	2	0	2	0	2	0	2	0	2	0	0
YEAR: 2011														
TURNING MOVEMENTS	0	0	2	2	0	0	0	0	2	2	0	2	0	0
2011 TOTAL	0	0	2	2	0	0	0	0	2	2	0	2	0	0
FINAL TOTAL	0	6	4	10	0	7	1	7	3	8	2	10	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

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CDS380     4/10/2018                                                       OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION                                                        PAGE: 1
                                                                                  TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                 URBAN NON-SYSTEM CRASH LISTING

CITY OF STAYTON,  MARION COUNTY                                                                     1st Ave & Washington St
                                                                                            January 1, 2011 through December 31, 2015

        S   D
        P   R S W                       CITY STREET                           INT-TYP                                        SPCL USE
SER#    E A U C O  DATE                 FIRST STREET               RD CHAR   (MEDIAN) INT-REL OFF-RD  WTHR  CRASH TYP        TRLR QTY   MOVE                   A  S
INVEST  E L G H R  DAY/TIME    FC       SECOND STREET              DIRECT      LEGS   TRAF-   RNDBT   SURF  COLL TYP         OWNER      FROM        PRTC  INJ    G  E  LICNS   PED
UNLOC?  D C S L K  LAT/LONG    DISTNC   INTERSECTION SEQ #         LOCTN     (#LANES) CONTL   DRVWY   LIGHT SVRTY       V#   VEH TYPE   TO     P#   TYPE  SVRTY  E  X  RES     LOC  ERROR         ACTN  EVENT          CAUSE

00129   N N N      01/13/2014  14       WASHINGTON ST              INTER       CROSS  N            N  CLR   O-OTHER     01   NONE    0  TURN-R                                                                     02
NONE               Mon    8P    0       1ST AVE                    N                  TRF SIGNAL   N  DRY   TURN             PRVTE      E   N                                                 000               00
No      44 48  2.70  -122 47 39.57       1                         05            0                 N  DLIT  INJ            PSNGR CAR         01   DRVR  NONE  20  F  OR-Y          000           000               00
                                                                                                                                                                     OR<25
                                                                                                                                         02   PSNG  INJC  15  F                000           000               00

                                                                                                                        02   NONE    0  TURN-L
                                                                                                                             PRVTE      W   N                                                 000               00
                                                                                                                           PSNGR CAR         01   DRVR  NONE  43  M  OR-Y          004,028       000               02
                                                                                                                                                                     OR<25
00900   N N N      03/23/2013  14       WASHINGTON ST              INTER       CROSS  N            N  CLR   S-1STOP     01   NONE    0  STRGHT                                                                     07
NONE               Sat    2P    0       1ST AVE                    N                  TRF SIGNAL   N  DRY   REAR             PRVTE      N   S                                                 000               00
No      44 48  2.75  -122 47 39.67       1                         06            0                 N  DAY   INJ            PSNGR CAR         01   DRVR  NONE  19  M  OR-Y          026           000               07
                                                                                                                                                                     OR<25

                                                                                                                        02   NONE    0  STOP
                                                                                                                             PRVTE      N   S                                                 012               00
                                                                                                                           PSNGR CAR         01   DRVR  NONE  34  M  OR-Y          000           000               00
                                                                                                                                                                     OR<25
                                                                                                                                         02   PSNG  INJC  36  F                000           000               00
03495   N N N N N  10/08/2013  16       WASHINGTON ST              INTER       CROSS  N            N  CLD   S-OTHER     01   NONE    1  TURN-R                                                                     08,06
CITY               Tue    5P    0       1ST AVE                    W                  L-GRN-SIG    N  WET   TURN             PRVTE      W   S                                                 000               00
No      44 48  2.75  -122 47 39.67       1                         06            0                 N  DAY   INJ            SEMI TOW          01   DRVR  NONE  55  M  OR-Y          006           000               08
                                                                                                                                                                     OR<25

                                                                                                                        02   NONE    0  TURN-R
                                                                                                                             PRVTE      W   S                                                 031               00
                                                                                                                           PSNGR CAR         01   DRVR  INJB  43  F  OR-Y          032           000               06
                                                                                                                                                                     OR<25
00480   N N N      02/14/2011  14       WASHINGTON ST              INTER       CROSS  N            N  RAIN  O-1 L-TURN  01   NONE    0  STRGHT                                                                     02
NO RPT             Mon    4P    0       1ST AVE                    CN                 TRF SIGNAL   N  WET   TURN             PRVTE      N   S                                                 000               00
No      44 48  2.77  -122 47 39.67       1                         01            0                 N  DAY   PDO            PSNGR CAR         01   DRVR  NONE  36  F  OR-Y          000           000               00
                                                                                                                                                                     OR<25

                                                                                                                        02   NONE    0  TURN-L
                                                                                                                             PRVTE      S   W                                                 000               00
                                                                                                                           PSNGR CAR         01   DRVR  NONE  23  M  OR-Y          004,028       000               02
                                                                                                                                                                     OR>25
00931   N N N N N  03/25/2011  14       WASHINGTON ST              INTER       CROSS  N            N  RAIN  O-1 L-TURN  01   NONE    0  STRGHT                                                                     02
CITY               Fri    8A    0       1ST AVE                    CN                 TRF SIGNAL   N  WET   TURN             PRVTE      N   S                                                 000               00
No      44 48  2.77  -122 47 39.67       1                         01            0                 N  DAY   PDO            PSNGR CAR         01   DRVR  NONE  43  F  OR-Y          000           000               00
                                                                                                                                                                     OR<25

                                                                                                                        02   NONE    0  TURN-L
                                                                                                                             PRVTE      S   W                                                 000               00
                                                                                                                           PSNGR CAR         01   DRVR  NONE  20  M  OR-Y          004,028       000               02
                                                                                                                                                                     OR<25
00678   N N N N N  02/24/2012  14       WASHINGTON ST              INTER       CROSS  N            N  CLR   ANGL-OTH    01   NONE    0  TURN-L                                                                     04
CITY               Fri    9A    0       1ST AVE                    CN                 TRF SIGNAL   N  DRY   TURN             PRVTE      S   W                                                 000               00
No      44 48  2.75  -122 47 39.67       1                         01            0                 N  DAY   PDO            PSNGR CAR         01   DRVR  NONE  43  M  OR-Y          020           000               04
                                                                                                                                                                     OR<25
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CITY OF STAYTON, MARION COUNTY

1st Ave & Washington St

January 1, 2011 through December 31, 2015

```
        S   D
        P   R S W                      CITY STREET                          INT-TYP                                       SPCL USE
SER#    E A U C O  DATE                FIRST STREET              RD CHAR   (MEDIAN) INT-REL OFF-RD  WTHR  CRASH TYP       TRLR QTY  MOVE                   A  S
INVEST  E L G H R  DAY/TIME    FC      SECOND STREET             DIRECT      LEGS   TRAF-   RNDBT   SURF  COLL TYP        OWNER     FROM       PRTC  INJ   G  E LICNS  PED
UNLOC?  D C S L K  LAT/LONG    DISTNC  INTERSECTION SEQ #        LOCTN     (#LANES) CONTL   DRVWY   LIGHT SVRTY       V#  VEH TYPE  TO      P# TYPE  SVRTY E  X RES    LOC  ERROR       ACTN EVENT       CAUSE

                                                                                                                      02  NONE   0  STRGHT
                                                                                                                          PRVTE     E   W                                                000             00
                                                                                                                        PSNGR CAR           01 DRVR  NONE  80 F OR-Y        000          000             00
                                                                                                                                                                OR<25

03878   N N N      11/02/2013  14      WASHINGTON ST             INTER       CROSS  N            N  CLD   ANGL-OTH    01  NONE   0  STRGHT                                                               04
CITY               Sat    1P    0      1ST AVE                   CN                TRF SIGNAL   N  DRY   ANGL            PRVTE     N   S                                                000             00
No     44 48  2.75  -122 47 39.67       1                        01             0                N  DAY   INJ           PSNGR CAR           01 DRVR  INJB  49 M OR-Y        020          000             04
                                                                                                                                                                OR<25

                                                                                                                      02  NONE   0  STRGHT
                                                                                                                          PRVTE     E   W                                                000             00
                                                                                                                        PSNGR CAR           01 DRVR  NONE  22 M OR-Y        000          000             00
                                                                                                                                                                OR<25

02566   N N N N N  08/01/2014  14      WASHINGTON ST             INTER       CROSS  N            N  CLR   O-1 L-TURN  01  NONE   0  TURN-L                                                               04
CITY               Fri   11P     0      1ST AVE                   CN                TRF SIGNAL   N  DRY   TURN            PRVTE     W   N                                                000             00
No     44 48  2.70  -122 47 39.57       1                        02             0                N  DLIT  PDO           PSNGR CAR           01 DRVR  NONE  50 M OR-Y        020          000             04
                                                                                                                                                                OR<25

                                                                                                                      02  NONE   0  STRGHT
                                                                                                                          PRVTE     E   W                                                000             00
                                                                                                                        PSNGR CAR           01 DRVR  NONE  65 M OR-Y        000          000             00
                                                                                                                                                                OR<25

03288   N N N N N  09/30/2012  16      WASHINGTON ST             INTER       CROSS  N            N  CLR   ANGL-OTH    01  NONE   0  STRGHT                                                               04
CITY               Sun    3P    0      1ST AVE                   CN                TRF SIGNAL   N  DRY   TURN            PRVTE     N   S                                                000             00
No     44 48  2.75  -122 47 39.67       1                        03             0                N  DAY   INJ           PSNGR CAR           01 DRVR  NONE  20 M OR-Y        097          000             00
                                                                                                                                                                OR<25

                                                                                                                      02  NONE   0  TURN-L
                                                                                                                          PRVTE     W   N                                                000             00
                                                                                                                        PSNGR CAR           01 DRVR  INJC  33 M OR-Y        097          000             00
                                                                                                                                                                OR<25
                                                                                                                                            02 PSNG  INJC  10 F             000          000             00

02521   N N N      07/27/2013  14      WASHINGTON ST             INTER       CROSS  N            N  CLR   O-1 L-TURN  01  NONE   0  TURN-L                                                               32,02
CITY               Sat    6P    0      1ST AVE                   CN                TRF SIGNAL   N  DRY   TURN            PRVTE     E   S                                                000             00
No     44 48  2.75  -122 47 39.67       1                        03             0                N  DAY   INJ           PSNGR CAR           01 DRVR  NONE  29 M OR-Y        052,004,028  000             32,02
                                                                                                                                                                OR<25

                                                                                                                      02  NONE   0  STRGHT
                                                                                                                          PRVTE     W   E                                                000             00
                                                                                                                        PSNGR CAR           01 DRVR  INJC  44 F OR-Y        000          000             00
                                                                                                                                                                OR<25
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CDS380     4/10/2018                                                  OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION                                               PAGE: 1
                                                                            TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                          URBAN NON-SYSTEM CRASH LISTING
CITY OF STAYTON,  MARION COUNTY                                                                  1st Ave & Ida St
                                                                                     January 1, 2011 through December 31, 2015

       S   D
       P   R S W                     CITY STREET                        INT-TYP                                     SPCL USE
SER#   E A U C O  DATE               FIRST STREET             RD CHAR  (MEDIAN) INT-REL OFF-RD WTHR  CRASH TYP      TRLR QTY  MOVE                  A  S
INVEST E L G H R  DAY/TIME    FC     SECOND STREET            DIRECT     LEGS   TRAF-   RNDBT  SURF  COLL TYP       OWNER     FROM       PRTC INJ   G  E LICNS  PED
UNLOC? D C S L K  LAT/LONG    DISTNC INTERSECTION SEQ #       LOCTN    (#LANES) CONTL   DRVWY  LIGHT SVRTY      V#  VEH TYPE  TO     P#  TYPE SVRTY E  X RES    LOC ERROR       ACTN EVENT       CAUSE

00916  N N N N N  03/10/2015  16     IDA ST                   INTER      CROSS  N            N CLR   S-1STOP    01  NONE   0  STRGHT                                                             07
CITY              Tue   12P    0     1ST AVE                  S                 STOP SIGN    N DRY   REAR           PRVTE     S   N                                             000              00
No     44 47 49.92  -122 47 39.67     1                       06           0                 N DAY   INJ           PSNGR CAR         01  DRVR NONE  87 M OR-Y       026         000              07
                                                                                                                                                         OR<25

                                                                                                                02  NONE   0  STOP
                                                                                                                    PRVTE     S   N                                             011              00
                                                                                                                   PSNGR CAR         01  DRVR INJC  71 F OR-Y       000         000              00
                                                                                                                                                         OR<25

00819  N N N      03/11/2014  17     IDA ST                   INTER      CROSS  N            N CLR   PED        01  NONE   0  TURN-L                                                             02
CITY              Tue    7P    0     1ST AVE                  W                 STOP SIGN    N DRY   PED            PRVTE     S   W                                             000              00
No     44 47 49.92  -122 47 39.67     1                       05           0                 N DLIT  INJ           PSNGR CAR         01  DRVR NONE  69 M OR-Y       029         000              02
                                                                                                                                                         OR<25
                                                                                                                              STRGHT  01  PED  INJB  62 M        01  000         000              00
                                                                                                                              N   S

04090  N N N      12/01/2012  14     IDA ST                   INTER      CROSS  N            N RAIN  O-1 L-TURN 01  NONE   0  STRGHT                                                             10
CITY              Sat    6P    0     1ST AVE                  CN                STOP SIGN    N WET   TURN           PRVTE     N   S                                             015              00
No     44 47 49.92  -122 47 39.67     1                       01           0                 N DLIT  PDO           PSNGR CAR         01  DRVR NONE  65 M OR-Y       000         000              00
                                                                                                                                                         OR<25

                                                                                                                02  NONE   0  TURN-L
                                                                                                                    PRVTE     S   W                                             015              00
                                                                                                                   PSNGR CAR         01  DRVR NONE  29 M OR-Y       010         000              10
                                                                                                                                                         OR<25

00036  N N N N N  01/04/2013  14     IDA ST                   INTER      CROSS  N            N CLD   ANGL-OTH   01  NONE   0  STRGHT                                                             03
CITY              Fri    9A    0     1ST AVE                  CN                STOP SIGN    N WET   ANGL           PRVTE     N   S                                             000              00
No     44 47 49.92  -122 47 39.67     1                       01           0                 N DAY   INJ           PSNGR CAR         01  DRVR INJC  35 M OR-Y       021         000              03
                                                                                                                                                         OR>25

                                                                                                                02  NONE   0  STRGHT
                                                                                                                    PRVTE     E   W                                             015              00
                                                                                                                   PSNGR CAR         01  DRVR INJC  62 F OR-Y       000         000              00
                                                                                                                                                         OR<25

02970  N N N N N  09/02/2013  14     IDA ST                   INTER      CROSS  N            N CLR   O-1 L-TURN 01  NONE   0  STRGHT                                                             03
CITY              Mon    8A    0     1ST AVE                  CN                STOP SIGN    N DRY   TURN           PRVTE     N   S                                             000              00
No     44 47 49.92  -122 47 39.67     1                       01           0                 N DAY   INJ           PSNGR CAR         01  DRVR NONE  30 M OR-Y       021         000              03
                                                                                                                                                         OR<25

                                                                                                                02  NONE   0  TURN-L
                                                                                                                    PRVTE     S   W                                             015              00
                                                                                                                   PSNGR CAR         01  DRVR INJB  58 F OR-Y       000         000              00
                                                                                                                                                         OR<25

03077  N N N      09/06/2014  14     IDA ST                   INTER      CROSS  N            N CLR   ANGL-OTH   01  NONE   0  STRGHT                                                             03
CITY              Sat   12P    0     1ST AVE                  CN                TRF SIGNAL   N DRY   ANGL           PRVTE     N   S                                             000              00
No     44 47 49.92  -122 47 39.67     1                       03           0                 N DAY   PDO           PSNGR CAR         01  DRVR NONE  39 F OR-Y       021         000              03
                                                                                                                                                         OR<25

                                                                                                                02  NONE   0  STRGHT
                                                                                                                    PRVTE     W   E                                             000              00
                                                                                                                   PSNGR CAR         01  DRVR NONE  38 M OR-Y       000         000              00
                                                                                                                                                         OR<25
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                                                                        TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                     URBAN NON-SYSTEM CRASH LISTING

CITY OF STAYTON,  MARION COUNTY                                                            1st Ave & Ida St
                                                                                January 1, 2011 through December 31, 2015

       S   D
       P   R S W                   CITY STREET                      INT-TYP                                     SPCL USE
SER#   E A U C O DATE              FIRST STREET            RD CHAR (MEDIAN) INT-REL OFF-RD WTHR  CRASH TYP      TRLR QTY MOVE                 A S
INVEST E L G H R DAY/TIME   FC     SECOND STREET           DIRECT    LEGS   TRAF-   RNDBT SURF  COLL TYP       OWNER    FROM      PRTC INJ   G E LICNS  PED
UNLOC? D C S L K LAT/LONG   DISTNC INTERSECTION SEQ #      LOCTN   (#LANES) CONTL  DRVWY  LIGHT SVRTY      V#  VEH TYPE TO     P# TYPE SVRTY E X RES    LOC ERROR      ACTN EVENT      CAUSE

00343  N N N     02/04/2011 14     IDA ST                  INTER     CROSS  N            N CLD   ANGL-OTH   01  NONE   0 STRGHT                                                         03
CITY             Fri   12P   0     1ST AVE                 CN               STOP SIGN    N DRY   TURN           PRVTE    W   E                                          000             00
No    44 47 49.96 -122 47 39.67     1                      04           0                N DAY   INJ           PSNGR CAR        01 DRVR INJB 56 M OR-Y       021        028             03
                                                                                                                                                  OR<25

                                                                                                            02  NONE   0 TURN-L
                                                                                                                PRVTE    S   W                                          015             00
                                                                                                               PSNGR CAR        01 DRVR INJB 64 M OR-Y       000        000             00
                                                                                                                                                  OR<25
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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

1st Ave & Ida St
January 1, 2011 through December 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	1	0	1	0	1	0	0
2015 TOTAL	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR: 2014														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
PEDESTRIAN	0	1	0	1	0	1	0	1	0	0	1	1	0	0
2014 TOTAL	0	1	1	2	0	1	0	2	0	1	1	2	0	0
YEAR: 2013														
ANGLE	0	1	0	1	0	2	0	0	1	1	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
2013 TOTAL	0	2	0	2	0	3	0	1	1	2	0	2	0	0
YEAR: 2012														
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	0	1	1	0	0
2012 TOTAL	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR: 2011														
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	1	0	0
2011 TOTAL	0	1	0	1	0	2	0	1	0	1	0	1	0	0
FINAL TOTAL	0	5	2	7	0	7	0	5	2	5	2	7	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Fern Ridge Rd & 3rd Ave
January 1, 2011 through December 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	0	1	1	0	0	0	0	1	0	1	1	0	0
2015 TOTAL	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR: 2012														
ANGLE	0	1	1	2	0	1	0	1	1	1	1	2	0	0
2012 TOTAL	0	1	1	2	0	1	0	1	1	1	1	2	0	0
YEAR: 2011														
ANGLE	0	0	1	1	0	0	0	0	1	1	0	1	0	0
2011 TOTAL	0	0	1	1	0	0	0	0	1	1	0	1	0	0
FINAL TOTAL	0	1	3	4	0	1	0	1	3	2	2	4	0	0

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                                                                              OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
                                                                                     TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                  URBAN NON-SYSTEM CRASH LISTING

 CITY OF STAYTON,  MARION COUNTY                                                                          Fern Ridge Rd & 3rd Ave
                                                                                               January 1, 2011 through December 31, 2015

       S   D
       P   R S W                        CITY STREET                            INT-TYP                                  SPCL USE
SER#   E A U C O  DATE                  FIRST STREET                RD CHAR   (MEDIAN) INT-REL OFF-RD WTHR   CRASH TYP      TRLR QTY  MOVE                    A  S
INVEST E L G H R  DAY/TIME      FC      SECOND STREET               DIRECT      LEGS   TRAF-   RNDBT  SURF   COLL TYP       OWNER     FROM          PRTC  INJ    G  E LICNS  PED
UNLOC? D C S L K  LAT/LONG      DISTNC  INTERSECTION SEQ #          LOCTN     (#LANES) CONTL   DRVWY  LIGHT  SVRTY      V#  VEH TYPE  TO        P#  TYPE  SVRTY  E  X RES    LOC  ERROR       ACTN EVENT        CAUSE

04223  N N N N N  12/09/2011    17      FERN RIDGE RD               INTER       CROSS  N             N FOG   ANGL-OTH   01  NONE    0 STRGHT                                                                       02
CITY              Fri    8A      0      3RD AVE                     CN                 STOP SIGN     N WET   ANGL            PRVTE    E   W                                                     000               00
No     44 48 35.22  -122 47 31.72        1                          01            0                  N DAY   PDO           PSNGR CAR          01  DRVR  NONE  41  F NONE        000         000               00
                                                                                                                                                               OR<25

                                                                                                                    02  NONE    0 STRGHT
                                                                                                                         PRVTE    N   S                                                     015               00
                                                                                                                       PSNGR CAR          01  DRVR  NONE  25  M OR-Y        028         000               02
                                                                                                                                                               OR>25
00782  N N N      03/03/2012    17      FERN RIDGE RD               INTER       CROSS  N             N CLR   ANGL-OTH   01  NONE    0 STRGHT                                                                       10
CITY              Sat    9P      0      3RD AVE                     CN                 STOP SIGN     N DRY   ANGL            PRVTE    E   W                                                     000               00
No     44 48 35.19  -122 47 31.74        1                          01            0                  N DLIT  PDO           PSNGR CAR          01  DRVR  NONE  16  M OR-Y        015         000               10
                                                                                                                                                               OR<25

                                                                                                                    02  NONE    0 STRGHT
                                                                                                                         PRVTE    N   S                                                     015               00
                                                                                                                       PSNGR CAR          01  DRVR  NONE  41  M OR-Y        000         000               00
                                                                                                                                                               OR<25
01838  N N N N N  06/04/2012    17      FERN RIDGE RD               INTER       CROSS  N             N RAIN  ANGL-OTH   01  NONE    0 STRGHT                                                           013         02
CITY              Mon    7A      0      3RD AVE                     CN                 STOP SIGN     N WET   ANGL            PRVTE    W   E                                                     000               00
No     44 48 35.19  -122 47 31.74        1                          03            0                  N DAY   INJ           PSNGR CAR          01  DRVR  NONE  57  F OR-Y        000         000               00
                                                                                                                                                               OR<25

                                                                                                                    02  NONE    0 STRGHT
                                                                                                                         PRVTE    N   S                                                     015  013          00
                                                                                                                       PSNGR CAR          01  DRVR  NONE  36  F OR-Y        028         000               02
                                                                                                                                                               OR<25
                                                                                                                                          02  PSNG  INJC  06  M             000         000               00

                                                                                                                    03  NONE    0 STOP
                                                                                                                         PRVTE    S   N                                                     022               00
                                                                                                                       PSNGR CAR          01  DRVR  NONE  37  M OR-Y        000         000               00
                                                                                                                                                               OR<25
05196  N N N N N  12/23/2015    17      FERN RIDGE RD               INTER       CROSS  N             N RAIN  ANGL-OTH   01  NONE    0 STRGHT                                                                       22
CITY              Wed    5P      0      3RD AVE                     CN                 STOP SIGN     N WET   ANGL            PRVTE    S   N                                                     000               22
No     44 48 35.28  -122 47 31.53        1                          04            0                  N DLIT  PDO           PSNGR CAR          01  DRVR  NONE  57  F OR-Y        021,017     000               00
                                                                                                                                                               OR<25

                                                                                                                    02  NONE    0 STRGHT
                                                                                                                         PRVTE    W   E                                                     000               00
                                                                                                                       PSNGR CAR          01  DRVR  NONE  60  M OR-Y        000         000               00
                                                                                                                                                               OR>25
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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

3rd Ave & Ida St
January 1, 2011 through December 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:														
TOTAL														
FINAL TOTAL														

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

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                                                                                  TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                 URBAN NON-SYSTEM CRASH LISTING
CITY OF STAYTON,  MARION COUNTY                                                                     Fern Ridge Rd & 10th Ave
                                                                                            January 1, 2011 through December 31, 2015

        S   D
        P   R S W                       CITY STREET                           INT-TYP                                        SPCL USE
SER#    E A U C O   DATE                FIRST STREET               RD CHAR   (MEDIAN)  INT-REL OFF-RD  WTHR  CRASH TYP       TRLR QTY   MOVE                    A  S
INVEST  E L G H R   DAY/TIME    FC      SECOND STREET              DIRECT       LEGS   TRAF-   RNDBT   SURF  COLL TYP        OWNER      FROM        PRTC INJ    G  E LICNS  PED
UNLOC?  D C S L K   LAT/LONG    DISTNC  INTERSECTION SEQ #         LOCTN     (#LANES)  CONTL   DRVWY   LIGHT SVRTY       V#  VEH TYPE   TO      P#  TYPE SVRTY  E  X RES    LOC  ERROR       ACTN  EVENT       CAUSE

00743   N N N N N   03/07/2011  17      FERN RIDGE RD              INTER       3-LEG   N            N  CLR   ANGL-OTH    01  NONE    0  STRGHT                                                                  02
CITY                 Mon   8P    0      10TH AVE                   CN                  STOP SIGN    N  DRY   TURN            PRVTE      W   E                                                 000             00
No     44 48 35.30  -122 47  2.65        1                         04             0                 N  DLIT  INJ            PSNGR CAR          01  DRVR INJC  54  M OR-Y        000       000             00
                                                                                                                                                                     OR<25

                                                                                                                         02  NONE    0  TURN-L
                                                                                                                             PRVTE      S   W                                                 015             00
                                                                                                                            PSNGR CAR          01  DRVR INJB  41  M OR-Y        028       000             02
                                                                                                                                                                     OR<25
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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

10th Ave & Santiam St
January 1, 2011 through December 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:														
TOTAL														
FINAL TOTAL														

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Fern Ridge Rd & OR 22 North Santiam Hwy (162)
January 1, 2011 through December 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
2015 TOTAL	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR: 2014														
ANGLE	0	2	0	2	0	4	0	2	0	2	0	2	0	0
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	0	1	0	1	0	0	1
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	1	0	0
2014 TOTAL	0	3	1	4	0	5	0	3	1	3	1	3	0	1
YEAR: 2012														
ANGLE	0	2	0	2	0	7	0	1	1	2	0	2	0	0
REAR-END	0	0	1	1	0	0	0	0	1	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
2012 TOTAL	0	2	2	4	0	7	0	2	2	3	1	4	0	0
YEAR: 2011														
ANGLE	0	1	2	3	0	5	0	3	0	3	0	3	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2011 TOTAL	0	1	3	4	0	5	0	4	0	4	0	4	0	0
FINAL TOTAL	0	7	6	13	0	18	0	10	3	11	2	12	0	1

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

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162 NORTH SANTIAM                                                                                Fern Ridge Rd & OR 22  North Santiam Hwy (162)
                                                                                                 January 1, 2011 through December 31, 2015

       S   D
       P   R S W                              RD#  FC  CONN #                        INT-TYP                                   SPCL USE
SER#   E A U C O DATE       COUNTY            CMPT/MLG FIRST  STREET        RD CHAR (MEDIAN)  INT-REL OFFRD WTHR  CRASH TYP    TRLR QTY  MOVE                 A  S
INVEST E L G H R DAY/TIME   CITY              MILEPNT  SECOND STREET        DIRECT    LEGS    TRAF-   RNDBT SURF  COLL TYP     OWNER     FROM      PRTC INJ   G  E LICNS PED
UNLOC? D C S L K LAT/LONG   URBAN AREA        LRS      INTERSECTION SEQ#    LOCTN   (#LANES) CNTL     DRVWY LIGHT SVRTY     V# VEH TYPE  TO     P# TYPE SVRTY E  X RES   LOC  ERROR        ACTN EVENT       CAUSE

01104  N N N N N 04/07/2014 MARION            1    02                       INTER     CROSS  N           N CLR   ANGL-OTH   01 NONE    0 STRGHT                                                  087         02
STATE           Mon    10A                    MN    0                       CN               STOP SIGN   N DRY   ANGL         PRVTE     E  W                                               000  087         00
                                               14.30                        01           0               N DAY   INJ         PSNGR CAR         01 DRVR INJA  78 F OR-Y       028           000              02
No     44 48 35.95  -122 46 30.37             016200100S00                                                                                                       OR<25

                                                                                                                            02 NONE    0 STRGHT
                                                                                                                               PRVTE     N  S                                               000  087         00
                                                                                                                              PSNGR CAR         01 DRVR INJB  73 M OR-Y       000           000              00
                                                                                                                                                                   OR<25

02960  N N N N N 08/29/2014 MARION            1    02                       INTER     CROSS  N           N CLR   ANGL-OTH   01 NONE    0 STRGHT                                                              02
STATE           Fri     6P                    MN    0                       CN               STOP SIGN   N DRY   ANGL         PRVTE     N  S                                               000              00
                                               14.30                        01           0               N DAY   INJ         PSNGR CAR         01 DRVR NONE  57 M OR-Y       028           000              02
No     44 48 35.95  -122 46 30.37             016200100S00                                                                                                       OR<25

                                                                                                                            02 NONE    0 STRGHT
                                                                                                                               PRVTE     W  E                                               000              00
                                                                                                                              PSNGR CAR         01 DRVR INJB  29 F OR-Y       000           000              00
                                                                                                                                                                   OR>25
                                                                                                                                                02 PSNG INJB  32 M            000           000              00
                                                                                                                                                03 PSNG NO<5  01 F            000           000              00

00260  N N N     01/24/2015 MARION            1    02                       INTER     CROSS  N           N CLR   ANGL-OTH   01 NONE    0 STRGHT                                                              02
NO RPT          Sat     2P                    MN    0                       CN               STOP SIGN   N DRY   ANGL         PRVTE     N  S                                               000              00
                                               14.30                        01           0               N DAY   INJ         PSNGR CAR         01 DRVR NONE  78 F OR-Y       028           000              02
No     44 48 35.96  -122 46 30.37             016200100S00                                                                                                       OR<25

                                                                                                                            02 NONE    0 STRGHT
                                                                                                                               PRVTE     E  W                                               000              00
                                                                                                                              PSNGR CAR         01 DRVR INJB  63 F OR-Y       000           000              00
                                                                                                                                                                   OR<25

01922  N N N N N 06/16/2011 MARION            1    02                       INTER     CROSS  N           N CLR   ANGL-OTH   01 NONE    0 STRGHT                                                              02
STATE           Thu     6P                    MN    0                       CN               STOP SIGN   N DRY   ANGL         PRVTE     E  W                                               000              00
                                               14.30                        02           0               N DAY   INJ         PSNGR CAR         01 DRVR INJA  53 M EXP        000           000              00
No     44 48 35.95  -122 46 30.37             016200100S00                                                                                                       N-RES
                                                                                                                                                02 PSNG INJB  47 F            000           000              00
                                                                                                                                                03 PSNG INJB  15 F            000           000              00
                                                                                                                                                04 PSNG INJB  06 M            000           000              00

                                                                                                                            02 NONE    0 STRGHT
                                                                                                                               PRVTE     S  N                                               015              00
                                                                                                                              PSNGR CAR         01 DRVR INJA  42 F EXP        028           000              02
                                                                                                                                                                   OR<25

02935  N N N     09/06/2011 MARION            1    02                       INTER     CROSS  N           N CLR   O-1 L-TURN 01 NONE    0 STRGHT                                                              02
NONE            Tue     1P                    MN    0                       CN               UNKNOWN     N DRY   TURN         PRVTE     E  W                                               000              00
                                               14.30                        02           1               N DAY   PDO         PSNGR CAR         01 DRVR NONE  26 F OR-Y       000           000              00
No     44 48 35.95  -122 46 30.37             016200100S00                                                                                                       OR>25
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162 NORTH SANTIAM                                                      Fern Ridge Rd & OR 22  North Santiam Hwy (162)
                                                                                         January 1, 2011 through December 31, 2015

       S   D
       P   R S W                             RD#  FC   CONN #                      INT-TYP                                  SPCL USE
SER#   E A U C O DATE       COUNTY           CMPT/MLG  FIRST  STREET       RD CHAR (MEDIAN)  INT-REL OFFRD WTHR CRASH TYP    TRLR QTY  MOVE                  A  S
INVEST E L G H R DAY/TIME   CITY             MILEPNT   SECOND STREET       DIRECT     LEGS   TRAF-   RNDBT SURF COLL TYP     OWNER     FROM      PRTC INJ    G  E LICNS PED
UNLOC? D C S L K LAT/LONG   URBAN AREA       LRS       INTERSECTION SEQ#   LOCTN    (#LANES) CNTL    DRVWY LIGHT SVRTY    V# VEH TYPE  TO     P# TYPE SVRTY  E  X RES   LOC ERROR        ACTN EVENT    CAUSE

                                                                                                                          02 NONE    0 TURN-L
                                                                                                                             PRVTE     W  N                                              000               00
                                                                                                                            PSNGR CAR         01 DRVR NONE   00 M UNK       004,028      000               02
                                                                                                                                                                  UNK

02484  N N N N N 07/27/2012 MARION           1    02                       INTER     CROSS   N          N CLR  ANGL-OTH   01 NONE    0 STRGHT                                                 013          02
STATE            Fri    8P                   MN    0                       CN                STOP SIGN  N DRY  ANGL          PRVTE     E  W                                              000               00
                                              14.30                        02          0                N DAY  INJ          PSNGR CAR         01 DRVR INJC   51 F OR-Y      000          000               00
No     44 48 35.95  -122 46 30.37            016200100S00                                                                                                                                 OR>25
                                                                                                                                              02 PSNG INJC   81 F           000          000               00
                                                                                                                                              03 PSNG INJC   91 M           000          000               00

                                                                                                                          02 NONE    0 STRGHT
                                                                                                                             PRVTE     S  N                                              015  013          00
                                                                                                                            PSNGR CAR         01 DRVR INJB   17 F OR-Y      028          000               02
                                                                                                                                                                  OR<25

                                                                                                                          03 NONE    0 STOP
                                                                                                                             PRVTE     N  S                                              011               00
                                                                                                                             MTRCYCLE         01 DRVR INJB   41 M OR-Y      000          000               00
                                                                                                                                                                  OR<25

02140  N N N N N 06/29/2014 MARION           1    02                       INTER     CROSS   N          N CLR  ANGL-OTH   01 NONE    0 TURN-L                                                              02
STATE            Sun    6P                   MN    0                       CN                STOP SIGN  N DRY  TURN          PRVTE     N  E                                              000               00
                                              14.30                        02          0                N DAY  INJ          PSNGR CAR         01 DRVR NONE   20 M OR-Y      028          000               02
No     44 48 35.95  -122 46 30.37            016200100S00                                                                                                                                 OR<25

                                                                                                                          02 NONE    0 STRGHT
                                                                                                                             PRVTE     E  W                                              000               00
                                                                                                                            PSNGR CAR         01 DRVR INJB   54 M OR-Y      000          000               00
                                                                                                                                                                  OR<25

02182  N N N     07/08/2011 MARION           1    02                       INTER     CROSS   N          N CLR  ANGL-OTH   01 NONE    0 STRGHT                                                              02
STATE            Fri    5P                   MN    0                       CN                STOP SIGN  N DRY  ANGL          PRVTE     S  N                                              000               00
                                              14.30                        04          1                N DAY  PDO          PSNGR CAR         01 DRVR NONE   19 M OR-Y      028          000               02
No     44 48 35.95  -122 46 30.37            016200100S00                                                                                                                                 OR>25

                                                                                                                          02 NONE    0 STRGHT
                                                                                                                             PRVTE     W  E                                              000               00
                                                                                                                            PSNGR CAR         01 DRVR NONE   72 M OR-Y      000          000               00
                                                                                                                                                                  OR>25

03515  N N N     10/19/2011 MARION           1    02                       INTER     CROSS   N          N CLR  ANGL-OTH   01 NONE    0 STRGHT                                                              02
NONE             Wed    9A                   MN    0                       CN                STOP SIGN  N DRY  ANGL          PRVTE     S  N                                              015               00
                                              14.30                        04          1                N DAY  PDO          PSNGR CAR         01 DRVR NONE   82 F OR-Y      028          000               02
No     44 48 35.95  -122 46 30.37            016200100S00                                                                                                                                 OR<25

                                                                                                                          02 NONE    0 STRGHT
                                                                                                                             PRVTE     W  E                                              000               00
                                                                                                                            PSNGR CAR         01 DRVR NONE   55 F OR-Y      000          000               00
                                                                                                                                                                  OR>25
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CDS380     4/11/2018                                                       OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION                                                       PAGE: 3
                                                                                  TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                CONTINUOUS SYSTEM CRASH LISTING
162 NORTH SANTIAM                                                                        Fern Ridge Rd & OR 22  North Santiam Hwy (162)
                                                                                           January 1, 2011 through December 31, 2015

       S   D
       P   R S W                              RD#  FC   CONN #                              INT-TYP                                   SPCL USE
SER#   E A U C O DATE       COUNTY            CMPT/MLG  FIRST  STREET        RD CHAR (MEDIAN) INT-REL  OFFRD WTHR  CRASH TYP    TRLR QTY  MOVE                  A  S
INVEST E L G H R DAY/TIME   CITY              MILEPNT   SECOND STREET        DIRECT    LEGS   TRAF-    RNDBT SURF  COLL TYP     OWNER     FROM      PRTC INJ    G  E LICNS PED
UNLOC? D C S L K LAT/LONG   URBAN AREA        LRS       INTERSECTION SEQ#    LOCTN   (#LANES) CNTL     DRVWY LIGHT SVRTY     V# VEH TYPE  TO     P# TYPE SVRTY  E  X RES   LOC  ERROR        ACTN EVENT        CAUSE

02866  N N N N N 08/26/2012 MARION            1    02                        INTER     CROSS  N           N CLR  ANGL-OTH    01 NONE    0 STRGHT                                                               02
STATE            Sun    8P                    MN    0                        CN               STOP SIGN   N DRY  TURN           PRVTE     W  E                                               000               00
                                               14.30                         04           0               N DUSK PDO           PSNGR CAR         01 DRVR NONE   55 M OR-Y       000          000               00
No     44 48 35.95  -122 46 30.37             016200100S00                                                                                                                           OR>25

                                                                                                                             02 NONE    0 TURN-L
                                                                                                                                PRVTE     S  W                                               015               00
                                                                                                                               PSNGR CAR         01 DRVR NONE   54 F OR-Y       028          000               02
                                                                                                                                                                     OR<25

03926  N N N N N 11/19/2012 MARION            1    02                        INTER     CROSS  N           N RAIN ANGL-OTH    01 NONE    0 STRGHT                                                               02
COUNTY           Mon    9A                    MN    0                        CN               STOP SIGN   N WET  ANGL           PRVTE     N  S                                               015               00
                                               14.30                         04           0               N DAY  INJ           PSNGR CAR         01 DRVR NONE   78 M OR-Y       028          000               02
No     44 48 35.95  -122 46 30.37             016200100S00                                                                                                                           OR<25

                                                                                                                             02 NONE    0 STRGHT
                                                                                                                                PRVTE     W  E                                               000               00
                                                                                                                               PSNGR CAR         01 DRVR INJB   42 M OR-Y       000          000               00
                                                                                                                                                                     OR>25
                                                                                                                                                 02 PSNG INJC   65 F            000          000               00

03867  Y N N     10/31/2014 MARION            1    02                        STRGHT           N           Y RAIN FIX OBJ     01 NONE    0 STRGHT                                                    079,054,034  30,05
CITY             Fri    4A                    MN    0                        UN        (NONE) UNKNOWN     N WET  FIX            PRVTE     E  W                                               007  079,054,034  00
                                               14.31                         01                           N DLIT PDO           PSNGR CAR         01 DRVR NONE   57 M OR-Y       050,039,081  000               30,05
No     44 48 35.64  -122 46 29.52             016200100S00                              (02)                                                                                         OR<25
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CDS380     4/11/2018                                                        OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION                                                           PAGE: 1
                                                                                  TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
                                                                                                    COUNTY ROAD CRASH LISTING
MARION COUNTY                                                                             Fern Ridge Rd & OR 22  North Santiam Hwy (162)
                                                                                            January 1, 2011 through December 31, 2015

       S   D
       P   R S W                        COUNTY ROADS                                  INT-TYP                                  SPCL USE
SER#   E A U C O DATE         MILEPNT   FIRST  STREET                      RD CHAR    (MEDIAN) INT-REL  OFF-RD WTHR  CRASH TYP      TRLR QTY MOVE                   A S
INVEST E L G H R DAY/TIME     DIST FROM SECOND STREET                      DIRECT      LEGS    TRAF-    RNDBT  SURF  COLL TYP       OWNER    FROM        PRTC INJ   G E LICNS PED
UNLOC? D C S L K LAT/LONG     INTERSECT INTERSECTION SEQ #                 LOCTN      (#LANES) CONTL    DRVWY  LIGHT SVRTY       V# VEH TYPE TO       P# TYPE SVRTY E X RES   LOC ERROR         ACTN EVENT       CAUSE

04076  Y N N     11/30/2012     0.95    FERN RDG RD SE                     INTER       CROSS   N           N   CLD   S-1STOP     01 NONE   0 STRGHT                                                              01
NONE             Fri    8A                                                 N                   STOP SIGN   N   WET   REAR           PRVTE    N   S                                               000             00
No     44 48 35.95  -122  46 30.37                                         06            0                 N   DAY   PDO           PSNGR CAR         01 DRVR NONE  00 F OR-Y      047,026        000             01
                                                                                                                                                                        OR<25

                                                                                                                                 02 NONE   0 STOP
                                                                                                                                    PRVTE    N   S                                               012             00
                                                                                                                                   PSNGR CAR         01 DRVR NONE  21 M OR-Y      000            000             00
                                                                                                                                                                        OR<25
```

VEHICLE TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
00	PDO	NOT COLLECTED FOR PDO CRASHES
01	PSNGR CAR	PASSENGER CAR, PICKUP, LIGHT DELIVERY, ETC.
02	BOBTAIL	TRUCK TRACTOR WITH NO TRAILERS (BOBTAIL)
03	FARM TRCTR	FARM TRACTOR OR SELF-PROPELLED FARM EQUIPMENT
04	SEMI TOW	TRUCK TRACTOR WITH TRAILER/MOBILE HOME IN TOW
05	TRUCK	TRUCK WITH NON-DETACHABLE BED, PANEL, ETC.
06	MOPED	MOPED, MINIBIKE, SEATED MOTOR SCOOTER, MOTOR BIKE
07	SCHL BUS	SCHOOL BUS (INCLUDES VAN)
08	OTH BUS	OTHER BUS
09	MTRCYCLE	MOTORCYCLE, DIRT BIKE
10	OTHER	OTHER: FORKLIFT, BACKHOE, ETC.
11	MOTRHOME	MOTORHOME
12	TROLLEY	MOTORIZED STREET CAR/TROLLEY (NO RAILS/WIRES)
13	ATV	ATV
14	MTRSCTR	MOTORIZED SCOOTER (STANDING)
15	SNOWMOBILE	SNOWMOBILE
99	UNKNOWN	UNKNOWN VEHICLE TYPE

WEATHER CONDITION CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	CLR	CLEAR
2	CLD	CLOUDY
3	RAIN	RAIN
4	SLT	SLEET
5	FOG	FOG
6	SNOW	SNOW
7	DUST	DUST
8	SMOK	SMOKE
9	ASH	ASH

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

OR 22 North Santiam Hwy (162) & Old Mehama Rd
January 1, 2011 through December 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	1	0	1	0	1	0	0	1	1	0	1	0	0
2014 TOTAL	0	1	0	1	0	1	0	0	1	1	0	1	0	0
YEAR: 2011														
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	0	1	1	0	0
2011 TOTAL	0	0	1	1	0	0	0	0	1	0	1	1	0	0
FINAL TOTAL	0	1	1	2	0	1	0	0	2	1	1	2	0	0

Disclaimer: A higher number of crashes may be reported as of 2011 compared to prior years. This does not reflect an increase in annual crashes. The higher numbers result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics.

162 NORTH SANTIAM

OR 22 North Santiam Hwy (162) & Old Mehama Rd
January 1, 2011 through December 31, 2015

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       S   D
       P   R S W                              RD#  FC   CONN #                       INT-TYP                                   SPCL USE
SER#   E A U C O DATE       COUNTY            CMPT/MLG  FIRST  STREET       RD CHAR (MEDIAN)  INT-REL OFFRD WTHR  CRASH TYP    TRLR QTY  MOVE                  A  S
INVEST E L G H R DAY/TIME   CITY              MILEPNT   SECOND STREET       DIRECT     LEGS   TRAF-   RNDBT SURF  COLL TYP     OWNER     FROM      PRTC INJ    G  E LICNS  PED
UNLOC? D C S L K LAT/LONG   URBAN AREA        LRS       INTERSECTION SEQ#   LOCTN   (#LANES)  CNTL    DRVWY LIGHT SVRTY     V# VEH TYPE  TO     P# TYPE SVRTY  E  X RES    LOC ERROR        ACTN EVENT        CAUSE

00162  N Y N N N 01/17/2011 MARION            1    02                       INTER      3-LEG  N           N CLD  O-1 L-TURN 01 NONE    0 TURN-L                                                               33,02
STATE            Mon    6P                    MN    0                       CN                UNKNOWN     N WET  TURN          PRVTE     E  S                                               000               00
                                               15.68                        03           0                N DLIT PDO          PSNGR CAR         01 DRVR NONE  39  F OR-Y       051,004,028  000               33,02
No     44 48  4.46  -122 44 59.28             016200100S00                                                                                                          OR<25

                                                                                                                            02 NONE    1 STRGHT
                                                                                                                               PRVTE     W  E                                               000               00
                                                                                                                              PSNGR CAR         01 DRVR NONE  51  M OR-Y       000          000               00
                                                                                                                                                                    OR<25

04434  N N N N N 12/10/2014 MARION            1    02                       INTER      CROSS  N           N RAIN  ANGL-OTH   01 NONE    0 STRGHT                                                               03
STATE            Wed    2P                    MN    0                       CN                STOP SIGN   N WET  ANGL          PRVTE     W  E                                               000               00
                                               15.68                        03           0                N DAY  INJ          PSNGR CAR         01 DRVR INJB  74  M OR-Y       000          000               00
No     44 48  4.42  -122 44 59.10             016200100S00                                                                                                          OR<25

                                                                                                                            02 NONE    0 STRGHT
                                                                                                                               PRVTE     N  S                                               000               00
                                                                                                                              PSNGR CAR         01 DRVR NONE  86  M OR-Y       021          000               03
                                                                                                                                                                    OR<25
```

ACTION CODE TRANSLATION LIST

ACTION CODE	SHORT DESCRIPTION	LONG DESCRIPTION
000	NONE	NO ACTION OR NON-WARRANTED
001	SKIDDED	SKIDDED
002	ON/OFF V	GETTING ON OR OFF STOPPED OR PARKED VEHICLE
003	LOAD OVR	OVERHANGING LOAD STRUCK ANOTHER VEHICLE, ETC.
006	SLOW DN	SLOWED DOWN
007	AVOIDING	AVOIDING MANEUVER
008	PAR PARK	PARALLEL PARKING
009	ANG PARK	ANGLE PARKING
010	INTERFERE	PASSENGER INTERFERING WITH DRIVER
011	STOPPED	STOPPED IN TRAFFIC NOT WAITING TO MAKE A LEFT TURN
012	STP/L TRN	STOPPED BECAUSE OF LEFT TURN SIGNAL OR WAITING, ETC.
013	STP TURN	STOPPED WHILE EXECUTING A TURN
014	EMR V PKD	EMERGENCY VEHICLE LEGALLY PARKED IN THE ROADWAY
015	GO A/STOP	PROCEED AFTER STOPPING FOR A STOP SIGN/FLASHING RED.
016	TRN A/RED	TURNED ON RED AFTER STOPPING
017	LOSTCTRL	LOST CONTROL OF VEHICLE
018	EXIT DWY	ENTERING STREET OR HIGHWAY FROM ALLEY OR DRIVEWAY
019	ENTR DWY	ENTERING ALLEY OR DRIVEWAY FROM STREET OR HIGHWAY
020	STR ENTR	BEFORE ENTERING ROADWAY, STRUCK PEDESTRIAN, ETC. ON SIDEWALK OR SHOULDER
021	NO DRVR	CAR RAN AWAY - NO DRIVER
022	PREV COL	STRUCK, OR WAS STRUCK BY, VEHICLE OR PEDESTRIAN IN PRIOR COLLISION BEFORE ACC. STABILIZED
023	STALLED	VEHICLE STALLED OR DISABLED
024	DRVR DEAD	DEAD BY UNASSOCIATED CAUSE
025	FATIGUE	FATIGUED, SLEEPY, ASLEEP
026	SUN	DRIVER BLINDED BY SUN
027	HDLGHTS	DRIVER BLINDED BY HEADLIGHTS
028	ILLNESS	PHYSICALLY ILL
029	THRU MED	VEHICLE CROSSED, PLUNGED OVER, OR THROUGH MEDIAN BARRIER
030	PURSUIT	PURSUING OR ATTEMPTING TO STOP A VEHICLE
031	PASSING	PASSING SITUATION
032	PRKOFFRD	VEHICLE PARKED BEYOND CURB OR SHOULDER
033	CROS MED	VEHICLE CROSSED EARTH OR GRASS MEDIAN
034	X N/SGNL	CROSSING AT INTERSECTION - NO TRAFFIC SIGNAL PRESENT
035	X W/ SGNL	CROSSING AT INTERSECTION - TRAFFIC SIGNAL PRESENT
036	DIAGONAL	CROSSING AT INTERSECTION - DIAGONALLY
037	BTWN INT	CROSSING BETWEEN INTERSECTIONS
038	DISTRACT	DRIVER'S ATTENTION DISTRACTED
039	W/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC
040	A/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC
041	W/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC
042	A/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC
043	PLAYINRD	PLAYING IN STREET OR ROAD
044	PUSH MV	PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER
045	WORK ON	WORKING IN ROADWAY OR ALONG SHOULDER
046	W/ TRAFIC	NON-MOTORIST WALKING, RUNNING, RIDING, ETC. WITH TRAFFIC
047	A/ TRAFIC	NON-MOTORIST WALKING, RUNNING, RIDING, ETC. FACING TRAFFIC
050	LAY ON RD	STANDING OR LYING IN ROADWAY
051	ENT OFFRD	ENTERING / STARTING IN TRAFFIC LANE FROM OFF ROAD
052	MERGING	MERGING
055	SPRAY	BLINDED BY WATER SPRAY

ACTION CODE TRANSLATION LIST

ACTION CODE	SHORT DESCRIPTION	LONG DESCRIPTION
088	OTHER	OTHER ACTION
099	UNK	UNKNOWN ACTION

CAUSE CODE TRANSLATION LIST

CAUSE CODE	SHORT DESCRIPTION	LONG DESCRIPTION
00	NO CODE	NO CAUSE ASSOCIATED AT THIS LEVEL
01	TOO-FAST	TOO FAST FOR CONDITIONS (NOT EXCEED POSTED SPEED
02	NO-YIELD	DID NOT YIELD RIGHT-OF-WAY
03	PAS-STOP	PASSED STOP SIGN OR RED FLASHER
04	DIS SIG	DISREGARDED TRAFFIC SIGNAL
05	LEFT-CTR	DROVE LEFT OF CENTER ON TWO-WAY ROAD; STRADDLING
06	IMP-OVER	IMPROPER OVERTAKING
07	TOO-CLOS	FOLLOWED TOO CLOSELY
08	IMP-TURN	MADE IMPROPER TURN
09	DRINKING	ALCOHOL OR DRUG INVOLVED
10	OTHR-IMP	OTHER IMPROPER DRIVING
11	MECH-DEF	MECHANICAL DEFECT
12	OTHER	OTHER (NOT IMPROPER DRIVING)
13	IMP LN C	IMPROPER CHANGE OF TRAFFIC LANES
14	DIS TCD	DISREGARDED OTHER TRAFFIC CONTROL DEVICE
15	WRNG WAY	WRONG WAY ON ONE-WAY ROAD; WRONG SIDE DIVIDED RO
16	FATIGUE	DRIVER DROWSY/FATIGUED/SLEEPY
17	ILLNESS	PHYSICAL ILLNESS
18	IN RDWY	NON-MOTORIST ILLEGALLY IN ROADWAY
19	NT VISBL	NON-MOTORIST NOT VISIBLE; NON-REFLECTIVE CLOTHIN
20	IMP PKNG	VEHICLE IMPROPERLY PARKED
21	DEF STER	DEFECTIVE STEERING MECHANISM
22	DEF BRKE	INADEQUATE OR NO BRAKES
24	LOADSHFT	VEHICLE LOST LOAD OR LOAD SHIFTED
25	TIREFAIL	TIRE FAILURE
26	PHANTOM	PHANTOM / NON-CONTACT VEHICLE
27	INATTENT	INATTENTION
28	NM INATT	NON-MOTORIST INATTENTION
29	F AVOID	FAILED TO AVOID VEHICLE AHEAD
30	SPEED	DRIVING IN EXCESS OF POSTED SPEED
31	RACING	SPEED RACING (PER PAR)
32	CARELESS	CARELESS DRIVING (PER PAR)
33	RECKLESS	RECKLESS DRIVING (PER PAR)
34	AGGRESV	AGGRESSIVE DRIVING (PER PAR)
35	RD RAGE	ROAD RAGE (PER PAR)
40	VIEW OBS	VIEW OBSCURED
50	USED MDN	IMPROPER USE OF MEDIAN OR SHOULDER
51	FAIL LN	FAILED TO MAINTAIN LANE
52	OFF RD	RAN OFF ROAD

COLLISION TYPE CODE TRANSLATION LIST

COLL CODE	SHORT DESCRIPTION	LONG DESCRIPTION
&	OTH	MISCELLANEOUS
-	BACK	BACKING
0	PED	PEDESTRIAN
1	ANGL	ANGLE
2	HEAD	HEAD-ON
3	REAR	REAR-END
4	SS-M	SIDESWIPE - MEETING
5	SS-O	SIDESWIPE - OVERTAKING
6	TURN	TURNING MOVEMENT
7	PARK	PARKING MANEUVER
8	NCOL	NON-COLLISION
9	FIX	FIXED OBJECT OR OTHER OBJECT

CRASH TYPE CODE TRANSLATION LIST

CRASH TYPE	SHORT DESCRIPTION	LONG DESCRIPTION
&	OVERTURN	OVERTURNED
0	NON-COLL	OTHER NON-COLLISION
1	OTH RDWY	MOTOR VEHICLE ON OTHER ROADWAY
2	PRKD MV	PARKED MOTOR VEHICLE
3	PED	PEDESTRIAN
4	TRAIN	RAILWAY TRAIN
6	BIKE	PEDALCYCLIST
7	ANIMAL	ANIMAL
8	FIX OBJ	FIXED OBJECT
9	OTH OBJ	OTHER OBJECT
A	ANGL-STP	ENTERING AT ANGLE - ONE VEHICLE STOPPED
B	ANGL-OTH	ENTERING AT ANGLE - ALL OTHERS
C	S-STRGHT	FROM SAME DIRECTION - BOTH GOING STRAIGHT
D	S-1TURN	FROM SAME DIRECTION - ONE TURN, ONE STRAIGHT
E	S-1STOP	FROM SAME DIRECTION - ONE STOPPED
F	S-OTHER	FROM SAME DIRECTION-ALL OTHERS, INCLUDING PARKING
G	O-STRGHT	FROM OPPOSITE DIRECTION - BOTH GOING STRAIGHT
H	O-1 L-TURN	FROM OPPOSITE DIRECTION-ONE LEFT TURN,ONE STRAIGHT
I	O-1STOP	FROM OPPOSITE DIRECTION - ONE STOPPED
J	O-OTHER	FROM OPPOSITE DIRECTION-ALL OTHERS INCL. PARKING

DRIVER LICENSE CODE TRANSLATION LIST

LIC CODE	SHORT DESC	LONG DESCRIPTION
0	NONE	NOT LICENSED (HAD NEVER BEEN LICENSED)
1	OR-Y	VALID OREGON LICENSE
2	OTH-Y	VALID LICENSE, OTHER STATE OR COUNTRY
3	SUSP	SUSPENDED/REVOKED
4	EXP	EXPIRED
8	N-VAL	OTHER NON-VALID LICENSE
9	UNK	UNKNOWN IF DRIVER WAS LICENSED AT TIME OF CRASH

DRIVER RESIDENCE CODE TRANSLATION LIST

RES CODE	SHORT DESC	LONG DESCRIPTION
1	OR<25	OREGON RESIDENT WITHIN 25 MILE OF HOME
2	OR>25	OREGON RESIDENT 25 OR MORE MILES FROM HOME
3	OR-?	OREGON RESIDENT - UNKNOWN DISTANCE FROM HOME
4	N-RES	NON-RESIDENT
9	UNK	UNKNOWN IF OREGON RESIDENT

ERROR CODE TRANSLATION LIST

ERROR CODE	SHORT DESCRIPTION	FULL DESCRIPTION
000	NONE	NO ERROR
001	WIDE TRN	WIDE TURN
002	CUT CORN	CUT CORNER ON TURN
003	FAIL TRN	FAILED TO OBEY MANDATORY TRAFFIC TURN SIGNAL, SIGN OR LANE MARKINGS
004	L IN TRF	LEFT TURN IN FRONT OF ONCOMING TRAFFIC
005	L PROHIB	LEFT TURN WHERE PROHIBITED
006	FRM WRNG	TURNED FROM WRONG LANE
007	TO WRONG	TURNED INTO WRONG LANE
008	ILLEG U	U-TURNED ILLEGALLY
009	IMP STOP	IMPROPERLY STOPPED IN TRAFFIC LANE
010	IMP SIG	IMPROPER SIGNAL OR FAILURE TO SIGNAL
011	IMP BACK	BACKING IMPROPERLY (NOT PARKING)
012	IMP PARK	IMPROPERLY PARKED
013	UNPARK	IMPROPER START LEAVING PARKED POSITION
014	IMP STRT	IMPROPER START FROM STOPPED POSITION
015	IMP LGHT	IMPROPER OR NO LIGHTS (VEHICLE IN TRAFFIC)
016	INATTENT	INATTENTION (FAILURE TO DIM LIGHTS PRIOR TO 4/1/97)
017	UNSF VEH	DRIVING UNSAFE VEHICLE (NO OTHER ERROR APPARENT)
018	OTH PARK	ENTERING/EXITING PARKED POSITION W/ INSUFFICIENT CLEARANCE; OTHER IMPROPER PARKING MANEUVER
019	DIS DRIV	DISREGARDED OTHER DRIVER'S SIGNAL
020	DIS SGNL	DISREGARDED TRAFFIC SIGNAL
021	RAN STOP	DISREGARDED STOP SIGN OR FLASHING RED
022	DIS SIGN	DISREGARDED WARNING SIGN, FLARES OR FLASHING AMBER
023	DIS OFCR	DISREGARDED POLICE OFFICER OR FLAGMAN
024	DIS EMER	DISREGARDED SIREN OR WARNING OF EMERGENCY VEHICLE
025	DIS RR	DISREGARDED RR SIGNAL, RR SIGN, OR RR FLAGMAN
026	REAR-END	FAILED TO AVOID STOPPED OR PARKED VEHICLE AHEAD OTHER THAN SCHOOL BUS
027	BIKE ROW	DID NOT HAVE RIGHT-OF-WAY OVER PEDALCYCLIST
028	NO ROW	DID NOT HAVE RIGHT-OF-WAY
029	PED ROW	FAILED TO YIELD RIGHT-OF-WAY TO PEDESTRIAN
030	PAS CURV	PASSING ON A CURVE
031	PAS WRNG	PASSING ON THE WRONG SIDE
032	PAS TANG	PASSING ON STRAIGHT ROAD UNDER UNSAFE CONDITIONS
033	PAS X-WK	PASSED VEHICLE STOPPED AT CROSSWALK FOR PEDESTRIAN
034	PAS INTR	PASSING AT INTERSECTION
035	PAS HILL	PASSING ON CREST OF HILL
036	N/PAS ZN	PASSING IN "NO PASSING" ZONE
037	PAS TRAF	PASSING IN FRONT OF ONCOMING TRAFFIC
038	CUT-IN	CUTTING IN (TWO LANES - TWO WAY ONLY)
039	WRNGSIDE	DRIVING ON WRONG SIDE OF THE ROAD (2-WAY UNDIVIDED ROADWAYS)
040	THRU MED	DRIVING THROUGH SAFETY ZONE OR OVER ISLAND
041	F/ST BUS	FAILED TO STOP FOR SCHOOL BUS

ERROR CODE TRANSLATION LIST

ERROR CODE	SHORT DESCRIPTION	FULL DESCRIPTION
042	F/SLO MV	FAILED TO DECREASE SPEED FOR SLOWER MOVING VEHICLE
043	TOO CLOSE	FOLLOWING TOO CLOSELY (MUST BE ON OFFICER'S REPORT)
044	STRDL LN	STRADDLING OR DRIVING ON WRONG LANES
045	IMP CHG	IMPROPER CHANGE OF TRAFFIC LANES
046	WRNG WAY	WRONG WAY ON ONE-WAY ROADWAY; WRONG SIDE DIVIDED ROAD
047	BASCRULE	DRIVING TOO FAST FOR CONDITIONS (NOT EXCEEDING POSTED SPEED)
048	OPN DOOR	OPENED DOOR INTO ADJACENT TRAFFIC LANE
049	IMPEDING	IMPEDING TRAFFIC
050	SPEED	DRIVING IN EXCESS OF POSTED SPEED
051	RECKLESS	RECKLESS DRIVING (PER PAR)
052	CARELESS	CARELESS DRIVING (PER PAR)
053	RACING	SPEED RACING (PER PAR)
054	X N/SGNL	CROSSING AT INTERSECTION, NO TRAFFIC SIGNAL PRESENT
055	X W/SGNL	CROSSING AT INTERSECTION, TRAFFIC SIGNAL PRESENT
056	DIAGONAL	CROSSING AT INTERSECTION - DIAGONALLY
057	BTWN INT	CROSSING BETWEEN INTERSECTIONS
059	W/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC
060	A/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC
061	W/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC
062	A/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC
063	PLAYINRD	PLAYING IN STREET OR ROAD
064	PUSH MV	PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER
065	WORK IN RD	WORKING IN ROADWAY OR ALONG SHOULDER
070	LAY ON RD	STANDING OR LYING IN ROADWAY
071	NM IMP USE	IMPROPER USE OF TRAFFIC LANE BY NON-MOTORIST
073	ELUDING	ELUDING / ATTEMPT TO ELUDE
079	F NEG CURV	FAILED TO NEGOTIATE A CURVE
080	FAIL LN	FAILED TO MAINTAIN LANE
081	OFF RD	RAN OFF ROAD
082	NO CLEAR	DRIVER MISJUDGED CLEARANCE
083	OVRSTEER	OVER-CORRECTING
084	NOT USED	CODE NOT IN USE
085	OVRLOAD	OVERLOADING OR IMPROPER LOADING OF VEHICLE WITH CARGO OR PASSENGERS
097	UNA DIS TC	UNABLE TO DETERMINE WHICH DRIVER DISREGARDED TRAFFIC CONTROL DEVICE

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
001	FEL/JUMP	OCCUPANT FELL, JUMPED OR WAS EJECTED FROM MOVING VEHICLE
002	INTERFER	PASSENGER INTERFERED WITH DRIVER
003	BUG INTF	ANIMAL OR INSECT IN VEHICLE INTERFERED WITH DRIVER
004	INDRCT PED	PEDESTRIAN INDIRECTLY INVOLVED (NOT STRUCK)
005	SUB-PED	"SUB-PED": PEDESTRIAN INJURED SUBSEQUENT TO COLLISION, ETC.
006	INDRCT BIK	PEDALCYCLIST INDIRECTLY INVOLVED (NOT STRUCK)
007	HITCHIKR	HITCHHIKER (SOLICITING A RIDE)
008	PSNGR TOW	PASSENGER OR NON-MOTORIST BEING TOWED OR PUSHED ON CONVEYANCE
009	ON/OFF V	GETTING ON/OFF STOPPED/PARKED VEHICLE (OCCUPANTS ONLY; MUST HAVE PHYSICAL CONTACT W/ VEHIC
010	SUB OTRN	OVERTURNED AFTER FIRST HARMFUL EVENT
011	MV PUSHD	VEHICLE BEING PUSHED
012	MV TOWED	VEHICLE TOWED OR HAD BEEN TOWING ANOTHER VEHICLE
013	FORCED	VEHICLE FORCED BY IMPACT INTO ANOTHER VEHICLE, PEDALCYCLIST OR PEDESTRIAN
014	SET MOTN	VEHICLE SET IN MOTION BY NON-DRIVER (CHILD RELEASED BRAKES, ETC.)
015	RR ROW	AT OR ON RAILROAD RIGHT-OF-WAY (NOT LIGHT RAIL)
016	LT RL ROW	AT OR ON LIGHT-RAIL RIGHT-OF-WAY
017	RR HIT V	TRAIN STRUCK VEHICLE
018	V HIT RR	VEHICLE STRUCK TRAIN
019	HIT RR CAR	VEHICLE STRUCK RAILROAD CAR ON ROADWAY
020	JACKNIFE	JACKKNIFE; TRAILER OR TOWED VEHICLE STRUCK TOWING VEHICLE
021	TRL OTRN	TRAILER OR TOWED VEHICLE OVERTURNED
022	CN BROKE	TRAILER CONNECTION BROKE
023	DETACH TRL	DETACHED TRAILING OBJECT STRUCK OTHER VEHICLE, NON-MOTORIST, OR OBJECT
024	V DOOR OPN	VEHICLE DOOR OPENED INTO ADJACENT TRAFFIC LANE
025	WHEELOFF	WHEEL CAME OFF
026	HOOD UP	HOOD FLEW UP
028	LOAD SHIFT	LOST LOAD, LOAD MOVED OR SHIFTED
029	TIREFAIL	TIRE FAILURE
030	PET	PET: CAT, DOG AND SIMILAR
031	LVSTOCK	STOCK: COW, CALF, BULL, STEER, SHEEP, ETC.
032	HORSE	HORSE, MULE, OR DONKEY
033	HRSE&RID	HORSE AND RIDER
034	GAME	WILD ANIMAL, GAME (INCLUDES BIRDS; NOT DEER OR ELK)
035	DEER ELK	DEER OR ELK, WAPITI
036	ANML VEH	ANIMAL-DRAWN VEHICLE
037	CULVERT	CULVERT, OPEN LOW OR HIGH MANHOLE
038	ATENUATN	IMPACT ATTENUATOR
039	PK METER	PARKING METER
040	CURB	CURB (ALSO NARROW SIDEWALKS ON BRIDGES)
041	JIGGLE	JIGGLE BAR OR TRAFFIC SNAKE FOR CHANNELIZATION
042	GDRL END	LEADING EDGE OF GUARDRAIL
043	GARDRAIL	GUARD RAIL (NOT METAL MEDIAN BARRIER)
044	BARRIER	MEDIAN BARRIER (RAISED OR METAL)
045	WALL	RETAINING WALL OR TUNNEL WALL
046	BR RAIL	BRIDGE RAILING OR PARAPET (ON BRIDGE OR APPROACH)
047	BR ABUTMNT	BRIDGE ABUTMENT (INCLUDED "APPROACH END" THRU 2013)
048	BR COLMN	BRIDGE PILLAR OR COLUMN
049	BR GIRDR	BRIDGE GIRDER (HORIZONTAL BRIDGE STRUCTURE OVERHEAD)
050	ISLAND	TRAFFIC RAISED ISLAND
051	GORE	GORE
052	POLE UNK	POLE - TYPE UNKNOWN
053	POLE UTL	POLE - POWER OR TELEPHONE
054	ST LIGHT	POLE - STREET LIGHT ONLY
055	TRF SGNL	POLE - TRAFFIC SIGNAL AND PED SIGNAL ONLY
056	SGN BRDG	POLE - SIGN BRIDGE
057	STOPSIGN	STOP OR YIELD SIGN
058	OTH SIGN	OTHER SIGN, INCLUDING STREET SIGNS
059	HYDRANT	HYDRANT

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
060	MARKER	DELINEATOR OR MARKER (REFLECTOR POSTS)
061	MAILBOX	MAILBOX
062	TREE	TREE, STUMP OR SHRUBS
063	VEG OHED	TREE BRANCH OR OTHER VEGETATION OVERHEAD, ETC.
064	WIRE/CBL	WIRE OR CABLE ACROSS OR OVER THE ROAD
065	TEMP SGN	TEMPORARY SIGN OR BARRICADE IN ROAD, ETC.
066	PERM SGN	PERMANENT SIGN OR BARRICADE IN/OFF ROAD
067	SLIDE	SLIDES, FALLEN OR FALLING ROCKS
068	FRGN OBJ	FOREIGN OBSTRUCTION/DEBRIS IN ROAD (NOT GRAVEL)
069	EQP WORK	EQUIPMENT WORKING IN/OFF ROAD
070	OTH EQP	OTHER EQUIPMENT IN OR OFF ROAD (INCLUDES PARKED TRAILER, BOAT)
071	MAIN EQP	WRECKER, STREET SWEEPER, SNOW PLOW OR SANDING EQUIPMENT
072	OTHER WALL	ROCK, BRICK OR OTHER SOLID WALL
073	IRRGL PVMT	OTHER BUMP (NOT SPEED BUMP), POTHOLE OR PAVEMENT IRREGULARITY (PER PAR)
074	OVERHD OBJ	OTHER OVERHEAD OBJECT (HIGHWAY SIGN, SIGNAL HEAD, ETC.); NOT BRIDGE
075	CAVE IN	BRIDGE OR ROAD CAVE IN
076	HI WATER	HIGH WATER
077	SNO BANK	SNOW BANK
078	LO-HI EDGE	LOW OR HIGH SHOULDER AT PAVEMENT EDGE
079	DITCH	CUT SLOPE OR DITCH EMBANKMENT
080	OBJ FRM MV	STRUCK BY ROCK OR OTHER OBJECT SET IN MOTION BY OTHER VEHICLE (INCL. LOST LOADS)
081	FLY-OBJ	STRUCK BY ROCK OR OTHER MOVING OR FLYING OBJECT (NOT SET IN MOTION BY VEHICLE)
082	VEH HID	VEHICLE OBSCURED VIEW
083	VEG HID	VEGETATION OBSCURED VIEW
084	BLDG HID	VIEW OBSCURED BY FENCE, SIGN, PHONE BOOTH, ETC.
085	WIND GUST	WIND GUST
086	IMMERSED	VEHICLE IMMERSED IN BODY OF WATER
087	FIRE/EXP	FIRE OR EXPLOSION
088	FENC/BLD	FENCE OR BUILDING, ETC.
089	OTHR CRASH	CRASH RELATED TO ANOTHER SEPARATE CRASH
090	TO 1 SIDE	TWO-WAY TRAFFIC ON DIVIDED ROADWAY ALL ROUTED TO ONE SIDE
091	BUILDING	BUILDING OR OTHER STRUCTURE
092	PHANTOM	OTHER (PHANTOM) NON-CONTACT VEHICLE
093	CELL PHONE	CELL PHONE (ON PAR OR DRIVER IN USE)
094	VIOL GDL	TEENAGE DRIVER IN VIOLATION OF GRADUATED LICENSE PGM
095	GUY WIRE	GUY WIRE
096	BERM	BERM (EARTHEN OR GRAVEL MOUND)
097	GRAVEL	GRAVEL IN ROADWAY
098	ABR EDGE	ABRUPT EDGE
099	CELL WTNSD	CELL PHONE USE WITNESSED BY OTHER PARTICIPANT
100	UNK FIXD	FIXED OBJECT, UNKNOWN TYPE.
101	OTHER OBJ	NON-FIXED OBJECT, OTHER OR UNKNOWN TYPE
102	TEXTING	TEXTING
103	WZ WORKER	WORK ZONE WORKER
104	ON VEHICLE	PASSENGER RIDING ON VEHICLE EXTERIOR
105	PEDAL PSGR	PASSENGER RIDING ON PEDALCYCLE
106	MAN WHLCHR	PEDESTRIAN IN NON-MOTORIZED WHEELCHAIR
107	MTR WHLCHR	PEDESTRIAN IN MOTORIZED WHEELCHAIR
108	OFFICER	LAW ENFORCEMENT / POLICE OFFICER
109	SUB-BIKE	"SUB-BIKE": PEDALCYCLIST INJURED SUBSEQUENT TO COLLISION, ETC.
110	N-MTR	NON-MOTORIST STRUCK VEHICLE
111	S CAR VS V	STREET CAR/TROLLEY (ON RAILS OR OVERHEAD WIRE SYSTEM) STRUCK VEHICLE
112	V VS S CAR	VEHICLE STRUCK STREET CAR/TROLLEY (ON RAILS OR OVERHEAD WIRE SYSTEM)
113	S CAR ROW	AT OR ON STREET CAR OR TROLLEY RIGHT-OF-WAY
114	RR EQUIP	VEHICLE STRUCK RAILROAD EQUIPMENT (NOT TRAIN) ON TRACKS
115	DSTRCT GPS	DISTRACTED BY NAVIGATION SYSTEM OR GPS DEVICE
116	DSTRCT OTH	DISTRACTED BY OTHER ELECTRONIC DEVICE
117	RR GATE	RAIL CROSSING DROP-ARM GATE

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
118	EXPNSN JNT	EXPANSION JOINT
119	JERSEY BAR	JERSEY BARRIER
120	WIRE BAR	WIRE OR CABLE MEDIAN BARRIER
121	FENCE	FENCE
123	OBJ IN VEH	LOOSE OBJECT IN VEHICLE STRUCK OCCUPANT
124	SLIPPERY	SLIDING OR SWERVING DUE TO WET, ICY, SLIPPERY OR LOOSE SURFACE (NOT GRAVEL)
125	SHLDR	SHOULDER GAVE WAY
126	BOULDER	ROCK(S), BOULDER (NOT GRAVEL; NOT ROCK SLIDE)
127	LAND SLIDE	ROCK SLIDE OR LAND SLIDE
128	CURVE INV	CURVE PRESENT AT CRASH LOCATION
129	HILL INV	VERTICAL GRADE / HILL PRESENT AT CRASH LOCATION
130	CURVE HID	VIEW OBSCURED BY CURVE
131	HILL HID	VIEW OBSCURED BY VERTICAL GRADE / HILL
132	WINDOW HID	VIEW OBSCURED BY VEHICLE WINDOW CONDITIONS
133	SPRAY HID	VIEW OBSCURED BY WATER SPRAY
134	TORRENTIAL	TORRENTIAL RAIN (EXCEPTIONALLY HEAVY RAIN)

FUNCTIONAL CLASSIFICATION TRANSLATION LIST

FUNC CLASS	DESCRIPTION
01	RURAL PRINCIPAL ARTERIAL - INTERSTATE
02	RURAL PRINCIPAL ARTERIAL - OTHER
06	RURAL MINOR ARTERIAL
07	RURAL MAJOR COLLECTOR
08	RURAL MINOR COLLECTOR
09	RURAL LOCAL
11	URBAN PRINCIPAL ARTERIAL - INTERSTATE
12	URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXP
14	URBAN PRINCIPAL ARTERIAL - OTHER
16	URBAN MINOR ARTERIAL
17	URBAN MAJOR COLLECTOR
18	URBAN MINOR COLLECTOR
19	URBAN LOCAL
78	UNKNOWN RURAL SYSTEM
79	UNKNOWN RURAL NON-SYSTEM
98	UNKNOWN URBAN SYSTEM
99	UNKNOWN URBAN NON-SYSTEM

HIGHWAY COMPONENT TRANSLATION LIST

CODE	DESCRIPTION
0	MAINLINE STATE HIGHWAY
1	COUPLET
3	FRONTAGE ROAD
6	CONNECTION
8	HIGHWAY - OTHER

INJURY SEVERITY CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
1	KILL	FATAL INJURY
2	INJA	INCAPACITATING INJURY - BLEEDING, BROKEN BONES
3	INJB	NON-INCAPACITATING INJURY
4	INJC	POSSIBLE INJURY - COMPLAINT OF PAIN
5	PRI	DIED PRIOR TO CRASH
7	NO<5	NO INJURY - 0 TO 4 YEARS OF AGE
9	NONE	PARTICIPANT UNINJURED, OVER THE AGE OF 4

LIGHT CONDITION CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	DAY	DAYLIGHT
2	DLIT	DARKNESS - WITH STREET LIGHTS
3	DARK	DARKNESS - NO STREET LIGHTS
4	DAWN	DAWN (TWILIGHT)
5	DUSK	DUSK (TWILIGHT)

MEDIAN TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	NONE	NO MEDIAN
1	RSDMD	SOLID MEDIAN BARRIER
2	DIVMD	EARTH, GRASS OR PAVED MEDIAN

MILEAGE TYPE CODE TRANSLATION LIST

CODE	LONG DESCRIPTION
0	REGULAR MILEAGE
T	TEMPORARY
Y	SPUR
Z	OVERLAPPING

MOVEMENT TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	STRGHT	STRAIGHT AHEAD
2	TURN-R	TURNING RIGHT
3	TURN-L	TURNING LEFT
4	U-TURN	MAKING A U-TURN
5	BACK	BACKING
6	STOP	STOPPED IN TRAFFIC
7	PRKD-P	PARKED - PROPERLY
8	PRKD-I	PARKED - IMPROPERLY
9	PARKNG	PARKING MANEUVER

NON-MOTORIST LOCATION CODE TRANSLATION LIST

CODE	LONG DESCRIPTION
00	AT INTERSECTION - NOT IN ROADWAY
01	AT INTERSECTION - INSIDE CROSSWALK
02	AT INTERSECTION - IN ROADWAY, OUTSIDE CROSSWALK
03	AT INTERSECTION - IN ROADWAY, XWALK AVAIL UNKNWN
04	NOT AT INTERSECTION - IN ROADWAY
05	NOT AT INTERSECTION - ON SHOULDER
06	NOT AT INTERSECTION - ON MEDIAN
07	NOT AT INTERSECTION - WITHIN TRAFFIC RIGHT-OF-WAY
08	NOT AT INTERSECTION - IN BIKE PATH OR PARKING LANE
09	NOT-AT INTERSECTION - ON SIDEWALK
10	OUTSIDE TRAFFICWAY BOUNDARIES
13	AT INTERSECTION - IN BIKE LANE
14	NOT AT INTERSECTION - IN BIKE LANE
15	NOT AT INTERSECTION - INSIDE MID-BLOCK CROSSWALK
16	NOT AT INTERSECTION - IN PARKING LANE
18	OTHER, NOT IN ROADWAY
99	UNKNOWN LOCATION

ROAD CHARACTER CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	INTER	INTERSECTION
2	ALLEY	DRIVEWAY OR ALLEY
3	STRGHT	STRAIGHT ROADWAY
4	TRANS	TRANSITION
5	CURVE	CURVE (HORIZONTAL CURVE)
6	OPENAC	OPEN ACCESS OR TURNOUT
7	GRADE	GRADE (VERTICAL CURVE)
8	BRIDGE	BRIDGE STRUCTURE
9	TUNNEL	TUNNEL

PARTICIPANT TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	OCC	UNKNOWN OCCUPANT TYPE
1	DRVR	DRIVER
2	PSNG	PASSENGER
3	PED	PEDESTRIAN
4	CONV	PEDESTRIAN USING A PEDESTRIAN CONVEYA
5	PTOW	PEDESTRIAN TOWING OR TRAILERING AN OB
6	BIKE	PEDALCYCLIST
7	BTOW	PEDALCYCLIST TOWING OR TRAILERING AN
8	PRKD	OCCUPANT OF A PARKED MOTOR VEHICLE
9	UNK	UNKNOWN TYPE OF NON-MOTORIST

TRAFFIC CONTROL DEVICE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
000	NONE	NO CONTROL
001	TRF SIGNAL	TRAFFIC SIGNALS
002	FLASHBCN-R	FLASHING BEACON - RED (STOP)
003	FLASHBCN-A	FLASHING BEACON - AMBER (SLOW)
004	STOP SIGN	STOP SIGN
005	SLOW SIGN	SLOW SIGN
006	REG-SIGN	REGULATORY SIGN
007	YIELD	YIELD SIGN
008	WARNING	WARNING SIGN
009	CURVE	CURVE SIGN
010	SCHL X-ING	SCHOOL CROSSING SIGN OR SPECIAL SIGNAL
011	OFCR/FLAG	POLICE OFFICER, FLAGMAN - SCHOOL PATROL
012	BRDG-GATE	BRIDGE GATE - BARRIER
013	TEMP-BARR	TEMPORARY BARRIER
014	NO-PASS-ZN	NO PASSING ZONE
015	ONE-WAY	ONE-WAY STREET
016	CHANNEL	CHANNELIZATION
017	MEDIAN BAR	MEDIAN BARRIER
018	PILOT CAR	PILOT CAR
019	SP PED SIG	SPECIAL PEDESTRIAN SIGNAL
020	X-BUCK	CROSSBUCK
021	THR-GN-SIG	THROUGH GREEN ARROW OR SIGNAL
022	L-GRN-SIG	LEFT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL
023	R-GRN-SIG	RIGHT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL
024	WIGWAG	WIGWAG OR FLASHING LIGHTS W/O DROP-ARM GATE
025	X-BUCK WRN	CROSSBUCK AND ADVANCE WARNING
026	WW W/ GATE	FLASHING LIGHTS WITH DROP-ARM GATES
027	OVRHD SGNL	SUPPLEMENTAL OVERHEAD SIGNAL (RR XING ONLY)
028	SP RR STOP	SPECIAL RR STOP SIGN
029	ILUM GRD X	ILLUMINATED GRADE CROSSING
037	RAMP METER	METERED RAMPS
038	RUMBLE STR	RUMBLE STRIP
090	L-TURN REF	LEFT TURN REFUGE (WHEN REFUGE IS INVOLVED)
091	R-TURN ALL	RIGHT TURN AT ALL TIMES SIGN, ETC.
092	EMR SGN/FL	EMERGENCY SIGNS OR FLARES
093	ACCEL LANE	ACCELERATION OR DECELERATION LANES
094	R-TURN PRO	RIGHT TURN PROHIBITED ON RED AFTER STOPPING
095	BUS STPSGN	BUS STOP SIGN AND RED LIGHTS
099	UNKNOWN	UNKNOWN OR NOT DEFINITE

VEHICLE TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
00	PDO	NOT COLLECTED FOR PDO CRASHES
01	PSNGR CAR	PASSENGER CAR, PICKUP, LIGHT DELIVERY, ETC.
02	BOBTAIL	TRUCK TRACTOR WITH NO TRAILERS (BOBTAIL)
03	FARM TRCTR	FARM TRACTOR OR SELF-PROPELLED FARM EQUIPMENT
04	SEMI TOW	TRUCK TRACTOR WITH TRAILER/MOBILE HOME IN TOW
05	TRUCK	TRUCK WITH NON-DETACHABLE BED, PANEL, ETC.
06	MOPED	MOPED, MINIBIKE, SEATED MOTOR SCOOTER, MOTOR BIKE
07	SCHL BUS	SCHOOL BUS (INCLUDES VAN)
08	OTH BUS	OTHER BUS
09	MTRCYCLE	MOTORCYCLE, DIRT BIKE
10	OTHER	OTHER: FORKLIFT, BACKHOE, ETC.
11	MOTRHOME	MOTORHOME
12	TROLLEY	MOTORIZED STREET CAR/TROLLEY (NO RAILS/WIRES)
13	ATV	ATV
14	MTRSCTR	MOTORIZED SCOOTER (STANDING)
15	SNOWMOBILE	SNOWMOBILE
99	UNKNOWN	UNKNOWN VEHICLE TYPE

WEATHER CONDITION CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	CLR	CLEAR
2	CLD	CLOUDY
3	RAIN	RAIN
4	SLT	SLEET
5	FOG	FOG
6	SNOW	SNOW
7	DUST	DUST
8	SMOK	SMOKE
9	ASH	ASH

Appendix E Population and Employment Forecast

POPULATION AND EMPLOYMENT FORECAST

Date: August 2, 2018 Project #: 22352
To: Lance Ludwick and Dan Fleishman (City of Stayton)
From: Andrew Parish and Darci Rudzinski (Angelo Planning Group)

Subject: Stayton Population and Employment Projections

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Attachment: Upcoming potential housing developments in Stayton, OR

PURPOSE AND INTRODUCTION

This memorandum documents the methodology and results of the population and employment forecasts conducted as part of the City of Stayton Transportation System Plan (TSP) Update. The methodology and assumptions included in this memorandum are based on guidance provided in the Oregon Department of Transportation (ODOT) Transportation System Plan Guidelines (Reference 1) and direction provided by City staff.

POPULATION FORECAST

These forecasts apply previously-conducted studies to Transportation Analysis Zones (TAZs) within the City of Stayton, based on a number of factors. Data sources include:

- Portland State University (PSU) Population Research Center (PRC) coordinated population forecasts for Marion County
- US Census 2000 and 2010 figures at the block level
- "On The Map"[1] economic census data for the Stayton area

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[1] https://onthemap.ces.census.gov/

POPULATION FORECAST METHODOLOGY

Population totals for the Stayton urban growth boundary (UGB) for the base year (2017) and plan year (2040) are established in the Population Research Center (PRC) Coordinated Population Forecast for Marion County (2017 Through 2067). For the Stayton TSP, this overall population needs to be across 27 TAZs within the Stayton UGB.

Figure 1. Stayton TSP Transportation Analysis Zones

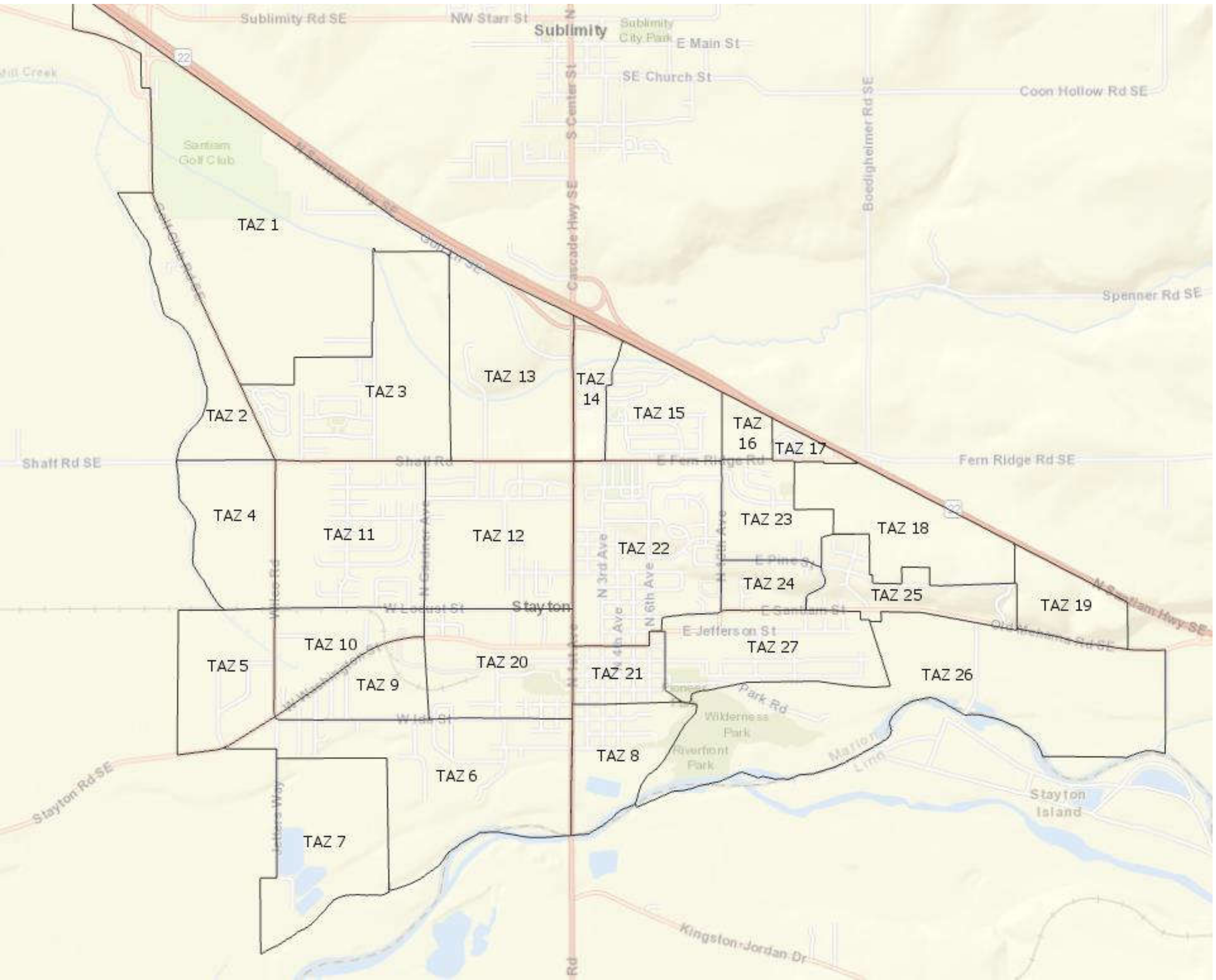
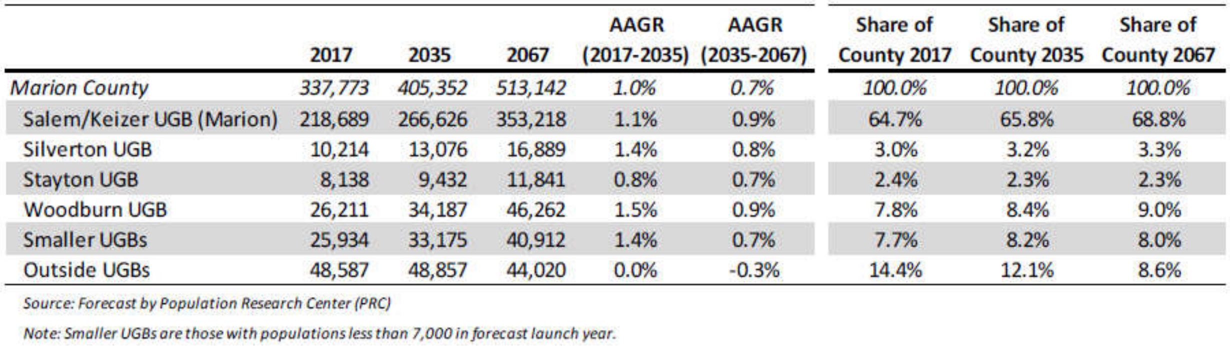


Table 1 is an excerpt of the PRC forecast for Marion County. The 2017 population of the City of Stayton is 8,138, and the 2040 total is projected to be 9,767, a difference of 1,629 individuals (or a growth of 20% over the planning horizon). The number of persons per household (PPH) within the City of Stayton was 2.6 in 2010 and is assumed to remain at that level, resulting in the need for an additional 627 homes by 2040. If the occupancy rate remains at 95%, an additional 31 units are needed, totaling 658 units.

Table 1. Portland State University PRC Forecast for Marion County and Larger Sub Areas – Forecast Population and AAGR



	2017	2035	2067	AAGR (2017-2035)	AAGR (2035-2067)	Share of County 2017	Share of County 2035	Share of County 2067
Marion County	*337,773*	*405,352*	*513,142*	*1.0%*	*0.7%*	*100.0%*	*100.0%*	*100.0%*
Salem/Keizer UGB (Marion)	218,689	266,626	353,218	1.1%	0.9%	64.7%	65.8%	68.8%
Silverton UGB	10,214	13,076	16,889	1.4%	0.8%	3.0%	3.2%	3.3%
Stayton UGB	8,138	9,432	11,841	0.8%	0.7%	2.4%	2.3%	2.3%
Woodburn UGB	26,211	34,187	46,262	1.5%	0.9%	7.8%	8.4%	9.0%
Smaller UGBs	25,934	33,175	40,912	1.4%	0.7%	7.7%	8.2%	8.0%
Outside UGBs	48,587	48,857	44,020	0.0%	-0.3%	14.4%	12.1%	8.6%

Source: Forecast by Population Research Center (PRC)

Note: Smaller UGBs are those with populations less than 7,000 in forecast launch year.

Block-level census data from the 2010 decennial census count was used to determine the base year distribution of people and households in each TAZ, as shown in Table 2. The proportion of the 2010 population within a given TAZ is assumed to be the same as the 2017 (base year) proportion of the population.

In order to determine the likely location of future residential growth within the City of Stayton, City planning staff provided information regarding vacant buildable lands within the current City limits and land within the UGB, which includes land outside the current City limits. Information regarding approved and potential residential developments was also factored into assumptions.

There has been demonstrated interest from property owners in areas outside the current City limits to develop residential subdivisions. Given clear property owner interest and the developability of the subject sites, this analysis assumes these locations should be included in future growth assumptions. Approved and potential residential projects include the following:

Approved Projects:

- Lambert Place, 50 units in final engineering in TAZ 3
- Wildlife Meadows, 45 new units in TAZ 13

Potential Projects:

- Pine Ridge, up to 263 new homes outside the current City Limits in TAZ 19
- Santiam Subdivision, up to 243 SF homes and 45 multifamily units in TAZ 27

Additional information about these projects, such as location and site plans, are provided in the attachment to this memorandum.

These projects make up a total of 646 planned units within the Stayton UGB, roughly matching the amount of growth projected by the PRC forecast.

Table 2. Base Year Population and Households

TAZ	Percent of 2010 Households	Base Year Population	Base year Households (2.6 Persons per Household)
1	1%	106	41
2	0%	39	15
3	6%	498	192
4	0%	3	1
5	0%	0	0
6	9%	708	272
7	0%	0	0
8	3%	204	78
9	2%	150	58
10	4%	333	128
11	17%	1420	546
12	8%	674	259
13	0%	13	5
14	2%	160	62
15	7%	555	214
16	0%	3	1
17	1%	116	45
18	0%	15	6
19	0%	5	2
20	6%	478	184
21	3%	269	103
22	12%	963	371
23	3%	232	89
24	4%	307	118
25	3%	227	87
26	1%	80	31
27	7%	579	223
Grand Total	**100.00%**	8138	3130

Source: 2010 Decennial Census, PSU Population Research Center

POPULATION FORECAST RESULTS

Table 3 shows identified projects added to base-year TAZ households, resulting in the projected future-year housing units by TAZ.

Table 3. Base Year and Future Year Households by TAZ

TAZ	Base Year (2017) HH	Identified Growth	Future Year (2040) HH
1	41		41
2	15		15
3	192	50	242
4	1		1
5	0		0
6	272		272
7	0		0
8	78		78
9	58		58
10	128		128
11	546		546
12	259		259
13	5	45	50
14	62		62
15	214		214
16	1		1
17	45		45
18	6		6
19	2	263	265
20	184		184
21	103		103
22	371		371
23	89		89
24	118		118
25	87		87
26	31		31
27	223	288	511
Grand Total	3130	646	3776

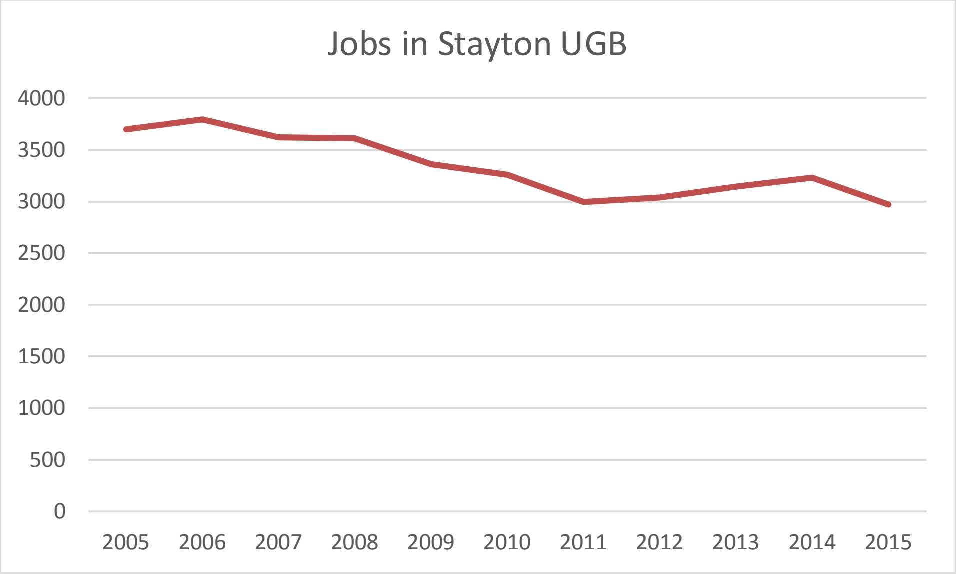
EMPLOYMENT FORECAST

Employment is another important input into transportation modeling for the Stayton TSP Update. The number of expected employees is translated into the future need for square footage of various types of employment uses.

EMPLOYMENT FORECAST METHODOLOGY

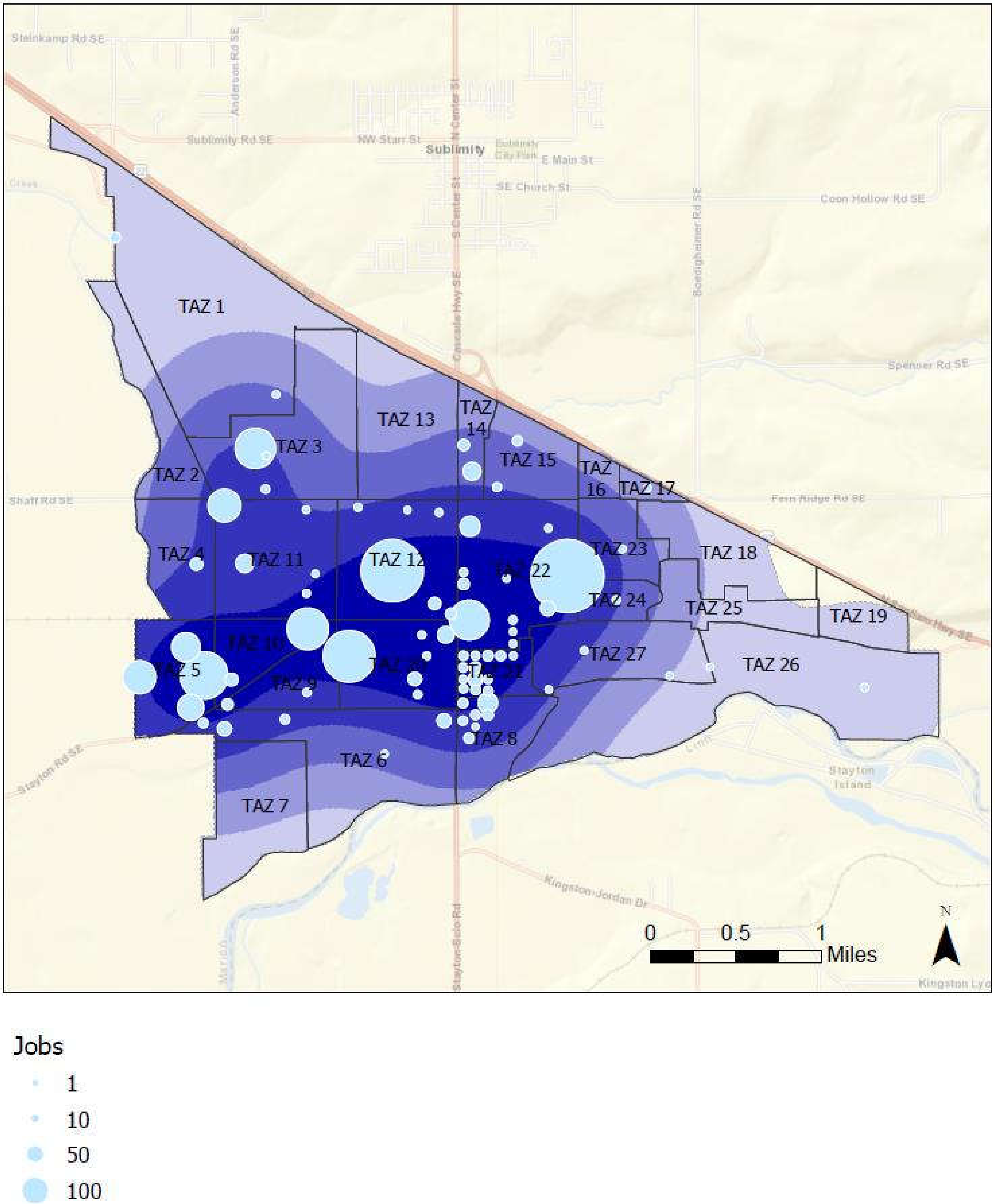
Employment data for the City of Stayton is available through the US Census Bureau's Center for Economic Studies "On The Map" tool. Available data shows a steady decline in jobs within the City of Stayton since 2005 (Figure 2). This matches the observations of City staff, who noted the departure of manufacturing jobs over this time period.

Figure 2. Stayton Job Growth, 2005-2015



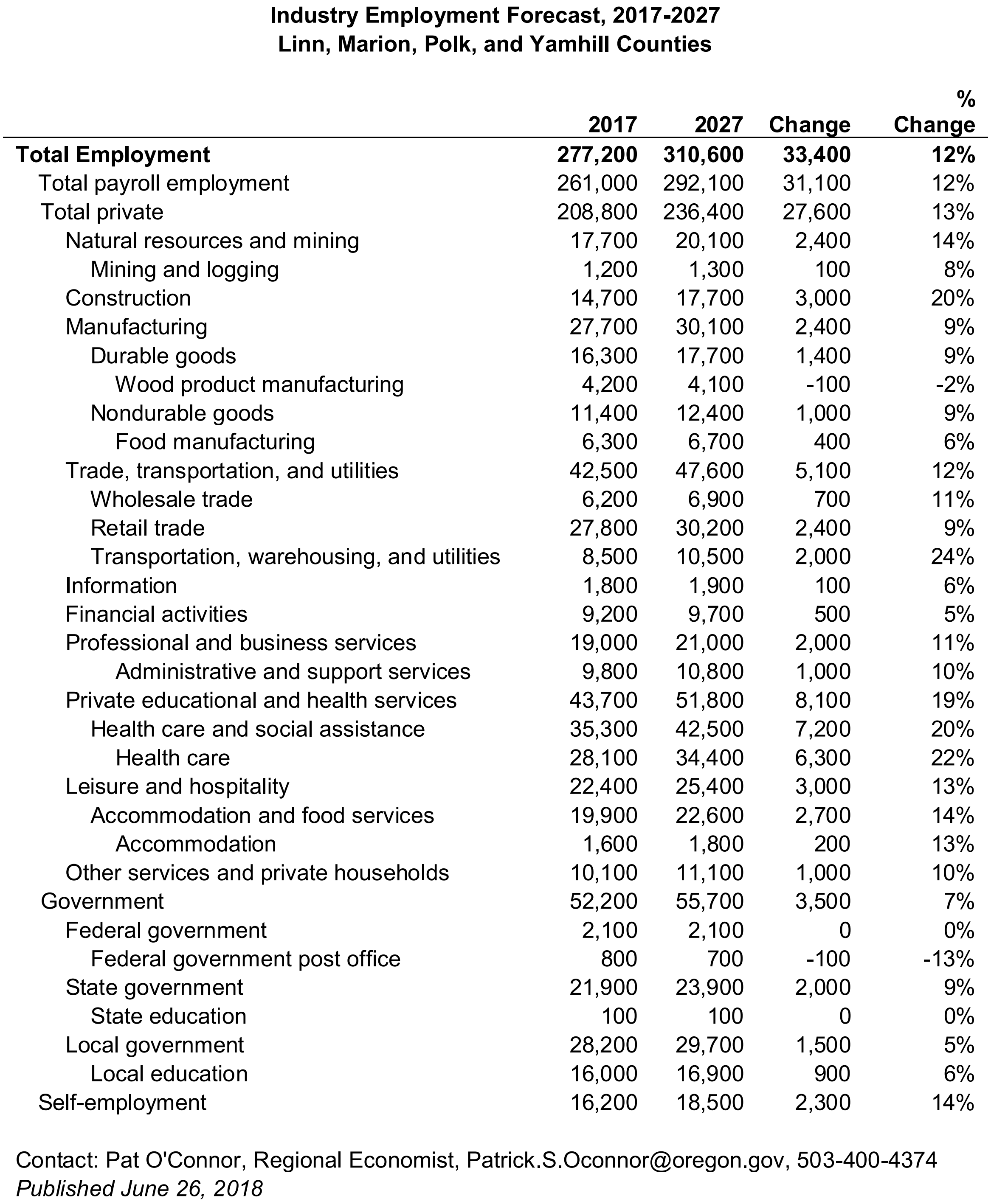
Census data provides the number of jobs per census block broken into North American Industry Classification System (NAICS) sector. Overall employment for the City is shown in Figure 3.

Figure 3. Job Locations within Stayton



The State of Oregon publishes employment projections for various regions throughout the state. The latest Mid-Valley Industry Employment Projections for the Linn, Marion, Polk, and Yamhill County area projects a 12% growth of employment overall within these counties, or an average annual growth rate of 1.2%. Projected growth rates vary considerably between NAICS sectors, with the greatest growth occurring in manufacturing and health care jobs.

Table 4. State of Oregon Employment Forecast



Industry Employment Forecast, 2017-2027
Linn, Marion, Polk, and Yamhill Counties

	2017	2027	Change	% Change
Total Employment	**277,200**	**310,600**	**33,400**	**12%**
Total payroll employment	261,000	292,100	31,100	12%
Total private	208,800	236,400	27,600	13%
Natural resources and mining	17,700	20,100	2,400	14%
Mining and logging	1,200	1,300	100	8%
Construction	14,700	17,700	3,000	20%
Manufacturing	27,700	30,100	2,400	9%
Durable goods	16,300	17,700	1,400	9%
Wood product manufacturing	4,200	4,100	-100	-2%
Nondurable goods	11,400	12,400	1,000	9%
Food manufacturing	6,300	6,700	400	6%
Trade, transportation, and utilities	42,500	47,600	5,100	12%
Wholesale trade	6,200	6,900	700	11%
Retail trade	27,800	30,200	2,400	9%
Transportation, warehousing, and utilities	8,500	10,500	2,000	24%
Information	1,800	1,900	100	6%
Financial activities	9,200	9,700	500	5%
Professional and business services	19,000	21,000	2,000	11%
Administrative and support services	9,800	10,800	1,000	10%
Private educational and health services	43,700	51,800	8,100	19%
Health care and social assistance	35,300	42,500	7,200	20%
Health care	28,100	34,400	6,300	22%
Leisure and hospitality	22,400	25,400	3,000	13%
Accommodation and food services	19,900	22,600	2,700	14%
Accommodation	1,600	1,800	200	13%
Other services and private households	10,100	11,100	1,000	10%
Government	52,200	55,700	3,500	7%
Federal government	2,100	2,100	0	0%
Federal government post office	800	700	-100	-13%
State government	21,900	23,900	2,000	9%
State education	100	100	0	0%
Local government	28,200	29,700	1,500	5%
Local education	16,000	16,900	900	6%
Self-employment	16,200	18,500	2,300	14%

Contact: Pat O'Connor, Regional Economist, Patrick.S.Oconnor@oregon.gov, 503-400-4374
Published June 26, 2018

The following tables apply the State's growth forecast to employment in the TAZs defined for the TSP update, and translates those employment figures to the amount of commercial and industrial building space needed using standard ratios of square feet per employee from the Urban Land Institute.

One specific adjustment was made to this projection, which is otherwise a linear continuation of existing trends, to accommodate a specific employment opportunity site. The projection assumes that 50% of the growth in Manufacturing and Transportation/Warehouse/Utility jobs will be located in TAZ 4, where a large vacant industrial property is located.

Table 5. Employment Space Utilization

	Commercial		Industrial										
				Industrial Type			Square Feet per Job			Avg Space per Job			
Industry	**Commercial Office Share**	**Avg Office Space per Employee**	**Industrial Share**	**Ware-house**	**Gen Ind**	**Tech/ Flex**	**Ware-house**	**Gen Ind**	**Tech/ Flex**	**Ware-house**	**Gen Ind**	**Tech/ Flex**	**Weighted Avg**
Construction	2%	366	30%	0%	75%	25%	1350	533	467	0	400	117	**517**
Manufacturing	5%	366	95%	0%	75%	25%	1350	533	467	0	400	117	**517**
Wholesale Trade	5%	366	95%	90%	0%	10%	1500	533	467	1350	0	47	**1397**
Retail Trade	5%	366	0%	0%	0%	0%	1350	533	467	0	0	0	**0**
Transp. Warehouse. Util	30%	366	70%	100%	0%	0%	1350	533	467	2000	0	0	**2000**
Information	90%	366	10%	0%	0%	100%	2000	533	467	0	0	467	**467**
Financial Activities	90%	366	0%	0%	0%	0%	1350	533	467	0	0	0	**0**
Professional & Business Services	90%	366	10%	0%	0%	100%	1350	533	467	0	0	467	**467**
Education & Health Services	40%	366	0%	0%	0%	0%	1350	533	467	0	0	0	**0**
Leisure & Hosp	25%	366	0%	0%	0%	0%	1350	533	467	0	0	0	**0**
Other Services	40%	366	60%	0%	75%	25%	1350	533	467	0	400	117	**517**
Government	85%	366	15%	50%	0%	50%	1350	533	467	675	0	234	**909**

Table 6. Jobs and Employment Square Footage by TAZ, Base Year and Future Year

TAZ	Base Year (2017) Jobs	2017 Commercial SF	2017 Industrial SF	Future Year (2040) Jobs	2040 Commercial SF	2040 Industrial SF
1	22	2,451	Total	29	3,179	-
2	0	-	-	0	-	-
3	180	22,267	-	249	31,066	7,265
4	28	601	5,612	136	4,854	106,983
5	547	12,473	27,323	656	14,588	299,233
6	87	8,443	260,430	116	10,416	26,053
7	0	-	19,738	0	-	-
8	142	26,747	-	179	32,311	24,608
9	27	2,409	18,004	34	3,044	364
10	207	9,574	286	305	12,879	82,722
11	193	9,931	58,404	239	12,674	46,408
12	340	31,123	38,841	450	41,616	47,240
13	0	-	36,360	0	-	-
14	78	5,840	-	105	8,492	-
15	26	3,621	-	37	5,163	14,381
16	0	-	9,347	0	-	-
17	2	666	-	2	758	-
18	0	-	-	0	-	-
19	0	-	-	0	-	-
20	325	16,135	-	381	19,616	127,499
21	172	32,818	114,138	221	39,539	9,546
22	662	95,457	7,174	962	138,081	24,980
23	4	456	18,488	5	574	1,448
24	7	711	1,111	11	917	1,406
25	2	15	903	3	24	514
26	3	345	323	5	589	7,512
27	6	329	4,400	9	423	1,822
Total	**3,060**	**282,410**	**622,159**	**4,135**	**380,802**	**829,986**

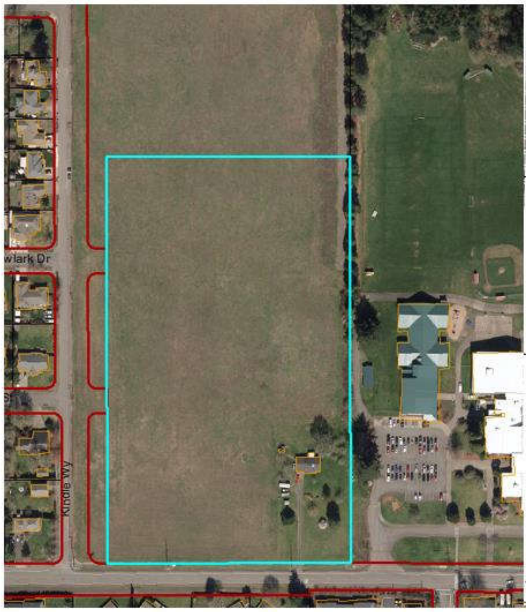
Attachment:

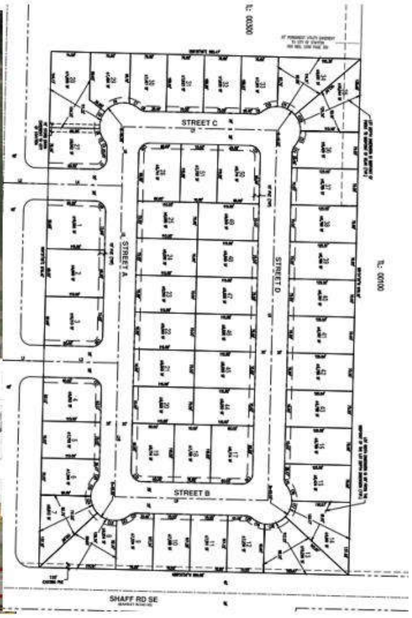
Upcoming potential housing developments in Stayton, OR

Lambert Place Subdivision

51 Lots

currently in engineering review; construction expected summer 2018

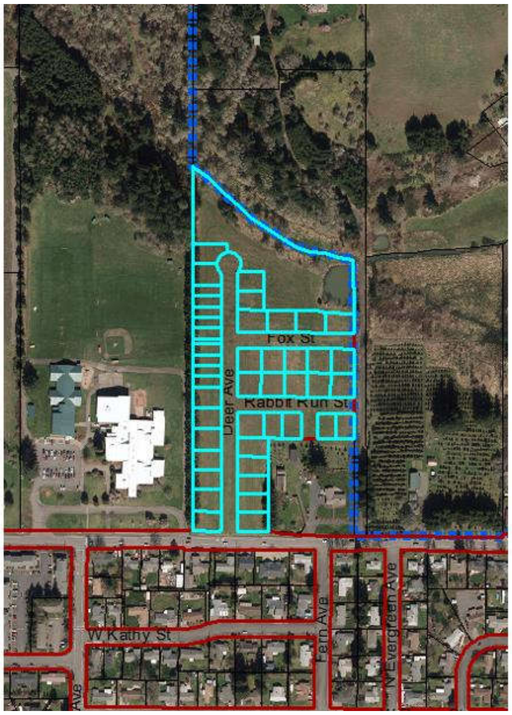


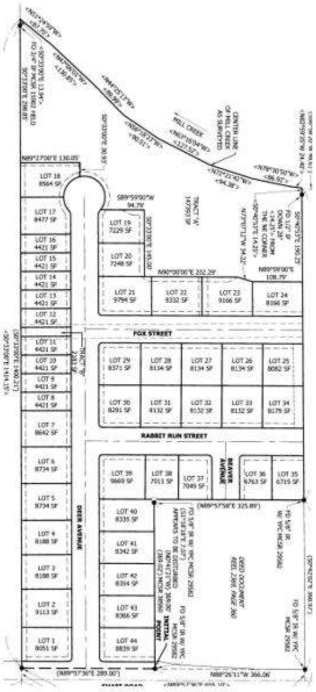


Wildlife Meadows Subdivision

44 Lots – four designated for duplexes

currently 24 homes built or under construction





Santiam Subdivision

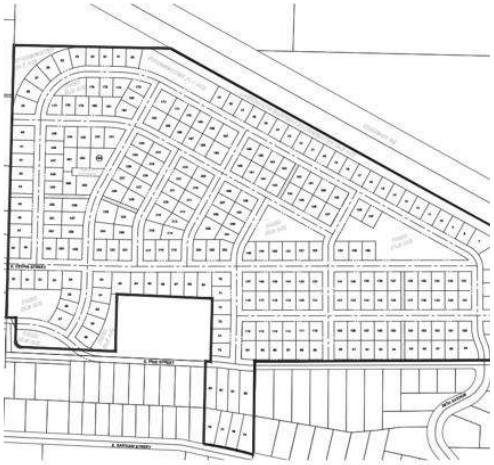
E Santiam St

243 single family homes
45 multi-family

Pine Ridge Subdivision

E Pine St

263 single family homes



Appendix F Trip Generation and Origin-Destination Tables

Appendix F - Trip Generation and Origin-Destination Tables

SFD (ITE 110)			MF (ITE 220)			Office (ITE 710)			Hospital (ITE 610)			High Turnover Sit-			Gen. Industrial (ITE			Warehouse (ITE			Retail (ITE 820)			Total		
Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out
0	0	0	0	0	0	0	0	0	0	0	0	6	4	2	0	0	0	0	0	0	0	0	0	6	4	2
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	31	18	0	0	0	3	1	2	5	1	3	20	12	8	1	0	1	0	0	0	0	0	0	79	46	32
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	4	26	7	2	5	0	0	0	36	6	31
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	3	18	2	0	1	0	0	0	22	3	19
0	0	0	0	0	0	2	1	2	1	0	0	1	1	0	4	0	3	0	0	0	0	0	0	8	2	6
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	8	3	5	0	0	0	16	10	6	1	0	0	1	0	1	0	0	0	26	13	13
0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0	0	0	0	0	0	1	0	1	0	0	0	11	7	4	8	1	7	3	1	2	0	0	0	22	9	13
0	0	0	0	0	0	1	0	1	1	0	1	3	2	1	5	1	4	0	0	0	1	1	1	12	4	8
0	0	0	0	0	0	1	0	1	8	3	6	7	4	2	7	1	6	0	0	0	2	1	1	25	9	16
41	26	15	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	27	16
0	0	0	0	0	0	0	0	0	2	1	1	2	1	1	0	0	0	0	0	0	1	0	0	5	2	3
0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	2	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
260	164	96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	260	164	96
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	2	1	1	1	0	0	11	7	4	9	1	8	0	0	0	0	0	0	23	9	14
0	0	0	0	0	0	6	2	4	3	1	2	7	4	3	1	0	1	0	0	0	0	0	0	17	7	10
0	0	0	0	0	0	8	2	5	36	12	25	9	6	3	2	0	2	0	0	0	1	0	0	56	20	36
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
241	152	89	25	16	9	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	266	168	99
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
591	372	219	27	17	10																			911	495	416

Trip Attractions and Productions Probabilities

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	Total
Total New Trips	6	0	79	36	22	8	0	26	1	22	12	25	43	5	2	0	0	260	0	23	17	56	0	1	0	266	0	911
Trip Attractions	4	0	46	6	3	2	0	13	0	9	4	9	27	2	0	0	0	164	0	9	7	20	0	0	0	168	0	495
Atraction Probability	1%	0%	9%	1%	1%	0%	0%	3%	0%	2%	1%	2%	5%	0%	0%	0%	0%	33%	0%	2%	2%	4%	0%	0%	0%	34%	0%	100%
Trip Productions	2	0	32	31	19	6	0	13	1	13	8	16	16	3	1	0	0	96	0	14	10	36	0	0	0	99	0	416
Production Probability	1%	0%	8%	7%	5%	1%	0%	3%	0%	3%	2%	4%	4%	1%	0%	0%	0%	23%	0%	3%	2%	9%	0%	0%	0%	24%	0%	100%

External-Internal Trip Distribution

Roadway	nal Station	New E-I Trips	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	Total
OR 22	A	55	0	0	5	1	0	0	0	1	0	1	0	1	3	0	0	0	0	18	0	1	1	2	0	0	0	19	0	55
OR 22	B	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2

Internal-External Trip Distribution

Roadway	nal Station	New I-E Trips	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	Total
OR 22	A	33	0	0	3	2	2	0	0	1	0	1	1	1	1	0	0	0	0	8	0	1	1	3	0	0	0	8	0	33
OR 22	B	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	3

Internal Trip Attractions and Productions Probabilities

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	Total
Total New Trips	6	0	71	32	20	7	0	23	1	20	11	23	38	4	1	0	0	233	0	20	15	51	0	1	0	239	0	818
Trip Attractions	3	0	41	5	3	2	0	11	0	8	4	8	24	2	0	0	0	145	0	8	7	18	0	0	0	149	0	439
Atraction Probability	1%	0%	9%	1%	1%	0%	0%	3%	0%	2%	1%	2%	5%	0%	0%	0%	0%	33%	0%	2%	2%	4%	0%	0%	0%	34%	0%	100%
Trip Productions	2	0	29	27	18	5	0	12	1	12	7	15	14	2	1	0	0	88	0	12	9	33	0	0	0	90	0	380
Production Probability	1%	0%	8%	7%	5%	1%	0%	3%	0%	3%	2%	4%	4%	1%	0%	0%	0%	23%	0%	3%	2%	9%	0%	0%	0%	24%	0%	100%

Internal Trip Attribution Distribution

Zone	I-I Attraction	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	Total
1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	3
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	41	0	0	4	0	0	0	0	1	0	1	0	1	2	0	0	0	0	14	0	1	1	2	0	0	0	14	0	41
4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	5
5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	3
6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	11	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4	0	0	0	0	0	0	0	4	0	11
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	8	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0	8
11	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	4
12	8	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0	8
13	24	0	0	2	0	0	0	0	1	0	0	0	0	1	0	0	0	0	8	0	0	0	1	0	0	0	8	0	24
14	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	145	1	0	14	2	1	1	0	4	0	3	1	3	8	1	0	0	0	48	0	3	2	6	0	0	0	49	0	145
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	8	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0	8
21	7	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	7
22	18	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	6	0	0	0	1	0	0	0	6	0	18
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	149	1	0	14	2	1	1	0	4	0	3	1	3	8	1	0	0	0	49	0	3	2	6	0	0	0	50	0	149
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	439	3	0	41	5	3	2	0	11	0	8	4	8	24	2	0	0	0	145	0	8	7	18	0	0	0	149	0	439

Internal Trip Production Distribution

Zone	I-I Production	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	Total
1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	29	0	0	2	2	1	0	0	1	0	1	1	1	1	0	0	0	0	7	0	1	1	3	0	0	0	7	0	29
4	27	0	0	2	2	1	0	0	1	0	1	1	1	1	0	0	0	0	6	0	1	1	2	0	0	0	6	0	27
5	18	0	0	1	1	1	0	0	1	0	1	0	1	1	0	0	0	0	4	0	1	0	2	0	0	0	4	0	18
6	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	5
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	12	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	3	0	12
9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10	12	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	3	0	12
11	7	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	2	0	7
12	15	0	0	1	1	1	0	0	0	0	0	0	1	1	0	0	0	0	3	0	0	0	1	0	0	0	3	0	15
13	14	0	0	1	1	1	0	0	0	0	0	0	1	1	0	0	0	0	3	0	0	0	1	0	0	0	3	0	14
14	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	88	1	0	7	6	4	1	0	3	0	3	2	3	3	1	0	0	0	20	0	3	2	8	0	0	0	21	0	88
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	12	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	3	0	12
21	9	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	2	0	9
22	33	0	0	3	2	2	0	0	1	0	1	1	1	1	0	0	0	0	8	0	1	1	3	0	0	0	8	0	33
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	90	1	0	7	6	4	1	0	3	0	3	2	3	3	1	0	0	0	21	0	3	2	8	0	0	0	22	0	90
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	380	2	0	29	27	18	5	0	12	1	12	7	15	14	2	1	0	0	88	0	12	9	33	0	0	0	90	0	380
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	

Appendix G 2040 PM Operations

HCM 6th TWSC
101: Golf Club Rd SE & Sublimity Rd SE

09/06/2018

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	5	1	23	54	58	11	208	48	178	3	28	7
Future Vol, veh/h	5	1	23	54	58	11	208	48	178	3	28	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	Yield
Storage Length	210	-	-	165	-	-	150	-	210	190	-	260
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, %	0	0	13	6	2	0	3	2	2	0	4	0
Mvmt Flow	5	1	24	57	62	12	221	51	189	3	30	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	566	529	30	542	529	51	30	0	0	51	0	0
Stage 1	36	36	-	493	493	-	-	-	-	-	-	-
Stage 2	530	493	-	49	36	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.33	7.16	6.52	6.2	4.13	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.16	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.16	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.417	3.554	4.018	3.3	2.227	-	-	2.2	-	-
Pot Cap-1 Maneuver	438	458	1014	445	455	1023	1576	-	-	1568	-	-
Stage 1	985	869	-	550	547	-	-	-	-	-	-	-
Stage 2	536	550	-	954	865	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	340	393	1014	386	390	1023	1576	-	-	1568	-	-
Mov Cap-2 Maneuver	340	393	-	386	390	-	-	-	-	-	-	-
Stage 1	847	867	-	473	470	-	-	-	-	-	-	-
Stage 2	396	473	-	928	863	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	15.4	3.7	0.6
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1576	-	-	340	951	386	433	1568	-	-
HCM Lane V/C Ratio	0.14	-	-	0.016	0.027	0.149	0.17	0.002	-	-
HCM Control Delay (s)	7.7	-	-	15.8	8.9	16	15	7.3	-	-
HCM Lane LOS	A	-	-	C	A	C	C	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0	0.1	0.5	0.6	0	-	-

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⬑	↗					↑	↗	↖	↑	
Traffic Vol, veh/h	142	0	383	0	0	0	0	292	33	9	96	0
Future Vol, veh/h	142	0	383	0	0	0	0	292	33	9	96	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	240	-	-	-	-	-	250	115	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	1	0	3	0	0	0	0	4	3	11	4	0
Mvmt Flow	165	0	445	0	0	0	0	340	38	10	112	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	472	472	112				-	0	0	340	0	0
Stage 1	132	132	-				-	-	-	-	-	-
Stage 2	340	340	-				-	-	-	-	-	-
Critical Hdwy	6.41	6.5	6.23				-	-	-	4.21	-	-
Critical Hdwy Stg 1	5.41	5.5	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.41	5.5	-				-	-	-	-	-	-
Follow-up Hdwy	3.509	4	3.327				-	-	-	2.299	-	-
Pot Cap-1 Maneuver	552	493	938				0	-	-	1171	-	0
Stage 1	897	791	-				0	-	-	-	-	0
Stage 2	723	643	-				0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	547	0	938				-	-	-	1171	-	-
Mov Cap-2 Maneuver	605	0	-				-	-	-	-	-	-
Stage 1	889	0	-				-	-	-	-	-	-
Stage 2	723	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	605	938	1171	-
HCM Lane V/C Ratio	-	-	0.273	0.475	0.009	-
HCM Control Delay (s)	-	-	13.2	12.3	8.1	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	1.1	2.6	0	-

HCM 6th TWSC
103: Golf Club Rd SE & Mill Creek Rd SE

09/06/2018

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑	↱		✥		↰	↑↱		↰	↑	↱
Traffic Vol, veh/h	30	1	153	9	6	9	138	286	5	2	445	32
Future Vol, veh/h	30	1	153	9	6	9	138	286	5	2	445	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	50	-	-	-	100	-	-	50	-	260
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, %	3	0	1	0	17	0	4	5	0	0	3	6
Mvmt Flow	32	1	163	10	6	10	147	304	5	2	473	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1086	1080	473	1160	1078	307	473	0	0	309	0	0
Stage 1	477	477	-	601	601	-	-	-	-	-	-	-
Stage 2	609	603	-	559	477	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.5	6.21	7.1	6.67	6.2	4.14	-	-	4.1	-	-
Critical Hdwy Stg 1	6.13	5.5	-	6.1	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.5	-	6.1	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4	3.309	3.5	4.153	3.3	2.236	-	-	2.2	-	-
Pot Cap-1 Maneuver	193	220	593	174	206	738	1079	-	-	1263	-	0
Stage 1	567	559	-	491	466	-	-	-	-	-	-	0
Stage 2	480	492	-	517	532	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	166	190	593	112	178	738	1079	-	-	1263	-	-
Mov Cap-2 Maneuver	166	190	-	112	178	-	-	-	-	-	-	-
Stage 1	490	558	-	424	403	-	-	-	-	-	-	-
Stage 2	403	425	-	374	531	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.5	26.9	2.9	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT
Capacity (veh/h)	1079	-	-	167	593	190	1263	-
HCM Lane V/C Ratio	0.136	-	-	0.197	0.274	0.134	0.002	-
HCM Control Delay (s)	8.9	-	-	31.8	13.4	26.9	7.9	-
HCM Lane LOS	A	-	-	D	B	D	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.7	1.1	0.5	0	-

Intersection	
Intersection Delay, s/veh	25.3
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥		↰	↱		↰	↱		↰	↱	
Traffic Vol, veh/h	11	66	37	80	43	159	45	264	94	244	331	12
Future Vol, veh/h	11	66	37	80	43	159	45	264	94	244	331	12
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	3	0	7	0	3	0	5	2	1	3	17
Mvmt Flow	12	74	42	90	48	179	51	297	106	274	372	13
Number of Lanes	0	1	0	1	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	1
HCM Control Delay	15.3	16	33	26.4
HCM LOS	C	C	D	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	10%	100%	0%	100%	0%
Vol Thru, %	0%	74%	58%	0%	21%	0%	97%
Vol Right, %	0%	26%	32%	0%	79%	0%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	358	114	80	202	244	343
LT Vol	45	0	11	80	0	244	0
Through Vol	0	264	66	0	43	0	331
RT Vol	0	94	37	0	159	0	12
Lane Flow Rate	51	402	128	90	227	274	385
Geometry Grp	7	7	6	7	7	7	7
Degree of Util (X)	0.112	0.82	0.303	0.217	0.473	0.586	0.77
Departure Headway (Hd)	7.952	7.336	8.506	8.706	7.5	7.699	7.195
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	450	491	421	412	479	469	501
Service Time	5.718	5.102	6.591	6.472	5.265	5.467	4.962
HCM Lane V/C Ratio	0.113	0.819	0.304	0.218	0.474	0.584	0.768
HCM Control Delay	11.7	35.7	15.3	13.9	16.9	20.9	30.3
HCM Lane LOS	B	E	C	B	C	C	D
HCM 95th-tile Q	0.4	7.9	1.3	0.8	2.5	3.7	6.8

HCM 6th AWSC
105: W Ida St-Jetters Way/Wilco Rd & Stayton Rd SE/W Washington St

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			↰	↱		↰	↱
Traffic Vol, veh/h	84	76	40	5	95	79	26	117	5	61	230	68
Future Vol, veh/h	84	76	40	5	95	79	26	117	5	61	230	68
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	10	5	5	0	1	3	4	3	0	3	2	7
Mvmt Flow	95	86	45	6	108	90	30	133	6	69	261	77
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	13	11.7	12.1	15.6
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	18%	0%	42%	3%	21%	0%
Vol Thru, %	82%	0%	38%	53%	79%	0%
Vol Right, %	0%	100%	20%	44%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	143	5	200	179	291	68
LT Vol	26	0	84	5	61	0
Through Vol	117	0	76	95	230	0
RT Vol	0	5	40	79	0	68
Lane Flow Rate	162	6	227	203	331	77
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.299	0.009	0.384	0.326	0.574	0.116
Departure Headway (Hd)	6.62	5.795	6.089	5.771	6.25	5.414
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	540	613	586	618	575	658
Service Time	4.397	3.572	4.165	3.849	4.012	3.176
HCM Lane V/C Ratio	0.3	0.01	0.387	0.328	0.576	0.117
HCM Control Delay	12.2	8.6	13	11.7	17.2	8.9
HCM Lane LOS	B	A	B	B	C	A
HCM 95th-tile Q	1.2	0	1.8	1.4	3.6	0.4

HCM 6th TWSC
106: N Gardner Ave & Shaff Rd SE

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			↰	↱
Traffic Vol, veh/h	8	404	72	33	335	12	52	8	44	2	2	1
Future Vol, veh/h	8	404	72	33	335	12	52	8	44	2	2	1
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	45
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, %	0	1	1	0	2	0	0	0	2	0	0	0
Mvmt Flow	9	470	84	38	390	14	60	9	51	2	2	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	405	0	0	554	0	0	1005	1011	513	1035	1046	398
Stage 1	-	-	-	-	-	-	530	530	-	474	474	-
Stage 2	-	-	-	-	-	-	475	481	-	561	572	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	1165	-	-	1026	-	-	222	241	561	212	230	656
Stage 1	-	-	-	-	-	-	536	530	-	575	561	-
Stage 2	-	-	-	-	-	-	574	557	-	516	508	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1164	-	-	1026	-	-	210	227	560	178	216	655
Mov Cap-2 Maneuver	-	-	-	-	-	-	210	227	-	178	216	-
Stage 1	-	-	-	-	-	-	530	524	-	568	534	-
Stage 2	-	-	-	-	-	-	543	530	-	455	502	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.8	26.3	21.2
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	288	1164	-	-	1026	-	-	195	655
HCM Lane V/C Ratio	0.42	0.008	-	-	0.037	-	-	0.024	0.002
HCM Control Delay (s)	26.3	8.1	0	-	8.6	0	-	23.9	10.5
HCM Lane LOS	D	A	A	-	A	A	-	C	B
HCM 95th %tile Q(veh)	2	0	-	-	0.1	-	-	0.1	0

HCM 6th TWSC
107: W Washington St & N Gardner Ave

09/06/2018

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑	↱	↰	↱
Traffic Vol, veh/h	41	143	160	54	65	49
Future Vol, veh/h	41	143	160	54	65	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	70	-	-	110	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	2	1	0	0	2
Mvmt Flow	50	174	195	66	79	60

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	261	0	-	0	469	195
Stage 1	-	-	-	-	195	-
Stage 2	-	-	-	-	274	-
Critical Hdwy	4.1	-	-	-	6.4	6.22
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	1315	-	-	-	556	846
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	777	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1315	-	-	-	535	846
Mov Cap-2 Maneuver	-	-	-	-	535	-
Stage 1	-	-	-	-	811	-
Stage 2	-	-	-	-	777	-

Approach	EB		WB		SB
HCM Control Delay, s	1.7		0		11.5
HCM LOS					B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1315	-	-	-	535	846
HCM Lane V/C Ratio	0.038	-	-	-	0.148	0.071
HCM Control Delay (s)	7.8	-	-	-	12.9	9.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5	0.2

108: Cascade Hwy SE & OR 22 WB Ramps

09/06/2018

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱		↰↑	↱	↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	17	27	56	13	5	25	22	339	238	30	319	8
Future Vol, veh/h	17	27	56	13	5	25	22	339	238	30	319	8
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	None
Storage Length	120	-	25	-	-	25	160	-	300	160	-	230
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	6	4	0	0	20	0	0	3	4	0	3	0
Mvmt Flow	18	28	58	14	5	26	23	353	248	31	332	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	810	794	333	840	802	353	341	0	0	353	0	0
Stage 1	395	395	-	399	399	-	-	-	-	-	-	-
Stage 2	415	399	-	441	403	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.54	6.2	7.1	6.7	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.16	5.54	-	6.1	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.54	-	6.1	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4.036	3.3	3.5	4.18	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	294	318	713	287	298	695	1229	-	-	1217	-	-
Stage 1	622	601	-	631	572	-	-	-	-	-	-	-
Stage 2	607	599	-	599	570	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	270	304	712	237	285	695	1228	-	-	1217	-	-
Mov Cap-2 Maneuver	270	304	-	237	285	-	-	-	-	-	-	-
Stage 1	610	585	-	619	561	-	-	-	-	-	-	-
Stage 2	568	588	-	510	555	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14	14.7	0.3	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1228	-	-	270	304	712	249	695	1217	-	-
HCM Lane V/C Ratio	0.019	-	-	0.066	0.093	0.082	0.075	0.037	0.026	-	-
HCM Control Delay (s)	8	-	-	19.3	18	10.5	20.6	10.4	8	-	-
HCM Lane LOS	A	-	-	C	C	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.3	0.3	0.2	0.1	0.1	-	-

HCM 6th Signalized Intersection Summary
109: Cascade Hwy SE & OR 22 EB Ramps

09/06/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↱		↰	↑	
Traffic Volume (veh/h)	53	1	389	0	0	0	0	546	58	48	340	0
Future Volume (veh/h)	53	1	389	0	0	0	0	546	58	48	340	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1723	1750	1723				0	1709	1709	1641	1723	0
Adj Flow Rate, veh/h	55	1	0				0	569	60	50	354	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	0	2				0	3	3	8	2	0
Cap, veh/h	113	2					0	774	82	426	1177	0
Arrive On Green	0.07	0.07	0.00				0.00	0.51	0.51	0.06	0.68	0.00
Sat Flow, veh/h	1638	30	1460				0	1516	160	1563	1723	0
Grp Volume(v), veh/h	56	0	0				0	0	629	50	354	0
Grp Sat Flow(s),veh/h/ln	1668	0	1460				0	0	1676	1563	1723	0
Q Serve(g_s), s	1.3	0.0	0.0				0.0	0.0	12.1	0.5	3.4	0.0
Cycle Q Clear(g_c), s	1.3	0.0	0.0				0.0	0.0	12.1	0.5	3.4	0.0
Prop In Lane	0.98		1.00				0.00		0.10	1.00		0.00
Lane Grp Cap(c), veh/h	115	0					0	0	856	426	1177	0
V/C Ratio(X)	0.49	0.00					0.00	0.00	0.73	0.12	0.30	0.00
Avail Cap(c_a), veh/h	1215	0					0	0	1425	1085	1464	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.5	0.0	0.0				0.0	0.0	7.9	5.6	2.6	0.0
Incr Delay (d2), s/veh	2.4	0.0	0.0				0.0	0.0	2.4	0.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0				0.0	0.0	2.6	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	0.0	0.0				0.0	0.0	10.3	5.7	2.9	0.0
LnGrp LOS	C	A					A	A	B	A	A	A
Approach Vol, veh/h		56	A					629			404	
Approach Delay, s/veh		20.8						10.3			3.2	
Approach LOS		C						B			A	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		33.8			7.1	26.7		7.3				
Change Period (Y+Rc), s		5.7			4.5	5.7		4.5				
Max Green Setting (Gmax), s		35.0			20.0	35.0		30.0				
Max Q Clear Time (g_c+I1), s		5.4			2.5	14.1		3.3				
Green Ext Time (p_c), s		3.8			0.1	6.9		0.2				

Intersection Summary		
HCM 6th Ctrl Delay		8.2
HCM 6th LOS		A

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
110: Cascade Hwy SE & Whitney St

09/06/2018

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↑↱		↰	↑
Traffic Volume (veh/h)	66	123	488	37	162	578
Future Volume (veh/h)	66	123	488	37	162	578
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1709	1750	1695	1695	1736	1723
Adj Flow Rate, veh/h	71	132	525	40	174	622
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	0	4	4	1	2
Cap, veh/h	206	188	716	55	441	1124
Arrive On Green	0.13	0.13	0.46	0.46	0.09	0.65
Sat Flow, veh/h	1628	1483	1556	119	1654	1723
Grp Volume(v), veh/h	71	132	0	565	174	622
Grp Sat Flow(s),veh/h/ln	1628	1483	0	1674	1654	1723
Q Serve(g_s), s	2.0	4.2	0.0	13.7	2.4	9.8
Cycle Q Clear(g_c), s	2.0	4.2	0.0	13.7	2.4	9.8
Prop In Lane	1.00	1.00		0.07	1.00	
Lane Grp Cap(c), veh/h	206	188	0	771	441	1124
V/C Ratio(X)	0.34	0.70	0.00	0.73	0.39	0.55
Avail Cap(c_a), veh/h	1308	1192	0	1682	1619	1731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	20.8	0.0	10.9	7.8	4.7
Incr Delay (d2), s/veh	0.7	3.5	0.0	2.6	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.6	0.0	3.9	0.4	1.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.6	24.4	0.0	13.6	8.2	5.5
LnGrp LOS	C	C	A	B	A	A
Approach Vol, veh/h	203		565			796
Approach Delay, s/veh	23.0		13.6			6.1
Approach LOS	C		B			A

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		38.5		11.3	9.5	28.9
Change Period (Y+Rc), s		6.0		5.0	5.0	6.0
Max Green Setting (Gmax), s		50.0		40.0	40.0	50.0
Max Q Clear Time (g_c+I1), s		11.8		6.2	4.4	15.7
Green Ext Time (p_c), s		8.4		0.5	0.3	7.2

Intersection Summary						
HCM 6th Ctrl Delay			11.0			
HCM 6th LOS			B			

111: N First Ave & Shaff Rd SE

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	115	233	128	90	208	67	96	379	98	54	485	107
Future Volume (veh/h)	115	233	128	90	208	67	96	379	98	54	485	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1668	1723	1723	1750	1750	1750	1709	1695	1695	1750	1709	1709
Adj Flow Rate, veh/h	120	243	133	94	217	70	100	395	102	56	505	111
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	6	2	2	0	0	0	3	4	4	0	3	3
Cap, veh/h	275	265	145	202	301	97	124	608	157	70	592	130
Arrive On Green	0.07	0.25	0.25	0.06	0.24	0.24	0.08	0.47	0.47	0.04	0.44	0.44
Sat Flow, veh/h	1589	1043	571	1667	1265	408	1628	1291	333	1667	1355	298
Grp Volume(v), veh/h	120	0	376	94	0	287	100	0	497	56	0	616
Grp Sat Flow(s),veh/h/ln	1589	0	1615	1667	0	1672	1628	0	1624	1667	0	1653
Q Serve(g_s), s	5.1	0.0	20.7	3.9	0.0	14.5	5.5	0.0	21.4	3.1	0.0	30.6
Cycle Q Clear(g_c), s	5.1	0.0	20.7	3.9	0.0	14.5	5.5	0.0	21.4	3.1	0.0	30.6
Prop In Lane	1.00		0.35	1.00		0.24	1.00		0.21	1.00		0.18
Lane Grp Cap(c), veh/h	275	0	411	202	0	398	124	0	765	70	0	722
V/C Ratio(X)	0.44	0.00	0.92	0.47	0.00	0.72	0.81	0.00	0.65	0.80	0.00	0.85
Avail Cap(c_a), veh/h	503	0	529	469	0	548	355	0	765	364	0	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	0.0	33.2	26.3	0.0	32.1	41.7	0.0	18.5	43.5	0.0	23.2
Incr Delay (d2), s/veh	0.4	0.0	15.8	0.6	0.0	1.4	4.7	0.0	4.3	7.6	0.0	12.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	9.6	1.5	0.0	5.8	2.4	0.0	8.5	1.4	0.0	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.1	0.0	49.0	26.9	0.0	33.5	46.3	0.0	22.7	51.1	0.0	35.4
LnGrp LOS	C	A	D	C	A	C	D	A	C	D	A	D
Approach Vol, veh/h		496			381			597			672	
Approach Delay, s/veh		43.2			31.9			26.7			36.7	
Approach LOS		D			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	44.0	10.8	25.8	7.8	47.1	9.3	27.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	7.5	32.6	7.1	16.5	5.1	23.4	5.9	22.7
Green Ext Time (p_c), s	0.0	0.6	0.0	0.3	0.0	0.7	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	34.6
HCM 6th LOS	C

112: N First Ave & W Regis St

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↱		↰	↱	
Traffic Vol, veh/h	29	0	74	5	0	1	77	543	1	0	666	37
Future Vol, veh/h	29	0	74	5	0	1	77	543	1	0	666	37
Conflicting Peds, #/hr	0	0	0	0	0	0	4	0	3	3	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	350	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	3	0	0	2	0
Mvmt Flow	32	0	80	5	0	1	84	590	1	0	724	40

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1507	1510	748	1546	1530	594	768	0	0	594	0	0
Stage 1	748	748	-	762	762	-	-	-	-	-	-	-
Stage 2	759	762	-	784	768	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	100	122	416	94	118	509	855	-	-	992	-	-
Stage 1	408	423	-	400	416	-	-	-	-	-	-	-
Stage 2	402	416	-	389	414	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	92	109	414	70	106	508	852	-	-	989	-	-
Mov Cap-2 Maneuver	92	109	-	70	106	-	-	-	-	-	-	-
Stage 1	366	421	-	360	374	-	-	-	-	-	-	-
Stage 2	362	374	-	313	412	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	40.5			52.7			1.2			0		
HCM LOS	E			F								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	852	-	-	209	82	989	-	-
HCM Lane V/C Ratio	0.098	-	-	0.536	0.08	-	-	-
HCM Control Delay (s)	9.7	-	-	40.5	52.7	0	-	-
HCM Lane LOS	A	-	-	E	F	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	2.8	0.3	0	-	-

HCM 6th TWSC
113: N First Ave & E Hollister St

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↱		↰	↱	
Traffic Vol, veh/h	15	2	41	15	1	21	21	503	11	34	568	19
Future Vol, veh/h	15	2	41	15	1	21	21	503	11	34	568	19
Conflicting Peds, #/hr	0	0	4	4	0	0	1	0	3	3	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	350	-	-	350	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	7	0	0	0	0	5	0	2	9	6	2	0
Mvmt Flow	16	2	43	16	1	22	22	524	11	35	592	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1258	1255	607	1276	1260	533	613	0	0	538	0	0
Stage 1	673	673	-	577	577	-	-	-	-	-	-	-
Stage 2	585	582	-	699	683	-	-	-	-	-	-	-
Critical Hdwy	7.17	6.5	6.2	7.1	6.5	6.25	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.17	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.563	4	3.3	3.5	4	3.345	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	144	173	500	145	172	541	976	-	-	1010	-	-
Stage 1	437	457	-	506	505	-	-	-	-	-	-	-
Stage 2	488	502	-	434	452	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	131	162	498	125	162	539	975	-	-	1007	-	-
Mov Cap-2 Maneuver	131	162	-	125	162	-	-	-	-	-	-	-
Stage 1	427	441	-	493	492	-	-	-	-	-	-	-
Stage 2	457	489	-	380	436	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.6	24.4	0.3	0.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	975	-	-	277	224	1007	-	-
HCM Lane V/C Ratio	0.022	-	-	0.218	0.172	0.035	-	-
HCM Control Delay (s)	8.8	-	-	21.6	24.4	8.7	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.6	0.1	-	-

114: N First Ave & W Locust St

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↱		↰	↑	↱	
Traffic Vol, veh/h	56	44	45	449	555	68
Future Vol, veh/h	56	44	45	449	555	68
Conflicting Peds, #/hr	4	0	9	0	0	9
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	350	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	0	3	1	2
Mvmt Flow	60	47	48	483	597	73

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1226	643	679	0	-	0
Stage 1	643	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	197	473	923	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	558	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	183	469	915	-	-	-
Mov Cap-2 Maneuver	311	-	-	-	-	-
Stage 1	491	-	-	-	-	-
Stage 2	553	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.9	0.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	915	-	365	-	-
HCM Lane V/C Ratio	0.053	-	0.295	-	-
HCM Control Delay (s)	9.2	-	18.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.2	-	-

HCM 6th Signalized Intersection Summary
115: N First Ave & E Washington St

09/06/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	57	115	45	57	114	100	33	341	40	116	389	47
Future Volume (veh/h)	57	115	45	57	114	100	33	341	40	116	389	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1682	1682	1723	1736	1736	1709	1709	1709	1736	1723	1723
Adj Flow Rate, veh/h	62	125	49	62	124	109	36	371	43	126	423	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	5	5	2	1	1	3	3	3	1	2	2
Cap, veh/h	552	542	213	550	821	690	242	609	71	287	609	73
Arrive On Green	0.47	0.47	0.47	0.47	0.47	0.47	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	1051	1147	450	1109	1736	1459	839	1501	174	900	1502	181
Grp Volume(v), veh/h	62	0	174	62	124	109	36	0	414	126	0	474
Grp Sat Flow(s),veh/h/ln	1051	0	1596	1109	1736	1459	839	0	1675	900	0	1683
Q Serve(g_s), s	2.6	0.0	4.8	2.6	3.0	3.1	2.7	0.0	14.4	9.5	0.0	17.2
Cycle Q Clear(g_c), s	5.6	0.0	4.8	7.4	3.0	3.1	20.0	0.0	14.4	24.0	0.0	17.2
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.10	1.00		0.11
Lane Grp Cap(c), veh/h	552	0	755	550	821	690	242	0	679	287	0	682
V/C Ratio(X)	0.11	0.00	0.23	0.11	0.15	0.16	0.15	0.00	0.61	0.44	0.00	0.69
Avail Cap(c_a), veh/h	552	0	755	550	821	690	242	0	679	287	0	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	11.5	13.7	11.1	11.1	26.5	0.0	17.4	26.8	0.0	18.2
Incr Delay (d2), s/veh	0.4	0.0	0.7	0.4	0.4	0.5	1.3	0.0	4.0	4.8	0.0	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.7	0.7	1.2	1.1	0.6	0.0	5.9	2.3	0.0	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	0.0	12.2	14.1	11.5	11.6	27.8	0.0	21.4	31.7	0.0	24.0
LnGrp LOS	B	A	B	B	B	B	C	A	C	C	A	C
Approach Vol, veh/h		236			295			450			600	
Approach Delay, s/veh		12.5			12.1			21.9			25.6	
Approach LOS		B			B			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		39.5		34.5		39.5		34.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		35.0		30.0		35.0		30.0				
Max Q Clear Time (g_c+I1), s		7.6		26.0		9.4		22.0				
Green Ext Time (p_c), s		1.4		1.4		1.3		1.7				
Intersection Summary												
HCM 6th Ctrl Delay			20.1									
HCM 6th LOS			C									

Intersection	
Intersection Delay, s/veh	18.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣		↰	↱		↰	↱	
Traffic Vol, veh/h	42	45	123	22	43	42	57	252	14	22	354	49
Future Vol, veh/h	42	45	123	22	43	42	57	252	14	22	354	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	2	0	0	0	4	4	0	0	2	2
Mvmt Flow	46	49	134	24	47	46	62	274	15	24	385	53
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	13.3	11.6	15	24.8
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	20%	21%	100%	0%
Vol Thru, %	0%	95%	21%	40%	0%	88%
Vol Right, %	0%	5%	59%	39%	0%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	57	266	210	107	22	403
LT Vol	57	0	42	22	22	0
Through Vol	0	252	45	43	0	354
RT Vol	0	14	123	42	0	49
Lane Flow Rate	62	289	228	116	24	438
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.121	0.519	0.395	0.216	0.045	0.755
Departure Headway (Hd)	7.008	6.46	6.237	6.683	6.77	6.208
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	514	561	578	536	531	587
Service Time	4.721	4.173	4.283	4.737	4.481	3.92
HCM Lane V/C Ratio	0.121	0.515	0.394	0.216	0.045	0.746
HCM Control Delay	10.7	15.9	13.3	11.6	9.8	25.6
HCM Lane LOS	B	C	B	B	A	D
HCM 95th-tile Q	0.4	3	1.9	0.8	0.1	6.7

HCM 6th TWSC
117: N Third Ave & Fern Ridge Rd SE

09/06/2018

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱			✣			✣	
Traffic Vol, veh/h	14	312	51	24	310	15	34	28	29	19	39	23
Future Vol, veh/h	14	312	51	24	310	15	34	28	29	19	39	23
Conflicting Peds, #/hr	0	0	9	9	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	250	-	-	350	-	-	-	-	-	-	-	-
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, %	0	2	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	16	363	59	28	360	17	40	33	34	22	45	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	377	0	0	431	0	0	895	867	403	884	888	369
Stage 1	-	-	-	-	-	-	434	434	-	425	425	-
Stage 2	-	-	-	-	-	-	461	433	-	459	463	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1193	-	-	1139	-	-	264	293	652	268	285	681
Stage 1	-	-	-	-	-	-	604	585	-	611	590	-
Stage 2	-	-	-	-	-	-	584	585	-	586	568	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1193	-	-	1129	-	-	213	280	646	225	272	681
Mov Cap-2 Maneuver	-	-	-	-	-	-	213	280	-	225	272	-
Stage 1	-	-	-	-	-	-	591	572	-	603	575	-
Stage 2	-	-	-	-	-	-	504	570	-	516	556	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.6	23.5	21.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	299	1193	-	-	1129	-	-	310
HCM Lane V/C Ratio	0.354	0.014	-	-	0.025	-	-	0.304
HCM Control Delay (s)	23.5	8.1	-	-	8.3	-	-	21.6
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.5	0	-	-	0.1	-	-	1.3

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	25	15	19	3	27	5	11	22	1	8	18	26
Future Vol, veh/h	25	15	19	3	27	5	11	22	1	8	18	26
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	0	0	0	0	0	0	0	0	100	0	11	0
Mvmt Flow	34	20	26	4	36	7	15	30	1	11	24	35
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.4	7.5	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	32%	42%	9%	15%
Vol Thru, %	65%	25%	77%	35%
Vol Right, %	3%	32%	14%	50%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	34	59	35	52
LT Vol	11	25	3	8
Through Vol	22	15	27	18
RT Vol	1	19	5	26
Lane Flow Rate	46	80	47	70
Geometry Grp	1	1	1	1
Degree of Util (X)	0.054	0.089	0.054	0.076
Departure Headway (Hd)	4.221	4.028	4.094	3.886
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	839	881	866	911
Service Time	2.293	2.091	2.163	1.955
HCM Lane V/C Ratio	0.055	0.091	0.054	0.077
HCM Control Delay	7.5	7.5	7.4	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.2	0.2

Intersection	
Int Delay, s/veh	6.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↳			↲	↰	↱
Traffic Vol, veh/h	211	124	149	202	128	47
Future Vol, veh/h	211	124	149	202	128	47
Conflicting Peds, #/hr	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	115	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	0	3	1	2	5
Mvmt Flow	234	138	166	224	142	52

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	375	0	862	306
Stage 1	-	-	-	-	306	-
Stage 2	-	-	-	-	556	-
Critical Hdwy	-	-	4.13	-	6.42	6.25
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.227	-	3.518	3.345
Pot Cap-1 Maneuver	-	-	1178	-	325	727
Stage 1	-	-	-	-	747	-
Stage 2	-	-	-	-	574	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1175	-	272	725
Mov Cap-2 Maneuver	-	-	-	-	272	-
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	574	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.6	26.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	272	725	-	-	1175	-
HCM Lane V/C Ratio	0.523	0.072	-	-	0.141	-
HCM Control Delay (s)	31.9	10.4	-	-	8.6	0
HCM Lane LOS	D	B	-	-	A	A
HCM 95th %tile Q(veh)	2.8	0.2	-	-	0.5	-

120: N 10th Ave & Stayton Rd SE Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.2	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.4	0.2	0.0
Total Del/Veh (s)	4.8	7.2	3.6	1.8	5.8	1.5	6.5	3.8	2.4	8.9	7.5	7.8

120: N 10th Ave & Stayton Rd SE Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	1.0
Total Del/Veh (s)	4.7

HCM 6th TWSC
121: OR 22 & Fern Ridge Rd SE

09/06/2018

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	12	20	113	4	29	10	111	285	0	13	483	82
Future Vol, veh/h	12	20	113	4	29	10	111	285	0	13	483	82
Conflicting Peds, #/hr	0	0	2	2	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	Stop
Storage Length	-	-	-	-	-	-	265	-	0	200	-	0
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, %	17	0	6	0	3	0	0	8	0	15	5	5
Mvmt Flow	13	21	120	4	31	11	118	303	0	14	514	87

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1102	1083	516	1156	1083	305	514	0	0	305	0	0
Stage 1	542	542	-	541	541	-	-	-	-	-	-	-
Stage 2	560	541	-	615	542	-	-	-	-	-	-	-
Critical Hdwy	7.27	6.5	6.26	7.1	6.53	6.2	4.1	-	-	4.25	-	-
Critical Hdwy Stg 1	6.27	5.5	-	6.1	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.27	5.5	-	6.1	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.653	4	3.354	3.5	4.027	3.3	2.2	-	-	2.335	-	-
Pot Cap-1 Maneuver	177	219	551	175	216	740	1062	-	-	1185	-	-
Stage 1	498	523	-	529	519	-	-	-	-	-	-	-
Stage 2	487	524	-	482	519	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	139	192	550	113	189	739	1062	-	-	1183	-	-
Mov Cap-2 Maneuver	139	192	-	113	189	-	-	-	-	-	-	-
Stage 1	443	517	-	469	460	-	-	-	-	-	-	-
Stage 2	398	465	-	356	513	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.8	26.6	2.5	0.2
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1062	-	-	366	212	1183	-	-
HCM Lane V/C Ratio	0.111	-	-	0.421	0.216	0.012	-	-
HCM Control Delay (s)	8.8	-	-	21.8	26.6	8.1	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	2	0.8	0	-	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	49	9	65	2	6	15	48	330	1	22	526	53
Future Vol, veh/h	49	9	65	2	6	15	48	330	1	22	526	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	Stop
Storage Length	-	-	-	-	-	-	270	-	0	235	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	3	0	0	7	0	7	0	5	5	0
Mvmt Flow	56	10	75	2	7	17	55	379	1	25	605	61

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1156	1144	605	1187	1144	379	605	0	-	379	0	0
Stage 1	655	655	-	489	489	-	-	-	-	-	-	-
Stage 2	501	489	-	698	655	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.23	7.1	6.5	6.27	4.1	-	-	4.15	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.327	3.5	4	3.363	2.2	-	-	2.245	-	-
Pot Cap-1 Maneuver	175	202	496	167	202	657	983	-	0	1163	-	-
Stage 1	458	466	-	564	553	-	-	-	0	-	-	-
Stage 2	556	553	-	434	466	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	156	187	496	128	187	657	983	-	-	1163	-	-
Mov Cap-2 Maneuver	156	187	-	128	187	-	-	-	-	-	-	-
Stage 1	432	456	-	532	522	-	-	-	-	-	-	-
Stage 2	504	522	-	353	456	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	36.9	17	1.1	0.3
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	983	-	249	326	1163	-	-
HCM Lane V/C Ratio	0.056	-	0.568	0.081	0.022	-	-
HCM Control Delay (s)	8.9	-	36.9	17	8.2	-	-
HCM Lane LOS	A	-	E	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	3.2	0.3	0.1	-	-

Appendix H 2040 PM Queueing

Queues
109: Cascade Hwy SE & OR 22 EB Ramps

09/17/2018

	→	↘	↑	↘	↓
Lane Group	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	56	405	629	50	354
v/c Ratio	0.25	0.74	0.64	0.11	0.30
Control Delay	27.8	12.2	15.3	3.7	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	12.2	15.3	3.7	4.8
Queue Length 50th (ft)	20	0	154	4	35
Queue Length 95th (ft)	51	73	#414	16	99
Internal Link Dist (ft)	734		854		786
Turn Bay Length (ft)		600		160	
Base Capacity (vph)	825	936	988	689	1595
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.43	0.64	0.07	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
110: Cascade Hwy SE & Whitney St

09/17/2018

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	71	132	565	174	622
v/c Ratio	0.38	0.46	0.68	0.31	0.49
Control Delay	39.5	12.6	20.0	4.3	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	39.5	12.6	20.0	4.3	5.8
Queue Length 50th (ft)	30	0	183	17	92
Queue Length 95th (ft)	80	51	361	38	175
Internal Link Dist (ft)	503		600		854
Turn Bay Length (ft)		160		120	
Base Capacity (vph)	873	866	1131	992	1716
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.15	0.50	0.18	0.36

Intersection Summary

111: N First Ave & Shaff Rd SE

	↗	→	↙	←	↖	↑	↘	↓
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	120	376	94	287	100	497	56	616
v/c Ratio	0.45	0.82	0.41	0.69	0.66	0.65	0.49	0.89
Control Delay	26.7	48.5	26.2	42.2	65.6	28.6	61.7	46.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.7	48.5	26.2	42.2	65.6	28.6	61.7	46.7
Queue Length 50th (ft)	50	213	38	154	64	256	36	374
Queue Length 95th (ft)	97	#389	78	273	124	439	81	#704
Internal Link Dist (ft)		1212		498		611		700
Turn Bay Length (ft)	100		100		175		125	
Base Capacity (vph)	409	523	415	532	334	760	345	689
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.72	0.23	0.54	0.30	0.65	0.16	0.89

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

115: N First Ave & E Washington St

	↗	→	↙	←	↖	↖	↑	↘	↓
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	174	62	124	109	36	414	126	474
v/c Ratio	0.11	0.22	0.12	0.15	0.15	0.17	0.60	0.49	0.69
Control Delay	11.6	9.9	11.7	11.7	3.0	16.8	21.5	24.2	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	9.9	11.7	11.7	3.0	16.8	21.5	24.2	24.0
Queue Length 50th (ft)	15	35	15	31	0	10	142	41	170
Queue Length 95th (ft)	36	70	36	60	24	31	231	95	276
Internal Link Dist (ft)		1317		1291			1211		581
Turn Bay Length (ft)	90		70		55	100		145	
Base Capacity (vph)	544	776	525	819	732	210	685	259	689
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.22	0.12	0.15	0.15	0.17	0.60	0.49	0.69

Intersection Summary

APPENDIX D: TECH MEMO #4: SYSTEM ALTERNATIVES

TECHNICAL MEMORANDUM #4

Date: February 18, 2018 Project #: 22352
To: Lance Ludwick and Dan Fleishman (City of Stayton)
From: Susan Wright, PE (Kittelson & Associates, Inc.)
Darci Rudzinski (Angelo Planning Group)

Subject: System Alternatives

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INTRODUCTION

IN THIS MEMO

- Overview of Needs
- Alternatives Analysis and Evaluation
- Funding Overview

This memorandum describes, evaluates, and prioritizes the transportation improvement alternatives under consideration for inclusion in the City of Stayton Transportation System Plan (TSP) Update. It draws on the needs identified in the Existing and Future Conditions memorandum (Reference 1) and through the October 2018 public engagement process, as summarized in the Open House #1 Summary memorandum (Reference 2). It describes alternatives to address these needs and evaluates them using the evaluation criteria described in the Goals, Objectives, and Evaluation Criteria memorandum (Reference 3) and the feedback received through the January 2019 public engagement process, as summarized in the Open House #2

Summary memorandum (Reference 4). Finally, it draws on funding data provided in the Existing and Future Conditions memorandum to develop recommendations for a preferred plan and for a financially-constrained plan.

TRANSPORTATION NEEDS

The Existing and Future Conditions memorandum and the Open House #1 Summary memorandum together identify the transportation system's future needs. The Existing and Future Conditions memorandum describes analysis performed to determine transportation needs based on quantitative and qualitative levels of service across all modes, while the Open House #1 Summary memorandum describes public feedback received through an in-person open house on October 17th, 2018 and a virtual open house held between October 17th, 2018 and October 28th, 2018. The primary needs identified in these memoranda are described in the following sections.

PEDESTRIAN SYSTEM

Both the Existing and Future Conditions memorandum and the Open House #1 Summary memorandum highlight improving the pedestrian system as an important need for the Stayton transportation system.

The Existing and Future Conditions memorandum highlights all pedestrian system "gaps" (areas without existing sidewalks). It also shows the results of a qualitative level of service analysis conducted for the pedestrian system, identifying roadways with "good", "fair", and "poor" ratings for pedestrian level of service. Roadways with "poor" ratings and those called out as "gaps" should be prioritized for sidewalk and crossing improvements.

The Open House #1 Summary memorandum shows that the most frequently commented upon item throughout the public engagement process was the pedestrian system. Many specific areas were noted as needing improvements; these areas should also be considered for sidewalk and crossing improvements.

BICYCLE SYSTEM

Similar to the pedestrian system, both the Existing and Future Conditions memorandum and the Open House #1 Summary memorandum highlight improving the bicycle system as an important need for the Stayton transportation system.

The Existing and Future Conditions memorandum highlights all bicycle system "gaps" (roadways with high speeds or high traffic volumes that do not have adequate bicycle facilities). It also shows the results of a qualitative level of service analysis conducted for the bicycle system, identifying roadways with "good", "fair", and "poor" ratings for bicycle level of service. Roadways with "poor" ratings and those called out as "gaps" should be prioritized for bicycle infrastructure improvements.

The Open House #1 Summary memorandum describes locations that the public noted as needing improvements. These areas should also be considered for bicycle infrastructure improvements.

PUBLIC TRANSPORTATION SYSTEM

As described in the Existing and Future Conditions memorandum, Cherriots Route 30X currently makes three stops within the Stayton urban growth boundary. Cherriots serves each of these stops four times per day in both direction and does not operate on weekends or holidays. As discussed in that memorandum and as noted in the open house process, this infrequent service is not effective for commuting to and from Salem. Also noted in the open house process is the need for improved bus stop infrastructure and for transit options that increase access within Stayton, such as a local circulator.

MOTOR VEHICLE SYSTEM

The Existing and Future Conditions memorandum describes the operations analysis conducted at 22 study intersections throughout the Stayton urban area. The analysis of existing and projected future conditions found that all study intersections are expected to meet the respective jurisdictional motor vehicle operational standards in 2040. Based on this result, no motor vehicle capacity improvements are suggested at this time. However, the analysis of existing and future conditions and the open house engagement process identified other motor vehicle system needs. The following locations should be examined for improvements:

GOLF CLUB ROAD/SHAFF ROAD

This location is currently signed as all-way stop control and is projected to operate acceptably per jurisdictional capacity standards through 2040. However, it meets signal warrants and has been identified as a potential location for improvement.

WILCO ROAD/W WASHINGTON STREET

This five-legged intersection serves as the entrance to Stayton for vehicles approaching from the southwest and has the potential to be improved from an aesthetics, driver expectations, and safety point of view.

N SIXTH AVENUE AND N TENTH AVENUE S-CURVES

E Washington Street, E Jefferson Street, and Stayton Road SE currently serve as a through route connecting downtown and OR 22. The three roads are linked through a pair of S-curves on N Sixth Avenue and N Tenth Avenue. These locations, which are currently signed as stop-controlled for non-major movements, have the potential to be improved from a safety and driver expectation point of view.

GOLF LANE

Golf Lane currently intersects Cascade Highway SE 500 feet north of Whitney Street. Per the Whitney Street/Cascade Highway operations analysis study, referenced in the Existing and Future Conditions memorandum, Golf Lane should be realigned to intersect Cascade Highway directly opposite Whitney Street. A May 19, 2003 Memorandum of Understanding between Marion County and the City of Stayton gives further details.

SAFETY

The Existing and Future Conditions memorandum describes traffic safety outcomes in Stayton between 2011 and 2015. It identifies high-crash locations at four intersections in Stayton, each of which are on- or off-ramps to OR 22. It also notes that the segment immediately north of Whitney Street on Cascade Highway SE was included on the 2016 ODOT Statewide Priority Index System (SPIS) list. Lastly, it notes seven pedestrian crashes, six bicycle crashes, and two total fatal crashes in Stayton between 2011 and 2015. Locations and crash trends noted in this memorandum should be evaluated for safety improvements.

In addition to crash data, informal discussion of near misses and perceived-unsafe locations offers valuable information on additional locations that should be evaluated for safety improvements. The Stayton TSP Public Advisory Committee described locations throughout Stayton that have experienced close calls or that have the potential to be improved. Their feedback is contained in the Existing and Future Conditions memorandum.

STORMWATER MANAGEMENT

City staff has described improved stormwater management practices as a need for the Stayton transportation system.

ALTERNATIVES

The following alternatives are proposed to address the needs identified above for Stayton’s transportation system. The alternatives include transportation improvements to the motor vehicle, bicycle, and pedestrian systems and plan and policy updates to Stayton’s street cross-sections, functional classification map, and local street connectivity map. These alternatives were presented at Open House #2 and public feedback is documented in the Open House #2 Summary memorandum.

BICYCLE AND PEDESTRIAN SYSTEM ALTERNATIVES

Pedestrian and bicycle infrastructure standards for Stayton roadways are called out in the 2015 Stayton Final Design Standards (Appendix A). Appendix B shows the existing pedestrian and bicycle infrastructure on each of these roadways, the applicable standard, and the improvements needed for the roadway to meet the standard. It also describes project priorities, with Tier I the highest priority and Tier IV the lowest. Tiers were determined based on the following guidelines:

- Tier I project priority denotes projects needed at locations with poor pedestrian or bicycle infrastructure on both sides of the roadway in developed areas known to have demand for multimodal infrastructure.
- Tier II project priority denotes projects needed at locations with poor pedestrian or bicycle infrastructure in developed areas. These locations may not be known to have as high of a multimodal demand as Tier I locations.
- Tier III project priority denotes projects needed at locations with poor pedestrian or bicycle infrastructure in less-developed areas within city limits or projects needed at locations with existing pedestrian or bicycle infrastructure that does not meet standards, such as narrow sidewalks or bike lanes.
- Tier IV project priority denotes projects needed at locations outside of city limits. These should be constructed as development occurs.

Figure 1 and Figure 2 show the necessary pedestrian and bicycle improvement projects and their respective tiers. Table 1 shows the amount of funding needed to complete the projects in each tier.

Table 1. Pedestrian and Bicycle Improvement Funding Needs

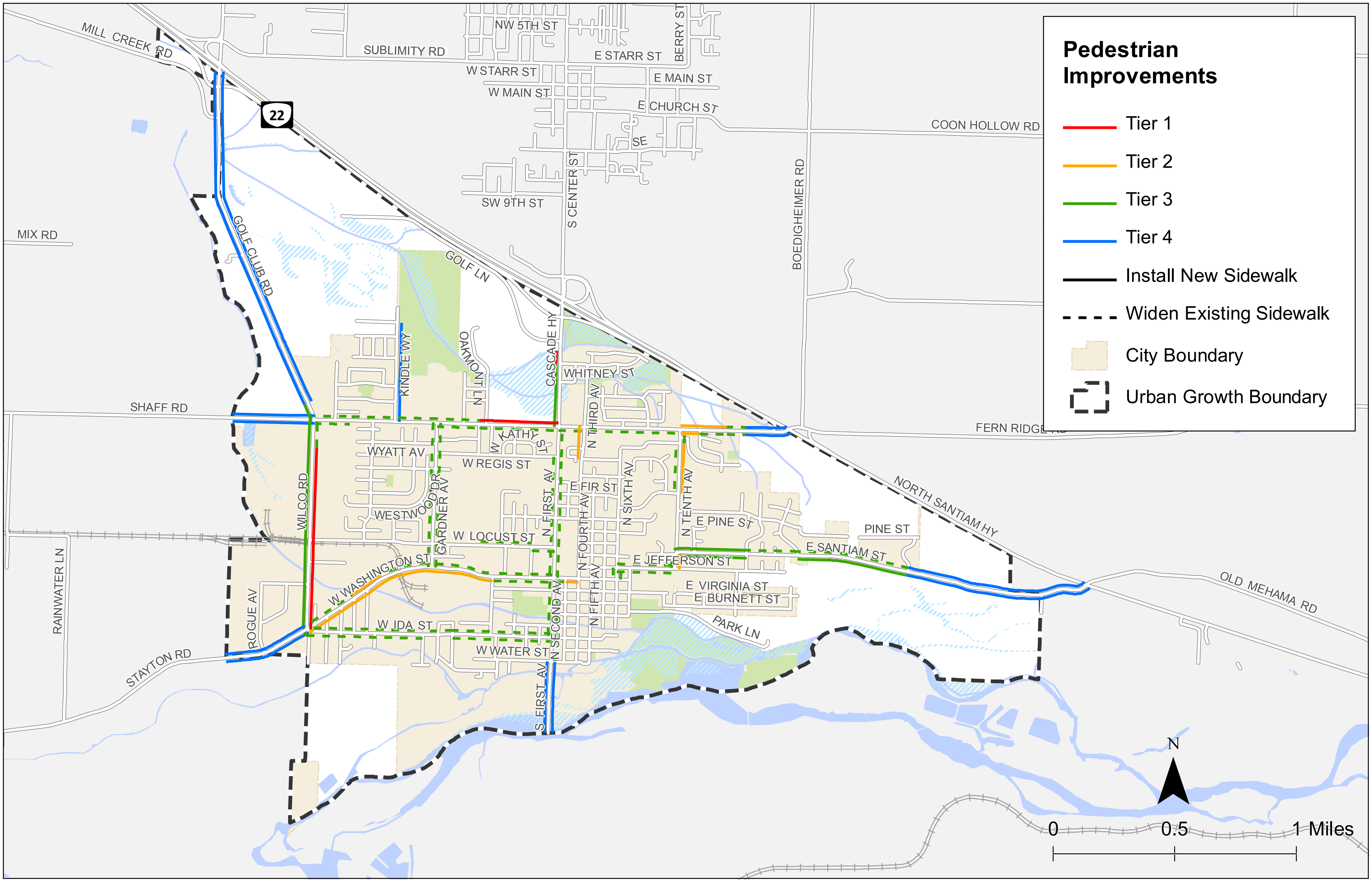
Tier	Pedestrian Projects	Bicyclist Projects
Tier 1	$960,000	$3,340,000
Tier 2	$1,455,000	$8,480,000
Tier 3	$10,540,000	$1,180,000
Tier 4	$5,690,000	$9,590,000

In addition to completing the bicycle and pedestrian network along roadway segments, the public engagement process noted several locations that could be improved through the implementation of crosswalks. These locations are:

- Fern Ridge Road/N Third Avenue
- Along Shaff Road, east of Stayton Middle School
- N First Avenue at W Locust Street and E Cedar Street (existing crosswalks could be enhanced)
- Shaff Road/Quail Run Avenue

INTERSECTION ALTERNATIVES

The following describes the alternatives identified to address needs at several study intersections. The tables identify the traffic operations impact of each alternative, the estimated cost, and provide an evaluation score based on the TSP Goals, Objectives, and Evaluation Criteria presented in Memorandum #2. Cost estimates are preliminary



Pedestrian Improvement Projects
Collector or Higher Classification
Stayton, Oregon

Figure
1

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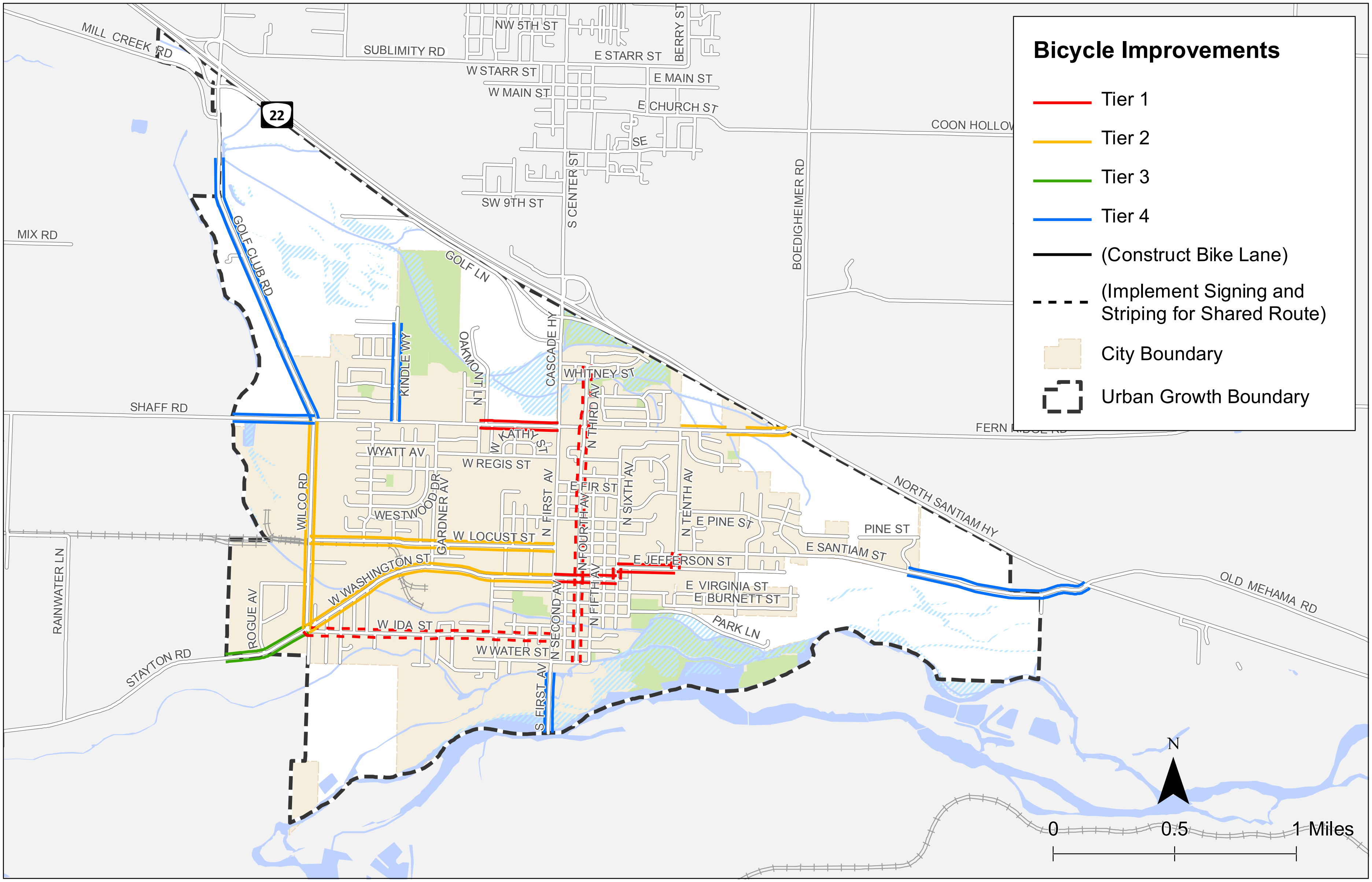
KITTELSON & ASSOCIATES

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl



Bicycle Improvement Projects
Collector or Higher Classification
Stayton, Oregon

Figure
2

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Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl and do not include right-of-way acquisition costs. Each criterion was evaluated on a three-point scoring scale (-1, 0, or 1 point) to rate the degree to which proposed alternatives align with each of the TSP's objectives. The evaluation for each criterion is provided in Appendix C.

Golf Club Road SE / Shaff Road Intersection Control Upgrade

The intersection of Golf Club Road SE and Shaff Road is currently all-way stop controlled. As shown in Table 2, it currently operates at an acceptable level of service. However, based on existing vehicular volumes, this intersection meets signal warrants as prescribed in the Manual for Uniform Traffic Control Devices (Reference 5). Signal warrant analysis for this location is shown in Appendix D. Additionally, during the public engagement process, this intersection was noted to need intersection control upgrade to improve traffic flow. Four alternatives were evaluated for this location:

- a no-build alternative in which no changes are made to the existing intersection,
- a single-lane roundabout,
- a traffic signal with the addition of an eastbound left-turn lane, and
- a traffic signal with the addition of an eastbound left-turn lane and realignment of the southbound approach to smooth the horizontal curve.

A sketch of the roundabout alternative is shown in Figure 3 and a sketch of the traffic signal with realignment is shown in Figure 4. Projected operations analysis for the existing and 2040 PM peak hour scenarios, the cost estimate, and evaluation score are shown in Table 2.

Table 2. 2040 Weekday PM Peak Hour Operations and Evaluation (Golf Club Rd/Shaff Road)

Alternative	Scenario	Delay	Level of Service	Cost Estimate	Evaluation Score
1A – No-build	Existing	20.9	D	$0	-3
	2040	25.3	D		
1B – Roundabout	Existing	8.9	A	$2,000,000	+8
	2040	9.9	A		
1C – Traffic Signal	Existing	8.5	A	$750,000	+6
	2040	9.4	A		
1D – Traffic Signal with Realignment	Existing	8.5	A	$3,000,000	+7
	2040	9.4	A		

The existing eastbound and westbound through movements are offset between the approach and the exit of the intersection due to the lack of an eastbound left-turn lane at the intersection. To mitigate a potential safety issue for eastbound and westbound vehicles that would no longer be required to stop at this intersection, the signalized intersection alternative cost estimates include the addition of an eastbound left-turn lane. The traffic signal with realignment alternative includes realignment of the southbound approach to smooth the horizontal curve on Golf Club Road SE.

At Open House #2, held in January 2019, the public expressed support for the roundabout and traffic signal alternatives.

Golf Club Road SE / Shaff Road Roundabout
Stayton, Oregon

Figure
3

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Golf Club Road SE / Shaff Road All-Way Stop Control with Realignment
Stayton, Oregon

Figure
4

H:\22\22352 - Stayton Transportation System Plan\dwg\22352_Alternatives.dwg   Feb 18, 2019 - 2:05pm - bgraveline   Layout Tab: 1D

Stayton Road SE/Wilco Road Intersection Control Upgrade

The Stayton Road SE/Wilco Road intersection is a five-leg intersection on the southwest edge of Stayton. It consists of two intersections in close proximity: an all-way stop-controlled intersection and a second, smaller, minor-approach stop control intersection 70 feet southeast of the first. As shown in Table 3, it currently operates at an acceptable level of service. However, during the public engagement process, this intersection was noted as congested and in need of a traffic control upgrade. Additionally, because this intersection serves as an entrance to the city from the southwest, a more aesthetically-pleasing intersection could enhance perception of the city.

Three alternatives were considered for this location:

- a no-build alternative in which no changes are made to the existing intersection,
- an all-way stop controlled alternative in which access to Ida Street is restricted from Jetters Way, and
- a single-lane roundabout.

A sketch of the access restriction alternative is shown in Figure 5 and a sketch of the roundabout alternative is shown in Figure 6. Projected operations analysis for the existing and 2040 PM peak hour scenarios, the cost estimate, and evaluation score for each alternative are shown in Table 3.

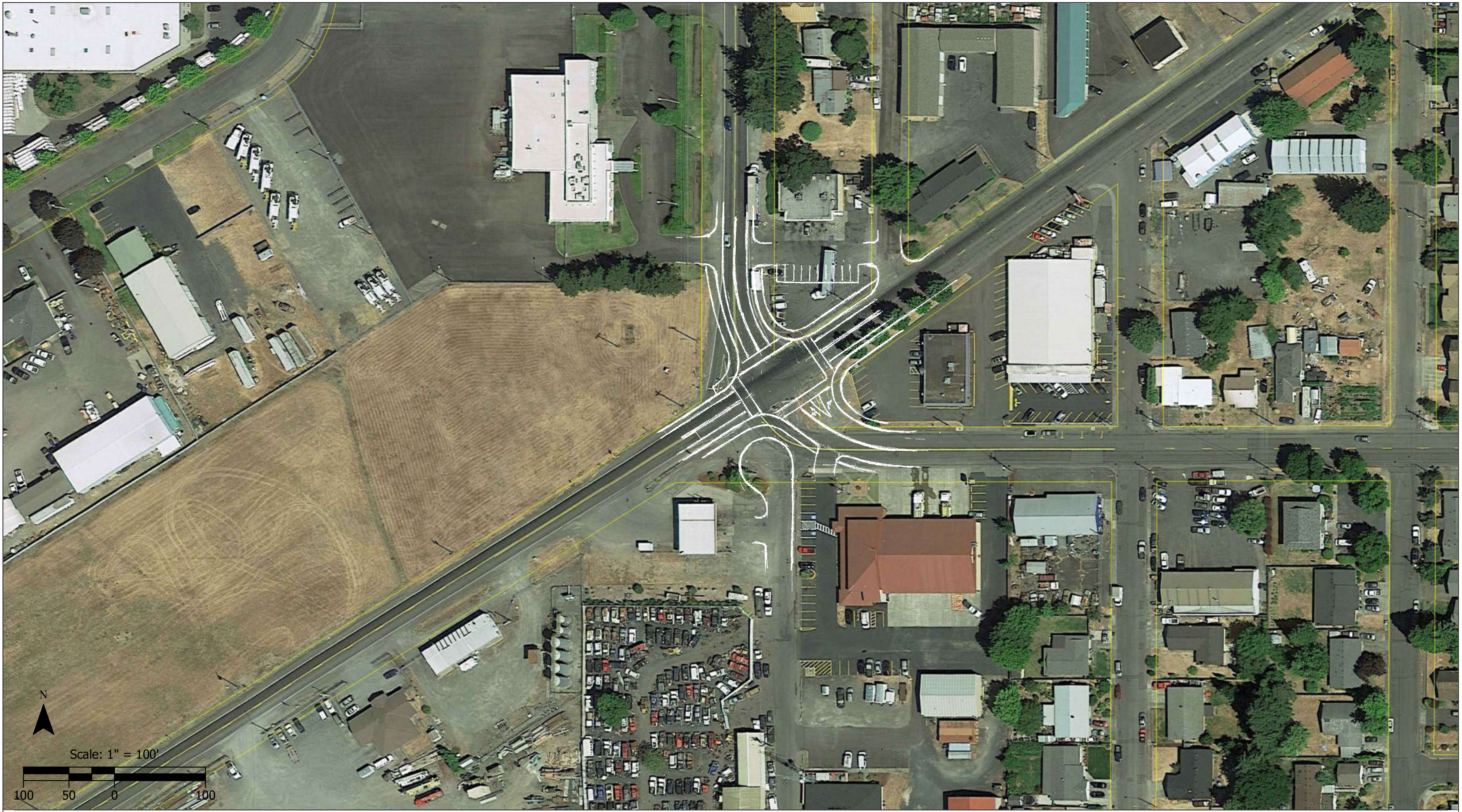
Table 3. 2040 Weekday PM Peak Hour Operations and Evaluation (Stayton Road/Wilco Road)

Alternative	Scenario	Delay	Level of Service	Cost Estimate	Evaluation Score
2A – No-build	Existing	12.0	B	$0	-3
	2040	13.6	B		
2B – All-way Stop with Reconfiguration	Existing	12.3	B	$750,000	+7
	2040	14.7	B		
2C – Roundabout	Existing	5.8	A	$2,000,000	+8
	2040	6.1	A		

At Open House #2, the public expressed support for both the all-way stop with reconfiguration alternative and the roundabout alternative. It was noted that the roundabout alternative must be able to accommodate farm vehicles.

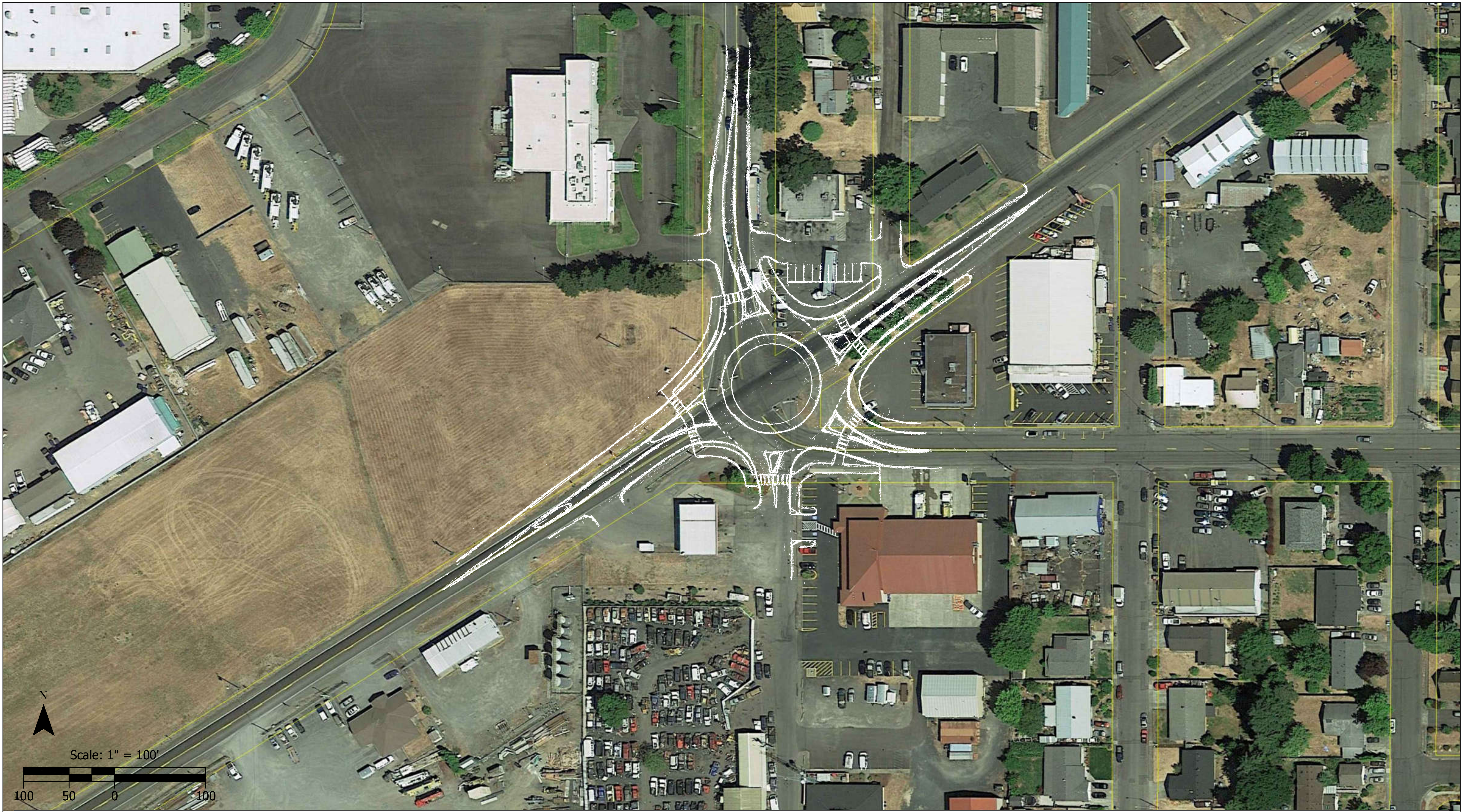
Golf Lane SE Realignment

As discussed in the Existing and Future Conditions memorandum, Golf Lane SE should be realigned to intersect Cascade Highway directly opposite Whitney Street when traffic volumes on Golf Lane warrant a signal at the intersection with Cascade Highway. Annexation and development of the surrounding area could add trips to the Cascade Highway SE/Golf Lane SE intersection, which is currently minor-approach stop controlled. Additional traffic at this intersection could lead to operational and safety deficiencies. This TSP update will consider two alternatives for this location: a no-build alternative in which no changes are made to the existing intersections and realignment of Golf Lane as described.



Stayton Road SE / Wilco Road Access Restriction
Stayton, Oregon

Figure
5



Stayton Road SE / Wilco Road Roundabout
Stayton, Oregon

Figure
6

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The wetlands surrounding Mill Creek pose significant environmental constraints to the realignment of Golf Lane SE. Advanced engineering may be necessary to avoid or mitigate adverse wetland impacts. The cost estimate shown for this alternative is preliminary and will be revisited for inclusion in the draft TSP.

No operational analyses were conducted at the existing intersections of Golf Lane/Cascade Highway SE or Whitney Street/Cascade Highway SE; however, the projected traffic along Golf Lane is not anticipated to trigger signal warrants. The Existing and Future Conditions memorandum discussed two fatal crashes that occurred at this intersection in the last 5 years. A pedestrian was struck and killed by a southbound passenger vehicle south of the Golf Lane SE intersection in 2014. Additionally, a westbound left-turning vehicle and northbound through-moving vehicle collided, resulting in a fatality and an incapacitating injury, in 2017. The proposed realignment alternative is not intended to be a direct safety enhancement at this location. Extending the sidewalk on the west side of Cascade Highway from the ramp terminal to the signal at Whitney would help pedestrians to cross at the signal.

Table 4. Evaluation (Golf Lane Realignment)

Alternative	Cost Estimate	Evaluation Score
3A – No-build	$0	+1
3B – Realign Golf Lane to Whitney Signal	$3,000,000	+4

N Sixth Avenue Traffic Control Improvements

The predominant vehicular travel route between Cascade Highway and OR 22 to the east features three roads (E Washington Street, E Jefferson Street, and Stayton Road SE) with two S-curves between them, on Sixth Avenue and Tenth Avenue. The Sixth Avenue S-curve currently features stop-control for minor approaches and free-flow for turning movements between E Jefferson Street and E Washington Street.

The 2004 TSP presents a preferred alternative of constructing roundabouts at both intersections on the N Sixth Avenue S-curve. This alternative was not considered for the TSP Update based on lack of support for the improvement from the City and County. During the public engagement process, citizens commented that the two intersections that make up this S-curve need pedestrian improvements, as they are currently difficult to navigate on foot. Additionally, sight distance for minor approach vehicles can be an issue at this location.

Three alternatives were considered:

- a no-build alternative in which no changes are made to the existing intersections,
- a build alternative in which minor approach traffic is restricted from entering at either intersection, and

- a build alternative in which minor approach traffic is restricted from entering at the southern intersection and the northern intersection is converted to all-way stop control.

A sketch of the approach restriction alternative is shown in Figure 7 and a sketch of the all-way stop control alternative is shown in Figure 8. Table 5 shows the cost estimate and evaluation score for all three alternatives.

Table 5. Evaluation (Sixth Ave/Jefferson and Washington Streets)

Alternative	Cost Estimate	Evaluation Score
4A – No-build	$0	-3
4B – Approach Restrictions	$150,000	+6
4C – All-Way Stop Control	$150,000	+6

At Open House #2, the public expressed support for the all-way stop control alternative.

N Tenth Avenue Traffic Control Improvements

The Tenth Avenue S-curve currently features stop-control for minor approaches and free-flow for turning movements between E Washington Street and Stayton Road SE.

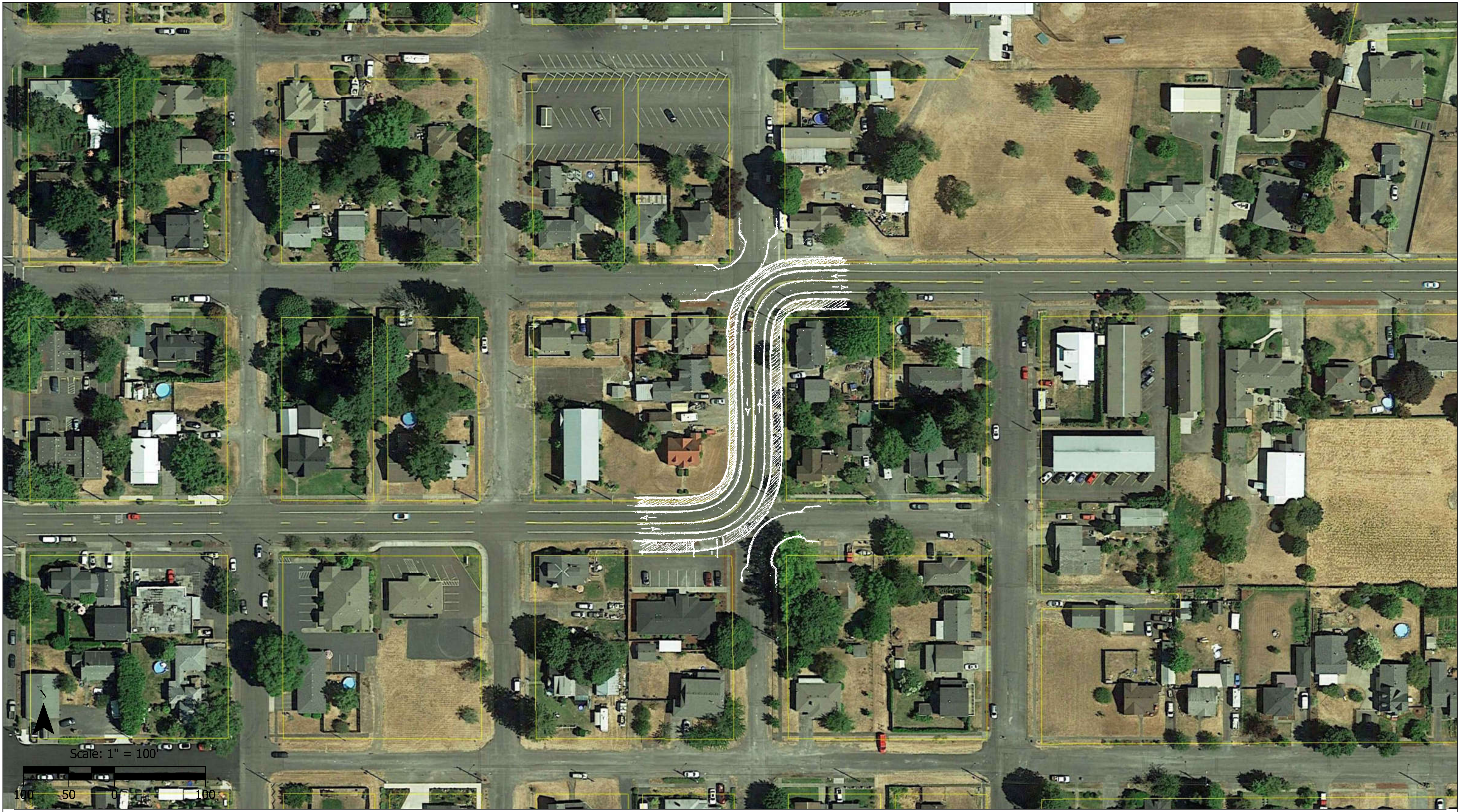
The 2004 TSP presents a preferred alternative of constructing roundabouts at both intersections on the N Tenth Avenue S-curve. This alternative was not considered for the TSP Update based on lack of support for the improvement from the City and County.

During the public engagement process, citizens commented that the two intersections that make up this S-curve need pedestrian improvements, as they are currently difficult to navigate on foot. Additionally, sight distance for minor approach vehicles can be an issue at this location.

Three alternatives were considered:

- a no-build alternative in which no changes are made to the existing intersections,
- a build alternative in which the Tenth Avenue/Stayton Road SE intersection is converted to a mini-roundabout, and
- a build alternative in which the Tenth Avenue/Stayton Road SE intersection is converted to all-way stop control.

Figure 9 shows a sketch of the roundabout alternative. Table 6 shows PM peak hour operations at the Tenth Avenue/Stayton Road SE intersection, the cost estimates, and evaluation scores for all three alternatives.



N Sixth Avenue Access Restriction
Stayton, Oregon

Figure
7

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N Sixth Avenue All-Way Stop Control
Stayton, Oregon

Figure
8

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N Tenth Avenue Roundabout
Stayton TSP Update

Figure
9

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& ASSOCIATES

Table 6. Weekday PM Peak Hour Operations and Evaluation (Tenth Ave/Stayton Road and Jefferson Street)

Alternative	Scenario	Delay	Level of Service	Cost Estimate	Evaluation Score
5A – No-build	Existing	6.5	A	$0	-3
	2040	8.9	A		
5B – Mini-Roundabout	Existing	3.8	A	$500,000	+7
	2040	5.3	A		
5C – All-Way Stop Control	Existing	8.5	A	$150,000	+6
	2040	11.7	B		

At Open House #2, the public expressed support for the mini-roundabout alternative. One important factor noted was to maintain access to Santiam Hospital to the north.

SAFETY ALTERNATIVES

From 2011 to 2015, over 350 vehicle crashes occurred within the Stayton urban growth boundary, including over 150 crashes that resulted in an injury and two fatal crashes. An additional fatal crash occurred in 2017. Alternatives intended to improve safety outcomes and reduce crashes occurring in Stayton are shown below. At Open House #2, the public expressed support for each of these alternatives.

Protected Left-Turns at N First Avenue/Washington Street

The intersection of N First Avenue and Washington Street currently features permissive left-turns on all approaches. This results in conflicts between left-turning vehicles and oncoming traffic. From 2011 to 2015, nine of the ten crashes occurring at this intersection involved angle or turning movements, and four of these crashes involved a left-turning vehicle colliding with an oncoming through movement vehicle.

Changing the left-turns at this intersection from permissive to protected eliminates conflicts between left-turning vehicles and oncoming through vehicles. As shown in Table 7, this change would increase delay at this intersection from level of service B to level of service D.

Table 7. 2040 Weekday PM Peak Hour Operations and Evaluation (1st Avenue/Washington Street)

Alternative	Scenario	Delay	Level of Service	Cost Estimate	Evaluation Score
6A – No-build	Existing	19.5	B	$0	0
	2040	20.1	C		
6B – Protected Left-Turns	Existing	38.0	D	$10,000	+1
	2040	40.8	D		

Signalize Cascade Highway SE/OR 22 WB Ramps

The intersection of Cascade Highway and OR 22 WB is currently two-way stop controlled. This results in conflicts as minor approach vehicles must wait for gaps in major approach traffic to proceed. From 2011 to 2015, all nine crashes occurring at this intersection involved angle or turning movements between a minor approach and major approach vehicle.

Improving this intersection's control from stop-controlled to signalized would eliminate many of these conflict points. As shown in Table 8, it would also improve intersection operations. As shown in Appendix D, this intersection meets MUTCD signal warrants (Reference 4).

Table 8. 2040 Weekday PM Peak Hour Operations and Evaluation (Cascade Highway/OR22 WB)

Alternative	Scenario	Delay	Level of Service	Cost Estimate	Evaluation Score
7A – No-build	Existing	20.6	C	$0	-3
	2040	20.6	C		
7B – Signalized	Existing	5.6	A	$500,000	+6
	2040	5.6	A		

Restrict Left-Turns onto OR 22 at Fern Ridge Road and Old Mehama Road

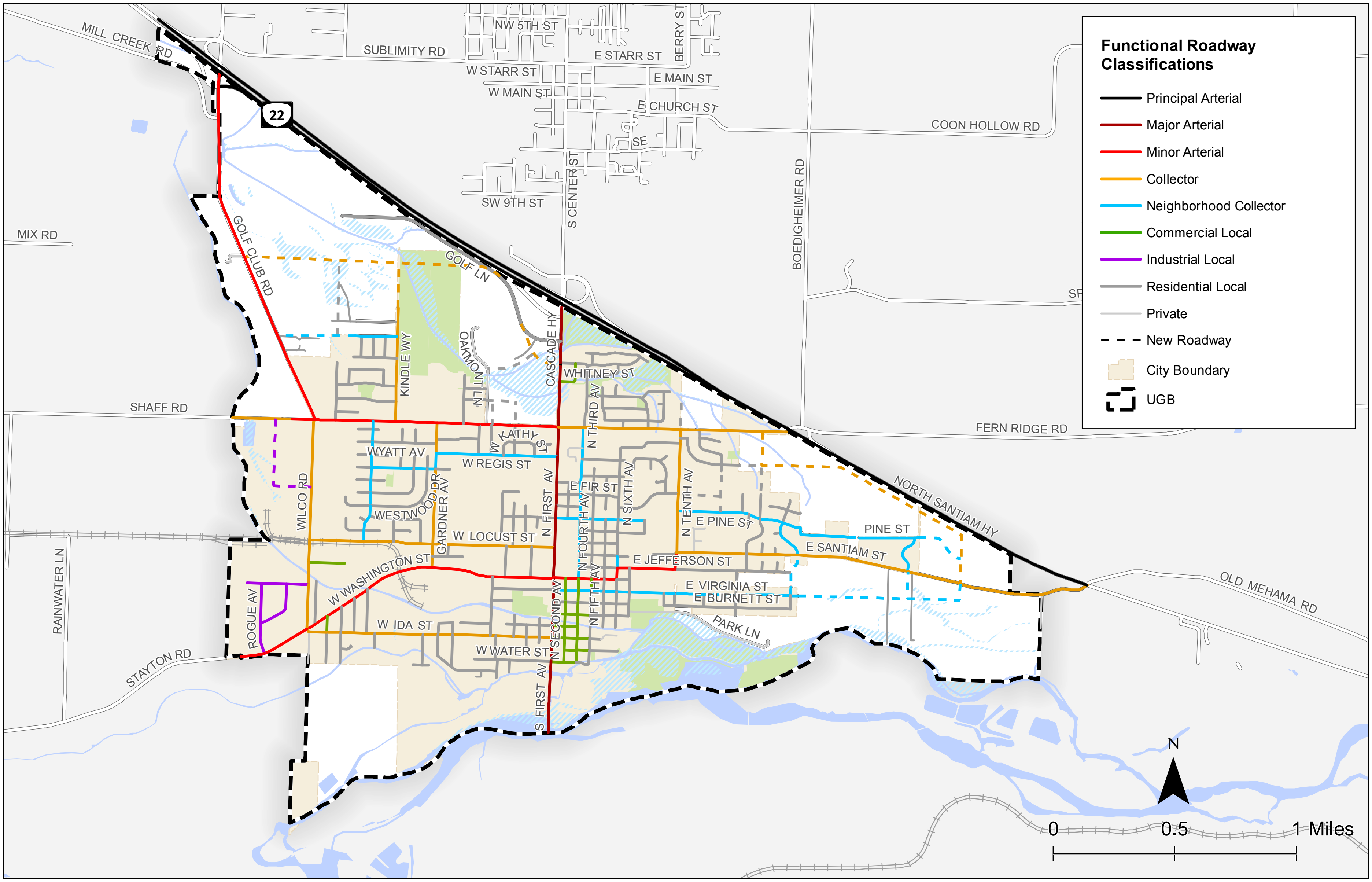
The intersections of Fern Ridge Road/OR 22 and Old Mehama Road/OR 22 are currently two-way stop controlled. When drivers approaching OR 22 from a minor approach make a left-turn or through movement, they must navigate conflicts from both major approaches, resulting in more conflict points and potential safety issues. At the intersection of Fern Ridge Road and OR 22, 11 of the 13 crashes occurring from 2011 to 2015 involved a minor approach left-turn or through movement and at the intersection of Old Mehama Road and OR 22, both crashes occurring from 2011 to 2015 involved a minor approach left-turn or through movement. Restricting these movements, and rerouting traffic through the Cascade Highway interchange, would eliminate conflict points that lead to these crashes.

FUNCTIONAL CLASSIFICATION MAP UPDATE

As part of the TSP update process, the functional classification map approved for the 2004 Stayton TSP may be updated. The proposed updates to the functional classification map include:

- Classify E Virginia Street and E Pine Street as neighborhood collectors.
- Classify S First Avenue south of Water Street as a principal arterial.

The proposed updated roadway functional classification map is shown in Figure 10. Roadways with a proposed functional classification change are highlighted in yellow. Note that between the 2004 Stayton TSP and this TSP update, the designation of



Updated Functional Roadway Classification
Stayton, Oregon

Figure
10

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

H:\22\22352 - Stayton Transportation System Plan\gis\Functional Roadway Classifications Update.mxd - bgraveline - 8:52 AM 1/8/2019 "neighborhood collector" was added as a functional classification. Because it has already been made, this change was not called out as a proposed update to the functional classification map.

STREET CROSS-SECTIONS

The City of Stayton has street design standards that vary based on the roadway's designated functional classification. The City has specific cross-section requirements for nearly every collector and arterial in the city (see 2015 Stayton Final Design Standards in Appendix A) based on a variety of existing conditions and constraints. These cross-section requirements identify the number of travel lanes and specific the widths of each cross-sectional element; however, the basic elements of each facility type are shown in the following Exhibits.

All street classifications require a landscape strip between the curb and the sidewalk (with the exception of local streets in the downtown). This provides a better experience (lower traffic stress) for pedestrians and provides space for potential stormwater management.

Local streets and neighborhood collectors do not require bike lanes. All other collectors and arterials should have bike lanes with the exception of 1st Avenue due to right-of-way constraints and Ida Street which needs on-street parking. Otherwise, on-street parking is only included in the typical standard on neighborhood collectors and local streets.

Exhibit 1 Arterial Cross-Section With Center Turn-Lane

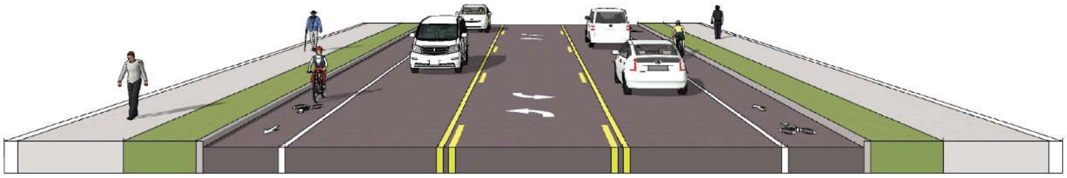


Exhibit 2 Arterial Cross-Section Without Center Turn-Lane

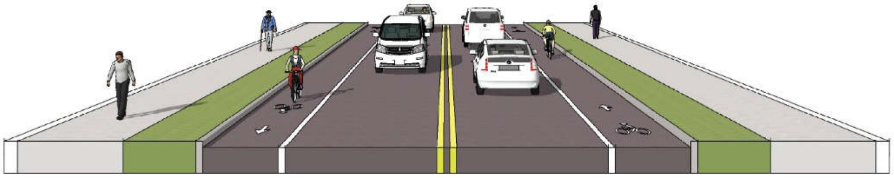


Exhibit 3 Collector Cross-Section With Center Turn-Lane

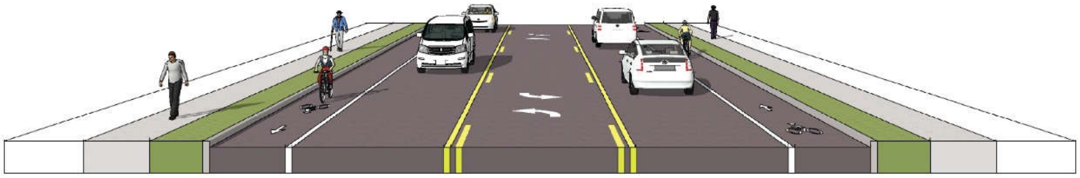


Exhibit 4 Collector

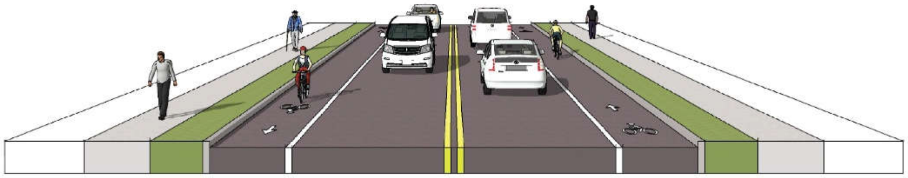


Exhibit 5 Neighborhood Collector

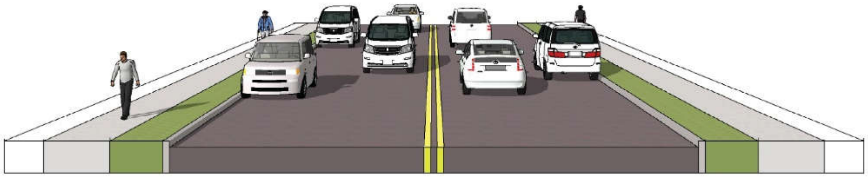
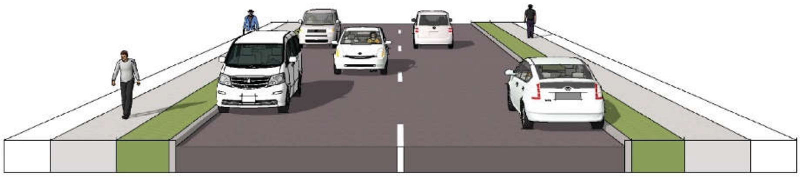


Exhibit 6 Local Street



RECOMMENDED DESIGN STANARD CHANGES

The 2004 City of Stayton TSP included four significant improvements to accommodate high levels of projected growth. Because the projected level of growth has not occurred and the projected growth is slower than previously assumed, the following improvements are recommended for removal from the TSP and the design standard is recommended to be updated accordingly.

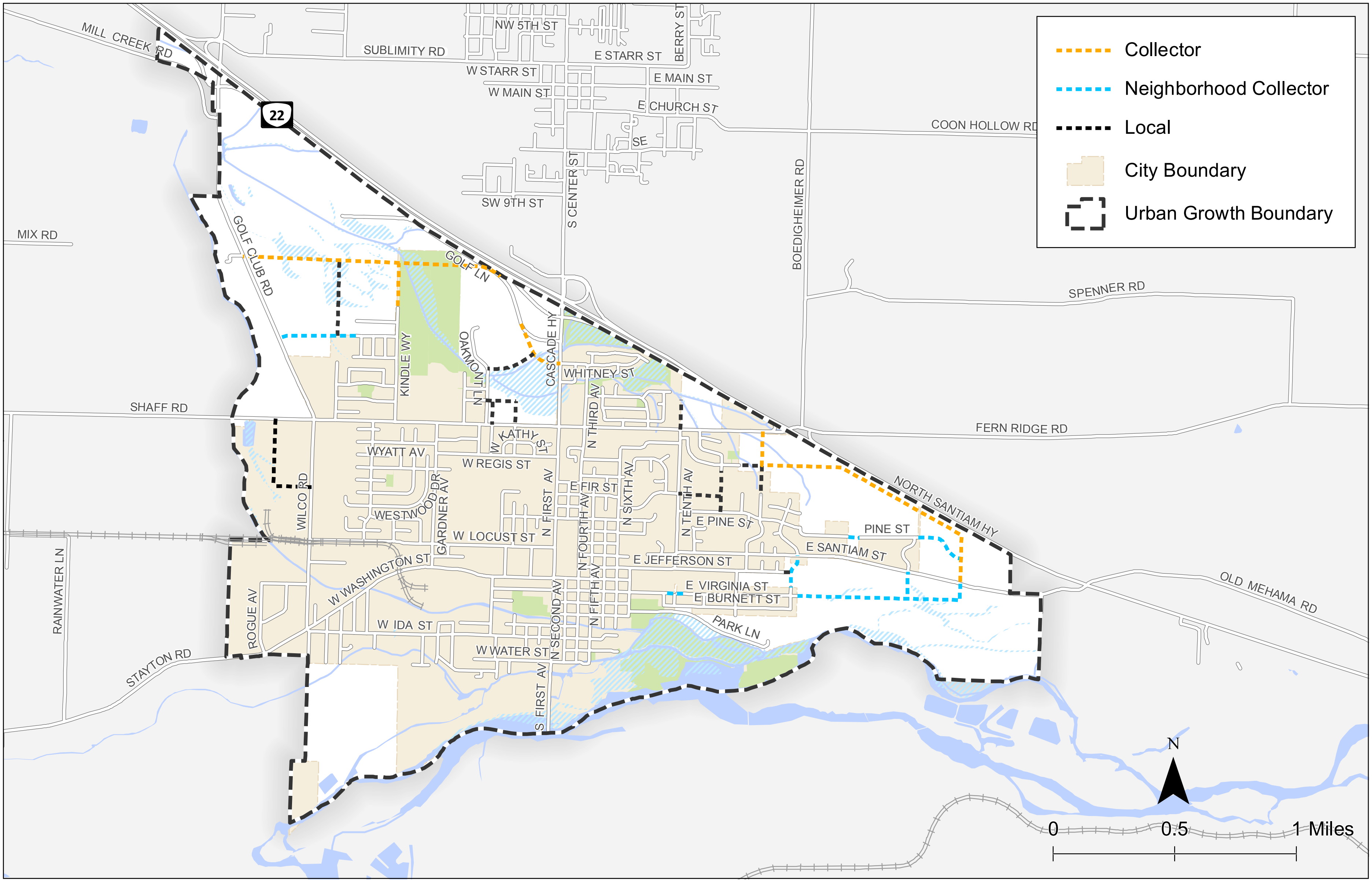
- Cascade Highway Widening: Widen Cascade Highway and First Avenue from three lanes to five lanes from Highway 22 to Ida Street (recommended to remain three lanes).
- Golf Club Road Widening: Widen Golf Club Road and Wilco Road to five lanes (recommended to remain three lanes).
- The standard for 5-lanes at major intersections is recommended to be removed from all facilities (Wilco Road, Fern Ridge Road, Golf Club Road, Cascade Highway, and Shaff Road)

Additionally, the updated TSP will examine the feasibility of narrower lane widths on roadways with functional classifications of collector or higher and narrower local street options to reduce pervious surface areas and improve stormwater management.

FUTURE STREET NETWORK MAP

The City's current TSP includes a future network plan to assure that the future street network within the Stayton planning area would develop as a grid system. The grid system assures that access, mobility, and circulation will be achieved at a high level throughout the city.

Figure 11 is the proposed updated future street network map that identifies future collectors and neighborhood collectors necessary to support future growth areas. Several future local streets are also shown to indicate the future location of intersections or desired connections in infill development areas; however, this figure does not include all future local streets. Future subdivisions and land development applications will be required to dedicate right-of-way and/or construct additional future local streets consistent with the City's connectivity and block length standards and to provide adequate access to their development.



Future Street Plan
Stayton, Oregon

Figure
11

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

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FUNDING

As described in the Existing and Future Conditions memorandum, overall transportation funding has increased over the last five years and is assumed to continue to increase over the TSP planning horizon. As shown in that memorandum, approximately $28 million dollars are anticipated to be available for transportation over the next 21 years. However, only a portion is assumed to be available for street improvements and capital projects (as opposed to street maintenance such as pavement preservation).

Table 9 illustrates the projected revenues for street improvements and capital projects over the next 1, 5, 10, and 21-year periods. Three scenarios are provided that vary in the assumed portion of gas taxes that could go towards these projects from the historical rate of 42%, 20%, and 0%. As shown, depending upon street maintenance needs, between $6.68 and $14.3 million could be available for street improvements and capital projects over the next 21 years.

Table 9. Potential Funding for Street Improvements and Capital Projects

Percentage of Gas Tax Going Towards Street Improvements and Capital Projects	FY 19-20	5-Year	10-Year	20-Year
42% (High-Funding Scenario)	$550,398	$3,284,403	$6,667,350	$14,297,943
20% (Medium-Funding Scenario)	$378,904	$2,409,954	$4,866,833	$10,309,163
0% (Low-Funding Scenario)	$223,000	$1,615,000	$3,230,000	$6,683,000

NEXT STEPS

The project team will collect input from the TAC, CAC, and the public on the proposed alternatives, the proposed project tiers, and evaluations to identify the projects to include in the preferred plan and identify the highest priority projects to include in the cost-constrained plan based on the funding summary.

REFERENCES

1. Kittelson & Associates, Inc. *Existing and Future Conditions Memorandum*. October 2018.
2. Kittelson & Associates, Inc. *Open House #1 Summary Memorandum*. November 2018.
3. Kittelson & Associates, Inc. *Goals, Objectives, and Evaluation Criteria*. August 2018.
4. Kittelson & Associates, Inc. *Open House #2 Summary Memorandum*. January 2019.
5. Federal Highway Administration. *Manual on Uniform Traffic Control Devices*. May 2012.

Appendix A 2015 Stayton Final Design Standards

GEOMETRIC DESIGN REQUIREMENTS BY STREET FUNCTIONAL CLASSIFICATION*

Right-of-way Width (ft)	Improvement Width (ft) (curb - curb)	Number & Size Lanes (No. / Width)	Bicycle Lanes (No. / Width)	On-street Parking (No. / Width)	Sidewalk Alignment	Sidewalk Width (ft)	Landscape Area Width (ft)	Street where the Standard is to Apply		At Major Intersections		Roadway Jurisdiction
								Specific Street	Where Standard will Apply	Lanes **	Intersection Locations	
Major (Principal) Arterial										** Lanes 100' + taper (add right-of-way each side)		
Variable	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**Highway 22**	Along northern Stayton UGB	N/A	Varies	ODOT
100’	74’	4/12' + 14'	2/6'	No	Property line	6'	6	**Cascade Highway**	Highway 22 to Regis Street (TSP shows 5 lanes)	5 lanes	Shaff	Marion Co.
Minor Arterial												
100’	74’	4/12' + 14'	2/6'	No	Property line	6'	6’	**Golf Club Road [1]**	Highway 22 to Shaff Road	5 lanes	Shaff	Marion Co.
80’	50’	2/12' + 14'	2/6'	No	Property line	8'	6’	**Shaff Road [2]**	Wilco Road to 1st Avenue	5 lanes	1st Avenue & Wilco	Marion Co.
60’ up to 70’	40’	2/12'	2/6'	No	Property line	6’ - 8’ varies	5’ - 8’ varies	**W. Washington Street [3]**	Wilco Road to 1st Ave. (City R/W per TSP)	3 lanes	1st, Gardner & Wilco	City
60’	46’ (1st- to 3rd)	2/11' + 12'	2/6'	No	Curb line	6’ - north 8' - south	0’	**E. Washington Street [4]**	1st Avenue to 3rd Avenue	3 lanes	1st Avenue	Marion Co.
60’	40’ (3rd to 10th)	2/12’	2/6'	No	Property line	6'	6’	**E. Washington St. / 6th / Jefferson St. / 10th [5]**	3rd Avenue to E. Santiam Street	3 lanes	Varies	Marion Co.
60’ to 80’	50’	2/12' + 14'	2/6'	No	Curb line	8'	0’	**1st Avenue [6]**	Regis Street to Washington Street	3 lanes	Varies	Marion Co.

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[1] Golf Club Road: The Stayton TSP calls for a 100’ R/W & 5-lane section. The City of Stayton and Marion County have not yet completed a conceptual design plan for Golf Club Road (Hwy 22 to Shaff/Wilco Road Intersection). Until a conceptual design plan is approved by the City and Marion County for Golf Club Road, the City will review each development fronting Golf Club Road on a case-by-case basis to determine R/W dedications, pavement widths, # of lanes, and frontage improvement (curb, sidewalk, storm) requirements. Until a Golf Club Road Conceptual Plan is approved, the City will require any new developments, and/or substantial changes to existing development, to comply with the typical section shown in the Wilco Road Conceptual Design. See Footnote 9 below.

[2] Shaff Road: Existing R/W varies. R/W dedications to 80’ are required -- 40’ from centerline unless otherwise required. See also Footnote 9 below for Golf Club/Shaff/Wilco Road intersection.

[3] W. Washington Street:

a. (1st Avenue to Wilco Road): This section is improved curb-to-curb. R/W and pavement widths vary. Use existing curbs to plan for SW & bike lanes.
b. (1st Avenue to Evergreen): Existing R/W varies from 45’ to 55’. R/W dedications to 60’ are required -- 30’ from centerline. 8’ sidewalk on north side from 1st to Gardner Avenue.
c. (Evergreen to Wilco Road): Existing R/W is 60’Width. No R/W dedication is anticipated, unless needed to allow for sidewalk widening and bike lane improvements.
d. (Intersections @ 1st, Gardner & Wilco): R/W dedications will be required near 1st Avenue and Wilco Road intersections.

[4] E. Washington Street:

a. (1st Avenue to 3rd Avenue): This two block section from 1st Avenue to 3rd Avenue is part of the Downtown core area.
b. (1st Avenue intersection): Existing R/W is 60’+. Pavement width is 50’ @ intersection. R/W dedication is anticipated for turn lanes.
c. (E. Washington Street: 1st to 3rd Avenue): Existing R/W is 60’. Pavement width narrows from 50’ @ 1st Avenue to 44’ at 3rd Ave. R/W dedication is anticipated at corners.

[5] E. Washington Street:

a. (3rd Avenue to 10th Avenue): This corridor from 1st Avenue to 10th Avenue is improved from curb-to-curb. Pavement width is typically 40’, with a few exceptions.
b. (E. Washington: 3rd to 6th Avenue): Existing R/W is 60’. Pavement width varies from 44’ @ 3rd to 40’ @ 6th. R/W dedication is anticipated at corners
c. (6th:Avenue / Washington to Jefferson Street): Existing R/W is 60’. Pavement width is 40’. R/W dedication is anticipated at corners.
d. (Jefferson Street: 6th to 10th Avenue): Existing R/W is 60’. Pavement width is 40’. R/W dedication is anticipated at corners.
e. (10th Avenue / Jefferson to E. Santiam Street): Existing R/W is 60’. Pavement width is 50’+/-. NO R/W dedication is anticipated.

[6] 1st Avenue:

a. (Regis Street to Washington Street): The Stayton TSP calls for an 80’ R/W & 3-lane section from Regis Street to the North Santiam River. R/W widths vary. Existing pavement width is 40+/- with 2 travel lanes and a center turn lane, but no bike lanes. Measure R/W from center section line of Section 10. In lieu of full R/W, City can accept 60’ R/W + a 10’ wide PUE/SW easement where approved.
b. (Regis Street to Cedar): Existing R/W is 50’. Minimum R/W dedication to 60’ is required – 30’ from centerline + a 10’ wide PUE/SW easement.
c. (Cedar Street to Hollister Street): Existing R/W varies from 55’ to 60’. Minimum R/W dedication to 60’ is required – 30’ from centerline + a 10’ wide PUE/SW easement.
d. (Hollister Street to Washington Street): Existing R/W varies from 45’ to 60’. Minimum R/W dedication to 60’ is required – 30’ from centerline + a 10’ wide PUE/SW easement.
e. (1st Avenue / Washington Street Intersection): Additional R/W is anticipated at the 1st Avenue & Washington Street intersection.

Right-of-way Width (ft)	*Improvement Width (ft) (curb - curb)*	*Number & Size Lanes (No. / Width)*	*Bicycle Lanes (No. / Width)*	*On-street Parking (No. / Width)*	*Sidewalk Alignment*	*Sidewalk Width (ft)*	*Landscape Area Width (ft)*	*Street where the Standard is to Apply*		*At Major Intersections*		*Roadway Jurisdiction*
								Specific Street	*Where Standard will Apply*	*Lanes ***	*Intersection Locations*	
Minor Arterial *(continued)*												
60' or 80'	50'	2/12' + 14'	2/6'	No	Curb line	8'	6'	**1st Avenue** [7]	Washington St. to Water St.	4 lanes	Ida	Marion Co.
80'	50' to 36'	2/12' + 14'	2/6'	No	Property line	8'	6'	**1st Avenue** [8]	S. of Water St. (taper out turn lane by bridge)	3 lanes	Water	Marion Co.
Major Collector												
80'	50'	2/12' + 14'	2/6'	No	Property line	6'	8'	**Designated yellow in TSP**	(Designated yellow in TSP or by PW Director)	Variable	Varies	City
80'	50'	2/12' + 14'	2/6'	No	Property line	6'	8'	**Wilco Road** [9]	Shaff Road (Signalized) to Ida Street (All Way Stop)	5 lanes	Shaff	Marion Co.
80'	50'	2/12' + 14' w/	2/6'	No	Property line	6'	8'	**Washington – W. Stayton Road / Shaff Road** [10]	West of Wilco Road Taper to 2 lanes @ UGB	3 lanes	Wilco	Marion Co.
80'	50'	2/12' + 14'	2/6'	No	Property line	6'	8'	**Fern Ridge Road** [11]	1st Avenue to Hwy 22	5 lanes	1st Avenue	Marion Co.
60'	36'	2/12'	2/6'	No	Property line	6'	5'	**Locust Street** [12]	Wilco Road to 1st Avenue	3 lanes	1st Avenue	City
60'	36'	2/12'	2/6'	No	Property line	6'	5'	**Gardner Avenue** [13]	Shaff Road to Washington Street	3 lanes	Shaff & Washington	City
60'	36'	2/11'	Shared	2/7'	Property line	6'	5'	**Ida Street** [14]	Wilco Road to 1st Avenue	3 lanes	1st Avenue	City
60'	36'	2/12'	2/6'	No	Property line	6'	5'	**10th Avenue** [15]	Fern Ridge Road to E. Santiam Street (3 lanes @ Hospital)	3 lanes	Ends & Hospital	City
Minor Collector												
60'	34' & 36'	2/10' & 2/11'	No	2/7'	Property line	5'	4.5' & 5.5'	**Designated green in TSP**	Designated by green line on TSP map	2 lanes	Varies	City

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[7] 1st Avenue:

a. (Washington Street to Ida Street): The Stayton TSP calls for an 80' R/W & 3-lane section from Regis Street to the North Santiam River. R/W widths vary. Existing pavement width is 40+/- with two travel lanes and a center turn lane, but no bike lanes. Measure R/W from center section line of Section 10. In lieu of full R/W, City can accept 60' R/W + a 10' wide PUE/SW easement where approved.
b. (Washington Street to Ida Street): Existing R/W varies from 40' to 55'. Minimum R/W dedication to 60' is required – 30' from centerline. See Barker research on 1st Avenue R/W lines for this section of roadway and City GIS concept plan.
c. (Ida Street to Water Street): Existing R/W varies from 56' to 59'. Minimum R/W dedication to 60' is required – 30' from center section line of Section 10.

[8] 1st Avenue (Water Street to North Santiam River): The Stayton TSP calls for an 80' R/W & 3-lane section from Regis Street to the North Santiam River. Existing R/W varies from 65' to 80'. Existing pavement width is 40+/- with two travel lanes, plus a taper to a 3 lane section at Water Street. Minimum R/W dedication to 80' is required south of Water Street – 40' from centerline.

[9] Wilco Road Conceptual Design: In 2014, the City of Stayton and Marion County agreed on a conceptual design plan for Wilco Road (Shaff Road to Ida / Washington Street). The conceptual plan includes recommended R/W widths, pavement cross-sections, sidewalk widths and locations, and various water quality swale locations. New developments and substantial changes to existing development are to comply with the conceptual design plan unless otherwise approved by the City and Marion County.

[10] W. Washington Street & W. Stayton Road / Shaff Road: See Footnote 9 above.

[11] Fern Ridge Road: Existing R/W varies from 60' to 80'. Minimum R/W dedication to 80' is required – 40' from centerline. Match north R/W & curb lines near 10th Avenue at end of Sylvan Springs subdivision.

[12] Locust Street: Existing R/W varies from 50' to 60'. Minimum R/W dedication to 60' is required – 30' from centerline. Match north R/W line. Only R/W dedication required between 1st Avenue & Birch on south side.

[13] Gardner Avenue: Existing R/W is 60'. Only R/W dedication required is radius at Shaff Road / Gardner Avenue intersection.

[14] Ida Street: Existing R/W is 60', except at NW corner of Evergreen. Minimum R/W dedication to 60' is required – 30' from centerline. R/W dedication required at corner of Evergreen.

[15] 10th Avenue: Existing R/W varies 60' to 70'. R/W dedication, sidewalk and or slope easement is required for east side sidewalks north of E. Fir Street.

Right-of-way Width (ft)	*Improvement Width (ft) (curb - curb)*	*Number & Size Lanes (No. / Width)*	*Bicycle Lanes (No. / Width)*	*On-street Parking (No. / Width)*	*Sidewalk Alignment*	*Sidewalk Width (ft)*	*Landscape Area Width (ft)*	*Street where the Standard is to Apply*		*At Major Intersections*		*Roadway Jurisdiction*
								Specific Street	*Where Standard will Apply*	*Lanes ***	*Intersection Locations*	
Local Streets												
60’	34’	2/10'	No	2/7'	Property line	5'	7.5’	**Standard residential street**	Residential streets throughout the city	2 lanes	Varies	City
60’	34’	2/10'	No	2/7'	Property line	5'	7.5’	**Long Cul-de-sacs**	200' to 450’ to end of bulb	2 lanes	Varies	City
50’	30’	2/11’	No	1/8'	Property line	5'	4.5’	**Short Cul-de-sacs**	Less than 200' to end of bulb	2 lanes	Varies	City
45’	28’	2/10'	No	1/8'	Property line	5'	3.5’	**Skinny Street (as approved)**	Hillsides (or with PW Approval)	2 lanes	Varies	City
45' radius	38' radius		No	No	Curb line	5'	0’	**Turnaround bulb**	at end of cul-de-sacs	N/A		City
Downtown Commercial Streets												
60’	40’	2/13’	No	2/7'	Property line	9.5’	0’	**Downtown Area**	1st Avenue to 4th Avenue Washington Street to Water Street	2 lanes	Varies	City
60’	36’	2/11’	No	2/7'	Property line	12’	0’	**3rd Avenue**	Redevelopment: Water Street to Burnett Street per Downtown Plan	2 lanes	Varies	City
Industrial Streets												
80’ (Industrial)	40’	2/13'	No	2/7'	Property line	5'	14’	**Industrial low use parking**	Sidewalks per Public Works	2 lanes	Varies	City
60' radius (Industrial)	TBD (45’ min)	TBD	No	2/7'	Property line	5'	14	**Industrial turnaround bulb**	At end of cul-de-sacs	N/A	Varies	City
Roundabouts[16]												
200' dia.	170' dia.	1 circular	No	No	Property line	6'	8’	**Wilco Rd. / Ida St. / Washington St.**	5-way intersection	N/A	Varies	Marion Co.
130’ dia.	110’ dia.	1 circular	No	No	Property line	6'	8’	**Washington St. / 6th / Jefferson St. / 10th**	Total of 4 between 1st Avenue to & E. Santiam Street	N/A	Varies	Marion Co.
Alleys												
16’	15’	N/A	N/A	No	N/A	N/A	N/A	**Alleys (as approved by Public Works)**	As approved by Public Works	N/A	Varies	City

Streets and Alley requirements shown above are for general guidance. Specific requirement for each development shall be confirmed and coordinated with the City Engineer.

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[16] Roundabouts: Marion County has not adopted the TSP recommendation for roundabouts at various intersections. No roundabout is required unless approved by the City of Stayton and Marion County. At the time the City reviews any new development or substantial change to a development near each of these intersections, the City and Marion County will review and agree on the intersection design.

Appendix B Pedestrian and Bicycle Improvement Projects

Pedestrian Improvements Table

Roadway	Segment	Functional_Classification	Direction	Pedestrian_Standard	Existing_Pedestrian_System	Pedestrian_Improvements_Needed	Tier
Cascade Highway	Highway 22 to Mill Creek Bridge	Principal	Southbound	6' sidewalks on property line	-6 foot sidewalk on curb line	-No Project	-
Cascade Highway	Highway 22 to Mill Creek Bridge	Principal	Northbound	6' sidewalks on property line	-6 foot sidewalk on curb line	-No Project	-
First Avenue	Regis Street to Washington Street	Principal	Southbound	8' sidewalks on curb line	-4 to 5 foot sidewalk on curb line	-Install 8 foot sidewalk on curb line	T3
First Avenue	Regis Street to Washington Street	Principal	Northbound	8' sidewalks on curb line	-4 to 5 foot sidewalk on curb line	-Install 8 foot sidewalk on curb line	T3
First Avenue	Washington Street to Ida Street	Arterial	Southbound	8' sidewalks on curb line	-4 to 5 foot sidewalk on curb line	-Install 8 foot sidewalk on curb line	T3
First Avenue	Washington Street to Ida Street	Arterial	Northbound	8' sidewalks on curb line	-4 to 5 foot sidewalk on curb line	-Install 8 foot sidewalk on curb line	T3
First Avenue	Water Street to Santiam River Bridge	Arterial	Southbound	8' sidewalks on property line	-None	-Install 8 foot sidewalk on property line	T4
First Avenue	Water Street to Santiam River Bridge	Arterial	Northbound	8' sidewalks on property line	-None	-Install 8 foot sidewalk on property line	T4
Golf Club Road	Highway 22 to 400 feet north of Shaff Road	Arterial	Southbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T4
Golf Club Road	Highway 22 to 400 feet north of Shaff Road	Arterial	Northbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T4
Wilco Road	Shaff Road to 600 feet south	Collector	Southbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T3
Wilco Road	Shaff Road to 600 feet south	Collector	Northbound	6' sidewalks on property line	-4 foot sidewalk on property line	-Install 6 foot sidewalk on property line	T3
Wilco Road	Deschutes Drive to Washington Street	Arterial	Southbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T3
Wilco Road	Deschutes Drive to Washington Street	Arterial	Northbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T1
Shaff Road/Fern Ridge Road	Stayton City Limit to Wilco Road	Collector	Eastbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T4
Shaff Road/Fern Ridge Road	Stayton City Limit to Wilco Road	Collector	Westbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T4
Shaff Road/Fern Ridge Road	Wilco Road to Bi-Mart East Driveway	Arterial	Eastbound	8' sidewalks on property line	-5 foot sidewalk on property line	-Install 8 foot sidewalk on property line	T3
Shaff Road/Fern Ridge Road	Wilco Road to Bi-Mart East Driveway	Arterial	Westbound	8' sidewalks on property line	-4 foot sidewalk on property line	-Install 8 foot sidewalk on property line	T3
Shaff Road/Fern Ridge Road	First Avenue to Tenth Avenue	Collector	Eastbound	6' sidewalks on property line	-4 foot sidewalk on curb line	-Install 6 foot sidewalk on property line	T3
Shaff Road/Fern Ridge Road	First Avenue to Tenth Avenue	Collector	Westbound	6' sidewalks on property line	-5 to 6 foot sidewalk on property line	-No Project	-
Stayton Road	Stayton City Limit to Wilco Road	Arterial	Eastbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T4
Stayton Road	Stayton City Limit to Wilco Road	Arterial	Westbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T4
W Washington Street	Wilco Road to Myrtle Avenue	Arterial	Eastbound	6' to 8' sidewalks on property line (varies)	-None	-Install 6 to 8 foot sidewalk on property line	T2
W Washington Street	Wilco Road to Myrtle Avenue	Arterial	Westbound	6' to 8' sidewalks on property line (varies)	-4 foot sidewalk on curb line	-Install 6 to 8 foot sidewalk on property line	T3
E Washington Street	First Avenue to Second Avenue	Arterial	Eastbound	8' sidewalk on curb line	-4 to 5 foot sidewalk on curb line	-Install 8 foot sidewalk on curb line	T3
E Washington Street	First Avenue to Second Avenue	Arterial	Westbound	6' sidewalk on curb line	-5 foot sidewalk on curb line	-No Project	-
E Washington Street	Third Avenue to Sixth Avenue	Arterial	Eastbound	6' sidewalks on property line	-4 to 5 foot sidewalk on property line	-No Project	-
E Washington Street	Third Avenue to Sixth Avenue	Arterial	Westbound	6' sidewalks on property line	-4 to 5 foot sidewalk on property line	-No Project	-
Sixth Avenue	Washington Street to Jefferson Street	Arterial	Southbound	6' sidewalks on property line	-4 foot sidewalk on property line	-Install 6 foot sidewalks on property line	T3
Sixth Avenue	Washington Street to Jefferson Street	Arterial	Northbound	6' sidewalks on property line	-4 foot sidewalk on property line	-Install 6 foot sidewalks on property line	T3
Jefferson Street	Sixth Avenue to Tenth Avenue	Arterial	Eastbound	6' sidewalks on property line	-4 foot sidewalk on property line	-Install 6 foot sidewalks on property line	T3
Jefferson Street	Sixth Avenue to Tenth Avenue	Arterial	Westbound	6' sidewalks on property line	-4 foot sidewalk on property line	-Install 6 foot sidewalks on property line	T3
Tenth Avenue	Jefferson Street to Santiam Street	Arterial	Southbound	6' sidewalks on property line	-4 foot sidewalk half on curb line and half on property line	-Install 6 foot sidewalk on property line	T3
Tenth Avenue	Jefferson Street to Santiam Street	Arterial	Northbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T2
Tenth Avenue	Santiam Street to Fir Street	Collector	Southbound	6' sidewalks on property line	-5 to 6 foot sidewalk on curb line	-No Project	-
Tenth Avenue	Santiam Street to Fir Street	Collector	Northbound	6' sidewalks on property line	-6 foot sidewalk on curb line	-No Project	-
E Santiam Street	Tenth Avenue to Highland Drive	Collector	Eastbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T3
E Santiam Street	Tenth Avenue to Highland Drive	Collector	Westbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T3
W Locust Street	Wilco Road to Gardner Avenue	Collector	Eastbound	6' sidewalks on property line	-4 to 5 foot sidewalk on property line	-No Project	-
W Locust Street	Wilco Road to Gardner Avenue	Collector	Westbound	6' sidewalks on property line	-4 to 5 foot sidewalk on property line	-No Project	-
Gardner Avenue	Shaff Road to W Washington Street	Collector	Southbound	6' sidewalks on property line	-4 foot sidewalk on property line	-Install 6 foot sidewalk on property line	T3
Gardner Avenue	Shaff Road to W Washington Street	Collector	Northbound	6' sidewalks on property line	-4 foot sidewalk on property line	-Install 6 foot sidewalk on property line	T3
Kindle Way	Goshen Avenue to Shaff Road	Collector	Southbound	6' sidewalks on property line	-5 foot sidewalk on property line	-No Project	-
Kindle Way	Goshen Avenue to Shaff Road	Collector	Northbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T4
W Ida Street	Wilco Road to Holly Avenue	Collector	Eastbound	6' sidewalks on property line	-4 foot sidewalk on curb line	-Install 6 foot sidewalk on property line	T3
W Ida Street	Wilco Road to Holly Avenue	Collector	Westbound	6' sidewalks on property line	-4 foot sidewalk on curb line	-Install 6 foot sidewalk on property line	T3
Westown Drive	Shaff Road to W Locust Street	Neighbordhood Collector	Southbound	5' sidewalks on property line	-4 foot sidewalk on property line	-No Project	-
Westown Drive	Shaff Road to W Locust Street	Neighbordhood Collector	Northbound	5' sidewalks on property line	-4 foot sidewalk on property line	-No Project	-
Western Avenue	Westown Drive to Gardner Avenue	Neighbordhood Collector	Eastbound	5' sidewalks on property line	-4 foot sidewalk on property line	-No Project	-
Western Avenue	Westown Drive to Gardner Avenue	Neighbordhood Collector	Westbound	5' sidewalks on property line	-4 foot sidewalk on property line	-No Project	-
W Regis Street	Gardner Avenue to First Avenue	Neighbordhood Collector	Eastbound	5' sidewalks on property line	-5 foot sidewalk on curb line	-No Project	-
W Regis Street	Gardner Avenue to First Avenue	Neighbordhood Collector	Westbound	5' sidewalks on property line	-4 foot sidewalk on property line	-No Project	-
Third Avenue	Fern Ridge Road to Regis Street	Neighbordhood Collector	Southbound	5' sidewalks on property line	-None	-Install 5 foot sidewalk on property line	T2
Third Avenue	Fern Ridge Road to Regis Street	Neighbordhood Collector	Northbound	5' sidewalks on property line	-4 foot sidewalk on curb line	-No Project	-
Hollister Street	First Avenue to Seventh Avenue	Neighbordhood Collector	Eastbound	5' sidewalks on property line	-4 to 5 foot sidewalk on property line	-No Project	-
Hollister Street	First Avenue to Seventh Avenue	Neighbordhood Collector	Westbound	5' sidewalks on property line	-4 to 5 foot sidewalk on property line	-No Project	-
Sixth Avenue	Santiam Street to Jefferson Street	Neighbordhood Collector	Southbound	5' sidewalks on property line	-4 foot sidewalk half on property line and half on curb line	-No Project	-

Pedestrian Improvements Table, cont.

Sixth Avenue	Santiam Street to Jefferson Street	Neighbordhood Collector	Northbound	5' sidewalks on property line	-4 foot sidewalk on property line	-No Project	-
Virginia Street	Third Avenue to Fourth Avenue	Neighbordhood Collector	Eastbound	5' sidewalks on property line	-4 foot sidewalk on property line	-No Project	-
Virginia Street	Third Avenue to Fourth Avenue	Neighbordhood Collector	Westbound	5' sidewalks on property line	-4 foot sidewalk on property line	-No Project	-
Cascade Highway	Mill Creek Bridge to Whitney Street	Principal	Southbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T1
Cascade Highway	Mill Creek Bridge to Whitney Street	Principal	Northbound	6' sidewalks on property line	-7 to 8 foot sidewalk meandering 5 to 20 feet away from curb line	-No Project	-
Cascade Highway	Whitney Street to Shaff Road	Principal	Southbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T3
Cascade Highway	Whitney Street to Shaff Road	Principal	Northbound	6' sidewalks on property line	-7 to 8 foot sidewalk meandering 5 to 20 feet away from curb line	-No Project	-
Cascade Highway	Shaff Road to Regis Street	Principal	Southbound	6' sidewalks on property line	-6 foot sidewalk on curb line	-No Project	-
Cascade Highway	Shaff Road to Regis Street	Principal	Northbound	6' sidewalks on property line	-4 foot sidewalk on curb line	-Install 6 foot sidewalk on property line	T3
First Avenue	Ida Street to Water Street	Arterial	Southbound	8' sidewalks on curb line	-6 to 9 foot sidewalk on curb line	-No Project	-
First Avenue	Ida Street to Water Street	Arterial	Northbound	8' sidewalks on curb line	-4 to 5 foot sidewalk on curb line	-Install 8 foot sidewalk on curb line	T3
First Avenue	Santiam River Bridge to City Limits	Arterial	Southbound	8' sidewalks on property line	-None	-Install 8 foot sidewalk on property line	T4
First Avenue	Santiam River Bridge to City Limits	Arterial	Northbound	8' sidewalks on property line	-4 foot sidewalk on curb line	-Install 8 foot sidewalk on property line	T4
Golf Club Road	Shaff Road to 400 feet north	Arterial	Southbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T3
Golf Club Road	Shaff Road to 400 feet north	Arterial	Northbound	6' sidewalks on property line	-5 foot sidewalk on property line	-No Project	-
Wilco Road	600 feet south of Shaff Road to Deschutes Drive	Collector	Southbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T3
Wilco Road	600 feet south of Shaff Road to Deschutes Drive	Collector	Northbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T1
Shaff Road/Fern Ridge Road	Bi-Mart East Driveway to Gardner Avenue	Arterial	Eastbound	8' sidewalks on property line	-8 paved path on property line	-No Project	-
Shaff Road/Fern Ridge Road	Bi-Mart East Driveway to Gardner Avenue	Arterial	Westbound	8' sidewalks on property line	-4 foot sidewalk on property line	-Install 8 foot sidewalk on property line	T3
Shaff Road/Fern Ridge Road	Gardner Avenue to Fern Avenue	Arterial	Eastbound	8' sidewalks on property line	-4 foot sidewalk on property line	-Install 8 foot sidewalk on property line	T3
Shaff Road/Fern Ridge Road	Gardner Avenue to Fern Avenue	Arterial	Westbound	8' sidewalks on property line	-6 foot sidewalk on property line	-Install 8 foot sidewalk on property line	T3
Shaff Road/Fern Ridge Road	Fern Avenue to Douglas Avenue	Arterial	Eastbound	8' sidewalks on property line	-4 foot sidewalk on property line	-Install 8 foot sidewalk on property line	T3
Shaff Road/Fern Ridge Road	Fern Avenue to Douglas Avenue	Arterial	Westbound	8' sidewalks on property line	-None	-Install 8 foot sidewalk on property line	T1
Shaff Road/Fern Ridge Road	Douglas Avenue to First Avenue	Arterial	Eastbound	8' sidewalks on property line	-4 foot sidewalk on curb line	-Install 8 foot sidewalk on property line	T3
Shaff Road/Fern Ridge Road	Douglas Avenue to First Avenue	Arterial	Westbound	8' sidewalks on property line	-None	-Install 8 foot sidewalk on property line	T1
Shaff Road/Fern Ridge Road	Tenth Avenue to Kent Avenue	Collector	Eastbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T2
Shaff Road/Fern Ridge Road	Tenth Avenue to Kent Avenue	Collector	Westbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T2
Shaff Road/Fern Ridge Road	Kent Avenue to United Methodist Church	Collector	Eastbound	6' sidewalks on property line	-4 foot sidewalk on property line	-Install 6 foot sidewalk on property line	T3
Shaff Road/Fern Ridge Road	Kent Avenue to United Methodist Church	Collector	Westbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T2
Shaff Road/Fern Ridge Road	United Methodist Church to Boulders Mobile Home Park	Collector	Eastbound	6' sidewalks on property line	-4 foot sidewalk on property line	-Install 6 foot sidewalk on property line	T3
Shaff Road/Fern Ridge Road	United Methodist Church to Boulders Mobile Home Park	Collector	Westbound	6' sidewalks on property line	-4 foot sidewalk on curb line	-Install 6 foot sidewalk on property line	T3
Shaff Road/Fern Ridge Road	Boulders Mobile Home Park to Highway 22	Collector	Eastbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T4
Shaff Road/Fern Ridge Road	Boulders Mobile Home Park to Highway 22	Collector	Westbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T4
W Washington Street	Myrtle Avenue to Miller Drive	Arterial	Eastbound	6' to 8' sidewalks on property line (varies)	-None	-Install 6 to 8 foot sidewalk on property line	T2
W Washington Street	Myrtle Avenue to Miller Drive	Arterial	Westbound	6' to 8' sidewalks on property line (varies)	-None	-Install 6 to 8 foot sidewalk on property line	T2
W Washington Street	Miller Drive to Evergreen Avenue	Arterial	Eastbound	6' to 8' sidewalks on property line (varies)	-None	-Install 6 to 8 foot sidewalk on property line	T2
W Washington Street	Miller Drive to Evergreen Avenue	Arterial	Westbound	6' to 8' sidewalks on property line (varies)	-4 to 5 foot sidewalk on curb line	-Install 6 to 8 foot sidewalk on property line	T3
W Washington Street	Evergreen Avenue to First Avenue	Arterial	Eastbound	6' to 8' sidewalks on property line (varies)	-4 foot sidewalk on curb line	-Install 6 to 8 foot sidewalk on property line	T3
W Washington Street	Evergreen Avenue to First Avenue	Arterial	Westbound	6' to 8' sidewalks on property line (varies)	-4 to 5 foot sidewalk on curb line	-Install 6 to 8 foot sidewalk on property line	T3
E Washington Street	Second Avenue to Third Avenue	Arterial	Eastbound	8' sidewalk on curb line	-None	-Install 8 foot sidewalk on curb line	T2
E Washington Street	Second Avenue to Third Avenue	Arterial	Westbound	6' sidewalk on curb line	-5 foot sidewalk on curb line	-No Project	-
Tenth Avenue	Fir Street to Kathy Street	Collector	Southbound	6' sidewalks on property line	-4 foot sidewalk on property line	-Install 6 foot sidewalk on property line	T3
Tenth Avenue	Fir Street to Kathy Street	Collector	Northbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T2
Tenth Avenue	Kathy Street to Fern Ridge Road	Collector	Southbound	6' sidewalks on property line	-5 foot sidewalk on curb line	-No Project	-
Tenth Avenue	Kathy Street to Fern Ridge Road	Collector	Northbound	6' sidewalks on property line	-4 foot sidewalk on curb line	-Install 6 foot sidewalk on property line	T3
E Santiam Street	Highland Drive to Scenic View Drive	Collector	Eastbound	6' sidewalks on property line	-5 foot sidewalk on property line	-No Project	-
E Santiam Street	Highland Drive to Scenic View Drive	Collector	Westbound	6' sidewalks on property line	-4 foot sidewalk on curb line	-Install 6 foot sidewalk on property line	T3
E Santiam Street	Scenic View Drive to 28th Avenue	Collector	Eastbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T3
E Santiam Street	Scenic View Drive to 28th Avenue	Collector	Westbound	6' sidewalks on property line	-4 foot sidewalk on property line	-Install 6 foot sidewalk on property line	T3
E Santiam Street	28th Avenue to Highway 22	Collector	Eastbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T4
E Santiam Street	28th Avenue to Highway 22	Collector	Westbound	6' sidewalks on property line	-None	-Install 6 foot sidewalk on property line	T4
W Locust Street	Gardner Avenue to Stayton High School	Collector	Eastbound	6' sidewalks on property line	-4 to 5 foot sidewalk on property line	-No Project	-
W Locust Street	Gardner Avenue to Stayton High School	Collector	Westbound	6' sidewalks on property line	-8 foot sidewalk on curb line	-No Project	-
W Locust Street	Stayton High School to Birch Avenue	Collector	Eastbound	6' sidewalks on property line	-4 to 5 foot sidewalk on property line	-No Project	-
W Locust Street	Stayton High School to Birch Avenue	Collector	Westbound	6' sidewalks on property line	-3 to 4 foot sidewalk on property line	-Install 6 foot sidewalk on property line	T3
W Locust Street	Birch Avenue to First Avenue	Collector	Eastbound	6' sidewalks on property line	-4 foot sidewalk on curb line	-Install 6 foot sidewalk on property line	T3
W Locust Street	Birch Avenue to First Avenue	Collector	Westbound	6' sidewalks on property line	-6 foot sidewalk on property line	-No Project	-
W Ida Street	Holly Avenue to Fern Avenue	Collector	Eastbound	6' sidewalks on property line	-6 foot paved path on curb line	-No Project	-

Pedestrian Improvements Table, cont.

W Ida Street	Holly Avenue to Fern Avenue	Collector	Westbound	6' sidewalks on property line	-4 foot sidewalk on curb line	-Install 6 foot sidewalk on property line	T3
W Ida Street	Fern Avenue to First Avenue	Collector	Eastbound	6' sidewalks on property line	-4 foot sidewalk on curb line	-Install 6 foot sidewalk on property line	T3
W Ida Street	Fern Avenue to First Avenue	Collector	Westbound	6' sidewalks on property line	-4 foot sidewalk on curb line	-Install 6 foot sidewalk on property line	T3
Third Avenue	Regis Street to Cedar Street	Neighbordhood Collector	Southbound	5' sidewalks on property line	-4 foot sidewalk on curb line	-No Project	-
Third Avenue	Regis Street to Cedar Street	Neighbordhood Collector	Northbound	5' sidewalks on property line	-4 foot sidewalk on curb line	-No Project	-
Third Avenue	Cedar Street to Elwood Street	Neighbordhood Collector	Southbound	5' sidewalks on property line	-4 foot sidewalk on property line	-No Project	-
Third Avenue	Cedar Street to Elwood Street	Neighbordhood Collector	Northbound	5' sidewalks on property line	-4 foot sidewalk on property line	-No Project	-
Third Avenue	Elwood Street to E Washington Street	Neighbordhood Collector	Southbound	5' sidewalks on property line	-6 foot sidewalk on property line	-No Project	-
Third Avenue	Elwood Street to E Washington Street	Neighbordhood Collector	Northbound	5' sidewalks on property line	-4 foot sidewalk on property line	-No Project	-

Bicycle Improvements Table

Roadway	Segment	Functional_Classification	Direction	Bicycle_Standard	Existing_Bicycle_System	Bicycle_Improvements_Needed	Tier
Cascade Highway	Highway 22 to Shaff Road	Principal	Southbound	6' Bike Lanes	-6 foot bike lane	-No Project	-
Cascade Highway	Highway 22 to Shaff Road	Principal	Northbound	6' Bike Lanes	-6 foot bike lane	-No Project	-
First Avenue	Shaff Road to Washington Street	Principal	Southbound	-None	-None	-No Project	-
First Avenue	Shaff Road to Washington Street	Principal	Northbound	-None	-None	-No Project	-
First Avenue	Washington Street to Water Street	Arterial	Southbound	-None	-None	-No Project	-
First Avenue	Washington Street to Water Street	Arterial	Northbound	-None	-None	-No Project	-
First Avenue	Water Street to Santiam River Bridge	Arterial	Southbound	-None	-7 foot paved shoulder	-No Project	-
First Avenue	Water Street to Santiam River Bridge	Arterial	Northbound	-None	-7 foot paved shoulder	-No Project	-
Golf Club Road	Highway 22 to Mill Creek Bridge	Arterial	Southbound	6' Bike Lanes	-6 foot paved shoulder	-No Project	-
Golf Club Road	Highway 22 to Mill Creek Bridge	Arterial	Northbound	6' Bike Lanes	-6 foot paved shoulder	-No Project	-
Wilco Road	Shaff Road to Deschutes Drive	Collector	Southbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T2
Wilco Road	Shaff Road to Deschutes Drive	Collector	Northbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T2
Wilco Road	Deschutes Drive to Washington Street	Arterial	Southbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T2
Wilco Road	Deschutes Drive to Washington Street	Arterial	Northbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T2
Shaff Road/Fern Ridge Road	Stayton City Limit to Wilco Road	Collector	Eastbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T4
Shaff Road/Fern Ridge Road	Stayton City Limit to Wilco Road	Collector	Westbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T4
Shaff Road/Fern Ridge Road	Wilco Road to Bi-Mart East Driveway	Arterial	Eastbound	6' Bike Lanes	-5 foot bike lane	-No Project	-
Shaff Road/Fern Ridge Road	Wilco Road to Bi-Mart East Driveway	Arterial	Westbound	6' Bike Lanes	-6 foot bike lane	-No Project	-
Shaff Road/Fern Ridge Road	First Avenue to Tenth Avenue	Collector	Eastbound	6' Bike Lanes	-6 foot bike lane	-No Project	-
Shaff Road/Fern Ridge Road	First Avenue to Tenth Avenue	Collector	Westbound	6' Bike Lanes	-5 foot bike lane	-No Project	-
Stayton Road	Stayton City Limit to Wilco Road	Arterial	Eastbound	6' Bike Lanes	-6 foot gravel shoulder	-Install 6 foot bike lane	T3
Stayton Road	Stayton City Limit to Wilco Road	Arterial	Westbound	6' Bike Lanes	-6 foot gravel shoulder	-Install 6 foot bike lane	T3
W Washington Street	Wilco Road to First Ave	Arterial	Eastbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T2
W Washington Street	Wilco Road to First Ave	Arterial	Westbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T2
E Washington Street	First Avenue to Third Avenue	Arterial	Eastbound	6' Bike Lanes	-10 foot paved shoulder	-Restripe to 6 foot bike lane	T1
E Washington Street	First Avenue to Third Avenue	Arterial	Westbound	6' Bike Lanes	-10 foot paved shoulder	-Restripe to 6 foot bike lane	T1
E Washington Street	Third Avenue to Sixth Avenue	Arterial	Eastbound	6' Bike Lanes	-8 foot paved shoulder	-Restripe to 6 foot bike lane	T1
E Washington Street	Third Avenue to Sixth Avenue	Arterial	Westbound	6' Bike Lanes	-8 foot paved shoulder	-Restripe to 6 foot bike lane	T1
Sixth Avenue	Washington Street to Jefferson Street	Arterial	Southbound	6' Bike Lanes	-7 foot paved shoulder	-Restripe to 6 foot bike lane	T1
Sixth Avenue	Washington Street to Jefferson Street	Arterial	Northbound	6' Bike Lanes	-7 foot paved shoulder	-Restripe to 6 foot bike lane	T1
Jefferson Street	Sixth Avenue to Tenth Avenue	Arterial	Eastbound	6' Bike Lanes	-8 foot paved shoulder	-Restripe to 6 foot bike lane	T1
Jefferson Street	Sixth Avenue to Tenth Avenue	Arterial	Westbound	6' Bike Lanes	-8 foot paved shoulder	-Restripe to 6 foot bike lane	T1
Tenth Avenue	Jefferson Street to Santiam Street	Arterial	Southbound	6' Bike Lanes	-11 foot paved shoulder	-Restripe to 6 foot bike lane	T1
Tenth Avenue	Jefferson Street to Santiam Street	Arterial	Northbound	6' Bike Lanes	-11 foot paved shoulder	-Restripe to 6 foot bike lane	T1
Tenth Avenue	Santiam Street to Fern Ridge Road	Collector	Southbound	6' Bike Lanes	-5 to 6 foot bike lane	- No Project	-
Tenth Avenue	Santiam Street to Fern Ridge Road	Collector	Northbound	6' Bike Lanes	-5 to 6 foot bike lane	- No Project	-
E Santiam Street	Tenth Avenue to Scenic View Drive	Collector	Eastbound	6' Bike Lanes	-5 to 6 foot bike lane	- No Project	-
E Santiam Street	Tenth Avenue to Scenic View Drive	Collector	Westbound	6' Bike Lanes	-5 to 6 foot bike lane	- No Project	-
W Locust Street	Wilco Road to First Avenue	Collector	Eastbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T2
W Locust Street	Wilco Road to First Avenue	Collector	Westbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T2
Gardner Avenue	Shaff Road to W Washington Street	Collector	Southbound	6' Bike Lanes	-6 foot bike lanes	-No Project	-
Gardner Avenue	Shaff Road to W Washington Street	Collector	Northbound	6' Bike Lanes	-6 foot bike lanes	-No Project	-
Kindle Way	Goshen Avenue to Shaff Road	Collector	Southbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T4
Kindle Way	Goshen Avenue to Shaff Road	Collector	Northbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T4
W Ida Street	Wilco Road to First Avenue	Collector	Eastbound	Shared Roadway	-None	-Install signage and stencils denoting shared roadway	T1
W Ida Street	Wilco Road to First Avenue	Collector	Westbound	Shared Roadway	-None	-Install signage and stencils denoting shared roadway	T1
Westown Drive	Shaff Road to W Locust Street	Neighbordhood Collector	Southbound	-None	-None	-No Project	-

Bicycle Improvements Table, cont.

Westown Drive	Shaff Road to W Locust Street	Neighbordhood Collector	Northbound	-None	-None	-No Project	-
Western Avenue	Westown Drive to Gardner Avenue	Neighbordhood Collector	Eastbound	-None	-None	-No Project	-
Western Avenue	Westown Drive to Gardner Avenue	Neighbordhood Collector	Westbound	-None	-None	-No Project	-
W Regis Street	Gardner Avenue to First Avenue	Neighbordhood Collector	Eastbound	-None	-None	-No Project	-
W Regis Street	Gardner Avenue to First Avenue	Neighbordhood Collector	Westbound	-None	-None	-No Project	-
Third Avenue	Shaff Road to E Washington Street	Neighbordhood Collector	Southbound	-None	-None	-Add signing and striping to denote bicycle route	T1
Third Avenue	Shaff Road to E Washington Street	Neighbordhood Collector	Northbound	-None	-None	-Add signing and striping to denote bicycle route	T1
Hollister Street	First Avenue to Seventh Avenue	Neighbordhood Collector	Eastbound	-None	-None	-No Project	-
Hollister Street	First Avenue to Seventh Avenue	Neighbordhood Collector	Westbound	-None	-None	-No Project	-
Sixth Avenue	Santiam Street to Jefferson Street	Neighbordhood Collector	Southbound	-None	-None	-No Project	-
Sixth Avenue	Santiam Street to Jefferson Street	Neighbordhood Collector	Northbound	-None	-None	-No Project	-
Virginia Street	Third Avenue to Fourth Avenue	Neighbordhood Collector	Eastbound	-None	-None	-No Project	-
Virginia Street	Third Avenue to Fourth Avenue	Neighbordhood Collector	Westbound	-None	-None	-No Project	-
First Avenue	Santiam River Bridge to City Limits	Arterial	Southbound	6' Bike Lanes	-2 foot paved shoulder	-Install 6 foot bike lane	T4
First Avenue	Santiam River Bridge to City Limits	Arterial	Northbound	6' Bike Lanes	-2 foot paved shoulder	-Install 6 foot bike lane	T4
Golf Club Road	Mill Creek Bridge to Shaff Road	Arterial	Southbound	6' Bike Lanes	-3 to 4 foot paved shoulder	-Install 6 foot bike lane	T4
Golf Club Road	Mill Creek Bridge to Shaff Road	Arterial	Northbound	6' Bike Lanes	-3 to 4 foot paved shoulder	-Install 6 foot bike lane	T4
Shaff Road/Fern Ridge Road	Bi-Mart East Driveway to Gardner Avenue	Arterial	Eastbound	6' Bike Lanes	-8 foot paved path on property line	-No Project	-
Shaff Road/Fern Ridge Road	Bi-Mart East Driveway to Gardner Avenue	Arterial	Westbound	6' Bike Lanes	-6 foot bike lane	-No Project	-
Shaff Road/Fern Ridge Road	Gardner Avenue to Fern Avenue	Arterial	Eastbound	6' Bike Lanes	-6 foot bike lane	-No Project	-
Shaff Road/Fern Ridge Road	Gardner Avenue to Fern Avenue	Arterial	Westbound	6' Bike Lanes	-5 foot bike lane at sidewalk level	-No Project	-
Shaff Road/Fern Ridge Road	Fern Avenue to First Avenue	Arterial	Eastbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T1
Shaff Road/Fern Ridge Road	Fern Avenue to First Avenue	Arterial	Westbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T1
Shaff Road/Fern Ridge Road	Tenth Avenue to United Methodist Church	Collector	Eastbound	6' Bike Lanes	-6 foot bike lane	-No Project	-
Shaff Road/Fern Ridge Road	Tenth Avenue to United Methodist Church	Collector	Westbound	6' Bike Lanes	-2 foot paved shoulder	-Install 6 foot bike lane	T3
Shaff Road/Fern Ridge Road	United Methodist Church to Boulders Mobile Home Park	Collector	Eastbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T3
Shaff Road/Fern Ridge Road	United Methodist Church to Boulders Mobile Home Park	Collector	Westbound	6' Bike Lanes	-6 foot bike lane	-No Project	-
Shaff Road/Fern Ridge Road	Boulders Mobile Home Park to Highway 22	Collector	Eastbound	6' Bike Lanes	-None	-Install 6 foot bike lane	T4
Shaff Road/Fern Ridge Road	Boulders Mobile Home Park to Highway 22	Collector	Westbound	6' Bike Lanes	-1 foot paved shoulder	-Install 6 foot bike lane	T4
E Santiam Street	Scenic View Drive to 28th Avenue	Collector	Eastbound	6' Bike Lanes	-6 foot bike lane	-No Project	-
E Santiam Street	Scenic View Drive to 28th Avenue	Collector	Westbound	6' Bike Lanes	-6 foot bike lane	-No Project	-
E Santiam Street	28th Avenue to Highway 22	Collector	Eastbound	6' Bike Lanes	-1 foot paved shoulder	-Install 6 foot bike lane	T4
E Santiam Street	28th Avenue to Highway 22	Collector	Westbound	6' Bike Lanes	-1 foot paved shoulder	-Install 6 foot bike lane	T4
Third Avenue	Fern Ridge Road to Whitney Street	Neighbordhood Collector	Southbound	-None	-None	-Add signing and striping to denote bicycle route	T1
Third Avenue	Fern Ridge Road to Whitney Street	Neighbordhood Collector	Northbound	-None	-None	-Add signing and striping to denote bicycle route	T1
Third Avenue	E Washington Street to E Water Street	Neighbordhood Collector	Southbound	-None	-None	-Add signing and striping to denote bicycle route	T1
Third Avenue	E Washington Street to E Water Street	Neighbordhood Collector	Northbound	-None	-None	-Add signing and striping to denote bicycle route	T1

Appendix C Evaluation Criteria

APPENDIX C – ALTERNATIVES EVALUATION

Table 10: Evaluation Criteria

Objective	Evaluation Criteria	Evaluation Score	Alt. 1A (Golf Club/Shaff No Build)	Alt 1B (Golf Club/Shaff Roundabout)	Alt 1C (Golf Club/Shaff Signal)	Alt 1D (Golf Club/Shaff Signal w/ Realignment)	Alt 2A (Stayton/Wilco No Build)	Alt 2B (Stayton/Wilco Access Restriction)	Alt 2C (Stayton/Wilco Roundabout)	Alt 3A (Golf Lane – No-Build)	Alt 3B (Golf Lane Realignment)	Alt 4A (Sixth/Washington-Jefferson	Alt 4B (Sixth/Washington-	Alt 4C (Sixth/Washington-	Alt 5A (Tenth/Jefferson-Stayton No Build)	Alt 5B (Temth/Jefferson-Stayton Mini-	Alt 5C (Tenth/Jefferson – Stayton All-way Stop)	Alt 6A (First/Washington No Build)	Alt 6B (First/Washington Protected Lefts)	Alt 7A (Cascade/OR22WB –	Alt 7B (Cascade/OR22WB –
Goal 1: Mobility and Efficiency																					
Objective A	Could reduce reliance on any one single travel mode	+1											+1	+1		+1	+1				
	Would not reduce reliance on any one single travel mode	0	0	0	0	0	0	0	0	0	0	0			0			0	0	0	0
	Could increase reliance on any one single travel mode	-1																			
Objective D	Will improve connectivity across travel modes	+1		+1	+1	+1		+1	+1		+1										
	Will not improve connectivity across travel modes	0	0				0			0		0			0			0	0	0	0
	Will reduce connectivity across travel modes	-1											-1	-1		-1	-1				
Objective E	Could reduce reliance on any one corridor	+1																			
	Would not impact reliance on any one corridor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Could increase reliance on any one corridor	-1																			
Goal 2: Safety																					
Objective C	Will address a known safety issue	+1									+1		+1	+1		+1	+1		+1		+1
	Will not address a known safety issue	0	0	0		0	0	0	0	0		0			0			0			
	Could worsen a known safety issue	-1			-1															-1	
Objective E	Will improve access for emergency services vehicles	+1		+1					+1												
	Will not improve access for emergency service vehicles	0	0		0	0	0	0		0	0		0					0	0	0	0
	Will reduce or limit access for emergency service vehicle	-1											-1	-1		-1	-1				
Objective F	Will reduce potential for future conflicts	+1		+1	+1	+1		+1	+1		+1		+1	+1		+1	+1		+1		+1
	Will have no impact on the potential for future conflicts	0	0				0			0		0			0						
	Will increase the potential for future conflicts	-1																-1		-1	
Goal 3: Equity																					
Objective A	Will improve access for underserved and vulnerable populations	+1		+1	+1	+1		+1	+1				+1	+1		+1	+1				+1
	Will not improve access for underserved and vulnerable populations	0	0				0			0	0	0			0			0	0	0	
	Will reduce or limit access for underserved and vulnerable populations	-1																			
Goal 4: Multi-Jurisdiction Coordination																					
Objective B	Will not impact natural resources	+1								+1		+1	+1	+1	+1	+1	+1	+1	+1	+1	+1
	Will have a minimal impact to natural resources	0	0	0	0	0	0	0	0												
	Will have a significant impact to natural resources	-1									-1										
Objective C	Could reduce the number of vehicle miles traveled	+1																			
	Would not change the number of vehicle miles traveled	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Could increase the number of vehicle miles traveled	-1																			
Objective E	Will support alternative vehicle types	+1																			
	Will not support alternative vehicle types	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Will reduce or limit opportunities for alternative vehicle types	-1																			
Goal 5: Strategic Investment																					
Objective B	Is consistent with state, regional, and local planning	+1									+1					+1					0
	Is not impacted by or reflected in state, regional, and/or local planning	0	0	0	0	0	0	0	0				0	0			0	0	0	0	

Objective	Evaluation Criteria	Evaluation Score	Alt. 1A (Golf Club/Shaff No Build)	Alt 1B (Golf Club/Shaff Roundabout)	Alt 1C (Golf Club/Shaff Signal)	Alt 1D (Golf Club/Shaff Signal w/ Realignment)	Alt 2A (Stayton/Wilco No Build)	Alt 2B (Stayton/Wilco Access Restriction)	Alt 2C (Stayton/Wilco Roundabout)	Alt 3A (Golf Lane – No-Build)	Alt 3B (Golf Lane Realignment)	Alt 4A (Sixth/Washington-Jefferson	Alt 4B (Sixth/Washington-	Alt 4C (Sixth/Washington-	Alt 5A (Tenth/Jefferson-Stayton No Build)	Alt 5B (Temth/Jefferson-Stayton Mini-	Alt 5C (Tenth/Jefferson – Stayton All-way Stop)	Alt 6A (First/Washington No Build)	Alt 6B (First/Washington Protected Lefts)	Alt 7A (Cascade/OR22WB –	Alt 7B (Cascade/OR22WB –
	Is inconsistent with state, regional, and/or local planning	-1								-1		-1			-1						
Goal 6: Strategic Transportation Financing																					
Objective A	Will preserve and protect the function of locally and/or regionally significant corridors	+1		+1	+1	+1		+1	+1		+1		+1	+1		+1	+1				+1
	Will not impact locally and/or regionally significant corridors	0	0				0					0			0			0			
	Will degrade the function of locally and/or regionally significant corridors	-1								-1									-1	-1	
Objective D	Will improve travel reliability and efficiency of major travel routes	+1		+1	+1	+1		+1	+1				+1	+1		+1	+1				+1
	Will not impact travel reliability and efficiency of major travel routes	0								0	0	0			0			0	0		
	Will degrade travel reliability and efficiency of major travel routes	-1	-1				-1													-1	
Goal 7: Health																					
Objective A, B, an C	Could encourage the use of active modes of transportation	+1		+1	+1	+1		+1	+1				+1	+1		+1	+1				
	Would not encourage the use of active modes of transportation	0								0	0							0	0	0	0
	Could discourage the use of active modes of transportation	-1	-1				-1					-1			-1						
Objective D	Will contribute to the development of a multi-modal system	+1											+1	+1		+1	+1				
	Will not contribute to the development of a multi-modal system	0								0	0							0	0	0	0
	Will impede development of a multi-modal transportation system	-1										-1			-1						
Goal 8: Land Use and Transportation Integration																					
Objective A	Will encourage more compact, walkable, mixed-use and/or transit-oriented development	+1											+1	+1		+1	+1				
	Will not encourage more compact, walkable, mixed-use and/or transit-oriented development	0	0	0	0	0	0	0	0	0	0	0			0			0	0	0	0
	Will discourage more compact, walkable, mixed-use and/or transit-oriented development	-1																			
Goal 9: Community and Economic Vitality																					
Objective B	Could improve the movement of goods and delivery of services	+1		+1	+1	+1		+1	+1				+1	+1		+1	+1				+1
	Would not improve the movement of goods and delivery of services	0								0	0	0			0			0			
	Could impede the movement of goods and delivery of services	-1	-1				-1												-1	-1	
Objective E and F	Could encourage tourism and/or recreational tourism	+1																			
	Would not encourage tourism and/or recreational tourism	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Could discourage tourism and/or recreational tourism	-1																			
TOTAL			**-3**	**+8**	**+6**	**+7**	**-3**	**+7**	**+8**	**+1**	**+4**	**-3**	**+6**	**+6**	**-3**	**+7**	**+6**	**0**	**+1**	**-3**	**+6**

Appendix D Signal Warrant Analyses

KITTELSON & ASSOCIATES, INC.
610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230

Project #: 22352
Project Name: Stayton TSP Update
Analyst: RBG
Date: 12/5/2018
File: H:\22\22352 - Stayton Transportation System Plan\signal warrants\[SchaffWilco Signal Warrant Analysis.xls]Data Input
Intersection: Cascade Highway / OR 22 WB Ramps
Scenario: Existing

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
5:00 PM	6:00 PM	572	357	100	43
2nd Highest Hour		535	334	94	40
3rd Highest Hour		527	329	92	40
4th Highest Hour		513	320	90	39
5th Highest Hour		468	292	82	35
6th Highest Hour		461	287	81	35
7th Highest Hour		431	269	75	32
8th Highest Hour		401	250	70	30
9th Highest Hour		401	250	70	30
10th Highest Hour		394	246	69	30
11th Highest Hour		371	232	65	28
12th Highest Hour		349	218	61	26
13th Highest Hour		342	213	60	26
14th Highest Hour		327	204	57	25
15th Highest Hour		260	162	45	20
16th Highest Hour		245	153	43	18
17th Highest Hour		223	139	39	17
18th Highest Hour		193	121	34	15
19th Highest Hour		156	97	27	12
20th Highest Hour		74	46	13	6
21st Highest Hour		67	42	12	5
22nd Highest Hour		45	28	8	3
23rd Highest Hour		37	23	6	3
24th Highest Hour		37	23	6	3

Warrant Summary

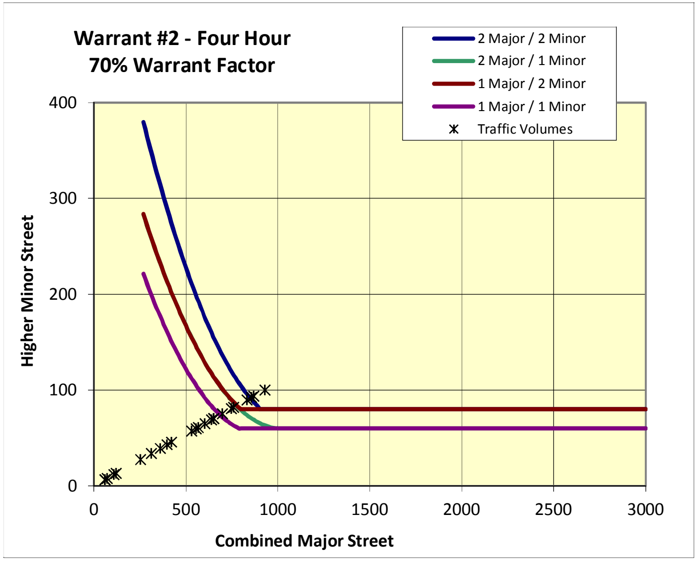
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	Yes
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

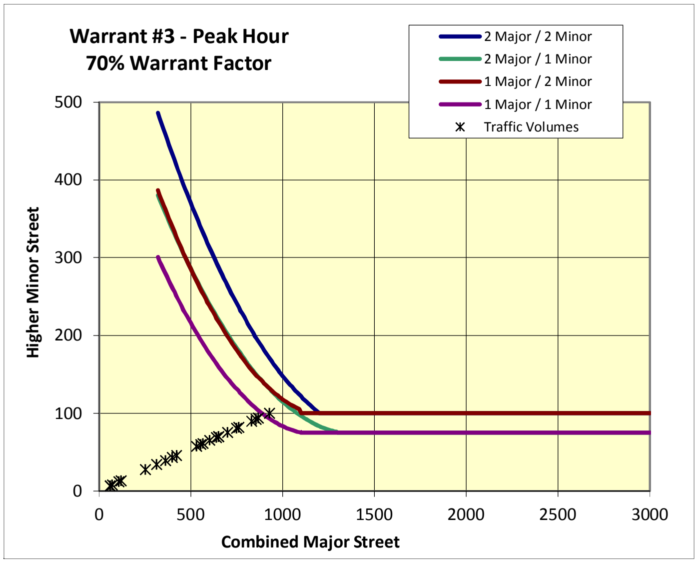
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	Yes
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	90%
Major Street: 8th-Highest Hour / Peak Hour	70%
Minor Street: 4th-Highest Hour / Peak Hour	90%
Minor Street: 8th-Highest Hour / Peak Hour	70%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	0	No	No
	B	750	75	5	No	
80%	A	400	120	0	No	Yes
	B	600	60	11	Yes	
70%	A	350	105	0	No	Yes
	B	525	53	14	Yes	
56%	A	280	84	4	No	Yes
	B	420	42	15	Yes	





KITTELSON & ASSOCIATES, INC.
610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230

Project #: 22352
Project Name: Stayton TSP Update
Analyst: RBG
Date: 12/5/2018
File: H:\22\22352 - Stayton Transportation System Plan\signal warrants\[SchaffWilco Signal Warrant Analysis.xls]Data Input
Intersection: Wilco/Schaff
Scenario: Existing PM Peak

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
5:00 PM	6:00 PM	403	575	367	236
2nd Highest Hour		382	544	347	223
3rd Highest Hour		376	537	343	220
4th Highest Hour		360	514	328	211
5th Highest Hour		355	506	323	208
6th Highest Hour		355	506	323	208
7th Highest Hour		339	483	308	198
8th Highest Hour		333	475	303	195
9th Highest Hour		322	460	294	189
10th Highest Hour		301	429	274	176
11th Highest Hour		290	414	264	170
12th Highest Hour		285	406	259	167
13th Highest Hour		274	391	250	160
14th Highest Hour		236	337	215	138
15th Highest Hour		188	268	171	110
16th Highest Hour		177	253	161	104
17th Highest Hour		124	176	113	72
18th Highest Hour		102	146	93	60
19th Highest Hour		54	77	49	31
20th Highest Hour		38	54	34	22
21st Highest Hour		32	46	29	19
22nd Highest Hour		21	31	20	13
23rd Highest Hour		11	15	10	6
24th Highest Hour		11	15	10	6

Warrant Summary

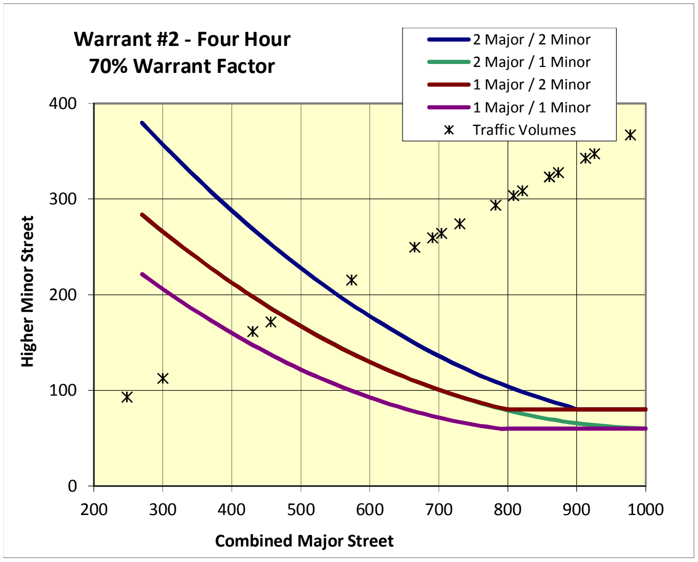
Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	Yes
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-
#9	Intersection Near a Grade Crossing	No	-

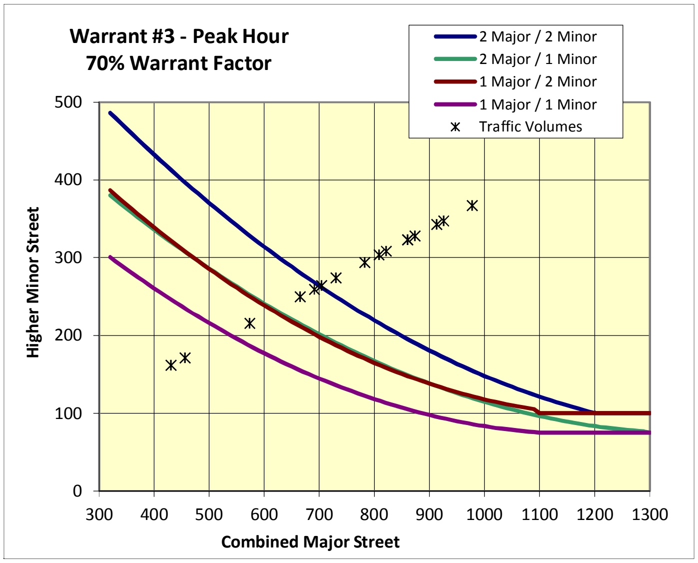
Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Major
East-West Approach =	Minor
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	89%
Major Street: 8th-Highest Hour / Peak Hour	83%
Minor Street: 4th-Highest Hour / Peak Hour	89%
Minor Street: 8th-Highest Hour / Peak Hour	83%

Warrant #1 - Eight Hour

Warrant Factor	Condition	Major Street Requirement	Minor Street Requirement	Hours That Condition Is Met	Condition for Warrant Factor Met?	Signal Warrant Met?
100%	A	500	150	14	Yes	**Yes**
	B	750	75	9	Yes	
80%	A	400	120	16	Yes	**Yes**
	B	600	60	13	Yes	
70%	A	350	105	16	Yes	**Yes**
	B	525	53	14	Yes	
56%	A	280	84	17	Yes	**Yes**
	B	420	42	16	Yes	





APPENDIX E: 2015 FINAL DESIGN STANDARDS PROPOSED CHANGES

GEOMETRIC DESIGN REQUIREMENTS BY STREET FUNCTIONAL CLASSIFICATION*

Right-of-way Width (ft)	Improvement Width (ft) (curb - curb)	Number & Size Lanes (No. / Width)	Bicycle Lanes (No. / Width)	On-street Parking (No. / Width)	Sidewalk Alignment	Sidewalk Width (ft)	Landscape Area Width (ft)	Street where the Standard is to Apply		At Major Intersections		Roadway Jurisdiction
								Specific Street	Where Standard will Apply	Lanes **	Intersection Locations	
Major (Principal) Arterial										** Lanes 100' + taper (add right-of-way each side)		
Variable	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**Highway 22**	Along northern Stayton UGB	N/A	Varies	ODOT
100'	~~74'~~ 48'	2/12' + 12' ~~4/12' + 14'~~	2/6'	No	Property line	6'	6	**Cascade Highway**	Highway 22 to Regis Street (TSP shows 5 lanes)	3 lanes ~~5 lanes~~	Shaff	Marion Co.
Minor Arterial		2/11' + 12'										
100'	~~74'~~ 46'	~~4/12' + 14'~~	2/6'	No	Property line	6'	6'	**Golf Club Road [1]**	Highway 22 to Shaff Road	3 lanes ~~5 lanes~~	Shaff	Marion Co.
80'	50'	2/12' + 14'	2/6'	No	Property line	8'	6'	**Shaff Road [2]**	Wilco Road to 1st Avenue	3 lanes ~~5 lanes~~	1st Avenue & Wilco	Marion Co.
60' up to 70'	~~40'~~ 34'	2/~~12'~~11'	2/6'	No	Property line	6' - 8' varies	5' - 8' varies	**W. Washington Street [3]**	Wilco Road to 1st Ave. (City R/W per TSP)	3 lanes	1st, Gardner & Wilco	City
60'	46' (1st- to 3rd)	2/11' + 12'	2/6'	No	Curb line	6' - north 8' - south	0'	**E. Washington Street [4]**	1st Avenue to 3rd Avenue	3 lanes	1st Avenue	Marion Co.
60'	~~40'~~ 34' (3rd to 10th)	2/~~12'~~11'	2/6'	No	Property line	6'	6'	**E. Washington St. / 6th / Jefferson St. / 10th [5]**	3rd Avenue to E. Santiam Street	3 lanes	Varies	Marion Co.
60' to 80'	~~50'~~ 46'	~~2/12' + 14'~~ 2/11' + 12'	2/6'	No	Curb line	8'	0'	**1st Avenue [6]**	Regis Street to Washington Street	3 lanes	Varies	Marion Co.

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[1] Golf Club Road: The Stayton TSP calls for a 100' R/W & 5-lane section. The City of Stayton and Marion County have not yet completed a conceptual design plan for Golf Club Road (Hwy 22 to Shaff/Wilco Road Intersection). Until a conceptual design plan is approved by the City and Marion County for Golf Club Road, the City will review each development fronting Golf Club Road on a case-by-case basis to determine R/W dedications, pavement widths, # of lanes, and frontage improvement (curb, sidewalk, storm) requirements. Until a Golf Club Road Conceptual Plan is approved, the City will require any new developments, and/or substantial changes to existing development, to comply with the typical section shown in the Wilco Road Conceptual Design. See Footnote 9 below.

[2] Shaff Road: Existing R/W varies. R/W dedications to 80' are required -- 40' from centerline unless otherwise required. See also Footnote 9 below for Golf Club/Shaff/Wilco Road intersection.

[3] W. Washington Street:

a. (1st Avenue to Wilco Road): This section is improved curb-to-curb. R/W and pavement widths vary. Use existing curbs to plan for SW & bike lanes.
b. (1st Avenue to Evergreen): Existing R/W varies from 45' to 55'. R/W dedications to 60' are required -- 30' from centerline. 8' sidewalk on north side from 1st to Gardner Avenue.
c. (Evergreen to Wilco Road): Existing R/W is 60'Width. No R/W dedication is anticipated, unless needed to allow for sidewalk widening and bike lane improvements.
d. (Intersections @ 1st, Gardner & Wilco): R/W dedications will be required near 1st Avenue and Wilco Road intersections.

[4] E. Washington Street:

a. (1st Avenue to 3rd Avenue): This two block section from 1st Avenue to 3rd Avenue is part of the Downtown core area.
b. (1st Avenue intersection): Existing R/W is 60'+. Pavement width is 50' @ intersection. R/W dedication is anticipated for turn lanes.
c. (E. Washington Street: 1st to 3rd Avenue): Existing R/W is 60'. Pavement width narrows from 50' @ 1st Avenue to 44' at 3rd Ave. R/W dedication is anticipated at corners.

[5] E. Washington Street:

a. (3rd Avenue to 10th Avenue): This corridor from 1st Avenue to 10th Avenue is improved from curb-to-curb. Pavement width is typically 40', with a few exceptions.
b. (E. Washington: 3rd to 6th Avenue): Existing R/W is 60'. Pavement width varies from 44' @ 3rd to 40' @ 6th. R/W dedication is anticipated at corners
c. (6th:Avenue / Washington to Jefferson Street): Existing R/W is 60'. Pavement width is 40'. R/W dedication is anticipated at corners.
d. (Jefferson Street: 6th to 10th Avenue): Existing R/W is 60'. Pavement width is 40'. R/W dedication is anticipated at corners.
e. (10th Avenue / Jefferson to E. Santiam Street): Existing R/W is 60'. Pavement width is 50'+/-. NO R/W dedication is anticipated.

[6] 1st Avenue:

a. (Regis Street to Washington Street): The Stayton TSP calls for an 80' R/W & 3-lane section from Regis Street to the North Santiam River. R/W widths vary. Existing pavement width is 40+/- with 2 travel lanes and a center turn lane, but no bike lanes. Measure R/W from center section line of Section 10. In lieu of full R/W, City can accept 60' R/W + a 10' wide PUE/SW easement where approved.
b. (Regis Street to Cedar): Existing R/W is 50'. Minimum R/W dedication to 60' is required – 30' from centerline + a 10' wide PUE/SW easement.
c. (Cedar Street to Hollister Street): Existing R/W varies from 55' to 60'. Minimum R/W dedication to 60' is required – 30' from centerline + a 10' wide PUE/SW easement.
d. (Hollister Street to Washington Street): Existing R/W varies from 45' to 60'. Minimum R/W dedication to 60' is required – 30' from centerline + a 10' wide PUE/SW easement.
e. (1st Avenue / Washington Street Intersection): Additional R/W is anticipated at the 1st Avenue & Washington Street intersection.

Right-of-way Width (ft)	*Improvement Width (ft) (curb - curb)*	*Number & Size Lanes (No. / Width)*	*Bicycle Lanes (No. / Width)*	*On-street Parking (No. / Width)*	*Sidewalk Alignment*	*Sidewalk Width (ft)*	*Landscape Area Width (ft)*	*Street where the Standard is to Apply*		*At Major Intersections*		*Roadway Jurisdiction*
								Specific Street	*Where Standard will Apply*	*Lanes ***	*Intersection Locations*	
Minor Arterial *(continued)*		2/11' + 12'										
60' or 80'	~~50'~~ 46'	~~2/12' + 14'~~	2/6'	No	Curb line	8'	6'	**1st Avenue [7]**	Washington St. to Water St.	4 lanes	Ida	Marion Co.
80'	~~50' to 36'~~ 46' to 34'	~~2/12' + 14'~~ 2/11' + 12'	2/6'	No	Property line	8'	6'	**1st Avenue [8]**	S. of Water St. (taper out turn lane by bridge)	3 lanes	Water	Marion Co.
~~Major~~ Collector												
80'	~~50'~~ 46'	~~2/12' + 14'~~ 2/11' + 12'	2/6'	No	Property line	6'	8'	**Designated yellow in TSP**	(Designated yellow in TSP or by PW Director)	Variable	Varies	City
80'	50'	2/12' + 14'	2/6'	No	Property line	6'	8'	**Wilco Road [9]**	Shaff Road (Signalized) to Ida Street (All Way Stop) 3 lanes	~~5 lanes~~	Shaff	Marion Co.
80'	~~50'~~ 46'	~~2/12' + 14' w/~~ 2/11' + 12'	2/6'	No	Property line	6'	8'	**Washington – W. Stayton Road / Shaff Road [10]**	West of Wilco Road Taper to 2 lanes @ UGB	3 lanes	Wilco	Marion Co.
80'	46' ~~50'~~	~~2/12' + 14'~~ 2/11' + 12'	2/6'	No	Property line	6'	8'	**Fern Ridge Road [11]**	1st Avenue to Hwy 22 3 lanes	~~5 lanes~~	1st Avenue	Marion Co.
60'	34' ~~36'~~	2/~~12'~~11'	2/6'	No	Property line	6'	5'	**Locust Street [12]**	Wilco Road to 1st Avenue	3 lanes	1st Avenue	City
60'	~~36'~~ 34'	2/~~12'~~11'	2/6'	No	Property line	6'	5'	**Gardner Avenue [13]**	Shaff Road to Washington Street	3 lanes	Shaff & Washington	City
60'	36'	2/11'	Shared	2/7'	Property line	6'	5'	**Ida Street [14]**	Wilco Road to 1st Avenue	3 lanes	1st Avenue	City
60'	~~36'~~ 34'	2/~~12'~~11'	2/6'	No	Property line	6'	5'	**10th Avenue [15]**	Fern Ridge Road to E. Santiam Street (3 lanes @ Hospital)	3 lanes	Ends & Hospital	City
Neighborhood **Collector**												
60'	34' ~~& 36'~~	2/10' ~~& 2/11'~~	No	2/7'	Property line	5'	4.5' & 5.5'	**Designated green in TSP**	Designated by green line on TSP map	2 lanes	Varies	City

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[7] 1st Avenue:

a. (Washington Street to Ida Street): The Stayton TSP calls for an 80' R/W & 3-lane section from Regis Street to the North Santiam River. R/W widths vary. Existing pavement width is 40+/- with two travel lanes and a center turn lane, but no bike lanes. Measure R/W from center section line of Section 10. In lieu of full R/W, City can accept 60' R/W + a 10' wide PUE/SW easement where approved.

b. (Washington Street to Ida Street): Existing R/W varies from 40' to 55'. Minimum R/W dedication to 60' is required – 30' from centerline. See Barker research on 1st Avenue R/W lines for this section of roadway and City GIS concept plan.

c. (Ida Street to Water Street): Existing R/W varies from 56' to 59'. Minimum R/W dedication to 60' is required – 30' from center section line of Section 10.

[8] 1st Avenue (Water Street to North Santiam River): The Stayton TSP calls for an 80' R/W & 3-lane section from Regis Street to the North Santiam River. Existing R/W varies from 65' to 80'. Existing pavement width is 40+/- with two travel lanes, plus a taper to a 3 lane section at Water Street. Minimum R/W dedication to 80' is required south of Water Street – 40' from centerline.

[9] Wilco Road Conceptual Design: In 2014, the City of Stayton and Marion County agreed on a conceptual design plan for Wilco Road (Shaff Road to Ida / Washington Street). The conceptual plan includes recommended R/W widths, pavement cross-sections, sidewalk widths and locations, and various water quality swale locations. New developments and substantial changes to existing development are to comply with the conceptual design plan unless otherwise approved by the City and Marion County.

[10] W. Washington Street & W. Stayton Road / Shaff Road: See Footnote 9 above.

[11] Fern Ridge Road: Existing R/W varies from 60' to 80'. Minimum R/W dedication to 80' is required – 40' from centerline. Match north R/W & curb lines near 10th Avenue at end of Sylvan Springs subdivision.

[12] Locust Street: Existing R/W varies from 50' to 60'. Minimum R/W dedication to 60' is required – 30' from centerline. Match north R/W line. Only R/W dedication required between 1st Avenue & Birch on south side.

[13] Gardner Avenue: Existing R/W is 60'. Only R/W dedication required is radius at Shaff Road / Gardner Avenue intersection.

[14] Ida Street: Existing R/W is 60', except at NW corner of Evergreen. Minimum R/W dedication to 60' is required – 30' from centerline. R/W dedication required at corner of Evergreen.

[15] 10th Avenue: Existing R/W varies 60' to 70'. R/W dedication, sidewalk and or slope easement is required for east side sidewalks north of E. Fir Street.

Right-of-way Width (ft)	*Improvement Width (ft) (curb - curb)*	*Number & Size Lanes (No. / Width)*	*Bicycle Lanes (No. / Width)*	*On-street Parking (No. / Width)*	*Sidewalk Alignment*	*Sidewalk Width (ft)*	*Landscape Area Width (ft)*	*Street where the Standard is to Apply*		*At Major Intersections*		*Roadway Jurisdiction*
								Specific Street	*Where Standard will Apply*	*Lanes ***	*Intersection Locations*	
Local Streets												
60'	34'	2/10'	No	2/7'	Property line	5'	7.5'	**Standard residential street**	Residential streets throughout the city	2 lanes	Varies	City
60'	34'	2/10'	No	2/7'	Property line	5'	7.5'	**Long Cul-de-sacs**	200' to 450' to end of bulb	2 lanes	Varies	City
50'	30'	2/11'	No	1/8'	Property line	5'	4.5'	**Short Cul-de-sacs**	Less than 200' to end of bulb	2 lanes	Varies	City
45'	28'	2/10'	No	1/8'	Property line	5'	3.5'	**Skinny Street (as approved)**	Hillsides (or with PW Approval)	2 lanes	Varies	City
48'~~45'~~ radius	41.5' ~~38'~~ radius		No	No	~~Curb~~ line Property	5'	1' ~~0'~~	**Turnaround bulb**	at end of cul-de-sacs	N/A		City
Downtown Commercial Streets												
60'	40'	2/13'	No	2/7'	Property line	9.5'	0'	**Downtown Area**	1st Avenue to 4th Avenue Washington Street to Water Street	2 lanes	Varies	City
60'	36'	2/11'	No	2/7'	Property line	12'	0'	**3rd Avenue**	Redevelopment: Water Street to Burnett Street per Downtown Plan	2 lanes	Varies	City
Industrial Streets												
80' (Industrial)	40'	2/13'	No	2/7'	Property line	5'	14'	**Industrial low use parking**	Sidewalks per Public Works	2 lanes	Varies	City
60' radius (Industrial)	TBD (45' min)	TBD	No	2/7'	Property line	5'	14	**Industrial turnaround bulb**	At end of cul-de-sacs	N/A	Varies	City
Roundabouts[16]												
200' dia.	170' dia.	1 circular	No	No	Property line	6'	8'	**Wilco Rd. / Ida St. / Washington St.**	5-way intersection	N/A	Varies	Marion Co.
130' dia.	110' dia.	1 circular	No	No	Property line	6'	8'	**Washington St. / 6th / Jefferson St. / 10th**	Total of 4 between 1st Avenue to & E. Santiam Street	N/A	Varies	Marion Co.
Alleys												
16'	15'	N/A	N/A	No	N/A	N/A	N/A	**Alleys (as approved by Public Works)**	As approved by Public Works	N/A	Varies	City

Streets and Alley requirements shown above are for general guidance. Specific requirement for each development shall be confirmed and coordinated with the City Engineer.

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[16] Roundabouts: Marion County has not adopted the TSP recommendation for roundabouts at various intersections. No roundabout is required unless approved by the City of Stayton and Marion County. At the time the City reviews any new development or substantial change to a development near each of these intersections, the City and Marion County will review and agree on the intersection design.