ORDINANCE NO. 1464-22

AN ORDINANCE AMENDING TUALATIN COMPREHENSIVE PLAN MAP 10-1 TO APPLY THE MEDIUM HIGH DENSITY RESIDENTIAL (RMH) ZONING DISTRICT TO A PARCEL LOCATED AT TAX MAP 2S123DC, TAX LOT 600 (PMA 21-0001)

WHEREAS, upon the application of Angelo Planning Group, and with support of the property owner, a public hearing was held before the City Council on January 24, 2022 and a second public hearing was held on February 14, 2022, to consider a Plan Map Amendment to amend the Tualatin Comprehensive Plan Map 10-1 (PMA 21-0001);

WHEREAS, the City provided notice of proposed amendments to the Oregon Department of Land Conservation and Development, as provided in ORS 197.610;

WHEREAS, the City provided notice of the public hearing, as required by TDC 32.240;

WHEREAS, at the public hearing, the Council heard and considered the testimony and evidence presented by City staff, and those appearing at the public hearing, and approved the proposed amendments;

WHEREAS, the Council wishes to amend the Tualatin Comprehensive Plan Map 10-1; and

WHEREAS, the Council finds the proposed amendments to be in the best interest of the residents and inhabitants of the City and the public that the public interest will be served by adopting the amendments at this time, and that the amendments conform to the Tualatin Community Plan and Tualatin Development Code.

THE CITY OF TUALATIN ORDAINS AS FOLLOWS:

Section 1. Comprehensive Plan Map 10-1 is amended as follows:
The Medium High Density Residential (RMH) Zoning District is applied to the area established in Exhibit 1 (Legal Description).

Section 2. Based on Section 1, the City's Comprehensive Plan Map 10-1 is amended as set forth in Exhibit 2 (Amended Comprehensive Plan Map 10-1), which is attached and incorporated by reference.

Section 3. Findings. The Council adopts the Findings as set forth in Exhibit 3 (Findings), which are attached and incorporated by reference. In support of the Findings, Council adopts those materials referenced in the Findings, and which are attached as Exhibits A through H, which are attached and incorporated by reference.

Section 4. Effective Date. As provided in the Tualatin Charter, this ordinance is effective 30 days from the date of adoption.

ADOPTED by the City Council this 28th day of February, 2022.

CITY OF TUALATIN, OREGON

BY _____
Mayor

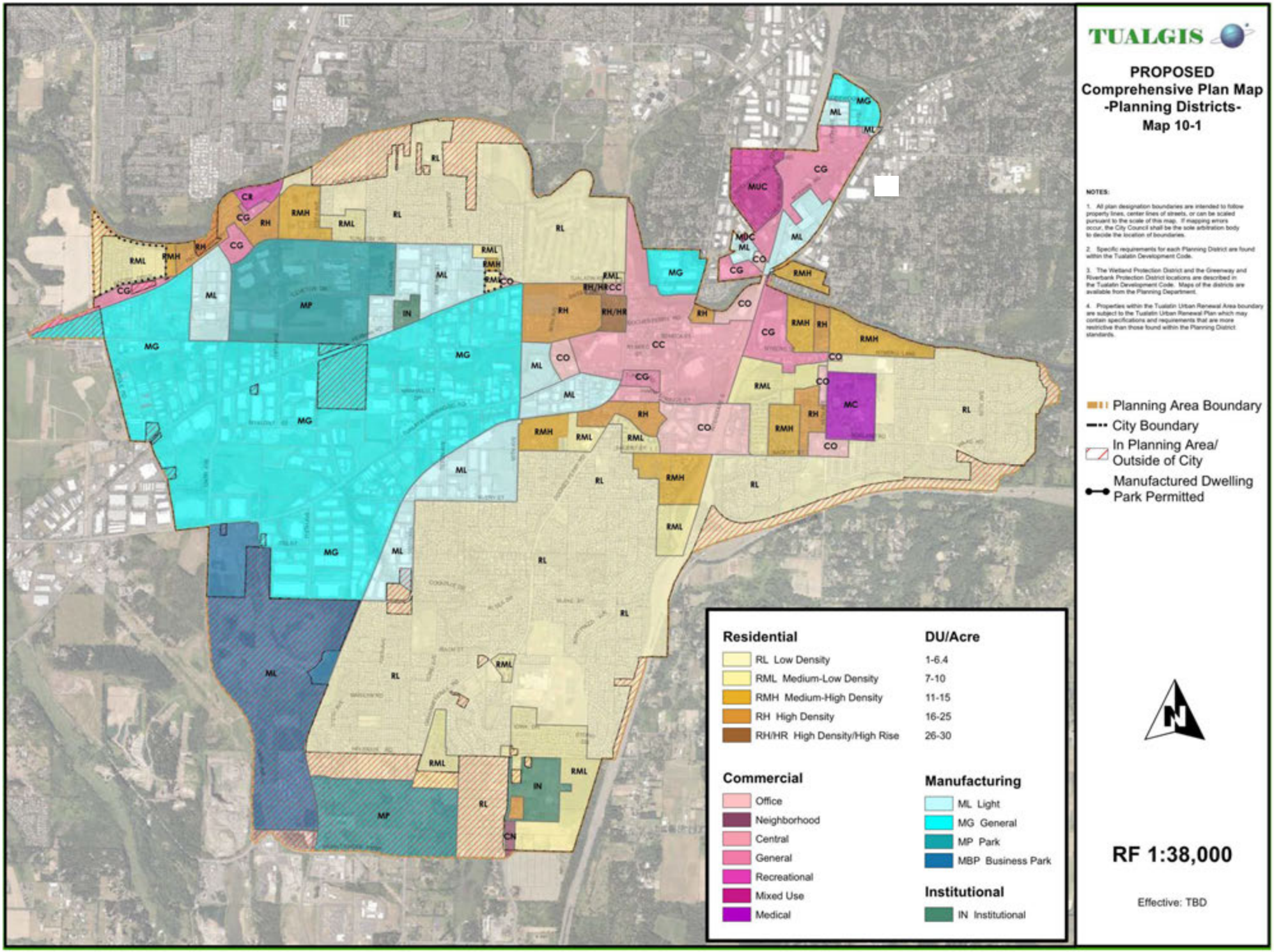
ATTEST:

BY _____
Sherilyn Lombos (Mar 2, 2022 08:24 PST)
City Recorder

A TRACT OF LAND IN SECTION 23, TOWNSHIP 2 SOUTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, CITY OF TUALATIN, IN WASHINGTON COUNTY, OREGON, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF THAT TRACT OF LAND CONVEYED TO CLIFFORD G. KING, ET UX, BY DEED RECORDED AUGUST 13, 1964, IN BOOK 519, PAGE 362, WASHINGTON COUNTY DEED RECORDS, SAID POINT BEING 1624.78 FEET (1,624.5 FEET BY DEED) SOUTH 89°29'45" WEST ALONG THE SOUTH LINE OF SAID SECTION 23 FROM THE SOUTHEAST CORNER THEREOF; THENCE NORTH 01°11'00" EAST, A DISTANCE OF 30.00 FEET TO THE NORTH LINE OF S.W. SAGERT ROAD AND THE TRUE POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT; THENCE NORTH 01°11'00" EAST, A DISTANCE OF 326.84 FEET TO AN IRON ROD AT THE SOUTHWEST CORNER OF THAT TRACT CONVEYED TO THE ROBERT RANDALL COMPANY BY DEED RECORDED AS RECORDER'S FEE NO. 81006269, WASHINGTON COUNTY DEED RECORDS; THENCE ALONG THE SOUTHERLY LINE OF SAID ROBERT RANDALL COMPANY TRACT NORTH 82°44'44" EAST, A DISTANCE OF 231.06 FEET TO AN IRON ROD; THENCE NORTH 01°09'42" EAST, A DISTANCE OF 584.40 FEET TO AN IRON ROD SET ON THE SOUTH RIGHT OF WAY LINE OF THE S.P. & S. RAILROAD (BURLINGTON NORTHERN); THENCE SOUTH 81°30'52" WEST, A DISTANCE OF 1,194.87 FEET ALONG THE SOUTH LINE TO AN IRON ROD; THENCE SOUTH 00°07'32" WEST, A DISTANCE OF 100.00 FEET TO AN IRON ROD; THENCE NORTH 89°52'28" WEST, A DISTANCE OF 85.01 FEET TO AN IRON ROD; THENCE SOUTH 00°14'57" EAST, A DISTANCE OF 595.31 FEET TO AN IRON ROD; THENCE SOUTH 44°17'29" EAST, A DISTANCE OF 78.34 FEET; THENCE NORTH 89°29'45", A DISTANCE OF 15.66 FEET; THENCE SOUTH 44°17'29" EAST, A DISTANCE OF 29.37 FEET TO A POINT ON THE NORTH RIGHT OF WAY LINE OF SW SAGERT ROAD; THENCE NORTH 89°29'45" EAST, A DISTANCE OF 505.98 FEET; THENCE NORTH 00°30'15" WEST, A DISTANCE OF 6.00 FEET; THENCE NORTH 89°29'45" EAST, A DISTANCE OF 246.00 FEET; THENCE SOUTH 00°30'15" EAST, A DISTANCE OF 6.00 FEET TO A POINT ON THE NORTH LINE OF SW SAGERT ROAD; THENCE NORTH 89°29'45" EAST, A DISTANCE OF 173.80 FEET TO THE PLACE OF BEGINNING.

Proposed Comprehensive Plan Map 10-1



CITY OF TUALATIN
Planning Division

February 14, 2022

Analysis and Findings for
Tualatin Height Apartments Rezone Map Amendment

Case #:	PMA 21-0001
Project:	Tualatin Heights Rezone Map Amendment
Applicant:	Andrew Lavaux of United Dominion Realty, Inc.

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Exhibits:

- Exhibit 1: Legal Description
- Exhibit 2: Existing and Proposed Comprehensive Plan Map 10-1
- Exhibit 3: Analysis and Findings
- Exhibit A: Applicant's Land Use Application and Supporting Documents
- Exhibit B: Applicant's Conceptual Site and Parking Plans
- Exhibit C: Applicant's Parking Studies
- Exhibit D: Applicant's Transportation Planning Rule (TPR) Analysis
- Exhibit E: DKS Review of Applicant's TPR Analysis
- Exhibit F: Public Comments
- Exhibit G: Affidavit of Mailing
- Exhibit H: Newspaper Notice

I. INTRODUCTION

A. Applicable Criteria

Applicable Statewide Planning Goals; Divisions 7 and 18 of the Oregon Administrative Rules; applicable Sections of the City of Tualatin Development Code including Chapters 32 and 33; Metro Chapter 3.07

B. Project Description

The requested Plan Map Amendment (PMA) would change the existing zoning from Medium Low Residential (RML) to Medium High Residential (RMH). Approving the PMA would change the maximum density of 10 dwelling units per acre to a maximum density of 15 dwelling units per acre. Future development would require submittal and approval of an Architectural Review application subject to compliance with design and siting standards applicable to the RMH District. The applicant has included a Conceptual Site Plan (Exhibit B) demonstrating how additional development could be accommodated. The applicant has also included a Parking Study (Exhibit C) showing on and off-site parking utilization. Finally, a Transportation Planning Rule (TPR) analysis assessing the impact to traffic related to the potential of more dwelling units being constructed on the subject property on the existing transportation system.

C. Site Description and Surrounding Land Use

The subject property or the Tualatin Heights Apartments are located at 9301 SW Sagert Street, which is north of SW Sagert Street, west of SW 90th Place and east of SW 95th Avenue. The existing development consists of 220 multi-family dwellings on approximately 22.4 acres.

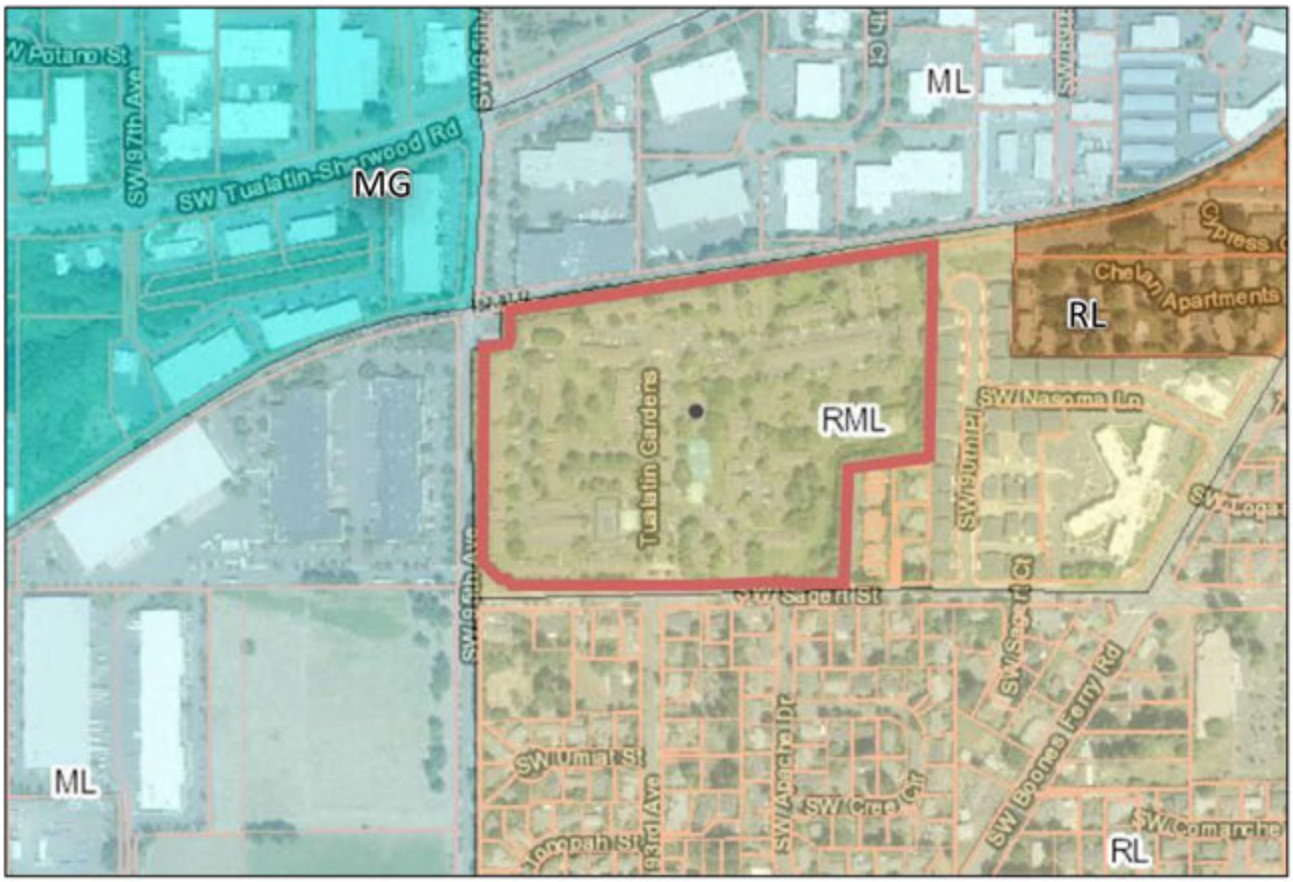

Figure 1 Surrounding Zoning and Land Use

Surrounding Land Use and Zoning:
North:

- Zoning - Light Manufacturing (ML)

- Land Use – Railroad, light industrial and commercial use

South:

- Zoning - Low Density Residential (RL)
- Land Use – Single Family Residential

East:

- Zoning – Light Manufacturing (ML), General Manufacturing (MG)
- Land Use – SW 95th Avenue, Industrial

West:

- Zoning – Medium-Low Density Residential (RML)
- Land Use – Single Family Residential, SW 90th Place

D. Public Comments

The application for PMA 21-0001 was submitted on September 16, 2021 and public notice for the City Council hearing of this application was mailed on December 29, 2021 to all property owners within 1,000 feet of the subject property, with additional notice delivered by email. The Planning Commission conducted a meeting on December 16, 2021 to review the proposed rezoning and will provide feedback and a recommendation to the City Council. City Staff received emailed comments from an emailer named Tim G. on December 15th and a corrected email the morning of December 16, 2021. As of the drafting of this report one additional public comments has been received. All public comments can be found in Exhibit F. The following are summaries of comments city staff has received.

Tim G – Comments focused on the lack of parking and expressed concern that additional units will cause spill over parking into the abutting residential areas and streets.

Gerry Preston – Comments focused on concerns regarding on-street parking, over traffic and public safety at the intersection of SW 93rd Avenue and SW Sagert Street. Mr. Preston also provides suggested solutions.

corsage.vogues_0l@icloud.com (no name provided) – Comments focused on not liking new buildings being constructed and that the new buildings would be an eyesore. The loss of greenspaces was noted as an issue. Parking and traffic were also mentioned as issues.

Lindsay Marshall – Comments focused on concerns involving parking and the applicants parking study.

Additional comments received following the completion of this staff report and through the scheduled City Council hearing will be added to the record.

II. FINDINGS

A. Oregon Statewide Planning Goals

Goal 1 – Citizen Involvement

To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

Finding:

The Planning Commission reviewed the proposed amendment at a public meeting on December 16, 2021. The Planning Commission is the City's acknowledged Committee for Citizen Involvement (CCI), in compliance with Goal 1. After deliberation and careful consideration of the proposed rezoning, the Planning Commission made recommendations and unanimously voted to forward a recommendation to approve to the City Council. Planning Commission Chair Beers will provide the Commission's recommendation.

Further, the City has followed its acknowledged public notice procedures for quasi-judicial Comprehensive Plan Amendments, found in TDC 32.240, which includes mailed notice of the City Council hearing to surrounding property owners, publishing notice of the City Council hearing in the Tualatin Times, notice of the hearing to the Department of Land Conservation and Development at least 35 days prior to the first hearing, notice to affected government entities, and publicly posting notice of the hearing. Postcard land use application notices were sent to property owners on December 29, 2021 and again on January 26, 2022 (Exhibit G). The Tualatin Times published the City Council public hearing notice on January 6, 2022 (Exhibit H). The proposed amendment was considered at a City Council at a public hearing conducted on January 24, 2022. The City Council kept the record open and continued the hearing from January 24, 2022 to February 14, 2022.

The proposed amendments conform to Goal 1.

Goal 2 – Land Use Planning
To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.

Finding:
The City of Tualatin's Comprehensive Plan and Development Code provide an acknowledged and established land use planning process and policy framework which serve as the basis for all decisions and actions related to use of land, including requirements to assure that an adequate factual basis is provided for those decisions and actions. The proposed amendment has been processed in accordance with these procedures.

The proposed amendments conform to Goal 2.

Goal 5 – Open Spaces, Scenic and Historic Area, and Natural Resource
Goal 5 establishes a process for each resource to be inventoried and evaluated. OAR 660-015-0000(5) and OAR 660.023 (Procedures and Requirements for Complying with Goal 5)

Finding:
The proposed amendment does not modify the City's existing open space and natural resources requirements or include any text changes or changes to the regulations for those Goal 5 resources regulated by TDC Chapter 71 (Wetlands Protection District) and TDC Chapter 72 (Natural Resource Protection Overlay District). All redevelopment will be reviewed under the Architectural Review (AR) process to ensure that any new construction will be reviewed consistent with these requirements.

The proposed amendment conforms to Goal 5.

Goal 6 – Air, Water and Land Resources Quality

Finding:
The Oregon Department of Environmental Quality (DEQ) regulates air, water and land with Clean Water Act (CWA) Section 401 Water Quality, Water Quality Certificate, State 303(d) listed waters, Hazardous Wastes, Clean Air Act (CAA), and Section 402 NPDES Construction and Stormwater Permits. The Oregon Department of State Lands and the U.S. Army Corps of Engineers regulate jurisdictional wetlands and CWA Section 404 water of the state and the country respectively. Clean Water Services (CWS) coordinates storm water management, water quality and stream enhancement projects throughout the city. Future development will still need to comply with these state, national and regional regulations and protections for air, water and land resources. Tualatin has an acknowledged Comprehensive Plan that complies with

this goal. All development will be required to be reviewed consistent with these requirements.

The proposed amendment conforms to Goal 6.

Goal 7 – Areas Subject to Natural Disasters and Hazards

Finding:
Tualatin has an acknowledged Comprehensive Plan that complies with this goal. The proposed amendment does not modify the City's natural hazards requirements or existing goals and policies associated with Goal 7 established by the Comprehensive Plan. Future development would be required to be consistent with the applicable requirements of the Tualatin Development Code.

The proposed amendment conforms to Goal 7.

Goal 8 – Recreation Needs
To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts.

Finding:
The proposed amendment does not affect policies associated with recreational needs. Any change to the existing recreational facilities will be reviewed as part of an Architectural Review and compliance with the TDC recreational facilities requirements.

The proposed amendment conforms to Goal 8.

Goal 9 – Economy of the State
To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.

Finding:
The proposed amendment does not affect policies, lands, or opportunities associated with Goal 9 established by the Comprehensive Plan.

The proposed amendment conforms to Goal 9.

Goal 10 – Housing
To provide for the housing needs of citizens of the state.

Finding:
The proposed amendment would change the site's zoning designation from RML to RMH and allow development at a higher density (up to 15 units per acre). The current maximum density is 10 units per acre.

As shown below, Tualatin's 2019 HNA indicates a deficit of land zoned Medium High Density as opposed to a surplus of land zoned Medium Low Density. Therefore, the proposed amendment is consistent with Tualatin's land capacity needs.

Exhibit 4. Comparison of capacity of existing residential land with demand for new dwelling units and land surplus or deficit, Tualatin City Limits and Basalt Creek, 2020 to 2040
Source: Buildable Lands Inventory; Calculations by ECONorthwest. *Note: DU is dwelling unit.*

Residential Plan Designations	Capacity (Dwelling Units)	Demand for New Housing	Remaining Capacity (Supply minus Demand)	Land Surplus or (Deficit) *Gross Acres*
Low Density	523	466	57	10
Medium Low Density	386	71	315	27
Medium High Density	13	122	(109)	(7)
High Density	285	254	31	2
High Density High-Rise	-	101	(101)	(4)

As illustrated above the proposed amendment would help provide for the housing needs of the citizens of the state by providing for opportunity for additional dwellings units and helping to meet Tualatin's land capacity needs. Compliance with Goal 10 for cities within the Portland Metropolitan Urban Growth Boundary, like Tualatin, is also analyzed later in the report for compliance with OAR Chapter 660 Division 7. Findings addressing this OAR are found below.

The proposed amendment conforms to Goal 10.

Goal 11 – Public Facilities and Services

Finding:
The proposed amendment does not affect policies related to public facilities and services including water, sewer, and emergency services.

The proposed amendment conforms to Goal 11.

Goal 12 – Transportation

Finding:
The requirements of Goal 12 are addressed by compliance with Oregon Administrative Rule (OAR) Section 660-012-0060, also known as the Transportation Planning Rule or TPR. The proposed amendment's compliance with the TPR is addressed below under the applicable OAR Section.

The proposed amendment conforms to Goal 12 and satisfies the applicable OAR requirements.

Goal 13 – Energy

Findings:
The proposed amendment does not include any changes that are related to or intended to impact Tualatin's land use regulations pertaining to energy consumption.

The proposed amendment conforms to Goal 13.

Goal 14 – Urbanization

Finding:
The subject property is within the Urban Growth Boundary. The proposal does not contain any proposed modification to the Urban Growth Boundary or development outside of the Urban Growth Boundary.

The proposal is consistent with Goal 14.

B. Oregon Administrative Rules
OAR 660-012-0060
Plan and Land Use Regulation Amendments
(1) If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:
(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);
(b) Change standards implementing a functional classification system; or
(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.
(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;
(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or
(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.

Finding:
The applicant has proposed an amendment to the Comprehensive Plan and Zoning Map designation of the subject property as Tualatin is a single-map Comprehensive Plan/Zoning Map jurisdiction. The applicant has included a Transportation Planning Rule analysis (Exhibit D) that identifies that the proposed amendment would impact an existing transportation facility. Specifically, the applicant identifies the intersection of SW Sagert Street and SW Boones Ferry Road as failing within the 20 year long-range planning horizon. Staff notes that the applicant's TPR analysis, which was reviewed and concurred with by DKS Associates, indicates that this intersection would ultimately fail, with or without the proposed Plan Map Amendment, unless a northbound right turn lane is constructed on SW Boones Ferry Road south of SW Sagert Street as mitigation measures. Section (2) below addresses implementation of the identified mitigation measure.

The proposed rezoning is consistent with these requirements.

(2) If a local government determines that there would be a significant effect, then the local government must ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility measured at the end of the planning period identified in the adopted TSP through one or a combination of the remedies listed in (a) through (e) below, unless the amendment meets the balancing test in subsection (2)(e) of this section or qualifies for partial mitigation in section (11) of this rule. A local government using subsection (2)(e), section (3), section (10) or section (11) to approve an amendment recognizes that additional motor vehicle traffic congestion may result and that other facility providers would not be expected to provide additional capacity for motor vehicles in response to this congestion.

(a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.
(b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.
(c) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.
(d) Providing other measures as a condition of development or through a development agreement or similar funding method, including, but not limited to, transportation system management measures or minor transportation improvements. Local governments shall, as part of the amendment, specify when measures or improvements provided pursuant to this subsection will be provided.
(e) Providing improvements that would benefit modes other than the significantly affected mode, improvements to facilities other than the significantly affected facility, or improvements at other locations, if:
(A) The provider of the significantly affected facility provides a written statement that the system-wide benefits are sufficient to balance the significant effect, even though the improvements would not result in consistency for all performance standards;
(B) The providers of facilities being improved at other locations provide written statements of approval; and
(C) The local jurisdictions where facilities are being improved provide written statements of approval.
(3) Notwithstanding sections (1) and (2) of this rule, a local government may approve an amendment that would significantly affect an existing transportation facility without assuring that the allowed land uses are consistent with the function, capacity and performance standards of the facility where:
(a) In the absence of the amendment, planned transportation facilities, improvements and services as set forth in section (4) of this rule would not be adequate to achieve consistency with the identified function, capacity or performance standard for that facility by the end of the planning period identified in the adopted TSP;
(b) Development resulting from the amendment will, at a minimum, mitigate the impacts of the amendment in a manner that avoids further degradation to the performance of the facility by the time of the development through one or a combination of transportation improvements or measures;
[…]
(4) Determinations under sections (1)–(3) of this rule shall be coordinated with affected transportation facility and service providers and other affected local governments.
(a) In determining whether an amendment has a significant effect on an existing or planned transportation facility under subsection (1)(c) of this rule, local governments shall rely on existing transportation facilities and services and on the planned transportation facilities, improvements and services set forth in subsections (b) and (c) below.
(b) Outside of interstate interchange areas, the following are considered planned facilities, improvements and services:
(A) Transportation facilities, improvements or services that are funded for construction or implementation in the Statewide Transportation Improvement Program or a locally or regionally adopted transportation improvement program or capital improvement plan or program of a transportation service provider.
(B) Transportation facilities, improvements or services that are authorized in a local transportation system plan and for which a funding plan or mechanism is in place or approved. These include, but are not limited to, transportation facilities, improvements or services for which: transportation systems development charge revenues are being collected; a local improvement district or reimbursement district has been established or will be established prior to development; a development agreement has been adopted; or conditions of approval to fund the improvement have been adopted.

(C) Transportation facilities, improvements or services in a metropolitan planning organization (MPO) area that are part of the area's federally-approved, financially constrained regional transportation system plan.
(D) Improvements to state highways that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when ODOT provides a written statement that the improvements are reasonably likely to be provided by the end of the planning period.
(E) Improvements to regional and local roads, streets or other transportation facilities or services that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when the local government(s) or transportation service provider(s) responsible for the facility, improvement or service provides a written statement that the facility, improvement or service is reasonably likely to be provided by the end of the planning period.
(c) Within interstate interchange areas, the improvements included in (b)(A)–(C) are considered planned facilities, improvements and services, except where:
(A) ODOT provides a written statement that the proposed funding and timing of mitigation measures are sufficient to avoid a significant adverse impact on the Interstate Highway system, then local governments may also rely on the improvements identified in paragraphs (b)(D) and (E) of this section; or
(B) There is an adopted interchange area management plan, then local governments may also rely on the improvements identified in that plan and which are also identified in paragraphs (b)(D) and (E) of this section.
(d) As used in this section and section (3):
(A) Planned interchange means new interchanges and relocation of existing interchanges that are authorized in an adopted transportation system plan or comprehensive plan;
(B) Interstate highway means Interstates 5, 82, 84, 105, 205 and 405; and
(C) Interstate interchange area means:
(i) Property within one-quarter mile of the ramp terminal intersection of an existing or planned interchange on an Interstate Highway; or
(ii) The interchange area as defined in the Interchange Area Management Plan adopted as an amendment to the Oregon Highway Plan.
(e) For purposes of this section, a written statement provided pursuant to paragraphs (b)(D), (b)(E) or (c)(A) provided by ODOT, a local government or transportation facility provider, as appropriate, shall be conclusive in determining whether a transportation facility, improvement or service is a planned transportation facility, improvement or service. In the absence of a written statement, a local government can only rely upon planned transportation facilities, improvements and services identified in paragraphs (b)(A)–(C) to determine whether there is a significant effect that requires application of the remedies in section (2).
[…]

Finding:
The applicant has proposed an amendment to the Comprehensive Plan and Zoning Map designation of the subject property as Tualatin is a single-map Comprehensive Plan/Zoning Map jurisdiction. The applicant has included a Transportation Planning Rule analysis (Exhibit D) that identifies that the proposed amendment would impact an existing transportation facility. Specifically, the applicant identifies the intersection of SW Sagert Street and SW Boones Ferry Road as failing within the 20 year long-range planning horizon. However, this intersection would ultimately fail, with or without the proposed Plan Map Amendment, unless a northbound right turn lane is constructed on SW Boones Ferry Road south of SW Sagert Street as mitigation measures.

On behalf of the City of Tualatin, DKS Associates evaluated the applicant's TPR analysis and mitigation recommendation (Exhibit E). DKS agreed with the applicant's TPR analysis findings and that construction of a northbound right turn lane south of SW Sagert Street would be adequate mitigation measures to address

the failing intersection of SW Boones Ferry Road and SW Sagert Street. Given that the baseline condition without the proposed rezone would result in the identified impact, the City proposes to mitigate for this impact by adding the identified intersection improvement to its Capital Improvement Program (CIP) and ultimately construct the improvement.

The proposed rezoning is consistent with these requirements.

C. Metro Chapter 3.07, Urban Growth Management Functional Plan

The following Chapters and Titles of Metro Code are applicable to the proposed amendments:
Chapter 3.07, Urban Growth Management Functional Plan

Title 7 – Housing Choice
This voluntary section of the functional plan will ensure that all cities and counties in the region are providing opportunities for affordable housing for households of all income levels.

Finding:
The proposed amendment would provide opportunities greater diversity of housing types, and, as addressed above under Goal 10, would specifically provide land capacity of a zoning designation identified as a deficit by Tualatin's most recent housing capacity analysis. The proposed amendment is consistent with Title 7.

D. Tualatin Comprehensive Plan
Chapter 3 – Housing & Residential Growth:
GOAL 3.1 HOUSING SUPPLY. Ensure that a 20-year land supply is designated and has urban services planned to support the housing types and densities identified in the Housing Needs Analysis.
POLICY 3.1.1 DENSITY. Maintain a citywide residential density of at least eight (8) dwelling units per net acre.
POLICY 3.1.2 ZONING FOR MULTIFAMILY. Provide zoning for multifamily development, which may be located in areas adjacent to transit.
POLICY 3.1.5 FUNCTIONAL PLANNING. Consider the development-ready residential land supply as part of ongoing functional planning efforts to provide necessary urban services in support of residential development.

Finding:
As discussed above, the proposed amendment would rezone the site to RMH which is a zoning designation for which there is a presently identified deficit in Tualatin's most recent housing capacity analysis. The density for the RMH zone is greater than 8 dwelling units per acre, and the district itself would provide zoning for multifamily development. Lastly, the amendment would apply to a site that is "development ready" and would be enabled to redevelop as a result of the proposed amendment. This Goal and these Policies are met.

Strategic Actions
Evaluate opportunities to increase development densities to address deficiencies identified in the Housing Needs Analysis within Tualatin's existing zones.
Evaluate opportunities to rezone land to provide additional opportunities for multifamily housing development

Finding:
The proposed amendment would support increasing development density of a specific deficiency of RMH zoned land identified in the Housing Needs Analysis. The proposed amendment would also rezone land

with the purpose of providing additional opportunities for multifamily housing development. These Strategic Actions are met.

GOAL 3.7 RESIDENTIAL GROWTH AND THE ENVIRONMENT. Plan for housing and residential growth to minimize and mitigate for environmental impacts.
POLICY 3.7.1 ENVIRONMENTAL PROTECTION. Housing and residential growth policies will be evaluated for consistency with the environmental protection goals and policies of Chapter 7 (Parks, Open Space, and the Environment).

Finding:
The proposed amendment would plan for housing and residential growth in an area of the City that is already development, and thus minimizes the impacts as compared to adding density to Greenfield areas within the City and therefore is consistent with the environmental protection goals and policies of Chapter 7. This Goal and Policy are met.

Chapter 10 – Land Use Designations and Zoning
Medium-Low Density Residential Planning District (RML) This district supports household living uses with a variety of housing types at moderately low densities. This district is primarily oriented toward middle housing types including attached dwellings, multi-family development, and manufactured dwelling parks. Medium-High Density Residential Planning District (RMH) This district supports a variety of housing types at moderate densities. This district is primarily oriented toward multifamily development and attached homes.

Finding:
A comparison of the existing (RML) and proposed (RMH) zoning designations finds that the proposed amendment would not be inconsistent with the purpose for the RMH zoning designation. The proposed amendment would support multi-family units at a moderate density. These Policies are met.

E. Tualatin Development Code
Chapter 32: Procedures
TDC 32.010. - Purpose and Applicability.
(2) Applicability of Review Procedures. All land use and development permit applications and decisions, will be made by using the procedures contained in this Chapter. The procedure "type" assigned to each application governs the decision-making process for that permit or application. There are five types of permit/application procedures as described in subsections (a) through (e) below. Table 32-1 lists the City's land use and development applications and corresponding review procedure(s).
(d)
Type IV-A Procedure (Quasi-Judicial Review—City Council Public Hearing). Type IV-A procedure is used when the standards and criteria require discretion, interpretation, or policy or legal judgment and is the procedure used for site-specific land use actions initiated by an applicant. Type IV-A decisions are made by the City Council and require public notice and a public hearing. Appeals of Type IV-A decisions are heard by the Land Use Board of Appeals (LUBA). (3)

Determination of Review Type. Unless specified in Table 32-1, the City Manager will determine whether a permit or application is processed as Type I, II, III, IV-A or IV-B based on the descriptions above. Questions regarding the appropriate procedure will be resolved in favor of the review type providing the widest notice and opportunity to participate. An applicant may choose to elevate a Type I or II application to a higher numbered review type, provided the applicant pays the appropriate fee for the selected review type.

Table 32-1—Applications Types and Review Procedures

Application/Action	Procedure Type	Decision Body*	Appeal Body*	Pre-Application Conference Required	Neighborhood/ Developer Mtg Required	Applicable Code Chapter
Plan Amendments						
• Map or Text Amendments for a specific property	IV-A	CC	LUBA	Yes	Yes	TDC 33.070

*** City Council (CC); Planning Commission (PC); Architectural Review Board (ARB); City Manager or designee (CM); Land Use Board of Appeals (LUBA).**

Finding:
The proposed application is a quasi-judicial Plan Map Amendment in that it would apply to a single property rather than broadly across the City. Accordingly, the proposed application is being processed in accordance with the Type IV-A procedures. These criteria are met.

TDC 32.030. - Time to Process Applications.
(1)Time Limit—120-day Rule. The City must take final action on all Type II, Type III, and Type IV-A land use applications, as provided by ORS 227.178, including resolution of all local appeals, within 120 days after the application has been deemed complete under TDC 32.160, unless the applicant provides written request or consent to an extension in compliance with ORS 227.178. (Note: The 120-day rule does not apply to Type IV-B (Legislative Land Use) decisions.)
(3)Time Periods. "Days" means calendar days unless otherwise specified. In computing time periods prescribed or allowed by this Chapter, the day of the act or event from which the designated period of time begins is not included. The last day of the period is included, unless it is a Saturday, Sunday, or a legal holiday, in which case the period runs until the end of the next day that is not on a weekend or City recognized legal holiday.

Finding:
Because the proposed amendment is an amendment to the City's Comprehensive Plan, the 120-day rule portion of ORS 227.178 is not applicable. To the extent applicable, these criteria are met.

TDC 32.110. - Pre-Application Conference.
(1) Purpose of Pre-Application Conferences. Pre-application conferences are intended to familiarize applicants with the requirements of the TDC; to provide applicants with an opportunity discuss proposed projects in detail with City staff; and to identify approval criteria, standards, and procedures prior to filing a land use application. The pre-application conference is intended to be a tool to assist applicants in navigating the land use process, but is not intended to be an exhaustive review that identifies or resolves all potential issues, and does not bind or preclude the City from enforcing any applicable regulations or from applying regulations in a manner differently than may have been indicated at the time of the pre-application conference.
(2) When Mandatory. Pre-application conferences are mandatory for all land use actions identified as requiring a pre-application conference in Table 32-1. An applicant may voluntarily request a pre-application conference for any land use action even if it is not required.
(3) Timing of Pre-Application Conference. A pre-application conference must be held with City staff before an applicant submits an application and before an applicant conducts a Neighborhood/Developer

meeting.
(4) Application Requirements for Pre-Application Conference.
(a) Application Form. Pre-application conference requests must be made on forms provided by the City Manager.
[…]

Finding:
Table 32-1 requires applicant's for all map amendments to have a pre-application conference. On April 7, 2021, the applicant attended the required pre-application meeting. This criterion is met.

TDC 32.120. - Neighborhood/Developer Meetings.
(1) Purpose. The purpose of this meeting is to provide a means for the applicant and surrounding property owners to meet to review a development proposal and identify issues regarding the proposal so they can be considered prior to the application submittal. The meeting is intended to allow the developer and neighbors to share information and concerns regarding the project. The applicant may consider whether to incorporate solutions to these issues prior to application submittal.
(2) When Mandatory. Neighborhood/developer meetings are mandatory for all land use actions identified in Table 32-1 as requiring a neighborhood/developer meeting. An applicant may voluntarily conduct a neighborhood/developer meeting even if it is not required and may conduct more than one neighborhood/developer meeting at their election.
(3)Timing. A neighborhood/developer meeting must be held after a pre-application meeting with City staff, but before submittal of an application.
(4)Time and Location. Required neighborhood/developer meetings must be held within the city limits of the City of Tualatin at the following times:
(a)If scheduled on a weekday, the meeting must begin no earlier than 6:00 p.m.
(b)If scheduled on a weekend, the meeting must begin between 10:00 a.m. and 6:00 p.m.
(5) Notice Requirements.
(a) The applicant must provide notice of the meeting at least 14 calendar days and no more than 28 calendar days before the meeting. The notice must be by first class mail providing the date, time, and location of the meeting, as well as a brief description of the proposal and its location. The applicant must keep a copy of the notice to be submitted with their land use application.
(b) The applicant must mail notice of a neighborhood/developer meeting to the following persons:
(i) All property owners within 1,000 feet measured from the boundaries of the subject property;
(ii) All property owners within a platted residential subdivision that is located within 1,000 feet of the boundaries of the subject property. The notice area includes the entire subdivision and not just those lots within 1,000 feet. If the residential subdivision is one of two or more individually platted phases sharing a single subdivision name, the notice area need not include the additional phases; and
(iii) All designated representatives of recognized Citizen Involvement Organizations as established in TMC Chapter 11-9.
(c) The City will provide the applicant with labels for mailing for a fee.
(d) Failure of a property owner to receive notice does not invalidate the neighborhood/developer meeting proceedings.
(6) Neighborhood/Developer Sign Posting Requirements. The applicant must provide and post on the subject property, at least 14 calendar days before the meeting. The sign must conform to the design and placement standards established by the City for signs notifying the public of land use actions in TDC 32.150.
(7)Neighborhood/Developer Meeting Requirements. The applicant must have a sign-in sheet for all attendees to provide their name, address, telephone number, and email address and keep a copy of the sign-in sheet to provide with their land use application. The applicant must prepare meeting notes identifying the persons attending, those commenting and the substance of the comments expressed, and the major points that were discussed. The applicant must keep a copy of the meeting notes for submittal

with their land use application.

Finding:
The Neighborhood/Developer Meeting for the proposed application was held on Tuesday, June 8, 2021 at 6:00 PM. Due to COVID-19, the meeting was virtually hosted on GoToMeeting. Documentation demonstrating compliance with these criteria is included within Exhibits A. These criteria are met.

TDC 32.240. - Type IV-A Procedure (Quasi-Judicial Review—City Council Public Hearing).
Type IV-A decisions are quasi-judicial decisions made by the City Council after a public hearing. A hearing under these procedures provides a forum to apply standards to a specific set of facts to determine whether the facts conform to the applicable criteria and the resulting determination will directly affect only a small number of identifiable persons. Except as otherwise provided, the procedures set out in this section must be followed when the subject matter of the evidentiary hearing would result in a quasi-judicial decision. City Council decisions may be appealed to the state Land Use Board of Appeals pursuant to ORS 197.805—197.860.
[…]

Finding:
The first evidentiary public hearing before the City Council was held on January 24, 2022 and will follow the Quasi-Judicial review process. At this meeting the City Council voted to keep the record open and continued the hearing to February 14, 2022.

(3) Written Notice of Public Hearing—Type IV-A. Once the application has been deemed complete, the City must mail by regular first class mail Notice of a Public Hearing to the following individuals and agencies no fewer than 20 days before the hearing.
(a) Recipients:
(i) The applicant and, the owners of the subject property;
(ii) All property owners within 1,000 feet measured from the boundaries of the subject property;
(iii) All property owners within a platted residential subdivision that is located within 1,000 feet of the boundaries of the subject property. The notice area includes the entire subdivision and not just those lots within 1,000 feet. If the residential subdivision is one of two or more individually platted phases sharing a single subdivision name, the notice area need not include the additional phases;
(iv) All recognized neighborhood associations within 1,000 feet from the boundaries of the subject property;
(v) All designated representatives of recognized Citizen Involvement Organizations as established in TMC Chapter 11-9;
(vi) Any person who submits a written request to receive a notice;
(vii) Any governmental agency that is entitled to notice under an intergovernmental agreement entered into with the City and any other affected agencies, including but not limited to: school districts; fire district; where the project either adjoins or directly affects a state highway, the Oregon Department of Transportation; and where the project site would access a County road or otherwise be subject to review by the County, then the County; and Clean Water Services; Tri Met; and, ODOT Rail Division and the railroad company if a railroad-highway grade crossing provides or will provide the only access to the subject property. The failure of another agency to respond with written comments on a pending application does not invalidate an action or permit approval made by the City under this Code;
(viii) Utility companies (as applicable); and,
(ix) Members of the City Council.
(b) The Notice of a Public Hearing, at a minimum, must contain all of the following information:
(i) The names of the applicant(s), any representative(s) thereof, and the owner(s) of the subject property;
(ii) The street address if assigned, if no street address has been assigned then Township, Range, Section,

Tax Lot or Tax Lot ID;
(iii) The type of application and a concise description of the nature of the land use action;
(iv) A list of the approval criteria by TDC section for the decision and other ordinances or regulations that apply to the application at issue;(v)Brief summary of the local decision making process for the land use decision being made and a general explanation of the requirements for submission of testimony and the procedure for conduct of hearings;
(vi) The date, time and location of the hearing;
(vii) Disclosure statement indicating that if any person fails to address the relevant approval criteria with enough detail, he or she may not be able to appeal to the Land Use Board of Appeals on that issue, and that only comments on the relevant approval criteria are considered relevant evidence;
(viii) The name of a City representative to contact and the telephone number where additional information may be obtained;
(ix) Statement that the application and all documents and evidence submitted to the City are in the public record and available for review, and that copies can be obtained at a reasonable cost from the City; and
(x) Statement that a copy of the staff report will be available for inspection at no cost at least seven days prior to the hearing and will be provided at reasonable cost.
(c) Failure of a person or agency to receive a notice, does not invalidate any proceeding in connection with the application, provided the City can demonstrate by affidavit that required notice was given.
(4) Additional Notice Requirements for Certain Type IV-A Application Types. The following additional notice requirements apply to Type IV-A Hearings where the City Council will be considering the application or removal of a Historic Landmark Designation or a Plan Text or Map Amendment for a particular property or discrete set of properties.
(a) The City Manager will notify in writing the Oregon Department of Land Conservation and Development (DLCD) in accordance with the minimum number of days required by ORS Chapter 197.
(b) At least 14 calendar days before the scheduled City Council public hearing date, public notice must be provided by publication in a newspaper of general circulation in the City.
(c) At least 14 calendar days before the scheduled City Council public hearing date, public notice must be posted in two public and conspicuous places within the City.

Finding:
As discussed in response to the previous criterion, the proposed amendments are quasi-judicial in nature and have been processed consistent with the Type IV-A review requirements. The above referenced requirements will be addressed relative to date of the City Council public hearing on February 14, 2022. These criteria can be met.

(5) Conduct of the Hearing—Type IV-A.
The Mayor (or Mayor Pro Tem) must follow the order of proceedings set forth below. These procedures are intended to provide all interested persons a reasonable opportunity to participate in the hearing process and to provide for a full and impartial hearing on the application before the body. Questions concerning the propriety or the conduct of a hearing will be addressed to the chair with a request for a ruling. Rulings from the Mayor must, to the extent possible, carry out the stated intention of these procedures. A ruling given by the Mayor on such question may be modified or reversed by a majority of those members of the decision body present and eligible to vote on the application before the body. The procedures to be followed by the Mayor in the conduct of the hearing are as follows:
(a) At the commencement of the hearing, the Mayor (or designee) must state to those in attendance all of the following information and instructions:
(i) The applicable approval criteria by Code Chapter that apply to the application;

(ii) Testimony and evidence must concern the approval criteria described in the staff report, or other criteria in the comprehensive plan or land use regulations that the person testifying believes to apply to the decision;
(iii) Failure to raise an issue with sufficient detail to give the City Council and the parties an opportunity to respond to the issue, may preclude appeal to the state Land Use Board of Appeals on that issue;
(iv) At the conclusion of the initial evidentiary hearing, the City Council must deliberate and make a decision based on the facts and arguments in the public record; and
(v) Any participant may ask the City Council for an opportunity to present additional relevant evidence or testimony that is within the scope of the hearing; if the City Council grants the request, it will schedule a date to continue the hearing as provided in TDC 32.240(5)(e), or leave the record open for additional written evidence or testimony as provided TDC 32.240(5)(f).
(b) The public is entitled to an impartial decision body as free from potential conflicts of interest and pre-hearing ex parte (outside the hearing) contacts as reasonably possible. Where questions related to ex parte contact are concerned, members of the City Council must follow the guidance for disclosure of ex parte contacts contained in ORS 227.180. Where a real conflict of interest arises, that member or members of the City Council must not participate in the hearing, except where state law provides otherwise. Where the appearance of a conflict of interest is likely, that member or members of the City Council must individually disclose their relationship to the applicant in the public hearing and state whether they are capable of rendering a fair and impartial decision. If they are unable to render a fair and impartial decision, they must be excused from the proceedings.
(c) Presenting and receiving evidence.
(i) The City Council may set reasonable time limits for oral presentations and may limit or exclude cumulative, repetitious, irrelevant, or personally derogatory testimony or evidence;
(ii) No oral testimony will be accepted after the close of the public hearing. Written testimony may be received after the close of the public hearing only as provided by this section; and
(iii) Members of the City Council may visit the property and the surrounding area, and may use information obtained during the site visit to support their decision, if the information relied upon is disclosed at the beginning of the hearing and an opportunity is provided to dispute the evidence.
(d) The City Council, in making its decision, must consider only facts and arguments in the public hearing record; except that it may take notice of facts not in the hearing record (e.g., local, state, or federal regulations; previous City decisions; case law; staff reports). Upon announcing its intention to take notice of such facts in its deliberations, it must allow persons who previously participated in the hearing to request the hearing record be reopened, as necessary, to present evidence concerning the newly presented facts.
(e) If the City Council decides to continue the hearing, the hearing must be continued to a date that is at least seven days after the date of the first evidentiary hearing (e.g., next regularly scheduled meeting). An opportunity must be provided at the continued hearing for persons to present and respond to new written evidence and oral testimony. If new written evidence is submitted at the continued hearing, any person may request, before the conclusion of the hearing, that the record be left open for at least seven days, so that he or she can submit additional written evidence or arguments in response to the new written evidence. In the interest of time, after the close of the hearing, the decision body may limit additional testimony to arguments and not accept additional evidence.
(f) If the City Council leaves the record open for additional written testimony, the record must be left open for at least seven days after the hearing. Any participant may ask the decision body in writing for an opportunity to respond to new evidence (i.e., information not disclosed during the public hearing) submitted when the record was left open. If such a request is filed, the decision body must reopen the record, as follows:
(i) When the record is reopened to admit new evidence or arguments (testimony), any person may raise new issues that relate to that new evidence or testimony;

(ii) An extension of the hearing or record granted pursuant to this section is subject to the limitations of TDC 32.030(1) (ORS 227.178—120-day rule), unless the applicant waives his or her right to a final decision being made within 120 days of filing a complete application; and
(iii) If requested by the applicant, the City Council must grant the applicant at least seven days after the record is closed to all other persons to submit final written arguments, but not evidence, provided the applicant may expressly waive this right.
(6)Notice of Adoption of a Type IV-A Decision. Notice of Adoption must be provided to the property owner, applicant, and any person who provided testimony at the hearing or in writing. The Type IV-A Notice of Adoption must contain all of the following information:
(a)A description of the applicant's proposal and the City's decision on the proposal, which may be a summary, provided it references the specifics of the proposal and conditions of approval in the public record;
(b)The address or other geographic description of the property proposed for development, including a map of the property in relation to the surrounding area;
(c)A statement a statement that a copy of the decision and complete case file, including findings, conclusions, and conditions of approval, if any, is available for review and how copies can be obtained;
(d)The date the decision becomes final; and
(e)The notice must include an explanation of rights to appeal a City Council decisions to the state Land Use Board of Appeals pursuant to ORS 197.805—197.860.
(7)Effective Date of a Type IV-A Decision.
(a)The written order is the final decision on the application.
(b)The date of the order is the date it is mailed by the Mayor (or designee) certifying its approval by the decision body.
(c)Appeal of a IV-A City Council decision is to the State Land Use Board of Appeals pursuant to ORS 197.805—197.860.

Finding:
The City Council hearing will be conducted according to these requirements. A notice of decision will be mailed and effective consistent with the above provisions. These criteria can be met.

Chapter 33: Applications and Approval Criteria
Section 33.070 Plan Amendments
[…]
(2) Applicability. [...] Legislative amendments may only be initiated by the City Council.
(3) Procedure Type.
(a) Map or text amendment applications which are quasi-judicial in nature (e.g. for a specific property or a limited number of properties) is subject to Type IV-A Review in accordance with TDC Chapter 32.

Finding:
The proposed amendment is quasi-judicial in nature and has been processed according to the Type IV-A procedures, discussed above. These criteria have been or will be satisfied.

(5) Approval Criteria.
(a) Granting the amendment is in the public interest.

Finding:
The proposed amendment will allow the applicant to change the site zoning from RML to RMH. As previously noted, the City's most recent housing capacity analysis in 2019 found that there is a deficit of land zoned RMH and conversely there is a surplus of land zoned RML.

Exhibit 4. Comparison of capacity of existing residential land with demand for new dwelling units and land surplus or deficit, Tualatin City Limits and Basalt Creek, 2020 to 2040
Source: Buildable Lands Inventory; Calculations by ECONorthwest. *Note: DU is dwelling unit.*

Residential Plan Designations	Capacity (Dwelling Units)	Demand for New Housing	Remaining Capacity (Supply minus Demand)	Land Surplus or (Deficit) *Gross Acres*
Low Density	523	466	57	10
Medium Low Density	386	71	315	27
Medium High Density	13	122	(109)	(7)
High Density	285	254	31	2
High Density High-Rise	-	101	(101)	(4)

In addition, as discussed in Section D, addressing compliance with the Comprehensive Plan, the proposed amendment would address several existing Comprehensive Plan Goals, Policies, and Strategic Actions. Both the housing capacity analysis and Comprehensive Plan were developed with significant public input and review. Therefore, granting the proposed amendment is in the public interest. This criterion is met.

(b) The public interest is best protected by granting the amendment at this time.

Finding:
Because the proposed amendment would address deficiencies previously identified in the City's housing capacity analysis from 2019, as well as Comprehensive Plan Goals, Policies, and Strategic Actions, granting the proposed amendment as soon as practicable would protect the public interest. As previously noted, these policies were developed with substantial and recent public input and therefore directly reflect the public interest. Lastly, the cost of housing continues to rise and multiple-family dwellings tend to be less expensive to rent, and therefore, to the extent that the proposed amendment would facilitate development of additional units of multi-family housing, the public interest would also be served by granting the amendment at this time. This criterion is met.

(c) The proposed amendment is in conformity with the applicable objectives of the Tualatin Community Plan.

Finding:
The proposed amendments are in conformity with the applicable objectives of the Tualatin Community Plan, also known as the Comprehensive Plan, as discussed above in Section D. This criterion is met.

(d) The following factors were consciously considered:
(i) The various characteristics of the areas in the City;
(ii) The suitability of the areas for particular land uses and improvements in the areas;

Finding:
The proposed amendment is limited to a single site and therefore the various characteristics of areas of the City are not applicable. The applicant has within their application materials addressed the suitability of this particular geographic area for the proposed land use which would be multi-family units in addition to those existing, within a previously developed area of the City. Staff concurs with the applicant assessment that this area is suitable for land uses and improvements that would be allowed, if the proposed amendment is granted. These criteria are met.

(iii) Trends in land improvement and development;

Finding:
As noted previously, the proposed amendment is consistent with the findings and conclusions of Tualatin's most recent housing capacity analysis as well as Goals, Policies, and Strategic Actions, which were developed based on this analysis. As these findings and conclusions were developed in 2019, they represent the most recent available evidence that identify trends in land improvement and development. Therefore, the proposed amendment is consistent with trends in land improvement and development. This criterion is met.

(iv) Property values;

Finding:
The proposed amendment is not anticipated to adversely impact property values. Staff is not aware of any evidence within the City's most recent housing capacity analysis that identify that implementation of policy recommendations would have such an impact. This criterion is met.

(v) The needs of economic enterprises and the future development of the area; needed right- of-way and access for and to particular sites in the area;

Finding:
The proposed amendment does not directly impact the needs of economic enterprises as they are not applicable in fully developed residential areas. There is existing right-of-way and access to the site that does not obstruct or conflict with surrounding sites. To the north of the subject property there is an existing railroad right-of-way which, as noted by the applicant, creates a buffer to the north and eliminates the potential for any additional access points north of the subject property. This criterion is met.

(vi) Natural resources of the City and the protection and conservation of said resources;
(vii) Prospective requirements for the development of natural resources in the City;

Finding:
The proposed amendment does not impact natural resource protection nor application of requirements to future development, which would fully apply to any new development. These criteria are met.

(viii) The public need for healthful, safe, esthetic surroundings and conditions;

Finding:
The proposed amendment does not impact regulations governing public need for healthful, safe, or aesthetic surroundings and conditions. The subject property is developed with an existing multi-family project. Any future development must go through an Architectural Review and any future development will be reviewed and required to comply with TDC requirements. This criterion is met.

(e) If the amendment involves residential uses, then the appropriate school district or districts must be able to reasonably accommodate additional residential capacity by means determined by any affected school district.

Finding:
Exhibit A of the applicant's submittal evaluated the impact to Tualatin-Tigard School District. This analysis was provided by the applicant to the school district. Additionally, an email notification of the upcoming public hearing and request for feedback was sent to the School District on January 4, 2022. As of the date of writing of this report, the City of Tualatin has not received any response from the school district. This criterion is met.

(f) Granting the amendment is consistent with the applicable State of Oregon Planning Goals and applicable Oregon Administrative Rules, including compliance with the Transportation Planning Rule TPR (OAR 660-012-0060).

Finding:
As discussed above in Sections A and B, granting the proposed amendment is consistent with Statewide Planning Goals and their implementing Oregon Administrative Rules. Specific to the Transportation Planning Rule (TPR), because the applicant has proposed an amendment to an existing zoning designation, and a deficiency has been identified, staff recommends that per Section 2(d) of the OAR that the applicant be required to provide a condition of development, development agreement, or similar funding method, including, but not limited to, transportation system management measures or minor transportation improvements, and that as part of the amendment, the improvements provided pursuant to this subsection will be provided prior to approval of an Architectural Review application to add additional dwelling units to the site. Specifically, the applicant identifies the intersection of SW Sagert Street and SW Boones Ferry Road as failing within the 20 year long-range planning horizon. However, this intersection would ultimately fail, with or without the proposed Plan Map Amendment, unless a northbound right turn lane is constructed on SW Boones Ferry Road south of SW Sagert Street as mitigation measures.

On behalf of the City of Tualatin, DKS Associates evaluated the applicant's TPR analysis and mitigation recommendation (Exhibit E). DKS agreed with the applicant's TPR analysis findings and that construction of a northbound right turn lane south of SW Sagert Street would be adequate mitigation measures to address the failing intersection of SW Boones Ferry Road and SW Sagert Street. The proposed mitigation measure would provide a roadway capacity improvement. The capacity improvement is not in the planned improvements but was studied in the 2015 Tualatin Transportation System Plan update. The mitigation would result in the intersection operations meeting standards. Given that the intersection is projected to fail with our without the proposed rezoning being approved, the City will consider updating the Capital Improvement Program (CIP) to include the intersection of SW Sagert Street and SW Boones Ferry Road. The proposed rezoning is consistent with these requirements.

The proposed rezoning is consistent with these requirements. This criterion is met.

(g) Granting the amendment is consistent with the Metropolitan Service District's Urban Growth Management Functional Plan.

Finding:
The proposed amendment will not adversely impact the City's compliance with Titles 1-14 of the Metro Urban Growth Management Functional Plan as discussed in Section II-C of these findings. Therefore, these requirements were consciously considered. This criterion is met.

(h) Granting the amendment is consistent with Level of Service F for the p.m. peak hour and E for the one-half hour before and after the p.m. peak hour for the Town Center 2040 Design Type (TDC Map 9-4), and E/E for the rest of the 2040 Design Types in the City's planning area.

Finding:
The applicant provided a TPR analysis that evaluated transportation level of services. As discussed above under subsection (d), this criterion is met.

(i) Granting the amendment is consistent with the objectives and policies regarding potable water, sanitary sewer, and surface water management pursuant to TDC 12.020, water management issues are adequately addressed during development or redevelopment anticipated to follow the granting of a

plan amendment.
[…]

Finding:
The proposed amendment does not impact objectives and policies regarding the above referenced utilities. Utilities will be closely evaluated at the time the applicant submits an application for Architectural Review. This criterion is met.

CITY OF TUALATIN
Planning Division

Land Use Application

Project Information

Project Title: Tualatin Heights Apartments Plan Map Amendment

Brief Description:
Request to amend the site 's plan designation from Residential Medium Low (RML) to Medium-High Density (RMH), increasing the density to 15 dwelling units per acre for a maximum of 336 units.

Property Information

Address: 9301 SW Sagert Street, Tualatin, Oregon, 97062

Assessor's Map Number and Tax Lots: 2S123DC00600

Applicant/Primary Contact

Name: Frank Angelo	Company Name: Angelo Planning Group	
Address: 921 SW Washington St, STE 468		
City: Portland	State: OR	ZIP: 97205
Phone: (503) 227-3664	Email: fangelo@angeloplanning.com	

Property Owner

Name: United Dominion Realty, L.P.		
Address: c/o UDR, Inc., 1745 Shea Center Dr., Suite 200		
City: Highlands Ranch	State: CO	ZIP: 80129
Phone: 720-283-6120	Email:	
Property Owner's Signature: UNITED DOMINION REALTY, L.P., a Delaware limited partnership By: UDR, INC., a Maryland corporation, its General Partner		Date: 09/14/21

(Note: Letter of authorization is required if not signed by owner)

AS THE PERSON RESPONSIBLE FOR THIS APPLICATION, I HEREBY ACKNOWLEDGE THAT I HAVE READ THIS APPLICATION AND STATE THAT THE INFORMATION IN AND INCLUDED WITH THIS APPLICATION IN ITS ENTIRETY IS CORRECT. I AGREE TO COMPLY WITH ALL APPLICABLE CITY AND COUNTY ORDINANCES AND STATE LAWS REGARDING BUILDING CONSTRUCTION AND LAND USE.

Applicant's Signature:	Date: 09/16/21

Land Use Application Type:

- ☐ Annexation (ANN)
- ☐ Architectural Review (AR)
- ☐ Architectural Review—Single Family (ARSF)
- ☐ Architectural Review—ADU (ARADU)
- ☐ Conditional Use (CUP)
- ☐ Historic Landmark (HIST)
- ☐ Industrial Master Plan (IMP)
- ■ Plan Map Amendment (PMA)
- ☐ Plan Text Amendment (PTA)
- ☐ Tree Removal/Review (TCP)
- ☐ Minor Architectural Review (MAR)
- ☐ Minor Variance (MVAR)
- ☐ Sign Variance (SVAR)
- ☐ Variance (VAR)

Office Use

Case No:	Date Received:	Received by:
Fee:	Receipt No:	

Tualatin Heights Apartments Plan Map Amendment

Prepared by Angelo Planning Group

On behalf of UDR, Inc.

Submitted to City of Tualatin

September 16, 2021

TABLE OF CONTENTS

LIST OF EXHIBITS

Proposal Summary Information

Applicant:	Andrew Lavaux UDR, Inc. 1745 Shea Center Drive, Suite 200 Highlands Ranch, CO 80129 310.463.3211 alavaux@udr.com
Applicants Representative:	Frank Angelo Angelo Planning Group 921 SW Washington Street, Suite 468 Portland, Oregon 97205 503.227.3664 fangelo@angeloplanning.com
Request:	Plan Map Amendment from RML to RMH
Site Address:	9301 SW Sagert Street
Tax Lot:	2S123DC00600
Site Size:	22.30 acres
Current Site Planning District:	Medium Low Density Residential (RML)
Proposed Site Planning District:	Medium High Density Residential (RMH)

Project Team

Owner Representative
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Highlands Ranch, CO 80129

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Portland, OR 97204

Mark Reuland, Principal
503.542.3860
mark.reuland@kpff.com

Section 1: Project Information

Background

Proposal

Tualatin Heights is a multi-family apartment complex located at 9301 SW Sagert Street, Tualatin, Oregon. The existing development includes 220 multi-family dwellings on 22.4 acres. The property is currently zoned Residential Medium Low (RML), with a maximum density of 10 dwelling units per acre. The property owner, UDR Inc. (UDR), is requesting a Plan Map Amendment (PMA) to allow for Residential Medium-High Density (RMH) on the site, increasing the allowed density to 15 dwelling units per acre for a maximum of 336 units. With an approved PMA, UDR plans to add up to 116 additional dwelling units to the site to more efficiently use the 22-acre site.

The existing and proposed Planning Districts have few differences in siting standards as they relate to multi-family development on the site. For the site's use, multi-family dwellings, the PMA would increase the maximum density from 10 units per acre to 15 units per acre. Other siting standards remain the same across both planning districts, as shown in Table 1.

Table 1. Standards for Multi-family Development in Existing and Proposed Planning Districts.

Standards	**Medium Low Density Residential (RML)**	**Medium High Density Residential (RMH)**
Maximum Density	10 units per acre	15 units per acre
Front Setback	35 feet	35 feet
Side & Rear Setbacks	12 feet	12 feet
Maximum Structure Height	35 feet	35 feet
Maximum Lot Coverage	40%	40%

Note: Setbacks described above are for a 2.5 story structure, the maximum permitted in both zones.

Site Context

The 22-acre site is located at 9301 SW Sagert Street (Figure 1: Location Map). The site abuts both a residential neighborhood and a business park. Surrounding the site are:

- To the west (across SW 95th Ave): Industrial businesses zoned Light Manufacturing (ML);
- To the south (across SW Sagert St): detached single family homes, zoned RML;
- To the east : detached single family homes, zoned RML; and
- To the north (across railroad tracks): business park with primarily commercial businesses, zoned ML.

Within the vicinity of the site are various community attractions and services, including, but not limited to:

- Tualatin Elementary School,
- Tualatin Town Center,
- Commercial and Industrial Corridors on SW Tualatin-Sherwood Road and SW Teton Ave,
- Ten Tri-met bus stops within ¼ mile of the site, and
- Tualatin WES Station.

Figure 1. Location Map

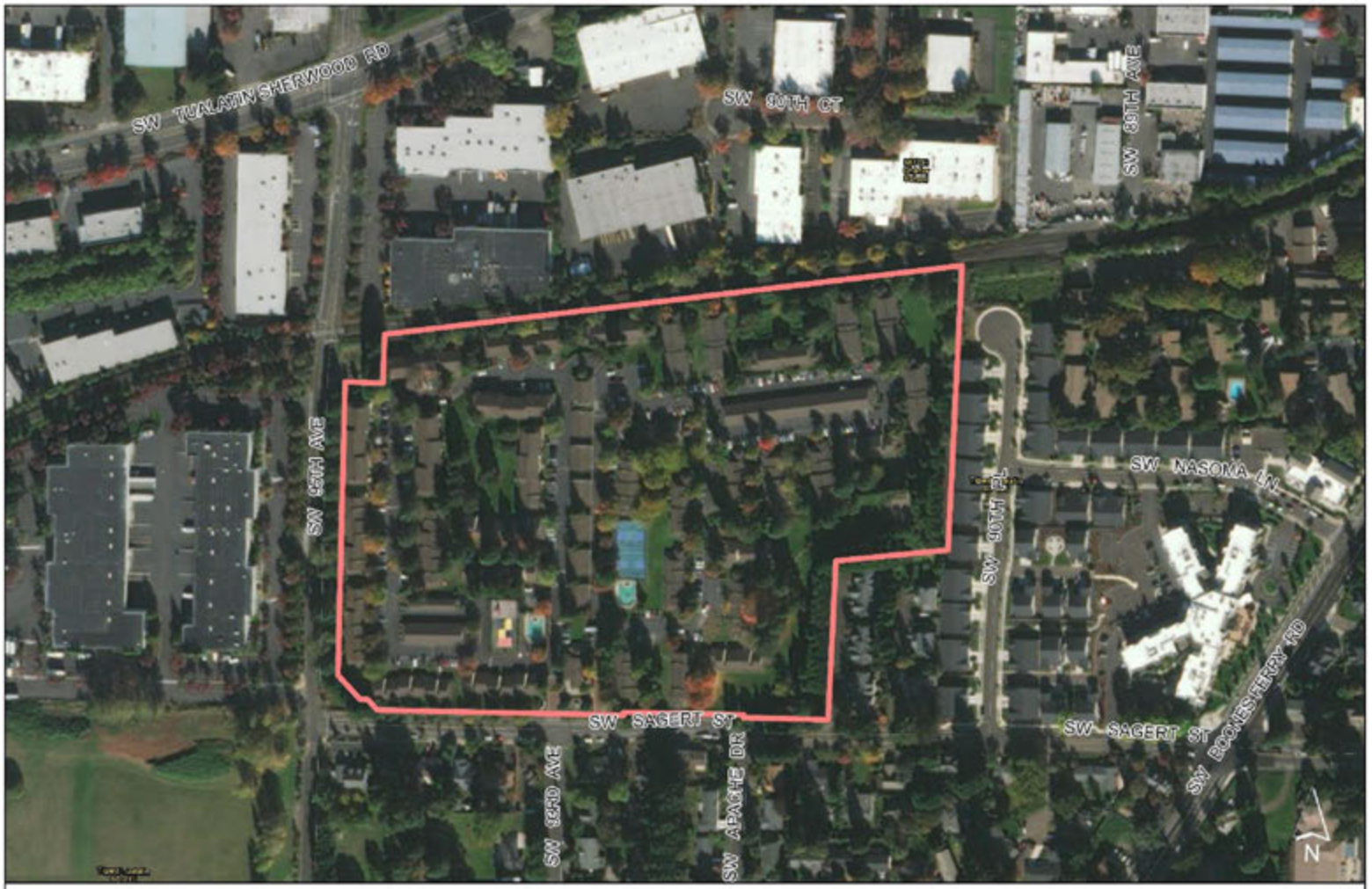


Figure 1: Aerial Map
Tualatin Heights Plan Map Amendment
Source: RLIS

Subject Site

0 0.05 0.1 Miles

Figure 2. Vicinity Map

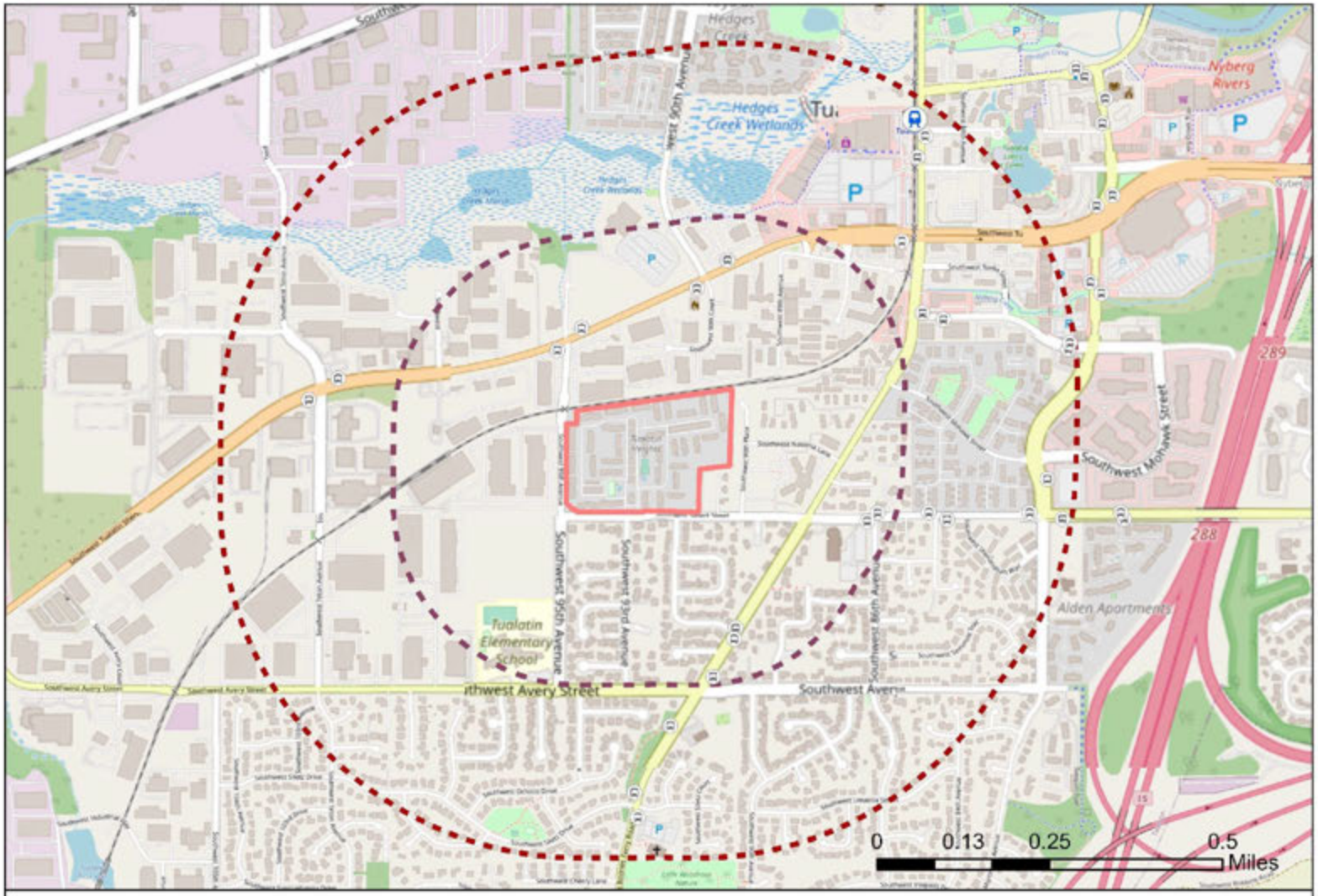


Figure 2: Vicinity Map
Tualatin Heights Plan Map Amendment
Source: RLIS

WES Stop
Bus Stop
Subject Site
1/4mi buffer
1/2 mi buffer

Figure 3. Existing Planning District

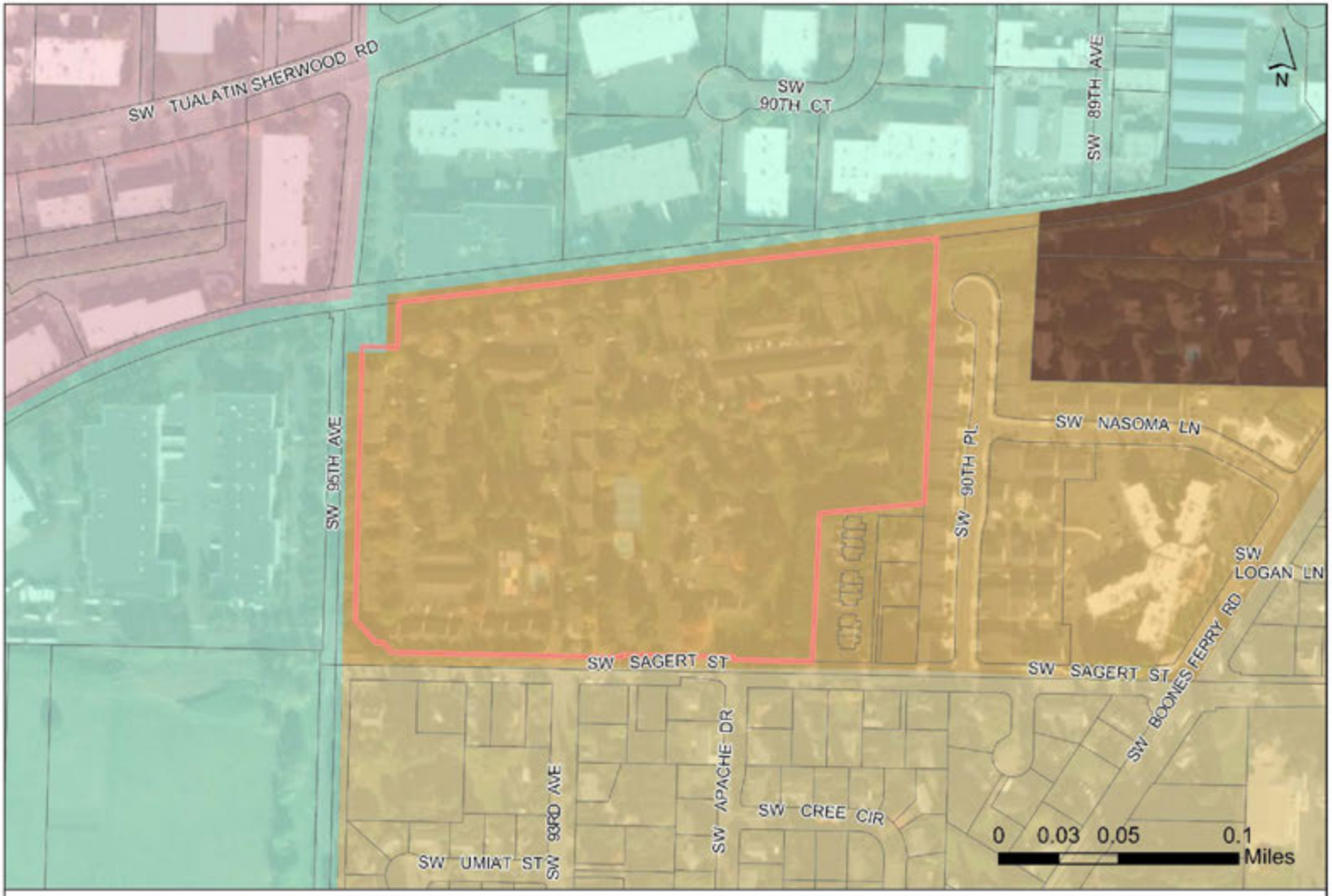


Figure 3: Existing Planning Designations
Tualatin Heights Plan Map Amendment

Source: RLIS

Subject Site

ZONE

General Manufacturing (MG)

Manufacturing (ML)

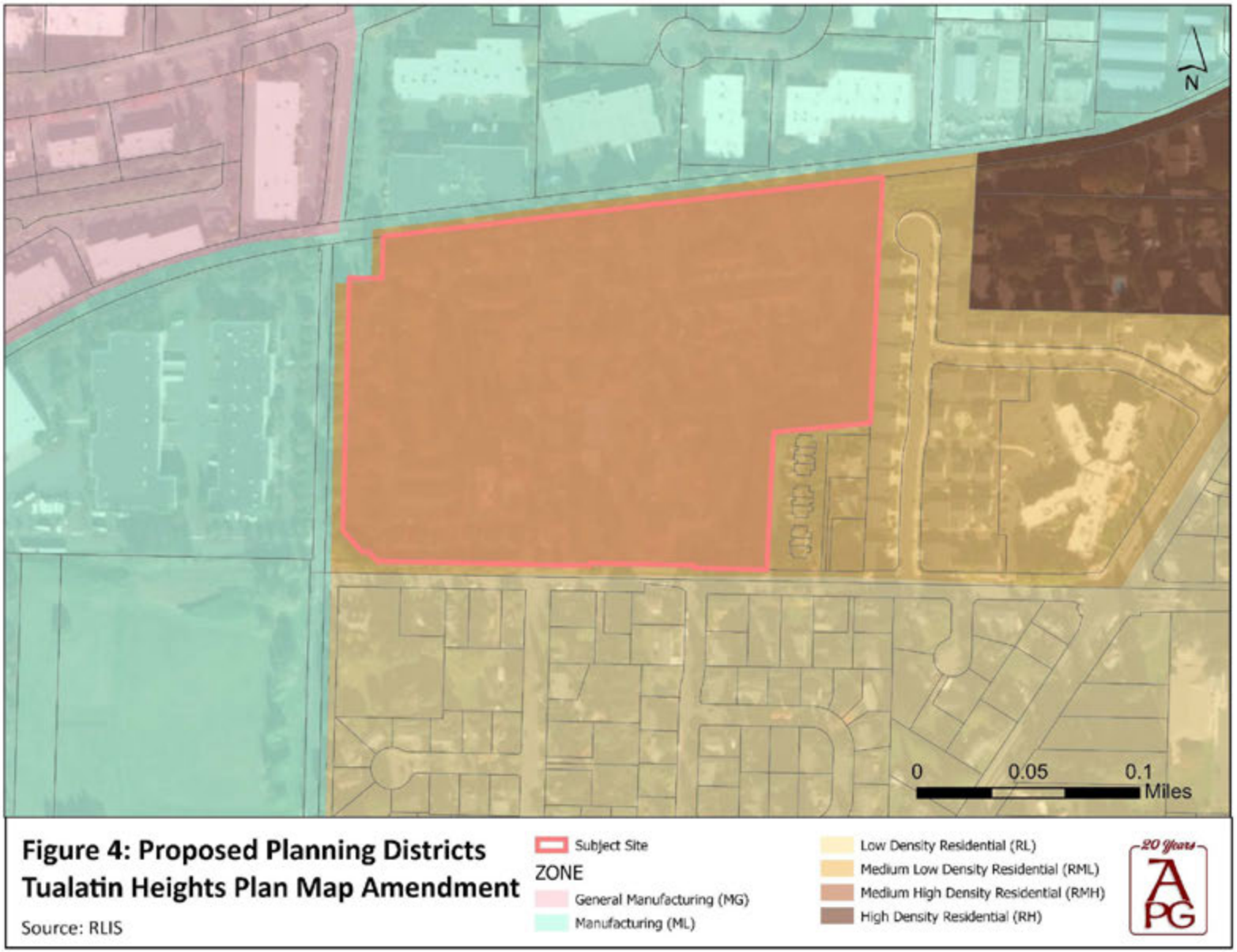
Low Density Residential (RL)

Medium Low Density Residential (RML)

Medium High Density Residential (RMH)

High Density Residential (RH)

Figure 4. Proposed Planning District



Request

The requested Plan Map Amendment would increase the maximum permitted density on the site. With the increased density allowance, the applicant would like to redevelop portions of the complex internal to the site to create additional dwelling units. Findings of the Tualatin Housing Needs Analysis (HNA), completed in 2019, supports the need for additional multi-family housing in the City consistent with this proposed amendment request. The report demonstrates a need for multi-family dwelling units and land with medium- to high-density planning designations. As shown in Table 2 (Source: HNA), Tualatin has a surplus of dwelling unit capacity in the RML designation, with surplus capacity for approximately 315 units and 27 gross acres of land to accommodate growth. Meanwhile, there is a deficit of land for dwelling units in the RMH designation. A deficit of 109 dwelling units or 7 gross acres of land. In addition to the deficit, there is also a demand for 122 units in the RMH district (Source: See Table 2). The proposed amendment would provide potential capacity for an additional 116 dwelling units on the existing site and reduce the documented deficit of the RMH district.

In addition to the specific plan designations capacity needs, Tualatin has an overall citywide need for multi-family dwellings. According to the HNA,

> *"Tualatin will plan for more single-family attached and multi-family dwelling units in the future to meet the City's housing needs. Historically, about 53% of Tualatin's housing was single-family detached. While 40% of new housing in Tualatin is forecast to be single-family detached, the City will need to provide opportunities for development of new single-family attached (15% of new housing) and multi-family units (45% of new housing)."*

According to the HNA, several demographic trends contribute to the need for "relatively affordable attached single-family housing and multi-family housing," they are:

- *Demographic and economic trends will drive demand for relatively affordable attached single-family housing and multi-family housing in Tualatin. The key demographic trends that will affect Tualatin's future housing needs are: (1) the aging of the Baby Boomers, (2) aging of the Millennials, and (3) continued growth in the Latinx population.*
- *As the Baby Boomers age, growth of retirees will drive demand for housing types specific to seniors, such as small and easy-to-maintain dwellings, assisted living facilities, or age-restricted developments.*
- *Tualatin's ability to retain Millennials will depend on whether the city has opportunities for housing that both appeals to and is affordable to Millennials.*
- *Growth in the number of Latinx households will result in increased demand for housing of all types, both for ownership and rentals, with an emphasis on housing that is comparatively affordable. Latinx households are more likely to be larger than average, with more children and possibly with multigenerational households.* (Source: 2019 HNA)

As described in Goal 3.2 of the Comprehensive Plan, "*Encourage development and preservation of housing that is affordable for all households in Tualatin*," Tualatin encourages housing for all that is

affordable and meets the needs of all its residents. The demographic trends reflect a diversity of residents (in age and race) that have diverse housing needs.

Table 2. Comparison of Plan Designation Capacities (Source: HNA Exhibit 4.)

Exhibit 4. Comparison of capacity of existing residential land with demand for new dwelling units and land surplus or deficit, Tualatin City Limits and Basalt Creek, 2020 to 2040
Source: Buildable Lands Inventory; Calculations by ECONorthwest. Note: *DU* is dwelling unit.

Residential Plan Designations	Capacity (Dwelling Units)	Demand for New Housing	Remaining Capacity (Supply minus Demand)	Land Surplus or (Deficit) *Gross Acres*
Low Density	523	466	57	10
Medium Low Density	386	71	315	27
Medium High Density	13	122	(109)	(7)
High Density	285	254	31	2
High Density High-Rise	-	101	(101)	(4)

This application requests the following Plan Map Amendment to change the Tualatin Heights designation from Medium Low Density Residential (RML) to Medium High Density Residential (RMH), subject to a Type VI-A review. The requested zone change would allow for an additional 116 units on the subject site, where the applicant plans to add additional multi-family units. A conceptual site plan showing how additional units can be developed is provided in Exhibit A.

Section 2: Compliance with Statewide Planning Goals

This section responds to the applicable Oregon Statewide Planning Goals.

Goal 1 – Citizen Involvement

To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

Response: Pursuant to the City of Tualatin requirements, a Neighborhood/Developer Meeting was held on June 9, 2021. A summary of the meeting is found in Exhibit B. Neighbors expressed specific concerns related to vehicle parking. The applicant heard these concerns, conducted a parking study, and is proposing the action noted in the Parking Assessment prepared by Kittelson & Associates. The assessment evaluated on-site and off-site parking conditions to improve understanding of the current conditions and to inform the parking management strategy. It also describes the current parking management policies for on-site parking.

A review of the on-street and apartment complex parking conditions revealed the following key findings:

- During the mid-week and Saturday time periods, existing on-street parking occupancy on the neighborhood street segments is never more than 54% utilized when looking at the collective whole. However, some segments along SW Sagert Street (between SW 95th Avenue and SW 93rd Avenue) have parking occupancy levels at 100% or close to 100% for most the study periods. It is unknown if the on-street parking is being generated by the adjacent single family homes, Tualatin Heights residents, or a combination of both.
- The total active parking supply within the Tualatin Heights apartment complex (excluding stalls available within the parking garage units that are primarily being used for storage) is 457 spaces.
- Peak apartment complex parking utilization was found during the 5:00-6:00 AM study period (79% during a mid-weekday and 81% on a Saturday). These findings indicate that the parking supply exceeds current demand.

For more information, the complete Parking Assessment is found in Exhibit C.

The application requires a Planning Commission and City Council hearing. Both public hearings will provide the opportunity for community members to provide comments on the application.

The proposed amendment is consistent with Goal 1.

Goal 2 – Land Use Planning

To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions. […]

Response: The applicable Tualatin Comprehensive Plan and Development Code standards have been addressed in this application. The application will be reviewed pursuant to the Type VI-A review procedures for Plan Map Amendments.

The proposed amendment is consistent with Goal 2.

Goal 10 – Housing

To provide for the housing needs of citizens of the state.

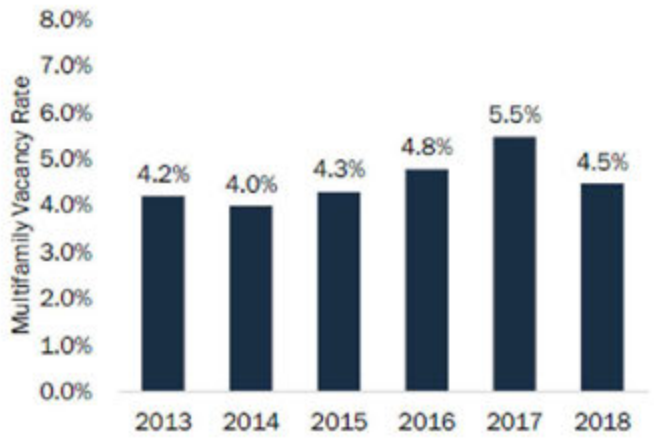
Response: The maximum permitted density would be increased on the site with the requested PMA, increasing the maximum density from 10 dwelling units per acre to 15 dwelling units per acre. This would add the potential for an additional 116 dwelling units through redevelopment of the Tualatin Heights site. The need for and importance of more multi-family units in Tualatin is supported by the HNA prepared in 2019. According to the HNA, Tualatin's housing stock had a larger percentage of multi-family housing (42% of Tualatin's housing stock) as compared to Washington County and Portland Metro region. However, the HNA also identified the need for more multi-family housing to meet the housing needs of a diverse range of Tualatin residents and provide housing opportunities for many of Oregon's low-wage workers. According to the HNA, "*Tualatin's key challenge over the next 20 years is providing opportunities for development of relatively affordable housing of all types, such as lower-cost single-family housing, townhouses and duplexes, market-rate multi-family housing, and government-subsidized affordable housing.*"

In addition, the extremely low vacancy rates for multi-family housing, see Table 3, shows there is strong demand for multi-family housing in Tualatin.

Table 3. Average Multi-family Vacancy Rates in Tualatin (Source: 2019 HNA)

Tualatin's average multifamily vacancy rate dipped to a low of 4% in 2014. In 2018, Tualatin's multifamily vacancy rate was 4.5%.

Exhibit 25. Average Multifamily Vacancy Rate, Tualatin, 2013 through 2018
Source: CoStar.



The proposed amendment will provide the opportunity for additional multi-family residential dwelling units in the City through a more efficient use of an existing site that is already a committed multi-family development.

The proposed Plan Map amendment is consistent with Goal 10.

Goal 11 – Public Facilities and Services

To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

Response: The proposed development is located within the Tualatin city limits. As a part of this application the applicant's engineer prepared a reconnaissance analysis to determine if existing infrastructure is sufficient with the proposed increased density permitted by the PMA. The analysis determined that the infrastructure capacity is sufficient to accommodate the additional housing that would result from the PMA. A more detailed analysis of infrastructure would occur during subsequent permitting for development on the site. For more information, see the responses to the Tualatin Comprehensive Plan Chapter 8 policies in Section 3 of this narrative.

The proposed amendment is consistent with Goal 11.

Goal 12 – Transportation

To provide and encourage a safe, convenient and economic transportation system.

Response: Statewide Planning Goal 12 is implemented by the Transportation Planning Rule, OAR 660-012 (TPR). The applicant conducted a traffic assessment to determine future transportation conditions under the current zoning and under the proposed zoning. The following is the summary of the findings of that assessment. The full traffic assessment is presented in Exhibit D.

Existing Transportation Conditions

- Traffic counts were collected in June 2021 at all of the study intersections during the critical weekday AM and PM peak travel periods. Historical 2019 counts were supplemented at several key intersections in order to account for travel demand reductions associated with on-going COVID-related factors.
- Operational analyses indicate that all of the study intersections currently operate acceptably based on the applicable City of Tualatin and Washington county standards.

Future Year 2040 Traffic Conditions

- The proposed land use action is a unique case that would involve upzoning the Tualatin Heights apartment complex property. The complex is approximately 22 acres in size and contains 220-unit multifamily apartment units. The underlying

zoning is Residential Medium Low (RML) which currently allows for a maximum density of 10 dwelling units per acre. Accordingly, the Tualatin Heights apartment complex is essentially maximizing the allowed development potential under the existing zoning. In order to support a vision for additional housing units on the site, the property owner is proposing to modify the zoning to Residential Medium-High Density (RMH) which would increase the density to a maximum of 15 dwelling units per acre.

- Background traffic volumes for the 2040 planning horizon year were estimated using a combination of regional travel demand model output and historical growth trends. Since the existing site is built out to its maximum allowed density, the resulting 2040 background traffic volumes represent the future traffic conditions that can be expected under the existing RML zoning.
- Operations of the study intersections under 2040 Background conditions (assuming regional and local traffic growth but no land use action on the Tualatin Heights site) found that all of the study intersections are forecast to continue to operate acceptably during both the weekday AM and PM peak hours with the exception of the SW Boones Ferry Road/SW Sagert Street intersection. During the weekday AM Peak hour, this intersection is forecast to operate over capacity (v/c of 1.09) and at Level of Service F conditions.
- With the proposed RMH zoning, it was determined that the increased density allowance can potentially result in 116 additional multifamily housing units. Using ITE land use code 221, this increased density has the potential to generate approximately 630 net new daily trips, 42 net new AM peak hour trips, and 51 net new PM peak hour trips.
- Operations of the study intersections under the 2040 proposed RMH zoning scenario found that all of the study intersections are forecast to operate acceptably during both the weekday AM and PM peak hours with the continued exception of the SW Boones Ferry Road/SW Sagert Street intersection. During the weekday AM Peak hour, this intersection is forecast to also operate over capacity (v/c of 1.10) and at Level of Service F conditions. While a very small degradation in operations compared to existing zoning, this technically represents an impact to the operations of the intersection. To address TPR requirements, the identification of a long-term mitigation plan would be needed to restore capacity to the intersection and show it can meet operating standards.
    - Although not formally included in the City of Tualatin's latest Transportation System Plan project list, the future year analysis behind the study did identify the potential for a northbound right-turn lane at the intersection. Such an improvement would restore capacity to the intersection and result in acceptable operations under both the 2040 no land use action and with the 2040 proposed RMH rezone.

The proposed amendment is consistent with Goal 12.

Goal 14 – Urbanization

To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.

Response: The subject site in located inside the Tualatin city limits and the Metro UGB. The proposed PMA from RML to RMH for the Tualatin Heights Apartment site will permit more density on the site, allowing up to an additional 116 units on the 22-acre site. The PMA will provide the opportunity to more efficiently use an existing site that is already committed to multi-family residential use. Public facilities to serve the additional dwelling units are already in-place and have sufficient capacity to accommodate the new units.

The proposed amendment is consistent with Goal 14.

Section 3: Compliance with the Tualatin Comprehensive Plan (Tualatin 2040)

This section responds to the applicable policies and goals of the Tualatin Comprehensive Plan.

Chapter 1 – Community Involvement

POLICY 1.1.3 Conduct the planning process with adequate input and feedback from citizens in each affected neighborhood.

Response: The applicant hosted a Neighborhood/Developer Meeting to inform and received feedback from neighbors. A summary of the meeting can be found in Exhibit B. Pursuant to City of Tualatin requirements, the application will be reviewed through a Type VI-A process that includes public hearings at Planning Commission and City Council.

The proposed amendment is consistent with the policy.

Chapter 3 - Housing

POLICY 3.1.2 ZONING FOR MULTI-FAMILY. Provide zoning for multi-family development, which may be located in areas adjacent to transit.

Response: The site's use is multi-family housing, which is permitted in the current plan designation – RML. The proposed PMA would result in a RMH designation, which allows a higher density of multi-family development and would permit an additional 116 units on the 22-acre site. The site is located near several mass transit options. As shown in Figure 2, there are nine (9) bus stops located within a quarter mile from the site. Additionally, the Westside Express Service (WES) Tualatin station is located approximately a half mile from the site. The proposed amendment is consistent with the goal.

The proposed amendment is consistent with the policy.

GOAL 3.2 HOUSING FOR ALL. Encourage development and preservation of housing that is affordable for all households in Tualatin.

Response: Tualatin Heights Apartments is a multi-family housing complex that provides an alternative and typically a more affordable housing option to single-family detached housing for those who cannot afford a detached-single family home or prefer an alternative. The City's HNA prepared in 2019 detailed the demographic trends and groups that are more likely to live in multi-family housing.

The proposed PMA would allow development that would further enhance the choice of housing options in Tualatin as well as increase the availability of multi-family housing.

The proposed amendment is consistent with the goal.

GOAL 3.5 HOUSING AND TRANSPORTATION. Encourage development and redevelopment in Tualatin that supports all modes of transportation, including walking, biking, and mass transit.

Response: The proposed PMA will provide the opportunity to redevelop portions of the existing Tualatin Heights apartment complex and provide increased housing opportunities and density. Additional density typically supports transit service and alternative transportation options such as walking and biking. The site is located near several mass transit options. As shown in Figure 2, there are nine (9) bus stops located within a quarter mile from the site. Additionally, the Westside Express Service (WES) Tualatin station is located approximately a half mile from the site.

The proposed amendment is consistent with the goal.

Chapter 8 – Transportation

GOAL 8.1 ACCESS AND MOBILITY. Maintain and enhance the transportation system to reduce travel times, provide travel time reliability, provide a functional and smooth transportation system, and promote access for all users.

Response: Exhibit D demonstrates compliance with the TPR with policies that regulate safe, efficient, and effective transportation systems. Note, the requested PMA does not approve development on the site. Future development would require additional land use approvals. At that time, a Traffic Impact Analysis would be required (if the threshold is met) which would trigger an analysis of site impacts on the surrounding transportation system.

The proposed amendment is consistent with the goal.

Goal 9 – Public Facilities and Services

Goal 9.1 Water Plan, construct, and maintain a City water system that protects the public health, provides cost-effective water service, meets the demands of users, addresses regulatory requirements and supports all land uses.

Response: To achieve Goal 9.1, Policy 9.1.1 requires developers to aid in improving the water system by constructing facilities to serve new development and extend lines to adjacent properties.

The Tualatin Height Apartments are within the City of Tualatin Service Area B. The existing 222 multi-family units on the property are currently served by an existing, looped, 8-inch public main running through the site with two connections to a 12-inch public main in SW Sagert Street. The proposed PMA would provide the potential for an additional 116 multi-family units on the property. If the full 116 new units were constructed, the applicant's engineer has determined that the existing water infrastructure would be generally adequate to support future development and lines have already been constructed along the site frontage to adjacent properties. Detailed water modeling will be completed at the time of redevelopment to confirm the adequacy of the existing system.

The proposed amendment is consistent with Goal 9.1 and the corresponding polices of the Tualatin Comprehensive Plan.

Goal 9.2 Plan, construct, and maintain a City sewer system that protects the public health, protects the water quality of creeks, ponds, wetlands and the Tualatin River, provides cost-effective sewer service, meets the demands of users, addresses regulatory requirements and supports all land uses.

Response: To achieve Goal 9.2, Policy 9.2.4 requires developers to aid in improving the sewer system by constructing facilities to serve new development, as well as adjacent properties.

The 222 multi-family units at the Tualatin Heights Apartments are served by an existing, 8-inch public sewer main that runs in an easement along the north side of the site. The proposed PMA would provide the potential for an additional 116 multi-family units on the property. If the full 116 new units were constructed, the applicant's engineer has determined that the existing infrastructure would be generally adequate to support future development and adjacent parcels already have access to public sewer. Detailed sewer modeling will be completed at the time of redevelopment to confirm the adequacy of the existing system.

The proposed amendment is consistent with Goal 9.2 and the corresponding policies of the Tualatin Comprehensive Plan.

Goal 9.3 Provide a plan for routing surface drainage through the City, utilizing the natural drainages where possible. Update the plan as needed with drainage studies of problem areas and to respond to changes in the drainage pattern caused by urban development.

Response: To achieve Goal 9.3, Policy 9.3.7 requires the enforcement of drainage and stormwater management standards.

Stormwater runoff from the Tualatin Heights Apartments is currently collected and routed to an onsite stormwater management facility before discharging to an existing surface conveyance at the northeast corner of the site. The details and design parameters for the

existing facility are unknown. Redevelopment will trigger stormwater management improvements as required by Clean Water Services' Design and Construction Standards. A detailed storm report will be completed at the time of redevelopment to identify facilities that will address water quality, flow control and hydromodification requirements.

The proposed amendment is consistent with Goal 9.3 and the corresponding policies of the Tualatin Comprehensive Plan.

Section 4: Compliance with the Tualatin Development Code

This section responds to the applicable policies and goals of the Tualatin Development Code.

Ch. 33.070 Plan Amendments

(2)Applicability. Quasi-judicial amendments may be initiated by the City Council, the City staff, or by a property owner or person authorized in writing by the property owner. Legislative amendments may only be initiated by the City Council.

Response: The property owner is the applicant and has requested a Plan Map Amendment, a quasi-judicial amendment.

(3)Procedure Type.(a)Map or text amendment applications which are quasi-judicial in nature (e.g., for a specific property or a limited number of properties) is subject to Type IV-A Review in accordance with TDC Chapter 32.(b)Map or text amendment applications which are legislative in nature are subject to Type IV-B Review in accordance with TDC Chapter 32.

Response: The applicant understands the Plan Map amendment application is subject to a Type IV-A Review procedure.

(4)Specific Submittal Requirements. An application for a plan map or text amendment must comply with the general submittal requirements in TDC 32.140 (Application Submittal).

Response: This application package includes all applicable requirements for the application as described in TDC 32.140, they include, but are not limited to:

- Proof of Ownership (Exhibit F),
- Neighborhood Meeting Summary (Exhibit B),
- Application fees, and
- Application form.

(5) Approval Criteria.

(a) Granting the amendment is in the public interest.

Response: Amending the plan designation from RML to RMH will increase the permitted density on the site to allow for a maximum of 116 more units at the

Tualatin Heights Apartments site. The site currently contributes to diverse housing options in Tualatin, providing rental opportunities for apartments. The proposed PMA will enhance housing choices in the community and provide an affordable housing opportunity for existing and future residents. Housing is an important need in the Tualatin community, as supported by Tualatin Comprehensive Plan policies and goals (see Section 3 of this narrative). Providing additional housing opportunities and expanding housing choices within the City will support the public interest.

The requested Plan Map Amendment would increase the maximum permitted density on the site. With the increased density allowance, the applicant would like to redevelop portions of the complex internal to the site to create additional dwelling units. Findings of the Tualatin Housing Needs Analysis (HNA), completed in 2019, supports the need for additional multi-family housing in the City consistent with this proposed amendment request. The report demonstrates a need for multi-family dwelling units and medium- to high-density plan designations. As shown in Table 2 (taken from the City's HNA), Tualatin has a surplus of dwelling unit capacity in the RML designation, with surplus capacity for approximately 315 units and 27 gross acres of land to accommodate growth. Meanwhile there is a deficit of land for dwelling units in the RMH designation, a deficit of 109 dwelling units or 7 gross acres of land. In addition to the deficit, there is also a demand for 122 units in the RMH district (Source: See Table 2). The proposed amendment would provide potential capacity for an additional 116 dwelling units on the existing site and reduce the documented deficit within the RMH district.

The PMA will also provide the opportunity to further diverse housing options in Tualatin, through a more efficient use of an existing site that is already a committed multi-family development. Also, additional density typically supports transit service and alternative transportation options such as walking and biking. Public facilities to serve the additional dwelling units are already in-place and have sufficient capacity to accommodate the new units.

The criterion is met.

(b) The public interest is best protected by granting the amendment at this time.

Response: As demonstrated above, it is in the public interest to provide additional multi-family housing in Tualatin. In Chapter 4 of the HNA, trends affecting housing in Tualatin are discussed. Various trends remain pertinent and contribute to significant issues in the Tualatin and Oregon community: rent-burdened households and houselessness. According to the HNA, housing costs affect Oregon's low-wage workers the most, and low-wage employment is a growing share of the Oregon economy. Thus, the HNA states, "*Tualatin has a large share of multi-family housing (about 41% of the City's housing stock), but over half of renter households are cost burdened. Tualatin's key challenge over*

the next 20 years is providing opportunities for development of relatively affordable housing of all types, such as lower-cost single-family housing, townhouses and duplexes, market-rate multi-family housing, and government-subsidized affordable housing."

The need for more housing has been and will continue to be an issue at the forefront of Oregon's policy issues for years to come. The proposed PMA will provide the opportunity to redevelop portions of the existing Tualatin Heights apartment complex and provide increased housing opportunities and density. This proposed action will protect and enhance the public's interest.

The criterion is met.

(c) The proposed amendment is in conformity with the applicable goals and policies of the Tualatin Comprehensive Plan.

Response: Conformance with applicable Tualatin Comprehensive Plan goals and policies are addressed in Section 3 of this narrative.

(d) The following factors were consciously considered:

(i) The various characteristics of the areas in the City;

Response: The neighborhood characteristics were considered in the proposal. The existing multi-family development site is located at the edge of a low- to medium-density residential neighborhood and abuts a light industrial zone to the north. The site's current and proposed use and design are an ideal transition between the two zones.

With the increased density permitted on the site, the applicant intends to redevelop internal areas of the site to provide additional units. Changes internal to the site are expected to have minimal impacts on neighboring sites and will comply with applicable Tualatin Development Code standards, as determined through a future Architectural Review application following the PMA request.

At the Neighborhood/Developer Meeting neighbors expressed concerns about traffic and parking conditions in the site's vicinity. In response, the applicant analyzed on-site and on-street parking abutting the site (see Parking Assessment, Exhibit C).

The criterion is met.

(ii) The suitability of the areas for particular land uses and improvements in the areas;

Response: The site is currently the location of the Tualatin Heights Apartments. There are 220 existing multi-family dwellings on the 22.4 acre site. The PMA would result in the redevelopment of a portion of the existing site with up to 116 additional multi-family dwelling units. The area is located near schools and employment opportunities. Tualatin Elementary school is within walking distance of the site, approximately ¼ mile away down SW 95th Ave . Tualatin High School is located just over a mile away.

There are a number of commercial and industrial businesses located along SW Tualatin-Sherwood Road, and SW Teton Ave, including the commercial hub located next to Interstate-5 located just over a mile from the site.

Multi-family development is often encouraged near transit. Within quarter-mile of the Tualatin Heights site there are nine (9) bus stops. Additionally, the Tualatin WES station is located approximately 0.8 miles walking distance from the site (see Figure 2).

The PMA will provide the opportunity to more efficiently use an existing site that is already committed to multi-family residential use. Public facilities to serve the additional dwelling units are already in-place and have sufficient capacity to accommodate the new units. The site and area are well-suited to support the proposed PMA.

The criterion is met.

(iii) Trends in land improvement and development;

Response: Recent land improvement and development trends have emphasized the need for a diversity in housing options. This finding is supported by the City's HNA prepared in 2019. The need to more efficiently use existing properties within the UGB is also a trend that is addressing housing costs and choice. The PMA will provide the opportunity to more efficiently use an existing site that is already committed to multi-family residential use. Public facilities to serve the additional dwelling units are already in-place and have sufficient capacity to accommodate the new units.

As noted in previous responses the proposed amendment is consistent with the trend of providing more multi-family housing to provide more housing choice and typically more affordable options to individuals and families.

The criterion is met.

(iv) Property values;

Response: The site is currently committed to multi-family development. Property values in the area already recognize the use as multi-family and

have accounted for any impact on value. The proposed PMA would continue this multi-family use on the site and would not alter property values.

The criterion is met.

(v) The needs of economic enterprises and the future development of the area; needed right-of-way and access for and to particular sites in the area;

Response: There is existing right-of-way and access to the site that does not obstruct or conflict with any surrounding sites. North of the site is a railroad right-of-way, which creates a buffering north and eliminates the potential for any access from the north of the property.

The criterion is met.

(vi) Natural resources of the City and the protection and conservation of said resources;

Response: There are no protected natural resources located on the site. The PMA would increase the permitted density on the site, allowing a more efficient use of land in the existing development. More efficient of use of land located within the UGB and urban area of Tualatin could reduce pressure to expand the UGB.

The criterion is met.

(vii) Prospective requirements for the development of natural resources in the City;

Response: There are no protected natural resources located on the site.

The criterion is not applicable.

(viii) The public need for healthful, safe, esthetic surroundings and conditions; and

Response: The Tualatin Heights Apartments currently provides safe and healthy living conditions to its residents. The site includes amenities such as a pool and common rooms, and they will continue to exist and operate on the site.

The site provides buffering to the surrounding neighborhood via landscaping. Any future development will be reviewed for consistency with the TDC standards, including buffering and landscaping.

The Parking Assessment (Exhibit C) evaluated the current parking conditions at the Tualatin Heights Complex and on-street parking on the neighboring streets of SW Sager Street, SW 93rd Avenue, and SW Apache Drive. The

evaluation determined there are 457 spaces existing on the site: 417 surface parking spaces on the site and 40 covered spaces (either in carports or garages). With the existing 457 parking spaces there was a maximum utilization of 79%. The assessment accounted for buffers from fire hydrants and mailboxes. Concerns about access to mailboxes and waste collection were expressed by the neighbors during the Neighborhood/Developer Meeting.

The applicant and property owner/manager, UDR, has a well-organized system for delegating parking spaces to residents. They plan to maintain the structured, well-organized parking system and meet the parking requirements associated with additional units at the time of their construction, pursuant to TDC 73C.

As described above, the HNA demonstrates a clear need for additional multi-family housing in Tualatin. Approval of the requested PMA would permit development of additional multi-family units on the Tualatin Heights site, creating additional housing opportunities for the current and future Tualatin residents.

The criterion is met.

(ix) Proof of change in a neighborhood or area, or a mistake in the Plan Text or Plan Map for the property under consideration are additional relevant factors to consider.

Response: The proposed plan map amendment is not associated with a mistake in the Plan Text or Plan Map, nor is there a change in the neighborhood or area. The PMA will provide the opportunity to more efficiently use an existing site that is already committed to multi-family residential use.

The criterion is not applicable.

(e) If the amendment involves residential uses, then the appropriate school district or districts must be able to reasonably accommodate additional residential capacity by means determined by any affected school district.

Response: As demonstrated in Exhibit E, the additional dwelling units that would result from the proposed PMA can be reasonably accommodated by the Tigard/Tualatin School District schools that serve the Tualatin Heights apartments. The criterion is met.

(f) Granting the amendment is consistent with the applicable State of Oregon Planning Goals and applicable Oregon Administrative Rules, including compliance with the Transportation Planning Rule TPR (OAR 660-012-0060).

Response: The applicant conducted a traffic assessment to determine future transportation conditions under the current zoning and under the proposed zoning. The following is the summary of the findings of that assessment. The full traffic assessment is presented in Exhibit D.

Existing Transportation Conditions

- Traffic counts were collected in June 2021 at all of the study intersections during the critical weekday AM and PM peak travel periods. Historical 2019 counts were supplemented at several key intersections in order to account for travel demand reductions associated with on-going COVID-related factors.
- Operational analyses indicate that all of the study intersections currently operate acceptably based on the applicable City of Tualatin and Washington county standards.

Future Year 2040 Traffic Conditions

- The proposed land use action is a unique case that would involve upzoning the Tualatin Heights apartment complex property. The complex is approximately 22 acres in size and contains 220-unit multifamily apartment units. The underlying zoning is Residential Medium Low (RML) which currently allows for a maximum density of 10 dwelling units per acre. Accordingly, the Tualatin Heights apartment complex is essentially maximizing the allowed development potential under the existing zoning. In order to support a vision for additional housing units on the site, the property owner is proposing to modify the zoning to Residential Medium-High Density (RMH) which would increase the density to a maximum of 15 dwelling units per acre.
- Background traffic volumes for the 2040 planning horizon year were estimated using a combination of regional travel demand model output and historical growth trends. Since the existing site is built out to its maximum allowed density, the resulting 2040 background traffic volumes represent the future traffic conditions that can be expected under the existing RML zoning.
- Operations of the study intersections under 2040 Background conditions (assuming regional and local traffic growth but no land use action on the Tualatin Heights site) found that all of the study intersections are forecast to continue to operate acceptably during both the weekday AM and PM peak hours with the exception of the SW Boones Ferry Road/SW Sagert Street intersection. During the weekday AM Peak hour, this intersection is forecast to operate over capacity (v/c of 1.09) and at Level of Service F conditions.
- With the proposed RMH zoning, it was determined that the increased density allowance can potentially result in 116 additional

multifamily housing units. Using ITE land use code 221, this increased density has the potential to generate approximately 630 net new daily trips, 42 net new AM peak hour trips, and 51 net new PM peak hour trips.

- Operations of the study intersections under the 2040 proposed RMH zoning scenario found that all of the study intersections are forecast to operate acceptably during both the weekday AM and PM peak hours with the continued exception of the SW Boones Ferry Road/SW Sagert Street intersection. During the weekday AM Peak hour, this intersection is forecast to also operate over capacity (v/c of 1.10) and at Level of Service F conditions. While a very small degradation in operations compared to existing zoning, this technically represents an impact to the operations of the intersection. To address TPR requirements, the identification of a long-term mitigation plan would be needed to restore capacity to the intersection and show it can meet operating standards.
    - Although not formally included in the City of Tualatin's latest Transportation System Plan project list, the future year analysis behind the study did identify the potential for a northbound right-turn lane at the intersection. Such an improvement would restore capacity to the intersection and result in acceptable operations under both the 2040 no land use action and with the 2040 proposed RMH rezone.

As demonstrated in Exhibit D, the proposed amendment is consistent with the TPR. The criterion is met.

(g) Granting the amendment is consistent with the Metropolitan Service District's Urban Growth Management Functional Plan.

Response: The following Functional Plan sections are applicable to the proposed amendment.

***Title 1 – Housing Capacity** requires a city or county maintain or increase its housing capacity.*

The findings of the 2019 HNA demonstrate a need for housing, particularly multi-family housing in Tualatin. It also demonstrates a deficit and demand for medium-to high-density residential plan designations, which includes the proposed plan designation. The proposed amendment will facilitate development of additional multi-family units.

The requested Plan Map Amendment would increase the maximum permitted density on the site. With the increased density allowance, the applicant would like to redevelop portions of the complex internal to the site to create additional dwelling units. Findings of the Tualatin Housing Needs

Analysis (HNA), completed in 2019, supports the need for additional multi-family housing in the City consistent with this proposed amendment request. The report demonstrates a need for multi-family dwelling units and medium- to high-density plan designations. As shown in Table 2 (taken from the City's HNA), Tualatin has a surplus of dwelling unit capacity in the RML designation, with surplus capacity for approximately 315 units and 27 gross acres of land to accommodate growth. Meanwhile there is a deficit of land for dwelling units in the RMH designation, a deficit of 109 dwelling units or 7 gross acres of land. In addition to the deficit, there is also a demand for 122 units in the RMH district (Source: See Table 2). The proposed amendment would provide potential capacity for an additional 116 dwelling units on the existing site and reduce the documented deficit of the RMH district.

The PMA will also provide the opportunity to more efficiently use an existing site that is already committed to multi-family residential use. Public facilities to serve the additional dwelling units are already in-place and have sufficient capacity to accommodate the new units.

The standard is met.

Title 7 – Housing Choice *implements policies regarding establishment of voluntary affordable housing production goals to be adopted by local governments.*

3.07.730 Requirements for Comprehensive Plan and Implementing Ordinance Changes Cities and counties within the Metro region shall ensure that their comprehensive plans and implementing ordinances:

> *(a) Include strategies to ensure a diverse range of housing types within their jurisdictional boundaries.*
> *(b) Include in their plans actions and implementation measures designed to maintain the existing supply of affordable housing as well as increase the opportunities for new dispersed affordable housing within their boundaries.*
> *(c) Include plan policies, actions, and implementation measures aimed at increasing opportunities for households of all income levels to live within their individual jurisdictions in affordable housing.*

The proposed amendment will allow an increase of diversity of housing in Tualatin by allowing development of additional multi-family units. Although, Tualatin Heights Apartments are not government regulated affordable housing, multi-family development is typically a more affordable housing option when compared to detached single family home.

Recent land improvement and development trends have emphasized the need for a diversity in housing options and choice. This finding is supported by the City's HNA prepared in 2019. The need to more efficiently use existing

properties within the UGB is also a trend that is addressing housing costs and choice. The PMA will provide the opportunity to more efficiently use an existing site that is already committed to multi-family residential use. Public facilities to serve the additional dwelling units are already in-place and have sufficient capacity to accommodate the new units.

As noted in previous responses the proposed amendment is consistent with the trend of providing more multi-family housing to provide more housing choice and typically more affordable options to individuals and families.

The standard is met.

Title 12 – Protection of Residential Neighborhoods *protects existing residential neighborhoods from pollution, noise, crime, and provides adequate levels of public services.*

3.07.1220 Residential Density Metro shall not require any city or county to authorize an increase in the residential density of a single-family neighborhood in an area mapped solely as Neighborhood.

The proposed development is located adjacent to low- to medium-density neighborhoods. It is also abutting the Light Industrial zone. The site provides a transition compatible with all surrounding uses.

The City is not required to authorize an increase of density through the requested PMA. However, this application demonstrates that the proposed amendment is a public interest to provide multi-family housing in the community where a deficit and need has been identified.

The standard is met.

(i) Granting the amendment is consistent with the objectives and policies regarding potable water, sanitary sewer, and surface water management pursuant to applicable goals and policies in the Tualatin Comprehensive Plan, water management issues are adequately addressed during development or redevelopment anticipated to follow the granting of a plan amendment.

Response:

WATER

Goal 9.1 of the Tualatin Comprehensive Plan is to "*Plan, construct and maintain a City water system that protects the public health, provides cost-effective water service, meets the demands of users, addresses regulatory requirements and supports all land uses.*"

To achieve Goal 9.1, Policy 9.1.1 requires developers to aid in improving the water system by constructing facilities to serve new development and extend lines to adjacent properties.

The Tualatin Height Apartments are within the City of Tualatin Service Area B. The existing 222 multi-family units on the property are currently served by an existing, looped, 8-inch public main running through the site with two connections to a 12-inch public main in SW Sagert Street. The proposed PMA would provide the potential for an additional 116 multi-family units on the property. If the full 116 new units were constructed, the applicant's engineer has determined that the existing water infrastructure would be generally adequate to support future development and lines have already been constructed along the site frontage to adjacent properties. Detailed water modeling will be completed at the time of redevelopment to confirm the adequacy of the existing system.

The proposed amendment is consistent with Goal 9.1 and the corresponding polices of the Tualatin Comprehensive Plan.

SANITARY SEWER

Goal 9.2 of the Tualatin Comprehensive Plan is to "*Plan, construct and maintain a City sewer system that protects the public health, protects the water quality of creeks, ponds, wetlands and the Tualatin River, provides cost-effective sewer service, meets the demands of uses, addresses regulatory requirements and supports all land uses.*" To achieve Goal 9.2, Policy 9.2.4 requires developers to aid in improving the sewer system by constructing facilities to serve new development, as well as adjacent properties.

The 222 multi-family units at the Tualatin Heights Apartments are served by an existing, 8-inch public sewer main that runs in an easement along the north side of the site. The proposed PMA would provide the potential for an additional 116 multi-family units on the property. If the full 116 new units were constructed, the applicant's engineer has determined that the existing infrastructure would be generally adequate to support future development and adjacent parcels already have access to public sewer. Detailed sewer modeling will be completed at the time of redevelopment to confirm the adequacy of the existing system.

The proposed amendment is consistent with Goal 9.2 and the corresponding policies of the Tualatin Comprehensive Plan.

STORM DRAINAGE

Goal 9.3 of the Tualatin Comprehensive Plan is to "*Provide a plan for routing surface drainage through the City, utilizing the natural drainages where possible. Update the plan as needed with drainage studies of problem area and to respond to changes in the drainage pattern caused by urban development*." To achieve Goal 9.3, Policy 9.3.7 requires the enforcement of drainage and stormwater management standards.

Stormwater runoff from the Tualatin Heights Apartments is currently collected and routed to an onsite stormwater management facility before discharging to an existing surface conveyance at the northeast corner of the site. The details and design parameters for the existing facility are unknown. Redevelopment will trigger stormwater management improvements as required by Clean Water Services' Design and Construction Standards. A detailed storm report will be completed at the time of redevelopment to identify facilities that will address water quality, flow control and hydromodification requirements.

The proposed amendment is consistent with Goal 9.3 and the corresponding policies of the Tualatin Comprehensive Plan.

The criterion is met.

(j) The applicant has entered into a development agreement. This criterion applies only to an amendment specific to property within the Urban Planning Area (UPA), also known as the Planning Area Boundary (PAB), as defined in both the Urban Growth Management Agreement (UGMA) with Clackamas County and the Urban Planning Area Agreement (UPAA) with Washington County.

Response: The subject property is not located in the UPA.

The criterion is not applicable.

Section 5: Conclusion

In summary, the proposal complies with the applicable approval criteria. The applicant requests that the City approve the Plan Map Amendment to amend the subject site's Plan Map designation to Medium High Density Residential (RMH).

CERTIFICATION OF SIGN POSTING

The applicant must provide and post a sign pursuant to Tualatin Development Code (TDC 32.150). The block around the word "NOTICE" must remain **blue** composed of the **RGB color values Red 0, Green 112, and Blue 192**. A template of this sign design is available at:
https://www.tualatinoregon.gov/planning/land-use-application-sign-templates

NOTE: For larger projects, the Community Development Department may require the posting of additional signs in conspicuous locations.

As the applicant for the Tualatin Heights Plan Map Amendment project, I hereby certify that on this day, 2 sign(s) was/were posted on the subject property in accordance with the requirements of the Tualatin Development Code and the Community Development Division.

Applicant's Name: Emma Porricolo
(Please Print)

Applicant's Signature: Emma Porricolo

Date: 09/30/21

LAND USE PLANNING
TRANSPORTATION PLANNING
PROJECT MANAGEMENT

MEMORANDUM

Tualatin Heights Plan Map Amendment

School Findings

DATE	June 23, 2021
TO	Traci Rose, Community Relations Division, Tigard-Tualatin School District
FROM	Frank Angelo and Emma Porricolo, APG
CC	Andrew Lavaux, UDR Inc. Jon McGrew, Hennebery Edy Architects

Project Description

Tualatin Heights is a multifamily apartment development located at 9301 SW Sagert Street, Tualatin, Oregon, 97062. The existing development includes 220 multifamily dwellings on 22.4 acres. The property is currently zoned Residential Medium Low (RML), with a maximum density of 10 dwelling units per acre. The property owner, UDR Inc., would like to apply for a Plan Map Amendment to allow for Residential Medium-High Density (RMH) on the site, increasing the density to 15 dwelling units per acre for a maximum of 336 units. The attached site plan diagrams describe the proposed concept for developing two new multifamily buildings and relocating existing outdoor amenity space to accommodate their construction.

Plan Map Amendment – School Criteria

The City of Tualatin's review criteria for a Plan Map Amendment includes providing findings for the following (Tualatin Code Section 33.070. 5.E):

> *(e) If the amendment involves residential uses, then the appropriate school district or districts must be able to reasonably accommodate additional residential capacity by means determined by any affected school district.*

The applicant has prepared the attached draft findings related to school capacity with the proposed Plan Map Amendment. These findings demonstrate no real impact on school capacity at the three schools students from the Tualatin Heights complex attend.

We would request that the Tigard-Tualatin School District staff review the attached findings and provide a response on the conclusions reached. The school findings and the District's response will be included in the Plan Map Amendment application submitted to the City of Tualatin for review and approval.

If you have any questions, please contact Frank Angelo at fangelo@angeloplanning.com or at 503-577-5087. Thank you for your assistance in this matter.

Response: Tualatin Heights is a multifamily apartment development located at 9301 SW Sagert Street, Tualatin, Oregon, 97062. The existing development includes 220 multifamily dwellings on 22.4 acres. The property is currently zoned Residential Medium Low (RML), with a maximum density of 10 dwelling units per acre. The property owner, UDR Inc., will be submitting an application for a Plan Map Amendment to allow for Residential Medium-High Density (RMH) on the site, increasing the density to 15 dwelling units per acre for a maximum of 336 units. If approved, and additional 116 multifamily units could be developed on the site.

The City of Tualatin's review criteria for a Plan Map Amendment includes providing findings for the following (Tualatin Code Section 33.070. 5.E):

(e) If the amendment involves residential uses, then the appropriate school district or districts must be able to reasonably accommodate additional residential capacity by means determined by any affected school district.

Given the request involves residential uses the application needs to address this review factor.

Student Forecast

Tualatin Heights is served by the following Tigard-Tualatin School District schools:

- Tualatin Elementary School
- Hazelbrook Middle School
- Tualatin High School

In order to forecast any potential impact on school capacity, we have assumed the following formula for the number of students generated by the 116 additional market rate units at Tualatin Heights:

- ES: 0.11 students / unit
- MS: 0.05 students / unit
- HS: 0.06 students / unit

This formula is the student generation formula used by the Beaverton School District when forecasting new students from a proposed development. The applicant searched the Tigard-Tualatin School District website for a similar formula but was unable to find one. Therefore, the applicant has used the best information available for this assessment.

Based on the above formula, the Plan Map Amendment from Residential Medium Low (RML) to Residential Medium-High Density (RMH) will generate the following number of new students at the three levels:

- Elementary School: 116 units x 0.11/unit = 13 ES students
- Middle School: 116 x 0.05/unit = 6 MS students

- High School: 116 x 0.06/unit = 7 HS students

School Capacity

A review of the Tigard-Tualatin School District Enrollment Forecasts (2019/20 to 2028/29) prepared by the Portland State University Population Research Center for the District in January 2019 indicates that there is sufficient capacity at the three schools is question to accommodate the increase in student enrollment generated by the Tualatin Heights Plan Map Amendment. Attachment 1 shows the Forecasts for Individual Schools (in the TTSD), 2019-20 to 2028-29. This table notes that enrollment at both Tualatin Elementary School and Hazelbrook Middle School is forecasted to decrease over the 10-year period. The table also shows that Tualatin High School is expected to grow by a modest amount over the same period.

Tualatin Elementary School

Tualatin Heights Plan Map Amendment will generate 13 additional elementary school children at Tualatin Elementary School. Attachment 2 shows the enrollment forecast at Tualatin Elementary School compared to the student capacity of the school. As can be seen, between 2018/19 and 2028/29 student enrollment at Tualatin ES is expected to decline from 488 students to 467 students. The capacity of the Tualatin ES is shown as 624 students. Therefore, the addition of 13 new elementary school students resulting from the Tualatin Heights Plan Map Amendment will have no impact on the school capacity and the addition these 13 students would still leave Tualatin ES enrollment less than in 2018/19 (480 students).

Hazelbrook Middle School

Tualatin Heights Plan Map Amendment will generate 6 additional middle school children at Hazelbrook Middle School. Attachment 3 shows the enrollment forecast at Hazelbrook Middle School compared to the student capacity of the school. As can be seen, between 2018/19 and 2028/29 student enrollment at Hazelbrook MS is expected to decline from 995 students to 955 students. The capacity of the Hazelbrook MS is shown as 1,000 students. Therefore, the addition of 6 new middle school students resulting from the Tualatin Heights Plan Map Amendment will have no impact on the school capacity and the addition these 6 students would still leave Hazelbrook MS enrollment less than in 2018/19 (961 students).

Tualatin High School

Tualatin Heights Plan Map Amendment will generate 7 additional high school children at Tualatin High School. Attachment 4 shows the enrollment forecast at Tualatin High School. The school's student capacity is not shown on this table but can be determined from the description of the Tualatin HS School Bond project that was completed in 2019:

Tualatin High's main building was built for 1,700 students. Nearly 2,000 students are currently enrolled. It is undersized both for the number of students it serves now and in comparison to 2,000-student high schools being built today. More classrooms, restrooms, an expanded Commons (lunchroom), locker rooms and P.E. spaces are needed for existing and projected enrollments.

The School Bond passed by Tualatin SD voters in 2016 provided additional classrooms at Tualatin HS to bring the school's capacity to 2,000 students. As can be seen on Attachment 4, between 2018/19 and 2028/29 student enrollment at Tualatin HS is expected to increase from 1,947 students to 2,017 students. The capacity of the Tualatin HS is considered to be 2,000 students. Therefore, the addition of 6 new high school students resulting from the Tualatin Heights Plan Map Amendment will have no impact on the school capacity.

DRAFT

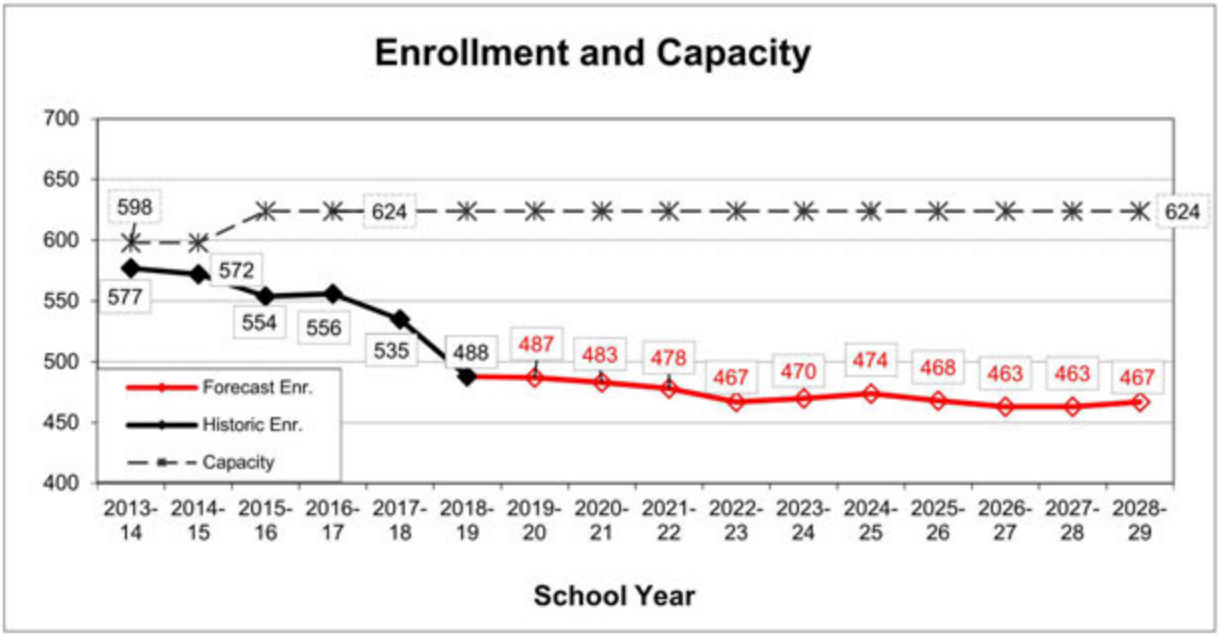
Table 13
Enrollment Forecasts for Individual Schools, 2019-20 to 2028-29

School	Actual 2018-19	Forecast 2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	Change 2018-19-2028-29
Alberta Rider	558	559	591	601	623	642	657	677	693	703	711	153
Bridgeport	549	563	560	571	562	553	547	546	541	540	542	-7
Byrom	557	553	546	545	543	545	541	538	538	539	543	-14
C.F. Tigard*	478	493	495	493	502	501	495	488	488	489	496	18
Deer Creek	605	590	600	628	619	616	632	630	630	635	647	42
Durham	560	542	570	601	602	593	589	589	588	587	591	31
Mary Woodward	569	599	622	635	662	660	670	669	666	661	665	96
Metzger*	618	604	588	583	577	580	582	587	591	598	607	-11
Templeton	556	550	558	557	546	542	556	554	550	549	557	1
Tualatin	488	487	483	478	467	470	474	468	463	463	467	-21
Elementary Totals	**5,538**	**5,540**	**5,613**	**5,692**	**5,703**	**5,702**	**5,743**	**5,746**	**5,748**	**5,764**	**5,826**	**288**
Fowler M.S.	835	871	886	883	871	876	872	914	923	933	920	85
Hazelbrook M.S.	995	980	980	976	991	968	981	968	973	968	955	-40
Twality M.S.	1,034	1,093	1,066	1,052	1,021	1,076	1,090	1,101	1,109	1,145	1,142	108
Middle School Totals	**2,864**	**2,944**	**2,932**	**2,911**	**2,883**	**2,920**	**2,943**	**2,983**	**3,005**	**3,046**	**3,017**	**153**
Tigard H.S.	1,832	1,781	1,763	1,806	1,860	1,884	1,915	1,879	1,884	1,908	1,941	109
Tualatin H.S.	1,947	1,966	2,026	2,031	2,071	2,075	2,022	2,051	2,040	2,038	2,071	124
Durham Center	52	52	52	52	52	52	52	52	52	52	52	0
Tig.-Tual. Online	93	93	93	93	93	93	93	93	93	93	93	0
High School Totals	**3,924**	**3,892**	**3,934**	**3,982**	**4,076**	**4,104**	**4,082**	**4,075**	**4,069**	**4,091**	**4,157**	**233**
District Totals	**12,326**	**12,376**	**12,479**	**12,585**	**12,662**	**12,726**	**12,768**	**12,804**	**12,822**	**12,901**	**13,000**	**674**

**Note: Forecasts include the impact of a boundary change. New students residing in a portion of the former Metzger area were assigned to C.F. Tigard beginning in 2016-17.*

Population Research Center, Portland State University, December 2018.

Tualatin Elementary School



Note: Capacity prior to 2015-16 at all elementary schools includes some half day kindergarten classes. Beginning in 2015-16 all kindergarten classes are full day, thereby reducing capacity in some cases.

Enrollment History and Forecast

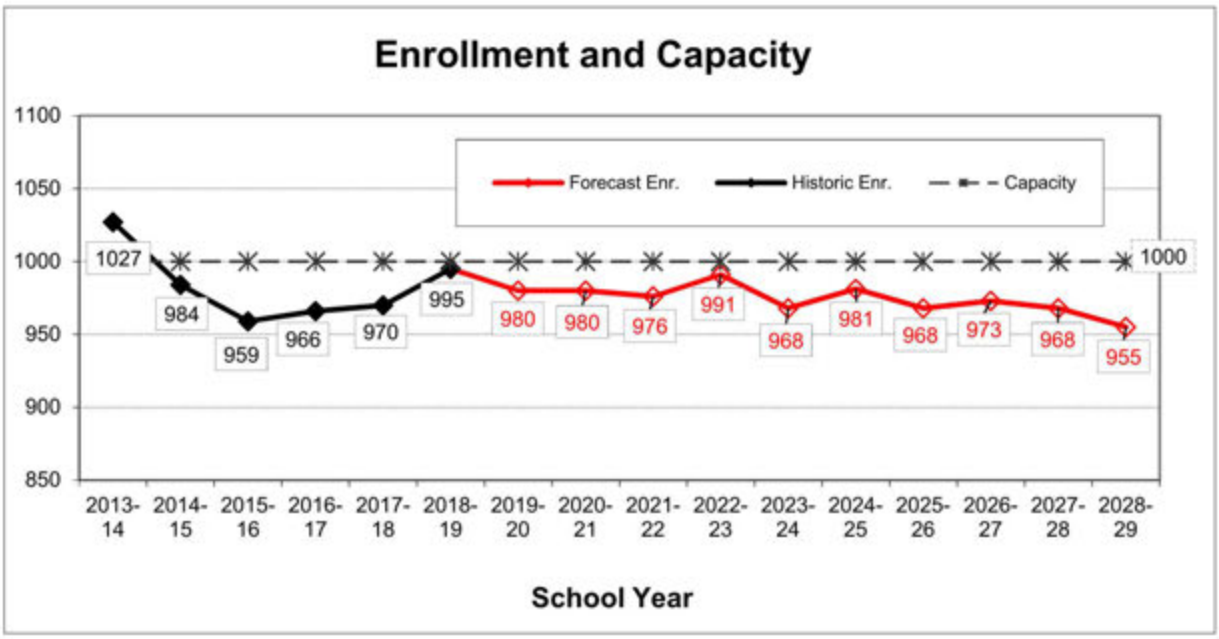
	History		Forecast	
	2013-14	2018-19	2023-24	2028-29
Total enrollment	577	488	470	467
5 year Change		*-89*	*-18*	*-3*

New Housing Units Authorized by Building Permits

	Permit Year				
	2014	2015	2016	2017	2018 (Jan-Sep)
Single Family Units	7	6	39	20	1
Multiple Family Units	0	14	0	0	0

Source: Permit reports from Construction Monitor, Inc., processed and geocoded by PSU-PRC.

Hazelbrook Middle School

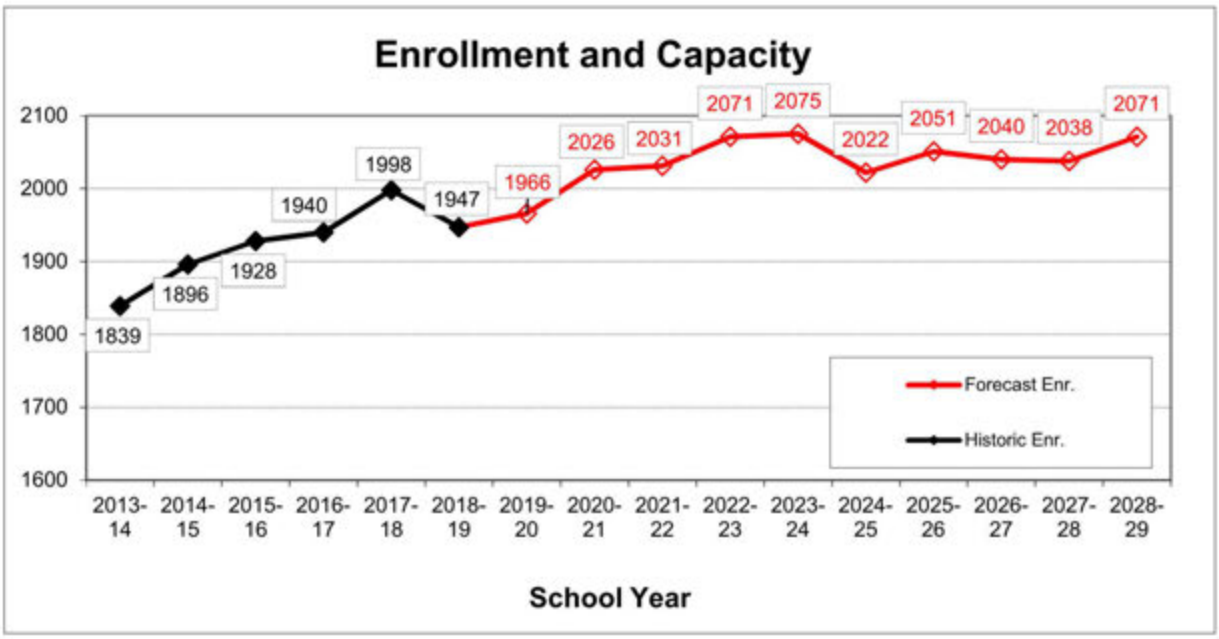


Enrollment History and Forecast				
	History		Forecast	
	2013-14	2018-19	2023-24	2028-29
Total enrollment	1027	995	968	955
5 year Change		*-32*	*-27*	*-13*

New Housing Units Authorized by Building Permits					
	Permit Year				
	2014	2015	2016	2017	2018 (Jan-Sep)
Single Family Units	15	18	45	23	66
Multiple Family Units	0	14	0	0	0

Source: Permit reports from Construction Monitor, Inc., processed and geocoded by PSU-PRC.

Tualatin High School

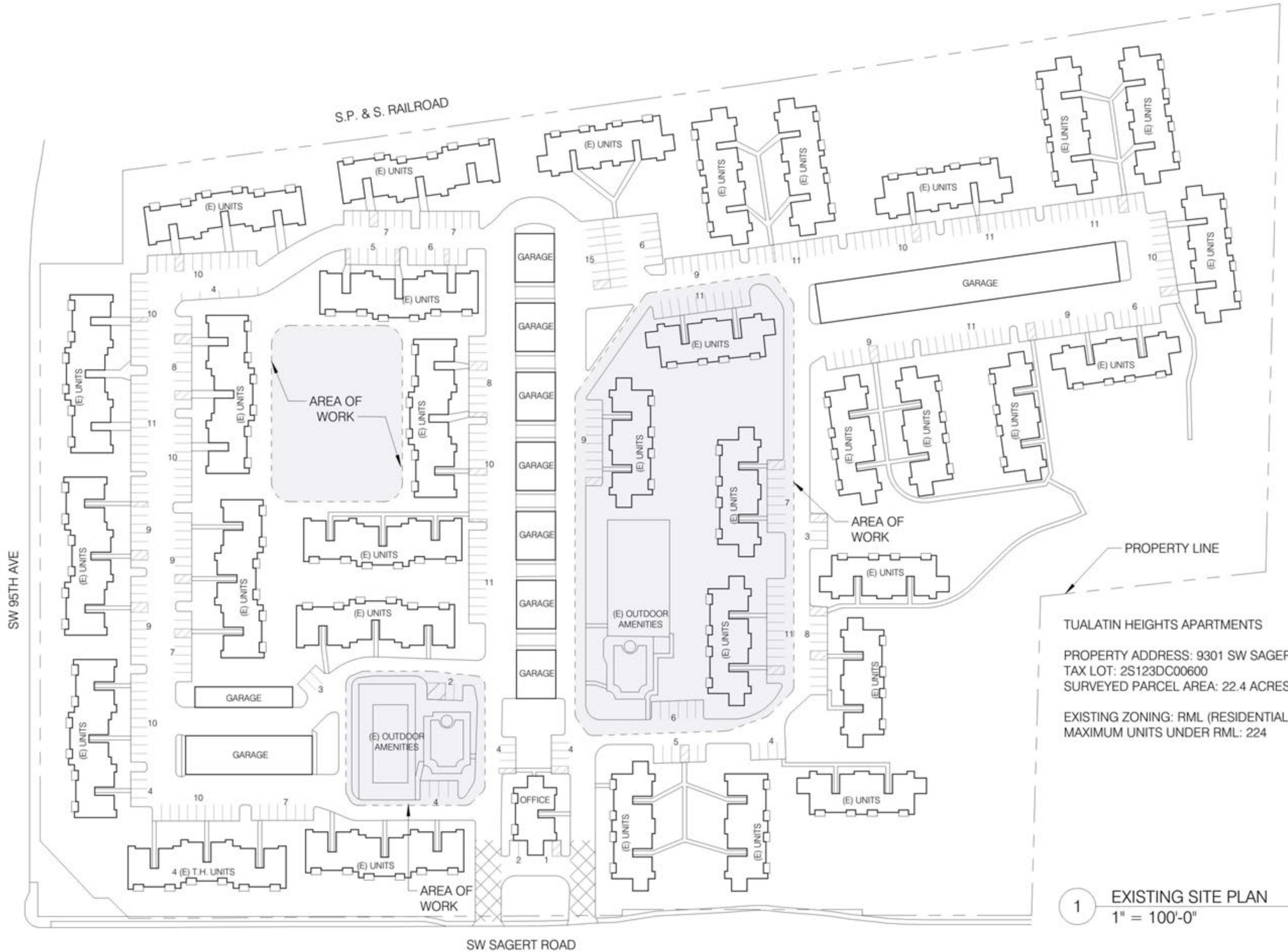


DRAFT PENDING UPDATE OF FUTURE CAPACITY

Enrollment History and Forecast				
	History		Forecast	
	2013-14	2018-19	2023-24	2028-29
Total enrollment	1839	1947	2075	2071
5 year Change		*108*	*128*	*-4*

New Housing Units Authorized by Building Permits					
	Permit Year				
	2014	2015	2016	2017	2018 (Jan-Sep)
Single Family Units	42	97	228	82	96
Multiple Family Units	0	206	0	20	0

Source: Permit reports from Construction Monitor, Inc., processed and geocoded by PSU-PRC.



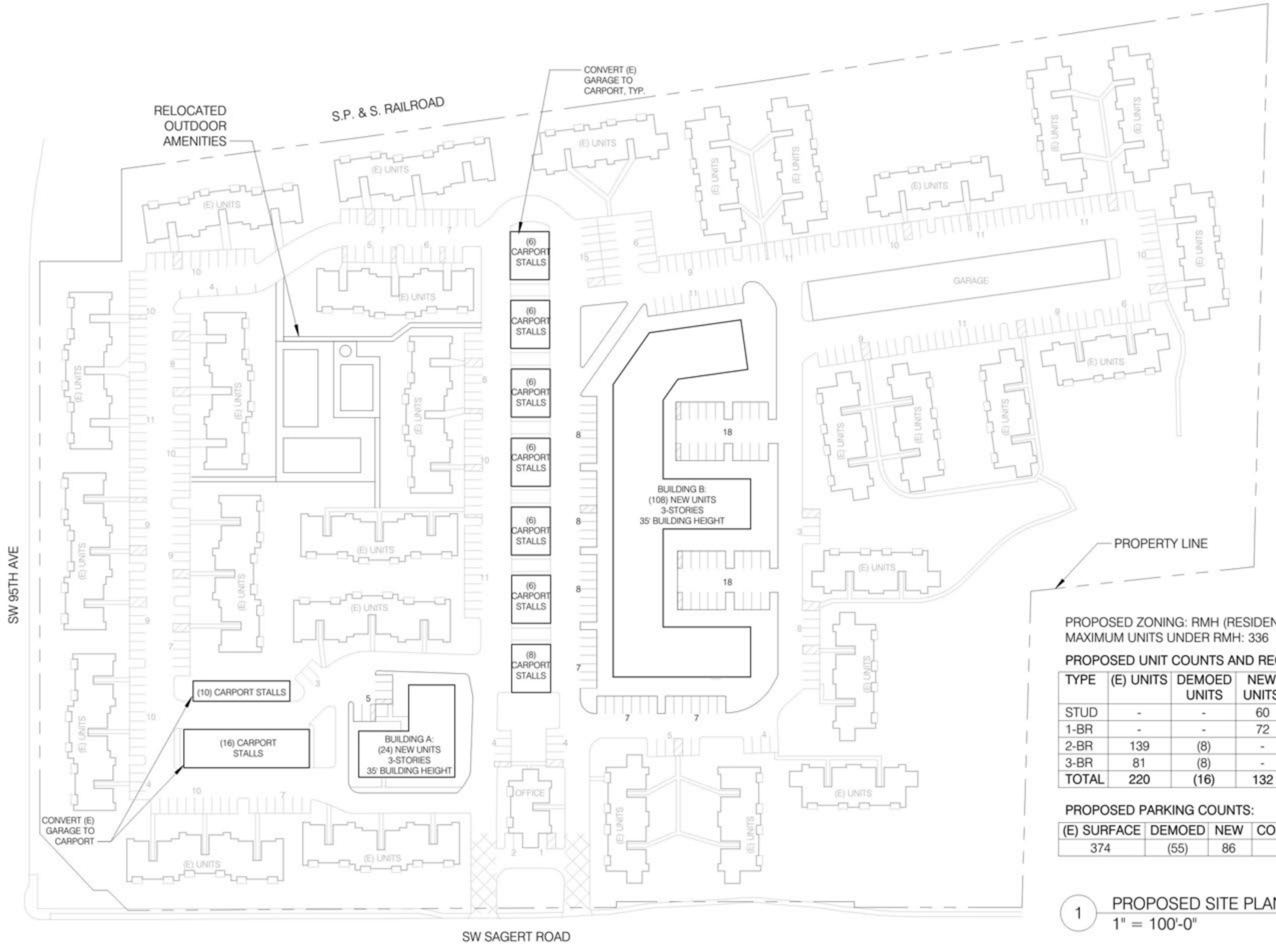
TUALATIN HEIGHTS APARTMENTS

PROPERTY ADDRESS: 9301 SW SAGERT ST, TUALATIN, OR 97062
TAX LOT: 2S123DC00600
SURVEYED PARCEL AREA: 22.4 ACRES

EXISTING ZONING: RML (RESIDENTIAL MEDIUM LOW)
MAXIMUM UNITS UNDER RML: 224

NORTH

1 EXISTING SITE PLAN
1" = 100'-0"



PROPOSED ZONING: RMH (RESIDENTIAL MEDIUM HIGH)
MAXIMUM UNITS UNDER RMH: 336

PROPOSED UNIT COUNTS AND REQUIRED PARKING:

TYPE	(E) UNITS	DEMOED UNITS	NEW UNITS	TOTAL UNITS	REQ. PARKING	REQ. GARAGE
STUD	-	-	60	60	60	0
1-BR	-	-	72	72	90	0
2-BR	139	(8)	-	131	196.5	0
3-BR	81	(8)	-	73	127.75	0
TOTAL	220	(16)	132	336	475	0

PROPOSED PARKING COUNTS:

(E) SURFACE	DEMOED	NEW	CONVERTED CARPORTS	TOTAL
374	(55)	86	70	475

1 PROPOSED SITE PLAN
1" = 100'-0"

NORTH

Tualatin Heights

FORMERLY *AMERICAN LAND TITLE ASSOCIATION*
OWNER'S POLICY FORM B—1970
(Rev. 10-17-70 and 10-17-84)

DUPLICATE

CHICAGO TITLE INSURANCE COMPANY

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE EXCEPTIONS CONTAINED IN SCHEDULE B AND THE PROVISIONS OF THE CONDITIONS AND STIPULATIONS HEREOF, CHICAGO TITLE INSURANCE COMPANY, a Missouri corporation, herein called the Company, insures, as of Date of Policy shown in Schedule A, against loss or damage, not exceeding the amount of insurance stated in Schedule A, and costs, attorneys' fees and expenses which the Company may become obligated to pay hereunder, sustained or incurred by the insured by reason of:

1. Title to the estate or interest described in Schedule A being vested otherwise than as stated therein;
2. Any defect in or lien or encumbrance on such title;
3. Lack of a right of access to and from the land; or
4. Unmarketability of such title

In Witness Whereof, CHICAGO TITLE INSURANCE COMPANY has caused this policy to be signed and sealed as of the date of policy shown in Schedule A, the policy to become valid when countersigned by an authorized signatory.

CHICAGO TITLE INSURANCE COMPANY
By:

Richard L Bolla
President

By:

Thomas J Adams
Secretary

CHICAGO TITLE INSURANCE COMPANY CORPORATE SEAL

IMPORTANT

This policy necessarily relates solely to the title as of the date of the policy. In order that a purchaser of the real estate described herein may be insured against defects, liens or encumbrances, this policy should be reissued in the name of such purchaser.

SCHEDULE A

ALTA

Order Number	:	96-0045-28
Re	:	TUALATIN HEIGHTS
Date of Policy	:	MARCH 28, 1996 at 8:00 A.M.
Amount of Insurance	:	$11,138,000.00

1. Name of insured:

   AMERICAN APARTMENT COMMUNITIES II, L.P. A DELAWARE LIMITED PARTNERSHIP

2. The estate or interest in the land which is covered by this policy is

   FEE SIMPLE

3. Title to the estate or interest in the land is vested in:

   THE NAMED INSURED

4. The land referred to in this policy is described as follows:

Tualatin Heights

A TRACT OF LAND IN SECTION 23, TOWNSHIP 2 SOUTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, CITY OF TUALATIN, IN WASHINGTON COUNTY, OREGON, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF THAT TRACT OF LAND CONVEYED TO CLIFFORD G. KING, ET UX, BY DEED RECORDED AUGUST 13, 1964, IN BOOK 519, PAGE 362, WASHINGTON COUNTY DEED RECORDS, SAID POINT BEING 1624.78 FEET (1,624.5 FEET BY DEED) SOUTH 89°29'45" WEST ALONG THE SOUTH LINE OF SAID SECTION 23 FROM THE SOUTHEAST CORNER THEREOF; THENCE NORTH 01°11'00" EAST, A DISTANCE OF 30.00 FEET TO THE NORTH LINE OF S.W. SAGERT ROAD AND THE TRUE POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT; THENCE NORTH 01°11'00" EAST, A DISTANCE OF 326.84 FEET TO AN IRON ROD AT THE SOUTHWEST CORNER OF THAT TRACT CONVEYED TO THE ROBERT RANDALL COMPANY BY DEED RECORDED AS RECORDER'S FEE NO. 81006269, WASHINGTON COUNTY DEED RECORDS; THENCE ALONG THE SOUTHERLY LINE OF SAID ROBERT RANDALL COMPANY TRACT NORTH 82°44'44" EAST, A DISTANCE OF 231.06 FEET TO AN IRON ROD; THENCE NORTH 01°09'42" EAST, A DISTANCE OF 584.40 FEET TO AN IRON ROD SET ON THE SOUTH RIGHT OF WAY LINE OF THE S.P. & S. RAILROAD (BURLINGTON NORTHERN); THENCE SOUTH 81°30'52" WEST, A DISTANCE OF 1,194.87 FEET ALONG THE SOUTH LINE TO AN IRON ROD; THENCE SOUTH 00°07'32" WEST, A DISTANCE OF 100.00 FEET TO AN IRON ROD; THENCE NORTH 89°52'28" WEST, A DISTANCE OF 85.01 FEET TO AN IRON ROD; THENCE SOUTH 00°14'57" EAST, A DISTANCE OF 595.31 FEET TO AN IRON ROD; THENCE SOUTH 44°17'29" EAST, A DISTANCE OF 78.34 FEET; THENCE NORTH 89°29'45", A DISTANCE OF 15.66 FEET; THENCE SOUTH 44°17'29" EAST, A DISTANCE OF 29.37 FEET TO A POINT ON THE NORTH RIGHT OF WAY LINE OF SW SAGERT ROAD; THENCE NORTH 89°29'45" EAST, A DISTANCE OF 505.98 FEET; THENCE NORTH 00°30'15" WEST, A DISTANCE OF 6.00 FEET; THENCE NORTH 89°29'45" EAST, A DISTANCE OF 246.00 FEET; THENCE SOUTH 00°30'15" EAST, A DISTANCE OF 6.00 FEET TO A POINT ON THE NORTH LINE OF SW SAGERT ROAD; THENCE NORTH 89°29'45" EAST, A DISTANCE OF 173.80 FEET TO THE PLACE OF BEGINNING.

SCHEDULE B

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

SPECIAL EXCEPTIONS:

1. TAXES FOR THE FISCAL YEAR 1995-1996, HAVE BEEN PAID IN FULL
   AMOUNT : $167,515.07
   LEVY CODE : 023-76
   ACCOUNT NO. : R1185835
   MAP NO. : 2S123DC
   TAX LOT NO. : 00600

2. THE PREMISES HEREIN DESCRIBED ARE WITHIN AND SUBJECT TO THE STATUTORY POWER, INCLUDING THE POWER OF ASSESSMENT OF THE UNIFIED SEWERAGE AGENCY OF WASHINGTON COUNTY. (THERE ARE NO UNPAID ASSESSMENTS AS OF THE DATE OF SAID REPORT)

3. STREET IMPROVEMENT AGREEMENT, INCLUDING THE TERMS AND PROVISIONS THEREOF:
   DATED : JULY 14, 1988
   RECORDED : FEBRUARY 7, 1989
   RECORDING NO. : 89-05583
   (NOTE: THERE ARE NO OBLIGATIONS OUTSTANDING WITH RESPECT TO SAID AGREEMENT AS OF THE DATE OF THIS POLICY)

4. DEED OF TRUST, SECURITY AGREEMENT, FIXTURE FILING AND ASSIGNMENT OF RENTS AND LEASES, GIVEN TO SECURE AN INDEBTEDNESS, AND THE TERMS AND CONDITIONS CONTAINED THEREIN:
   AMOUNT : $9,203,000.00
   DATED : OCTOBER 11, 1995
   RECORDED : OCTOBER 17, 1995
   RECORDING NO. : 95075549
   GRANTOR : AMERICAN APARTMENT COMMUNITIES OPERATING PARTNERSHIP, L.P., A DELAWARE LIMITED PARTNERSHIP
   TRUSTEE : CHICAGO TITLE INSURANCE COMPANY, A MISSOURI CORPORATION
   BENEFICIARY : TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA

5. ASSIGNMENT OF RENTS AND LEASES AND THE TERMS AND CONDITIONS CONTAINED THEREIN:

DATED	: OCTOBER 11, 1995
RECORDED	: OCTOBER 17, 1995
RECORDING NO.	: 95075550
EXECUTED BY	: AMERICAN APARTMENT COMMUNITIES OPERATING PARTNERSHIP, L.P., A DELAWARE LIMITED PARTNERSHIP
TO	: TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA

6. SECOND DEED OF TRUST, SECURITY AGREEMENT, FIXTURE FILING AND ASSIGNMENT OF RENTS AND LEASES, GIVEN TO SECURE AN INDEBTEDNESS, AND THE TERMS AND CONDITIONS CONTAINED THEREIN:

AMOUNT	: $113,905,000.00
DATED	: OCTOBER 11, 1995
RECORDED	: OCTOBER 17, 1995
RECORDING NO.	: 95075551
GRANTOR	: AMERICAN APARTMENT COMMUNITIES OPERATING PARTNERSHIP, L.P., A DELAWARE LIMITED PARTNERSHIP
TRUSTEE	: CHICAGO TITLE INSURANCE COMPANY, A MISSOURI CORPORATION
BENEFICIARY	: TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA

7. SECOND ASSIGNMENT OF LEASES AND RENTS AND THE TERMS AND CONDITIONS CONTAINED THEREIN:

DATED	: OCTOBER 11, 1995
RECORDED	: OCTOBER 17, 1995
RECORDING NO.	: 95075552
EXECUTED BY	: AMERICAN APARTMENT COMMUNITIES OPERATING PARTNERSHIP, L.P., A DELAWARE LIMITED PARTNERSHIP
TO	: TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA

8. FINANCING STATEMENT:

SECURED PARTY	: TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA
DEBTOR	: AMERICAN APARTMENT COMMUNITIES OPERATION PARTNERSHIP, L.P., A DELAWARE LIMITED PARTNERSHIP
RECORDED	: OCTOBER 17, 1995
RECORDING NO.	: 95075553

9. ASSUMPTION OF LIABILITY SECURED BY REAL PROPERTY AND RELEASE OF ORIGINAL BORROWER AGREEMENT, INCLUDING THE TERMS AND PROVISIONS THEREOF:

DATED	: JANUARY 31, 1996
RECORDED	: MARCH 21, 1996
RECORDING NO.	: 96024354
BY AND BETWEEN	: TEACHERS INSURANCE AND ANNUITY ASSOCIATION OF AMERICA, A NEW YORK CORPORATION, AND AMERICAN APARTMENT COMMUNITIES OPERATING PARTNERSHIP, L.P., A DELAWARE LIMITED PARTNERSHIP, AND AMERICAN APARTMENT COMMUNITIES II, L.P., A DELAWARE LIMITED PARTNERSHIP

10. AN EASEMENT CREATED BY INSTRUMENT, INCLUDING THE TERMS AND PROVISIONS THEREOF:

DATED	: AUGUST 8, 1988
RECORDED	: AUGUST 15, 1988
RECORDING NO.	: 88-35910
IN FAVOR OF	: CITY OF TUALATIN
FOR	: PUBLIC PEDESTRIAN WALKWAY AND BIKE PATH
AFFECTS	: THE SOUTHERLY PORTION OF THE SUBJECT PROPERTY
RE-RECORDED	: FEBRUARY 7, 1989
RECORDING NO.	: 89-05588

11. AN EASEMENT CREATED BY INSTRUMENT, INCLUDING THE TERMS AND PROVISIONS THEREOF:

DATED	: OCTOBER 27, 1989
RECORDED	: NOVEMBER 21, 1989
RECORDER'S FEE NO.	: 89-56745
IN FAVOR OF	: CITY OF TUALATIN
FOR	: SANITARY SEWER LINE
AFFECTS	: THE NORTHERLY 10 FEET OF THE SUBJECT PROPERTY

12. AN EASEMENT CREATED BY INSTRUMENT, INCLUDING TERMS AND PROVISIONS THEREOF:

DATED	: OCTOBER 27, 1989
RECORDED	: NOVEMBER 21, 1989
RECORDER'S FEE NO.	: 89-56746
IN FAVOR OF	: CITY OF TUALATIN
FOR	: STORM DRAIN
AFFECTS	: THE SOUTHERLY AND EASTERLY PORTIONS OF THE SUBJECT PROPERTY

13. AN EASEMENT CREATED BY INSTRUMENT, INCLUDING TERMS AND CONDITIONS THEREOF:

DATED	: OCTOBER 27, 1989
RECORDED	: NOVEMBER 21, 1989
RECORDER'S FEE NO.	: 89-56747
IN FAVOR OF	: CITY OF TUALATIN
FOR	: WATER LINE

14. MEMORANDUM OF TELEVISION LICENSE AGREEMENT, INCLUDING THE TERMS AND PROVISIONS THEREOF:
RECORDED : JULY 20, 1989
RECORDER'S FEE NO. : 89-32960

THE INTEREST OF MARQUIS CABLEVISION, AN OREGON GENERAL PARTNERSHIP, AS LICENSEE WAS ASSIGNED TO CABLE PLUS, INC., BY INSTRUMENT:
RECORDED : JANUARY 23, 1990
RECORDER'S FEE NO. : 90-03756

THE TERMS AND PROVISIONS OF SAID AGREEMENT WERE MODIFIED BY INSTRUMENT:
RECORDED : FEBRUARY 5, 1990
RECORDER'S FEE NO. : 90-06032

THE LIEN OF THE ABOVE ASSIGNMENT OF TELEVISION LICENSE AGREEMENT WAS SUBORDINATED TO THE LIEN OF THE TRUST DEED SHOWN HEREIN, BY INSTRUMENT:
DATED : DECEMBER 19, 1990
RECORDED : DECEMBER 20, 1990
RECORDER'S FEE NO. : 90-69573

15. ENCROACHMENT DISCLOSED BY SURVEY:
DATED : OCTOBER 10, 1989
SURVEYOR : W. B. WELLS AND ASSOC., INC.
SURVEY NO. : 87-126
BEING : ENCROACHMENT OF FENCE ALONG THE NORTHEASTERLY, SOUTHEASTERLY AND SOUTHWESTERLY PORTIONS OF THE SAID PROPERTY

UNRECORDED ACCESS EASEMENT

EVIDENCES OF UTILITIES: WATER VALVES, MANHOLES, CLEANOUTS, AND TELEPHONE AND ELECTRIC SERVICE PADS

ENCROACHMENT OF BRICK PAVERS ONTO S. W. SAGERT ROAD

16. EXCLUSIVE LICENSE AND EASEMENT AGREEMENT, INCLUDING THE TERMS AND PROVISIONS THEREOF:
DATED : MARCH 31, 1995
RECORDED : JUNE 26, 1995
RECORDER'S FEE NO. : 95043816
BY AND BETWEEN : AMERICAN APARTMENT COMMUNITY OPERATING PARTNERSHIP, L.P., A DELAWARE LIMITED PARTNERSHIP AND INTERACTIVE CABLE SYSTEMS, INC.

17. RIGHTS OF PARTIES IN POSSESSION, AS TENANTS ONLY.

...END OF SCHEDULE B...

RE: Tualatin Heights
Tualatin, Oregon

ENDORSEMENT

Attached to Policy No NBG NO 96-0045-28

Issued by

CHICAGO TITLE INSURANCE COMPANY

The policy is hereby amended by adding as a named insured therein

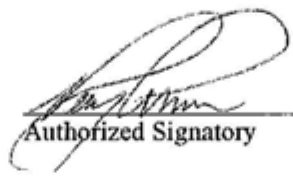
AMERICAN APARTMENT COMMUNITIES II, L P , A DELAWARE LIMITED PARTNERSHIP

This endorsement does not extend the coverage of the policy to any later date than Date of Policy, nor does it impose any liability on the Company for loss or damage resulting from (1) failure of such added insured to acquire an insurable estate or interest in the land, or (2) any defect, lien or encumbrance attaching by reason of the acquisition of an estate or interest in the land by such added insured.

This endorsement is made a part of the policy and is subject to all the terms and provisions thereof and of any prior endorsements thereto Except to the extent expressly stated, it neither modifies any of the terms and provisions of the policy and prior endorsements, if any, nor does it extend the effective date of the policy and prior endorsements or increase the face amount thereof

Dated: December 8, 1998

CHICAGO TITLE INSURANCE COMPANY

By 
Authorized Signatory

ENDORSEMENT

Attached to Policy No. 96-0045-28

Issued by

CHICAGO TITLE INSURANCE COMPANY

The Company insures against loss or damage sustained by reason of:

1 Any incorrectness in the assurance that, as Date of Policy:

(a) There are no covenants, conditions or restrictions under which the estate insured in Schedule A can be divested or extinguished.

(b) Unless expressly excepted in Schedule B:

(1) There are no present violations on the land of any enforceable covenants, conditions or restrictions, nor do any existing improvements on the land violate any building setback lines on a plat of subdivision recorded or filed in the public records.

(2) Any instrument referred to in Schedule B as containing covenants, conditions or restrictions on the land does not, in addition, (i) establish an easement on the land; (ii) provide a lien for liquidated damages; (iii) provide for a private charge or assessment; (iv) provide for an option to purchase, a right of first refusal or the prior approval of a future purchaser of occupant

(3) There are no encroachments of existing improvements located on the land onto adjoining land, nor any encroachments onto the land of existing improvements located on adjoining land.

(4) There is no encroachment of existing improvements located on the land onto that portion of the land subject to any easement excepted in Schedule B

(5) There are no notices of violation of covenants, conditions and restrictions relating to environmental protection recorded or filed in the public records.

2. Any future violation on the land of any existing covenants, conditions or restrictions provided the violation results in loss of title to the estate or interest in the land.

3. Damage to buildings:

(a) which are located on or encroach upon that portion of the land subject to any easement excepted in Schedule B, which damage results from the exercise of the right to maintain the easement for the purpose for which it was granted or reserved;

(b) resulting from the future exercise of any right to use the surface of the land for the extraction or development of minerals excepted from the description of the land or excepted in Schedule B.

4. Any final order or judgment requiring the removal from any land adjoining the land of any encroachment, other than fences, landscaping or driveways, excepted in Schedule B.

5 Any final court order or judgment denying the right to maintain any existing buildings on the land because of any violation of covenants, conditions, or restrictions or building setback lines shown on a plat of subdivision recorded or filed in the public records

Wherever in this endorsement the words "covenants, conditions or restrictions" appear, they shall not be deemed to refer to or include the terms, covenants, conditions or limitations contained in an instrument creating a lease or declaration or condominium referred to in Schedule A.

As used in Paragraphs 1(b) (1) and 5, the words, "covenants, conditions, or restrictions" shall not be deemed to refer to or include any covenants, conditions or restrictions relating to environmental protections.

This endorsement is made a part of the policy and is subject to all the terms and provisions thereof and of any prior endorsements thereto Except to the extent expressly stated, it neither modifies any of the terms and provisions of the policy and prior endorsements, if any, nor does it extend the effective date of the policy and prior endorsements or increase the face amount thereof

Dated: March 28, 1996

CHICAGO TITLE INSURANCE COMPANY

By _____
Authorized Signatory

Comprehensive

ENDORSEMENT

Attached of Policy No 96-0045-28

Issued by

CHICAGO TITLE INSURANCE COMPANY

The Company hereby insures the Insured against loss which said insured shall sustain as a result of any exercise of the right to use or maintenance of the easement referred to in Paragraphs 10, 11, 12 and 13 of Schedule B - Part 1 over or through said land

This endorsement is made a part of the policy and is subject to all of the terms and provisions thereof and of any prior endorsements thereto. Except to the extent expressly stated, it neither modifies any of the terms and provisions of the policy and any prior endorsements, nor does it extend the effective date of the policy and any prior endorsements, nor does it increase the face amount thereof.

CHICAGO TITLE INSURANCE COMPANY

By 
Authorized Signatory

Endorsement 103 1

ENDORSEMENT

Attached to Policy No. 96-0045-28

Issued by

CHICAGO TITLE INSURANCE COMPANY

The Company assures the Insured that said land is the same as that delineated on the plat of a survey made by W B Wells & Assoc Inc , File No 95-199, dated August 28, 1995

The Company hereby insures said Assured against loss which said Assured shall sustain in the event that the assurance herein shall prove to be incorrect.

The total liability of the Company under said policy and any endorsement therein shall not exceed, in the aggregate, the face amount of said policy and costs which the Company is obligated under the conditions and stipulations thereof to pay.

This endorsement is made a part of said policy and is subject to the schedules, conditions, and stipulations therein except as modified by the provisions hereof.

CHICAGO TITLE INSURANCE COMPANY

By _____
Authorized Signatory

Endorsement 116 1

ENDORSEMENT

Attached to Policy No 96-0045-28

Issued by

CHICAGO TITLE INSURANCE COMPANY

The Company hereby assures the Insured

That said land has legal and actual access sufficient for vehicular and pedestrian use to and from S. W. Sagert Road

and the Company hereby insures said Assured against loss which said Assured shall sustain in the event said assurances herein shall prove incorrect.

The total liability of the Company under said policy and any endorsements therein shall not exceed, in the aggregate, the face amount of said policy and costs which the Company is obligated under the conditions and stipulations thereof to pay.

This endorsement is made part of said policy and is subject to the Schedules and the Conditions and Stipulation therein, except as modified by the provisions hereof.

CHICAGO TITLE INSURANCE COMPANY

By 

Authorized Signature

ENDORSEMENT 103.7

ENDORSEMENT

Attached to Policy No 96-0045-28

Issued by

CHICAGO TITLE INSURANCE COMPANY

The Company hereby insures the Insured that the property referred to in Schedule B consists of a separate tax lot or lots and said lot or lots will not include any property not included with said parcels.

This endorsement is made a part of the policy and is subject to all the terms and provisions thereof and of any prior endorsements thereto. Except to the extent expressly stated, it neither modifies any of the terms and provisions of the policy and prior endorsements, if any, nor does it extend the effective date of the policy and prior endorsements or increase the face amount thereof.

Dated: March 28, 1996

CHICAGO TITLE INSURANCE COMPANY

By 
Authorized Signatory

Separate Tax Lot

ENDORSEMENT

Attached to Policy No 96-0045-28

Issued by

CHICAGO TITLE INSURANCE COMPANY

The Company agrees that if, within 10 years after the date of this policy, application is made to increase the face amount of the policy or to issue a new policy, it will issue additional title insurance policies, or increase the face amount of this policy insuring such title or interest as may then exist in the insured or the insured's designee. The amount of insurance to be issued will not exceed the amount of the mortgage to be placed on the land nor the fair market value of the land and improvements therein at the date of the application. In the event a claim has been made or is pending against the Company, or a defect in title has been discovered, the Company shall not be required to issue insurance for an amount greater than the face amount of this policy as to the defect discovered or resulting in said claim. Upon receipt of the application to issue a subsequent policy or increase the face amount of this policy, the Company will extend its examination of the title to the then current date and will then issue its policy or increase the face of this policy, subject to such matters created, first appearing in the public records attaching subsequent to the effective date of this policy, of which have become known to either the insured or the Company.

The insurance to be issued shall be issued for an additional premium equal to $.70 per thousand dollars of additional amount of insurance. The Company shall not be obligated to issue additional insurance coverage which would exceed the amount of the usual reinsurance retention of the Company if, after the exercise of reasonable effort, the Company is unable to obtain reinsurance or co-insurance as may be required in order for it to issue the full amount of additional insurance for which application is made

This endorsement is made a part of the policy and is subject to all the terms and provisions thereof and of any prior endorsements thereto. Except to the extent expressly stated, it neither modifies any of the terms and provisions of the policy and prior endorsements, if any, nor does it extend the effective date of the policy and prior endorsements or increase the face amount thereof.

Dated: March 28, 1996

CHICAGO TITLE INSURANCE COMPANY

By _____
Authorized Signatory

4. Any final order or judgment requiring the removal from any land adjoining the land of any encroachment, other than fences, landscaping or driveways, excepted in Schedule B.

5. Any final court order or judgment denying the right to maintain any existing buildings on the land because of any violation of covenants, conditions, or restrictions or building setback lines shown on a plat of subdivision recorded or filed in the public records.

Wherever in this endorsement the words "covenants, conditions or restrictions" appear, they shall not be deemed to refer to or include the terms, covenants, conditions or limitations contained in an instrument creating a lease or declaration or condominium referred to in Schedule A.

As used in Paragraphs 1(b) (1) and 5, the words, "covenants, conditions, or restrictions" shall not be deemed to refer to or include any covenants, conditions or restrictions relating to environmental protections.

This endorsement is made a part of the policy and is subject to all the terms and provisions thereof and of any prior endorsements thereto. Except to the extent expressly stated, it neither modifies any of the terms and provisions of the policy and prior endorsements, if any, nor does it extend the effective date of the policy and prior endorsements or increase the face amount thereof.

Dated: March 28, 1996

CHICAGO TITLE INSURANCE COMPANY

By _____
Authorized Signatory

Comprehensive

ENDORSEMENT

Attached to Policy No. 96-0045-28

Issued by

CHICAGO TITLE INSURANCE COMPANY

The Company hereby assures the Insured that notwithstanding the provisions of paragraphs numbered 3(a) and 3(b) of the exclusions from coverage in the policy, in the event of loss or damage insured against under the terms of the policy, the Company will not deny its liability thereunder to the Insured on the ground that the Insured had knowledge of any matter solely by reason of notice thereof imputed to it through James D Klingbeil, American Apartment Communities, Inc., American Apartment Communities Operating Partnership, L.P., AAC Funding Partnership II, AAC Funding Partnership III, AAC Funding II, Inc., AAC Funding III, Inc., their current and former officers and directos, and their partners (collectively the "AAC Group")

This endorsement is made a part of the policy and is subject to all of the terms and provisions thereof and of any prior endorsements thereto. Except to the extent expressly stated, it neither modifies any of the terms and provisions of the policy and any prior endorsement, nor does it extend the effective date of the policy and any prior endorsements, nor does it increase the face amount thereof.

Dated: March 28, 1996

CHICAGO TITLE INSURANCE COMPANY

By 

Authorized Signatory

CONDITIONS AND STIPULATIONS

1. DEFINITION OF TERMS

The following terms when used in this policy mean:

(a) "insured": the insured named in Schedule A, and subject to any rights or defenses the Company may have had against the named insured, those who succeed to the interest of such insured by operation of law as distinguished from purchase including, but not limited to, heirs distributees, devisees survivors personal representatives next of kin, or corporate or fiduciary successors

(b) "insured claimant": an insured claiming loss or damage hereunder

(c) "knowledge": actual knowledge, not constructive knowledge or notice which may be imputed to an insured by reason of any public records

(d) "land": the land described, specifically or by reference in Schedule A and improvements affixed thereto which by law constitute real property; provided however the term "land" does not include any property beyond the lines of the area specifically described or referred to in Schedule A, nor any right title interest estate or easement in abutting streets, roads avenues alleys lanes ways or waterways, but nothing herein shall modify or limit the extent to which a right of access to and from the land is insured by this policy

(e) "mortgage": mortgage, deed of trust trust deed, or other security instrument

(f) "public records": those records which by law impart constructive notice of matters relating to said land

2. CONTINUATION OF INSURANCE AFTER CONVEYANCE OF TITLE

The coverage of this policy shall continue in force as of Date of Policy in favor of an insured so long as such insured retains an estate or interest in the land or holds an indebtedness secured by a purchase money mortgage given by a purchaser from such insured, or so long as such insured shall have liability by reason of covenants of warranty made by such insured in any transfer or conveyance of such estate or interest; provided, however, this policy shall not continue in force in favor of any purchaser from such insured of either said estate or interest or the indebtedness secured by a purchase money mortgage given to such insured

3. DEFENSE AND PROSECUTION OF ACTIONS—NOTICE OF CLAIM TO BE GIVEN BY AN INSURED CLAIMANT

(a) The Company at its own cost and without undue delay shall provide for the defense of an insured in all litigation consisting of actions or proceedings commenced against such insured, or a defense interposed against an insured in an action to enforce a contract for a sale of the estate or interest in said land to the extent that such litigation is founded upon an alleged defect, lien, encumbrance or other matter insured against by this policy

(b) The insured shall notify the Company promptly in writing (i) in case any action or proceeding is begun or defense is interposed as set forth in (a) above (ii) in case knowledge shall come to an insured hereunder of any claim of title or interest which is adverse to the title to the estate or interest, as insured and which might cause loss or damage for which the Company may be liable by virtue of this policy or (iii) if title to the estate or interest, as insured, is rejected as unmarketable If such prompt notice shall not be given to the Company then as to such insured all liability of the Company shall cease and terminate in regard to the matter or matters for which such prompt notice is required; provided, however, that failure to notify shall in no case prejudice the rights of any such insured under this policy unless the Company shall be prejudiced by such failure and then only to the extent of such prejudice

(c) The Company shall have the right at its own cost to institute and without undue delay prosecute any action or proceeding or to do any other act which in its opinion may be necessary or desirable to establish the title to the estate or interest as insured and the Company may take any appropriate action under the terms of this policy, whether or not it shall be liable thereunder, and shall not thereby concede liability or waive any provision of this policy

(d) Whenever the Company shall have brought any action or interposed a defense as required or permitted by the provisions of this policy, the Company may pursue any such litigation to final determination by a court of competent jurisdiction and expressly reserves the right in its sole discretion, to appeal from any adverse judgment or order.

(e) In all cases where this policy permits or requires the Company to prosecute or provide for the defense of any action or proceeding the insured hereunder shall secure to the Company the right to so prosecute or provide defense in such action or proceeding and all appeals therein, and permit the Company to use, at its option, the name of such insured for such purpose Whenever requested by the Company, such insured shall give the Company all reasonable aid in any such action or proceeding, in effecting settlement, securing evidence, obtaining witnesses, or prosecuting or defending such action or proceeding, and the Company shall reimburse such insured for any expense so incurred

4. NOTICE OF LOSS—LIMITATION OF ACTION

In addition to the notices required under paragraph 3(b) of these Conditions and Stipulations, a statement in writing of any loss or damage for which it is claimed the Company is liable under this policy shall be furnished to the Company within 90 days after such loss or damage shall have been determined and no right of action shall accrue to an insured claimant until 30 days after such statement shall have been furnished. Failure to furnish such statement of loss or damage shall terminate any liability of the Company under this policy as to such loss or damage

5. OPTIONS TO PAY OR OTHERWISE SETTLE CLAIMS

The Company shall have the option to pay or otherwise settle for or in the name of an insured claimant any claim insured against or to terminate all liability and obligations of the Company hereunder by paying or tendering payment of the amount of insurance under this policy together with any costs, attorneys' fees and expenses incurred up to the time of such payment or tender of payment, by the insured claimant and authorized by the Company

6. DETERMINATION AND PAYMENT OF LOSS

(a) The liability of the Company under this policy shall in no case exceed the least of:

(i) the actual loss of the insured claimant; or

(ii) the amount of insurance stated in Schedule A

(b) The Company will pay, in addition to any loss insured against by this policy, all costs imposed upon an insured in litigation carried on by the Company for such insured, and all costs, attorneys' fees and expenses in litigation carried on by such insured with the written authorization of the Company

(c) When liability has been definitely fixed in accordance with the conditions of this policy the loss or damage shall be payable within 30 days thereafter

7. LIMITATION OF LIABILITY

No claim shall arise or be maintainable under this policy (a) if the Company, after having received notice of an alleged defect, lien or encumbrance insured against hereunder, by litigation or otherwise, removes such defect, lien or encumbrance or establishes the title, as insured, within a reasonable time after receipt of such notice; (b) in the event of litigation until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title, as insured, as provided in paragraph 3 hereof; or (c) for liability voluntarily assumed by an insured in settling any claim or suit without prior written consent of the Company.

8. REDUCTION OF LIABILITY

All payments under this policy, except payments made for costs, attorneys fees and expenses shall reduce the amount of the insurance pro tanto No payment shall be made without producing this policy for endorsement of such payment unless the policy be lost or destroyed, in which case proof of such loss or destruction shall be furnished to the satisfaction of the Company

9. LIABILITY NONCUMULATIVE

It is expressly understood that the amount of insurance under this policy shall be reduced by any amount the Company may pay under any policy insuring either (a) a mortgage shown or referred to in Schedule B hereof which is a lien on the estate or interest covered by this policy, or (b) a mortgage hereafter executed by an insured which is a charge or lien on the estate or interest described or referred to in Schedule A and the amount so paid shall be deemed a payment under this policy The Company shall have the option to apply to the payment of any such mortgages any amount that otherwise would be payable hereunder to the insured owner of the estate or interest covered by this policy and the amount so paid shall be deemed a payment under this policy to said insured owner

CONDITIONS AND STIPULATIONS (Continued on Reverse Side)

MEMORANDUM

Neighborhood / Developer Meeting Summary

Tualatin Heights Plan Map Amendment

DATE	August 31, 2021
TO	City of Tualatin Planning
FROM	Frank Angelo and Emma Porricolo, APG
CC	Jon McGrew and Erica Thompson, HEA

Summary

The Neighborhood/Developer Meeting for the proposed Plan Map Amendment application was held on Tuesday, June 8, 2021 at 6:00 PM . The meeting was virtually hosted on GoToMeeting. Approximately 23 neighbors were in attendance. A list of attendees who signed into the meeting is found in Attachment A.

The project team provided a brief overview of the site, the application proposal, and Plan Map Amendment application requirements. Following the presentation, attendees were asked to share questions and comments. A summary of the questions and comments from neighbors (organized by topic), and the responses from the project team are as follows:

I. Traffic, Street Improvements, and Access

- The project team noted that emergency access is located on 95th Ave., just south of the railroad tracks. The 95th Ave. access will not be open to the public.
- Neighbors recommended more street improvements for safety, such as additional crosswalks near Tualatin Elementary School.
- Neighbors expressed concerns about the amount of traffic in the area and said they have seen many accidents around the site. They noted that Sagert St. is very congested, especially during rush hour.
- Neighbors suggested considering moving or adding entrance(s) to the site, suggested locating an entrance on 95th Ave.
    - Response (from project team): One of the constraints on access is the railroad tracks located to the north. The City is aware of the neighborhood traffic and parking conditions. A traffic assessment is required as a part of the Plan Map amendment application.

II. Parking

- Written comments regarding parking concerns were received prior to the meeting. Those are found in Attachment B.

ANGELO PLANNING GROUP
921 SW Washington Street, Suite 468
Portland, OR 97205

angeloplanning.com
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f: 503.227.3679

- Many residents expressed concerns about the current parking conditions and resulting parking conditions that could occur from having more units at the Tualatin Heights Apartments. Comments included:
    - *Concerns about parking*.
        - The project team noted that the draft plans depict the City's parking requirements, that are based on number of bedrooms per unit. One attendee had concerns about parking minimums required by the City of Tualatin and did not feel they are adequate.
        - Neighbors expressed concerns about the parking permit fees at Tualatin Heights, assuming residents park on neighborhood streets to avoid fees.
    - *Concerns related to use of street parking*.
        - "It's almost impossible to live in the neighborhood with the situation that it is now, new units will create some difficulty. We can't put trash cans out, street sweeping, not able to park in front of house. It is a major issue. The issue changed when the apartment policy changed (has been in the neighborhood for 12 years). Are you aware of how serious the parking situation is for the neighborhood?" Several other neighbors in attendance echoed this concern.
        - One attendee suggested adding a parking garage or allowing on-street parking on 95th Ave and Sagert St.
        - Neighbors noted the difficulty to see when backing out of their driveways because of the cars parked on the street.
    - *Concerns about safety* due to proximity to the nearby Tualatin Elementary School.
        - "At Sagert St. & 93rd Ave. intersection, lots of kids live on 93rd Ave. It is a walking route to elementary school for many kids. With cars parking on Sagert St., is dangerous for kids and drivers. It is nerve racking have to pull out and not know what's around the corner." Neighbors also noted there is a school bus stop located on 93rd Ave. near the site.
        - Response: The project team thanked attendees for their comments. The comments would be shared with project team who will consider how they can be addressed. The development proposal has not been fully defined, that is a part of next steps.

III. Miscellaneous

- What are other zone changes in the city? Don't think this is an appropriate location for a high density zone considering the vicinity to low density zones.
    - Response: Not sure what other zones changes are proposed in the City, they aren't a part of this project.
- Does the zone change allow a greater maximum building height?
    - Response: It is only a change to maximum density. Heights and other siting requirements are consistent across two zones (existing and proposed zones).
- Is the water and waste infrastructure for the site currently adequate for the additional units?
    - Response: The project team is researching infrastructure capacity now. We will need to confirm that infrastructure capacity is adequate through development approval process.
- Will there be tree removal? Would like to retain large trees on the perimeter of the site.

- Response: The project team hasn't gotten to that level of detail yet. We are trying to keep changes to internal to the site and reduce impacts to neighbors. Also, the City has buffering/landscaping requirements that will be considered when development is proposed (not a part of this application).

Attachments

A. Sign-in Sheet
B. Written Comments
C. Presentation
D. Mailed Meeting Notice

Attachment A

Tualatin Heights Neighborhood Meeting

Attendance Sign- In

Name	Address	Phone	Email
Melissa Snowberger	[redacted]	[redacted]	[redacted]
Kathleen Cunnington	[redacted]		[redacted]
Rebekah Deal	[redacted]	[redacted]	[redacted]
Rebecca & Paulius Jurevicius	[redacted]		[redacted]
Jonathan Stone	[redacted]	[redacted]	
Bob Haas	[redacted]	[redacted]	[redacted]
Mike Snowberger	[redacted]	[redacted]	[redacted]
Peter and Lauren Henkle;	[redacted]	[redacted]	[redacted]
Keith Crosby	[redacted]	[redacted]	[redacted]
Lisa Hayes	[redacted]	[redacted]	[redacted]
Amy & Paul Wheatcroft	[redacted]		[redacted]
Ryan Henderson	[redacted]	[redacted]	[redacted]

From: Frank Angelo
To: Jon McGrew; Erica Thompson; Andrew J. Lavaux
Cc: Emma Porricolo
Subject: FW: Opposition to Tualatin Heights Zone Change
Date: Tuesday, June 8, 2021 2:34:47 PM

---

fyi

From: Ryan Henderson [redacted]
Sent: Tuesday, June 08, 2021 2:20 PM
To: Frank Angelo <fangelo@angeloplanning.com>
Subject: Opposition to Tualatin Heights Zone Change

Hi

I'm a homeowner along 93rd AVE near the proposed zoning change. I'm concerned that increasing the apartment density will worsen the problematic illegal parking in front of my house.

Sometime in 2019 Tualatin Heights changed their parking policy which led to a significant increase in on-street parking in the neighborhood around the complex. The increase in traffic leads to more late night loud music, trash and blocked mailboxes. I can request for the City to remove cars parked over 72 hours, but that process can actually take 2 weeks from the time the car is parked until it is towed. In short, Tualatin Heights is currently using the public street as an extension to their own parking lot and this zoning change will make that worse.

I am opposed to increased traffic and noise this expansion will bring to the neighborhood, but I will be mostly impacted by the increase in parked cars in front of my house.

Increasing the population density of Tualatin heights by 50% needs at least a 100% increase in available parking. In addition, prohibiting overnight street parking in the surrounding neighborhood would lower the impact of the zoning change. Can these requirements be added to the zoning change?

Thank you for your time
- Ryan Henderson

From: Frank Angelo
To: Jon McGrew; Erica Thompson; Andrew J. Lavaux
Cc: Emma Porricolo
Subject: FW: Tualatin Heights expansion
Date: Tuesday, June 8, 2021 2:34:26 PM

---

fyi

From: Randi Ausland [redacted]
Sent: Tuesday, June 08, 2021 2:10 PM
To: Frank Angelo <fangelo@angeloplanning.com>
Subject: Tualatin Heights expansion

Mr. Angelo,

I would like to comment on the proposed expansion of Tualatin Heights.
I have lived off Sagert Rd and SW 93rd for over 40 years. I am an active Real Estate Broker in Tualatin. I understand that affordable housing is needed in our community.

My objection to the expansion is due to the new policies the Tualatin Heights management has imposed on it's tenants. There was never a parking "spill over" into the neighborhood before the last year or two. I believe management started charging the tenants for parking. This pushed people out of the complex parking lot into the neighboring streets.

Mailboxes are blocked, property owners no longer have room for their guests or family to park in front of their homes. Adding an additional 130 units without addressing the parking situation is irresponsible.

Removing the garages and creating carports will address some of the problem but not nearly enough to make up for adding 130 units with the potential for 130 to 200 more cars. This is not an area with convenient mass transit or high walking scores. Cars are the norm. Neighborhoods are considering "permit" parking for our streets to discourage the overflow from Tualatin Heights. Where will the tenants park if that is enacted?

I hope to hear answers to these questions at the meeting scheduled for June 9th at 6:00pm.

--

Randi Ausland, Principal Broker
C 503-407-0828
O 503-692-3050
F 503-692-0592
Email [redacted]
Website www.metro-westrealty.com

From: [redacted]
To: Frank Angelo
Cc: Jon McGrew; Emma Porricolo; Andrew J. Lavaux
Subject: Re: Tualatin Heights Zone Change Virtual Meeting
Date: Wednesday, June 9, 2021 3:46:49 PM

Hi Frank (et al),

So this is the view from 93rd onto Sagert, facing northbound, on a fairly typical afternoon, from the marked "stop" line. I end up creeping forward another car length or so to see into the street well enough to make a turn (the road from the west comes out of an industrial area that has relatively high traffic during shift changes, so that's more of an impact than the east side where a driveway forces some visibility). My guess is that the intersection is not directly related to the zoning change, but 50% more housing on that property is not going to improve things without changes to this intersection and the parking on the street.

- Tony

> On Jun 2, 2021, at 09:51, Frank Angelo <fangelo@angeloplanning.com> wrote:
>
> Hello Anthony - thank you for contacting me. I have shared your comments with the project team, and we will be sure to address them at the Neighborhood

meeting.
Thanks, Frank Angelo

-----Original Message-----
From: Anthony Mayernik <a[redacted]
Sent: Friday, May 28, 2021 8:52 PM
To: Frank Angelo <fangelo@angeloplanning.com>
Subject: Tualatin Heights Zone Change Virtual Meeting

Hi Frank,

I got the notice today, much appreciate you guys sending this stuff out in advance. My only question/concern/comment on the proposed change:

Parking in/around that property is already bad. The street parking just outside the property is usually full. While I'm sure part of this is likely due to the property owner requiring tenants to pay for parking permits for 2nd vehicles or the "assigned" space being inconvenient to the tenant's unit, I'm curious to know how the increased zoning will affect the parking situation? It feels like more units in the same space would make the problem worse. It's hard enough making the turn onto Sagert when northbound on 93rd (I usually end up nosing into the intersection so I can see cross traffic), I'm just trying to picture how things will be with a 50% increase in unit density on that property.

Regards,
Anthony Mayernik

From: Frank Angelo
To: [redacted] planning@tualatin.gov
Cc: Jon McGrew; Emma Porricolo; Andrew J. Lavaux
Subject: RE: Tualatin Heights zoning proposal question for June 9 meeting
Date: Wednesday, June 2, 2021 9:48:48 AM

Hello Tim - thank you for contacting me. I have shared your comments with the project team, and we will be sure to address them at the Neighborhood meeting.
Thanks, Frank Angelo

-----Original Message-----
From: Tim G <hadasaugh@comcast.net>
Sent: Tuesday, June 01, 2021 8:42 PM
To: planning@tualatin.gov
Cc: Frank Angelo <fangelo@angeloplanning.com>
Subject: Fwd: Tualatin Heights zoning proposal question for June 9 meeting

Resent as a forwarded email to the entire Planning Group at the City of Tualatin, as L. Sanford no longer works there.

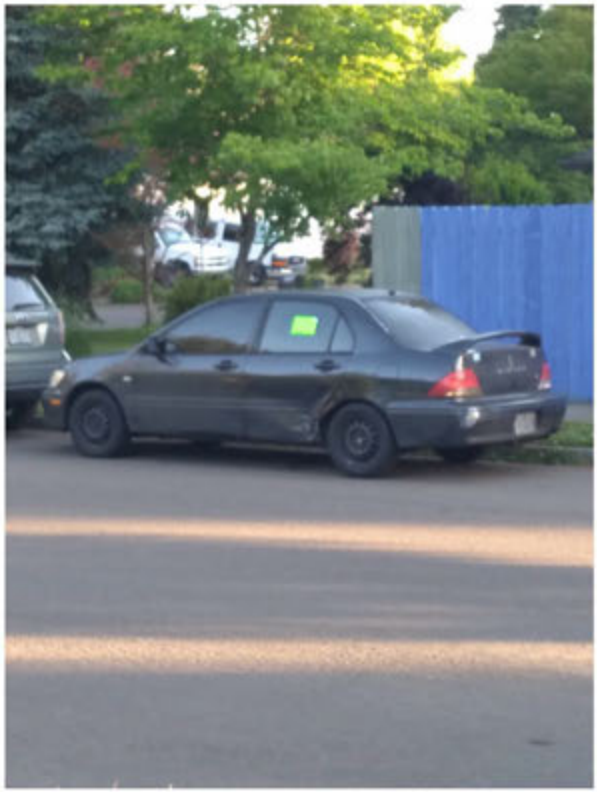
> ---------- Original Message ----------
> From: Tim G [redacted]
> To: "fangelo@angeloplanning.com" <fangelo@angeloplanning.com>
> Cc: "lsanford@tualatin.gov" <lsanford@tualatin.gov>
> Date: 06/01/2021 8:31 PM
> Subject: Tualatin Heights zoning proposal question for June 9 meeting
>
>
> Dear Mr. Angelo,
>
> This email is in response to the broadcast mailer sent to local residences by your organization dated May 25, 2020; RE: Tualatin Heights Comprehensive Plan Map Amendment.
>
> I thank you for the opportunity for us to express our interests and concerns. I ask that the below matter and question be submitted in the documentation and addressed during the upcoming June 9, 2021 virtual meeting.
>
> A copy of this email has also been forwarded to the City of Tualatin Planning Group to ensure they are also aware of the major concern identified below.
>
> ---
>
> Presently, with 220 units at Tualatin Heights, the present tenants have one space and pay a "surface fee" of $25.00, or $175.00 for a monthly unattached garage fee. Many tenants choose to do neither and opt to park their vehicles in front of residential properties on the surrounding neighborhood streets of SW Sagert, SW Apache, and SW 93rd, and occasionally SW Umiat.
>
> These tenants are parking there because of the fee-based parking demanded by Tualatin Heights, and because Tualatin Heights presently either does not provide enough adequate parking for all tenants and their vehicles now, or refuses to address tenant issues regarding multiple vehicles per occupancy unit.
>
> Cutting to the chase, in adding 130 plus more units, current and new tenants will park even more personal vehicles in front of more residential homes - blocking more curbside space for our families, friends, and visitors to park when they visit us in our residential homes.
>
> The simple question is:

>
> What makes us (neighborhood home owners) believe Tualatin Heights will abruptly change their policies and provide adequate, free parking for existing and future tenants, when they do not adequately provide parking now?
>
> In asking this question, an indifferent or dismissive response by the owner and managers of Tualatin Heights is unacceptable.
>
> Tualatin Heights must first address issues regarding their tenants' parking all over our residential streets. It needs to be in writing and contained in changes to the property planning documentation and blueprints to show ample parking will accommodate any future expansion/zone changes.
>
> If nothing is done to formally address this major concern in planning and development documents, the zone change proposal must be denied.
>
> Tim G
> Lieutenant Commander, US Navy (ret)
> SW Tonopah Street

From: Emma Porricolo
To: Emma Porricolo
Subject: RE: tualatin heights
Date: Monday, June 28, 2021 12:02:49 PM

From: Jeff McGinty [redacted]
Sent: Friday, June 04, 2021 6:12 PM
To: Frank Angelo <fangelo@angeloplanning.com>
Subject: Re: tualatin heights

Hello frank,
I have some questions about the proposed zone change. First is on street parking and added traffic. Some of the tenants are parking extra junk cars in front of my house now with 220 units. Adding another 116 units or less with two cars each could be a problem. Is there going to be enough over flow parking that they can rent to park junk?
Are there plans to add a entrance from 95th ave to ease traffic on sagert? So many cars are running the stop sign at apache dr. seems like every one is in hurry.
Is there any idea how much more delivery traffic will be added to sagert from FedEx, Amazon, ups, grub hub....?
Do think that there will be added noise to the neighborhood from more people? And how does that effect wild life, birds?
Will the zone change lower my property value?
Will I see any postvie things from the zone change?
Do any of the owners of the property live close by?
I really like this neighborhood and don't want to see more junk cars. I've attached some picture for reference from this morning.
I think It's a great idea to make more home's for people. I just don't want to make tualatin like south salem or Portland.
Thanks for answering all my questions, looking forward to hearing from you.



Tualatin Heights Apartments
Plan Map Amendment
Neighborhood Meeting

Virtual Sign-In

- Please complete the quick online sign-in sheet
- Options
  - Type your information in the chat/message box
  - Email the following information to fangelo@angeloplanning.com
- Please list:
  - Name
  - Address
  - Email address
  - Phone number

Agenda

- Welcome
- Background
- Plan Map Amendment
- Architectural Review Process
- Questions & Comments

Existing Site

Location
9301 SW Sagert Street

Current Use
220 multifamily units

Site Size
22.4 acres

Background

- History of site
  - 220 multi-family units
- Current opportunity
  - The City has determined there is a lack of medium-high density (RMH) zoning in the City. (Source: Housing Needs Analysis, 2019)
  - There is an opportunity to infill on the existing Tualatin Heights site to provide additional 116 units.

Plan Map Amendment Application Process

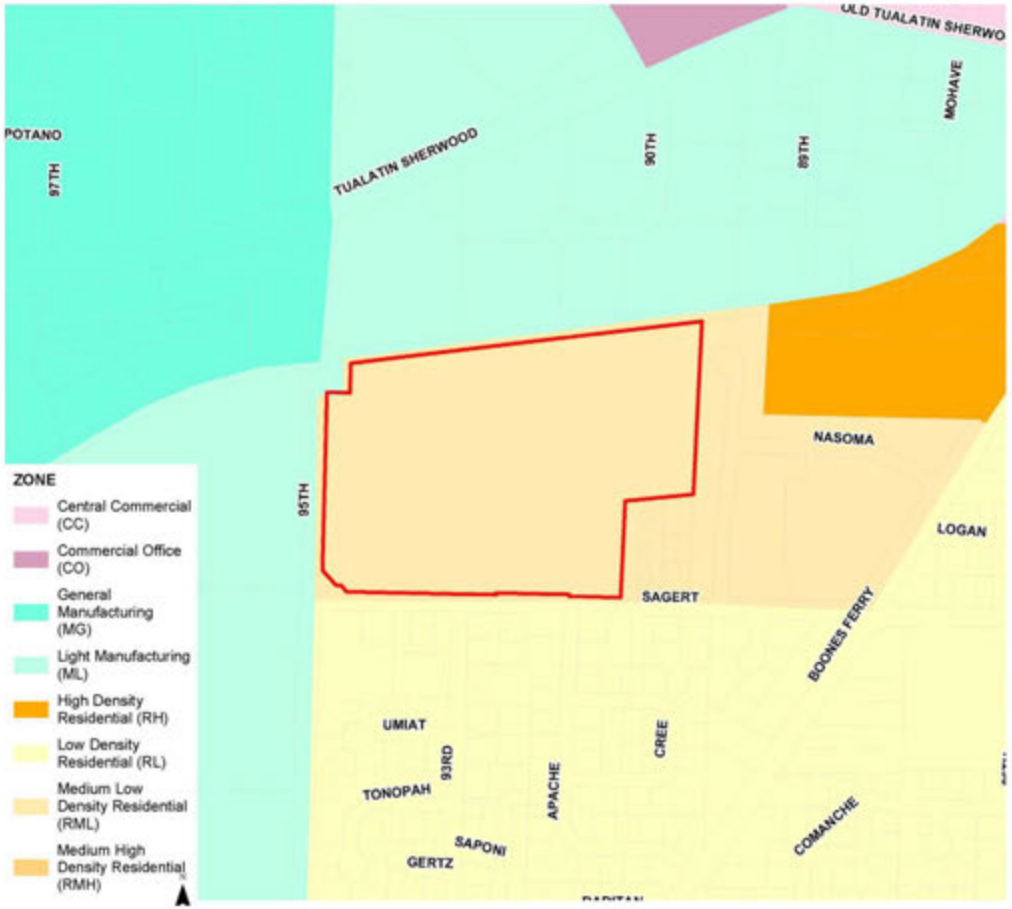
- Comprehensive Plan Map Amendment (also known as a Zone Change)
  - Current Zoning is Residential Medium Low (RML)
  - Proposed Zoning is Residential Medium High (RMH)
- Review process
  - A Type IV-A process with Planning Commission public hearing
  - Planning Commission recommendation to City Council
  - Tualatin City Council final action

Existing Zoning Map

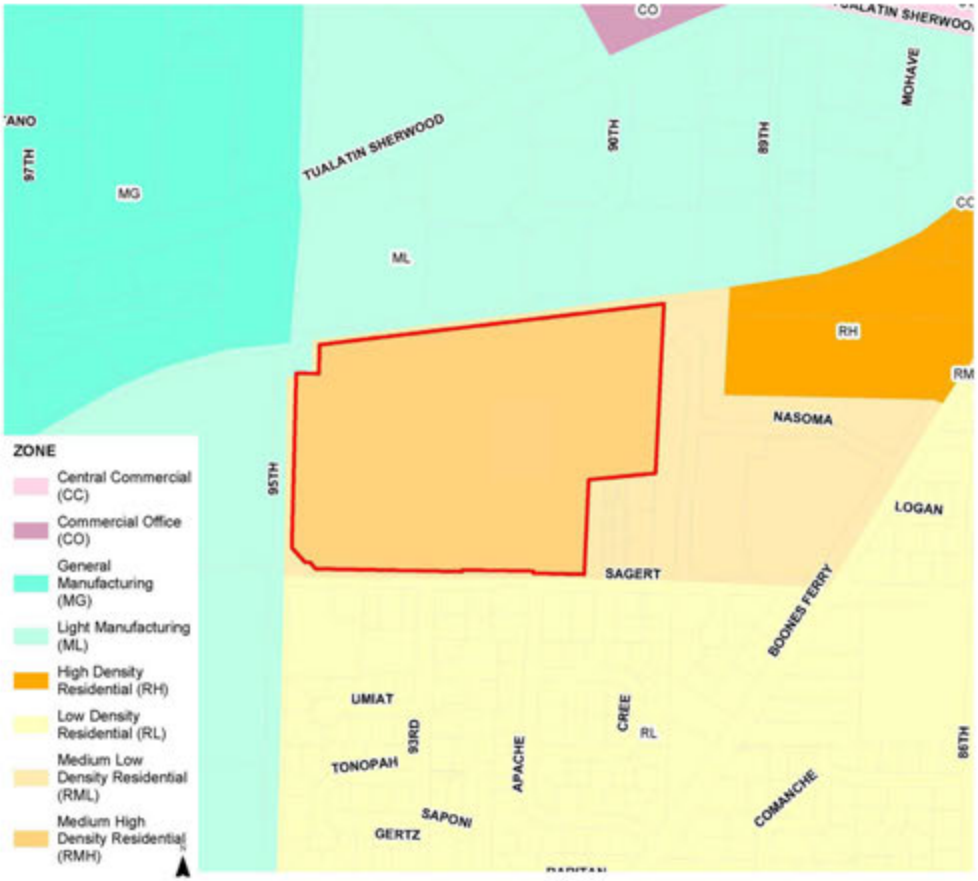
Current Zoning
Residential Medium Low (RML)

Maximum density
10 units/acre

224 Units



Proposed Zoning Map



Proposed Zoning
Residential Medium-High Density (RMH)

Maximum density
15 units/acre

Maximum of 336 units, or 116 more units

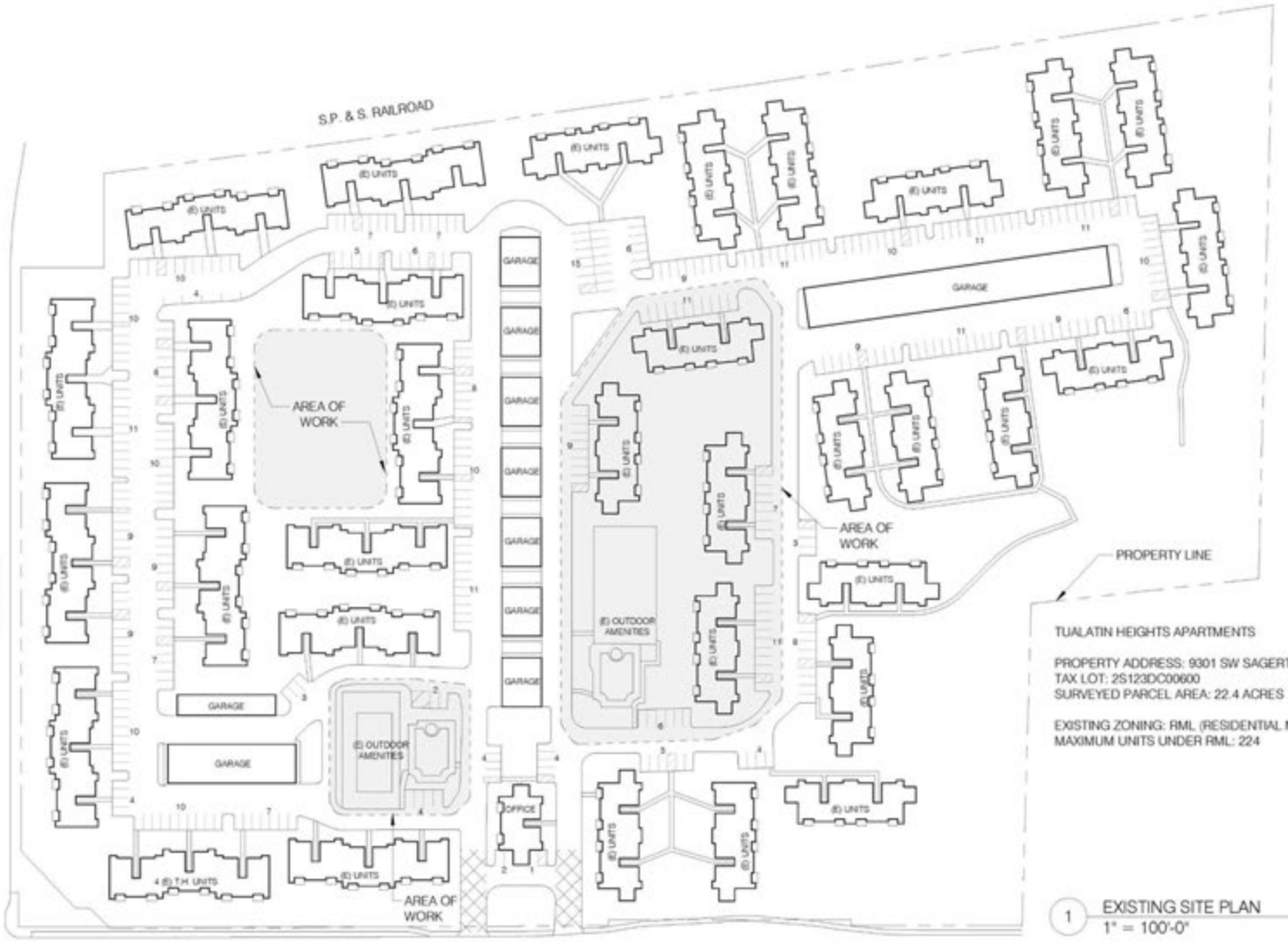
Standards for Approval of Plan Map Amendment

- The following review factors will be applied to the proposed amendments:
  - Comprehensive Plan Policies
  - Neighborhood Plan Policies
  - Housing Needs Analysis (2019)
  - Transportation Planning Rule
  - Statewide Planning Goals

Architectural Review Process

- Following approval of Plan Map Amendment, an Architectural Review Application will be filed to the City.
- Architectural Review application will apply applicable Tualatin Development Code criteria, and consider:
  - Site Design
  - Building Design
  - Traffic
  - Parking
  - Public Facilities
- Architectural Review Type III for 100 units or more.
  - Type III Architectural Review Applications go to a hearing at the Architectural Review Board.

Existing Site Plan



TUALATIN HEIGHTS APARTMENTS

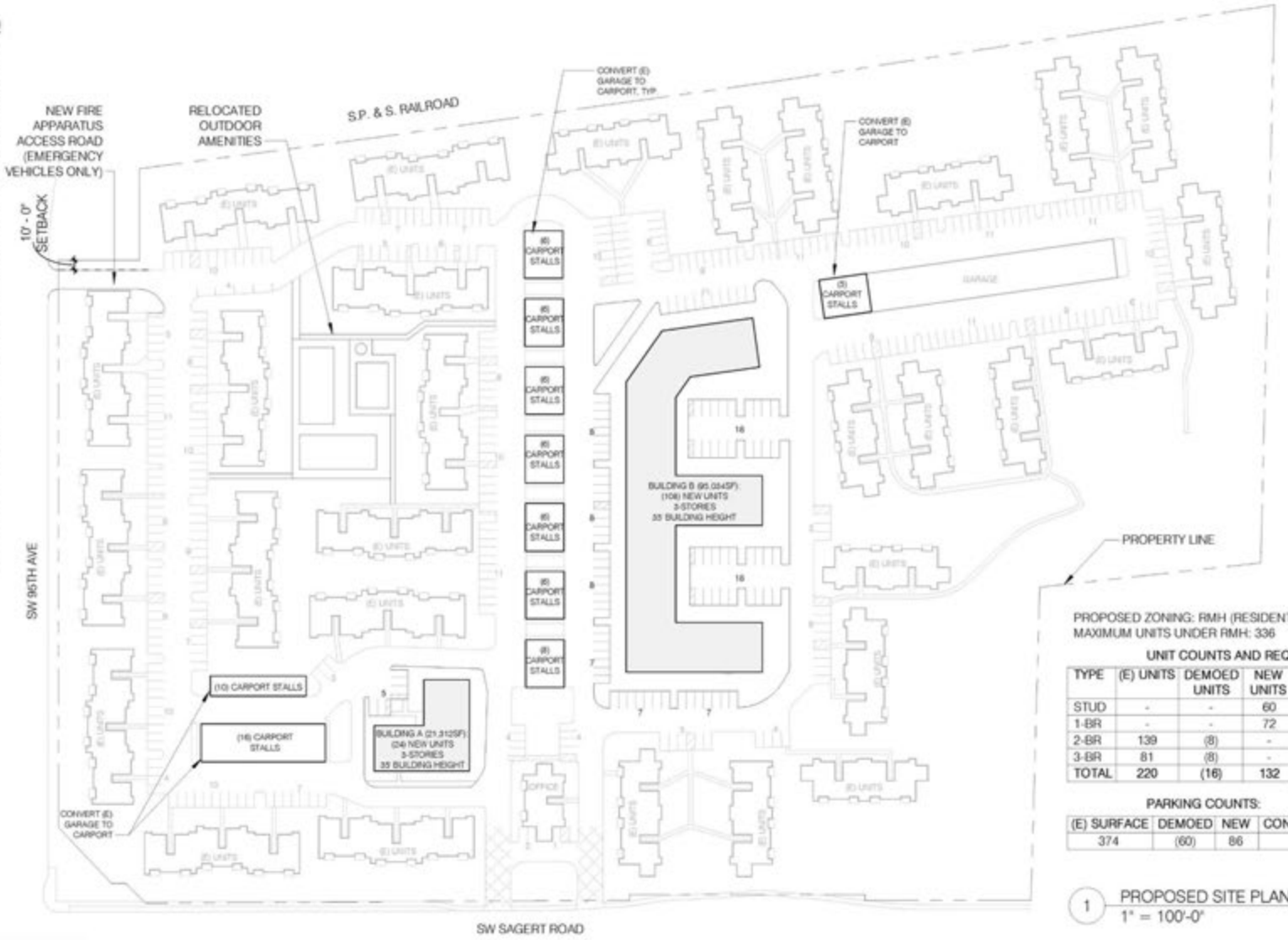
PROPERTY ADDRESS: 9301 SW SAGERT ST, TUALATIN, OR 97062
TAX LOT: 2S123DC00600
SURVEYED PARCEL AREA: 22.4 ACRES

EXISTING ZONING: RML (RESIDENTIAL MEDIUM LOW)
MAXIMUM UNITS UNDER RML: 224

1 EXISTING SITE PLAN
1" = 100'-0"

NORTH

Conceptual Site Plan



PROPOSED ZONING: RMH (RESIDENTIAL MEDIUM HIGH)
MAXIMUM UNITS UNDER RMH: 336

UNIT COUNTS AND REQUIRED PARKING:

TYPE	(E) UNITS	DEMOED UNITS	NEW UNITS	TOTAL UNITS	REQ. PARKING	REQ. GARAGE
STUD	-	-	60	60	60	0
1-BR	-	-	72	72	90	0
2-BR	139	(8)	-	131	196.5	0
3-BR	81	(8)	-	73	127.75	0
TOTAL	220	(16)	132	336	475	0

PARKING COUNTS:

(E) SURFACE	DEMOED	NEW	CONVERTED CARPORTS	TOTAL
374	(60)	86	75	475

1 PROPOSED SITE PLAN
1" = 100'-0"

NORTH

Next Steps

Dates are tentative

- ❑ July 2021: File application for proposed Plan Map Amendment
- ❑ August 2021: Planning Department Application Review
- ❑ Fall 2021: Planning Commission Review and Tualatin City Council Hearings
- ❑ TBD: Development proposal – Architectural Review Application
- ❑ TBD: Development review

Questions / Comments

Contact: Frank Angelo
Principal, Angelo Planning Group
fangelo@angeloplanning.com
503.227.3664

May 25, 2020

RE: Tualatin Heights Comprehensive Plan Map Amendment

Dear Property Owner:

You are cordially invited to attend a virtual Neighborhood/Developer Meeting on **Wednesday, June 9, 2021 at 6:00pm** (see page 3 for instructions on how to join the virtual meeting). This meeting is being held to discuss a proposed zone change for the Tualatin Heights property located at 9301 SW Sagert Street. Tualatin Heights is a multifamily apartment development; existing development includes 220 multifamily dwellings on 22.4 acres. The property is currently zoned Residential Medium Low (RML), with a maximum density of 10 dwelling units per acre. The property owner, United Dominion Realty, L.P., is interested in a zone change to allow for Residential Medium-High Density (RMH) on the site, increasing the density to 15 dwelling units per acre for a maximum of 336 units.

City approval is required for a zone change, formally referred to as Comprehensive Plan Map Amendment. The Tualatin Planning Commission will review the application and the Planning Commission will make a recommendation to the Tualatin City Council who will make the final decision.

Please note this meeting will be an informational meeting on the zone change application only. No development is planned at this time.

Because of the current COVID-19 situation, the City of Tualatin has prepared Temporary Guidance for Neighborhood/Developer Meetings. This Guidance allows the Neighborhood/Developer Meeting to be conducted as a Virtual Meeting. The Tualatin Heights Plan Map Amendment Virtual Neighborhood/Developer Meeting will be held on **Wednesday, June 9, 2021 at 6:00pm. See page 3 for instructions on how to join the virtual meeting.**

The City of Tualatin has laid out the following requirements for a Virtual Neighborhood Meeting:

- Be publicly accessible
- Does not require user login
- Allows a call-in option for non-internet users

Accordingly, we are providing the attached instructions for you to use if you choose to participate in this Neighborhood/Developer Meeting for the proposed Tualatin Heights zone change.

Mailed notice of this Virtual Meeting has been provided in the same manner as specified in TDC 32.120.

ANGELO PLANNING GROUP
921 SW Washington Street, Suite 468
Portland, OR 97205

angeloplanning.com
p: 503.224.6974
f: 503.227.3679

a. This notice includes the following information:

i. Instructions for how to join the virtual meeting and how to submit written comments both prior to and during the meeting. See attachment.

ii. Instructions for how to obtain or view materials to be presented during the virtual meeting. Such materials shall be made available, upon request or on a publicly accessible digital platform, a minimum of two days prior to the meeting and a minimum of 10 days after the meeting concludes. See attachment.

iii. Preliminary details of the major elements of the proposed development. See description above.

iv. Whether the development proposal includes a single or multiple applications. The application is for a Comprehensive Plan Map Amendment.

The purpose of this meeting is to provide a forum for surrounding property owners / residents to review the proposal and to identify issues so they can be considered before the formal application is submitted to the City of Tualatin. This meeting gives you the opportunity to share with us any special information you know about the property involved. Please note that this will be an informational meeting on preliminary development plans prior to official submission to the City.

Please contact me at 503-227-3664 (leave a message) or at fangelo@angeloplanning.com if you have questions about this meeting or the proposed project. We look forward to discussing this proposal with you.

Sincerely,

Frank Angelo, Principal
Angelo Planning Group
fangelo@angeloplanning.com

Attachment: Tualatin Heights Project Neighborhood/Developer Meeting Instructions
Project Location Map

Tualatin Heights Zone Change Virtual Neighborhood Meeting Instructions

The following are the instructions to participate in the Tualatin Heights Zone Change Virtual Neighborhood/Developer Meeting to be held on **Wednesday, June 9, 2021 at 6:00 PM.**

1. Log or call in via GoToMeeting using the information below:

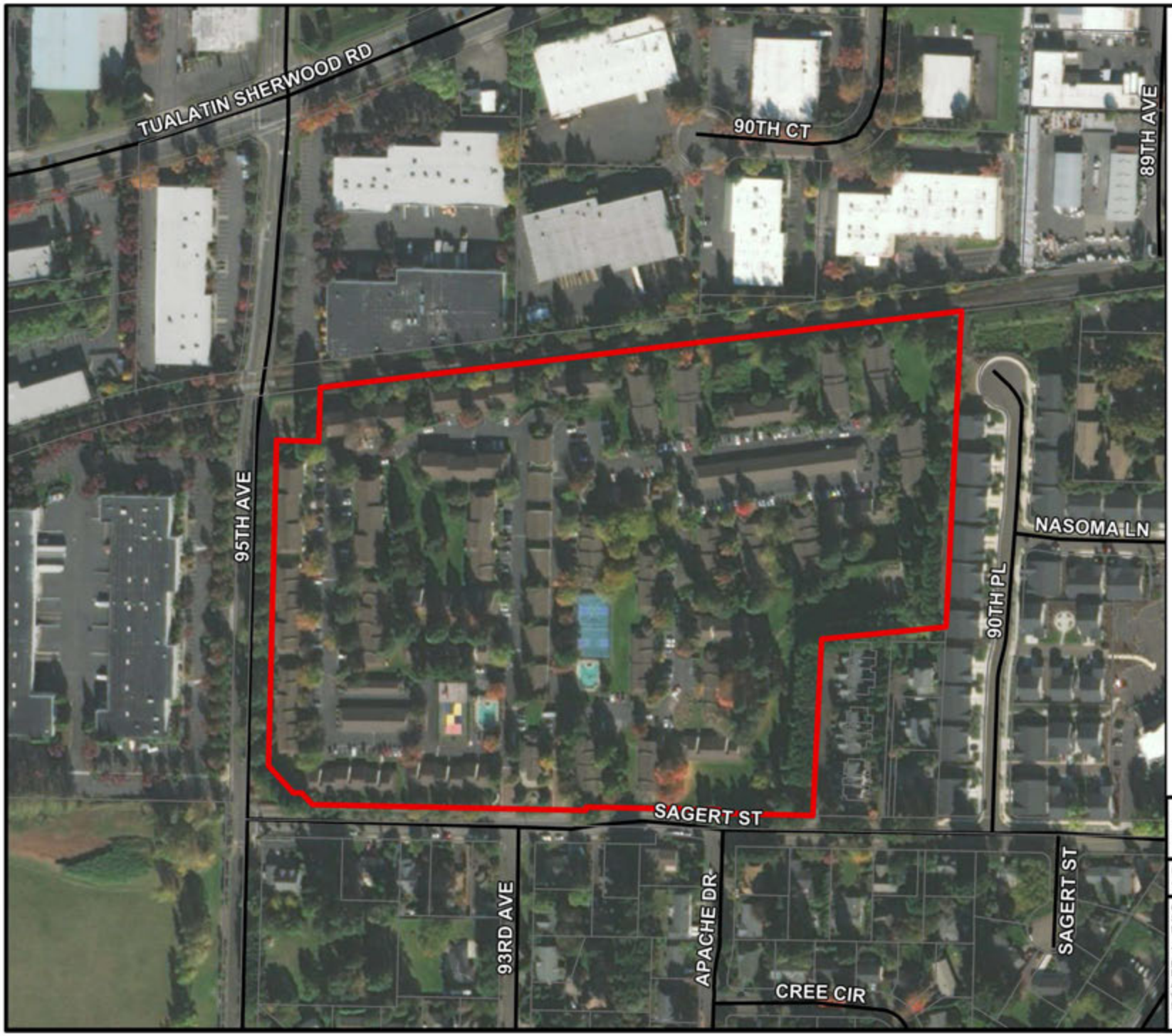
   Website for video: https://www.gotomeet.me/AngeloPlanning/thzonechange

   You can also dial in using your phone.
   United States: +1 (571) 317-3122 and use **Access Code:** 585-997-213

   If you are new to GoToMeeting? Get the app now and be ready when your first meeting starts: https://global.gotomeeting.com/install/585997213

2. Submit written questions before or during the meeting by emailing Frank Angelo at: fangelo@angeloplanning.com

3. Materials presented at the meeting will be available to view online 2 days prior to, and 10 days after, the meeting at the following link: https://tinyurl.com/thzonechange
   (The link will take you to a Dropbox folder.)



Tualatin Heights Zone Change Vicinity Map

Site

0 20 40 80 Feet

N

Prepared By: Angelo Planning Group

Date: 05/19/2021

Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Sources: Metro RLIS, WWSP

This map is intended for informational purposes only. While this map represents the best data available at the time of publication, APG makes no claims, representations, or warranties as to its accuracy or completeness. Metadata available upon request.

CERTIFICATION OF SIGN POSTING

NOTICE

NEIGHBORHOOD / DEVELOPER MEETING

06/09/2021 6:00P.m.

_____ SW _____

503-691-3026

In addition to the requirements of TDC 32.150, the 18" x 24" sign must display the meeting date, time, and address as well as a contact phone number. The block around the word "NOTICE" must remain **orange** composed of the **RGB color values Red 254, Green 127, and Blue 0**. A PowerPoint template of this sign is available at: https://www.tualatinoregon.gov/planning/land-use-application-sign-templates.

As the applicant for the Tualatin Heights PLAN AMENDMENT project, I hereby certify that on this day, 2 sign(s) was/were posted on the subject property in accordance with the requirements of the Tualatin Development Code and the Community Development Division.

Applicant's Name: Frank Angelo
(Please Print)

Applicant's Signature: [signature]

Date: May 26, 2021

AFFIDAVIT OF MAILING NOTICE

STATE OF OREGON)
) SS
COUNTY OF WASHINGTON)

I, Emma Pomeroy being first duly sworn, depose and say:

That on the 26 day of May, 2021, I served upon the persons shown on Exhibit "A" (Mailing Area List), attached hereto and by this reference incorporated herein, a copy of the Notice of Neighborhood/Developer Meeting marked Exhibit "B," attached hereto and by this reference incorporated herein, by mailing to them a true and correct copy of the original hereof. I further certify that the addresses shown on said Exhibit "A" are their regular addresses as determined from the books and records of the Washington County and/or Clackamas County Departments of Assessment and Taxation Tax Rolls, and that said envelopes were placed in the United States Mail with postage fully prepared thereon.

Signature

SUBSCRIBED AND SWORN to before me this 26th day of May, 2021.

OFFICIAL STAMP
SUSAN M MILLER
NOTARY PUBLIC-OREGON
COMMISSION NO. 977569
MY COMMISSION EXPIRES AUGUST 06, 2022

Notary Public for Oregon
My commission expires:

RE: Tualatin Heights Plan Amendment

Tualatin Heights Apartments | 9301 SW Sagert Street
Pre-Application Meeting 4/7/21 Summary

Thank you for discussing the proposed Plan Map Amendment and redevelopment. Below, please find a summary of some of the points we were able to discuss. If there is anything else you would like to document from our meeting, please respond with your notes as well. Thank you.

Required Land Use Reviews

All land use reviews may be submitted electronically via eTrakit:
https://permits.ci.tualatin.or.us/eTrakit/

A **Neighborhood/Developer meeting**

- Holding a new Neighborhood/Developer meeting is required for both a Plan Map Amendment and Architectural Review application; these meetings may be combined.
- One Neighborhood/Developer meeting may cover multiple applications but should generally be held no more than six months prior to application. More detailed information about this meeting, including options for virtual meetings during the present pandemic response, is online here: https://www.tualatinoregon.gov/planning/neighborhood-developer-meetings
- Applicants are responsible for mailing and posting notice of your Neighborhood Developer meeting. The City can provide a list of addresses for your notice letters. This mailing list includes neighboring property owners, but communicating with your current residents is also encouraged to proactively address concerns. Please email us at planning@tualatin.gov to request a Mailing List for a $32 fee.

Plan Map Amendment

An applicant-initiated Plan Map Amendment is a Type IV-A process with review by Tualatin City Council.

An advisory recommendation is sought at Tualatin Planning Commission prior to a City Council hearing. The applicant team is invited to attend and share information at this meeting, as are members of the public, but it is not a formal hearing.

Plan Map Amendment application packet:
https://www.tualatinoregon.gov/sites/default/files/fileattachments/planning/page/5083/pma_instructions_withform.pdf

Criteria to address in your narrative:

- TDC 33.070(5):
  https://library.municode.com/or/tualatin/codes/development_code?nodeId=THDECOTUOR_CH33APAPCR_TDC_33.070PLAM

With an upzone adding residential density, special attention is needed to the Transportation Planning Rule (TPR) analysis. Your findings should also address public capacity for sanitary sewer conveyance and water availability.

The proposal should also respond to the current Housing Needs Analysis and housing development goals. The HNA shows a deficient of capacity within RMH zoning.

- Housing Needs Analysis (2019): https://www.tualatinoregon.gov/sites/default/files/fileattachments/planning/page/22631/hna.pdf
- Tualatin 2040 information: https://www.tualatinoregon.gov/planning/tualatin-2040

Tualatin Comprehensive Plan:
https://www.tualatinoregon.gov/sites/default/files/fileattachments/planning/page/4716/comprehensive_plan_web.pdf

Architectural Review (AR)

- Architectural Review (Type III for 100 units or more). Type III ARs go to a hearing at the Architectural Review Board.

- AR Application: https://www.tualatinoregon.gov/sites/default/files/fileattachments/planning/page/5081/ar_instructions_2019_withforms.pdf

Criteria to address in your AR narrative includes:

Tualatin Municipal Code:

- Chapter 03-02: Sewer Regulations; Rates;
- Chapter 03-03: Water Service;
- Chapter 03-05: Soil Erosion, Surface Water Management, Water Quality Facilities, and Building and Sewers;

Tualatin Development Code:

- TDC 42: Medium High Density Residential
- TDC 73A: Site Design,
- 73B: Landscaping Design,
- 73C: Parking Standards, and
- 73D: Waste and Recyclables Management Standards;
- TDC 74: Public Improvements;
- TDC 75: Access.

While not directly applicable to larger multi-family development, changes to the Tualatin Development Code related to middle housing and consistent with Oregon House Bill 2001 are anticipated in the second half of 2021. Minor changes in the development code such as definition updates may possibly be relevant to this project. Updates on this project at: https://www.tualatinoregon.gov/planning/middle-housing.

Highlighted Site Design Standards

RMH Standards:
https://library.municode.com/or/tualatin/codes/development_code?nodeId=THDECOTUOR_CH42MEHIDEREZORM

Community Design Standards:
The 73A "Common wall" standards must be met unless the applicant team seeks a Variance prior to Architectural Review. Where it may not be immediately clear that the design meets these standards, making the case in your narrative for how the design meets the standards is key.

Parking:
TDC 73C requires garages in addition to the parking thresholds. Your plans should reflect this requirement.

Access:
TVF&R has described the need for a secondary access off of SW 95th Ave. See additional comments from TVF&R.

Natural resources:
Clean Water Services will comment on any applicable natural resource concerns, including any possible required dedications and mitigations, through their Environmental Review process. The Service Provider Letter from CWS is a requirement of a complete Architectural Review submittal. For more information, see http://www.cleanwaterservices.org/permits-development/step-by-step-process/environmental-review/

Public Utilities and Other Site Development

- An Erosion Control permit is required from Tualatin for projects disturbing over 500 square feet.
    - Additionally if between one and five acres are disturbed, a 1200CN is needed from CWS.
    - If over five acres are disturbed, a 1200C is needed from DEQ.

- A Water Quality Permit is needed for construction and modification of public and private impervious areas. The permit will include wetland mitigation/revegetation required by CWS SPL in addition to treatment, detention per TMC 3-5-3-220(4), and hydromodification per CWS D&CS Ch 4.
    - Improve existing facilities to adequate condition
    - Include all private stormwater treatment and conveyance within a maintenance agreement including existing facilities.
    - Stormwater plans and calculations certified by an Oregon registered, professional engineer in accordance with TMC 3-5-390(1) proving proposed systems:
        - In accordance with TMC 3-5-200 through 3-5-430, TDC 74.630 and 74.650, Public Works Construction Code (PWCC), and Clean Water Services' (CWS) Design and Construction Standards (D&CS) Chapter 4.
        - Show onsite facilities for proposed new and modified impervious areas.
        - Address runoff from all new and modified private impervious areas.

        - Treat new and modified impervious areas in accordance with CWS D&CS 4.08.1.d meeting phosphorous removal in accordance with TMC 3-5-350 per the design storm in accordance with TMC 3-5-360 and CWS D&CS 4.08.2.
        - Detain up to the 25 year storm event in accordance with TMC 3-5-220(4), TMC 3-5-230, and CWS D&CS 4.08.
        - Accommodate hydromodification in accordance with CWS D&CS 4.03.5.
        - Include conveyance calculations that accommodates up to a 25-year storm event with 100-year overland flow to the public stormwater system in accordance with TDC 74.640 and CWS D&CS 5.05.2.d.
            - Downstream evaluation with a maximum of 82% capacity within public lines per TMC 3-5-210 - Review of Downstream System
            - Obtain any permissions to reach Tualatin's public lines. An ODOT Rail Contact that may be beneficial Bob Stolle, PE, PMP, Crossing Engineer, Commerce and Compliance Division, 3930 Fairview Industrial Dr. SE| Salem , OR , 97302-1166, C. 503-551-0618 | bob.stolle@odot.state.or.us
        - Demonstrate compliance with the Clean Water Services' Service Provider Letter CWS conditions sufficient to obtain a Stormwater Connection Permit Authorization Letter in accordance with TDC 74.650(2) and CWS D&CS 3.01.2(d).
    - Geotech/soil/infiltration report: An infiltration test report will need to be submitted to Engineering for a complete land use application if the proposed water quality facility includes infiltration in the design.

- A Public Works Permit is needed for any work within right-of-way or public easements.
    - Typical improvements to bring into code compliance
        - Separate water laterals for domestic and fire
        - Sanitary sewer and stormwater cleanouts near the right-of-way
        - Sidewalks and ramps adjacent to the lot must be evaluated. If not in compliance with ADA requirements, they must be improved.
    - Dedicate and construct/reconstruct public street cross-sections. Sidewalks and ramps adjacent to the lot must be evaluated. If not in compliance with ADA requirements, they must be improved.
        - The City Engineer may allow modification of the cross-sections based on existing development, Traffic Impact Analysis results, and Tualatin Moving Forward projects.
        - Figure 11-1: Functional Classification and Street Signal Plan
        - Sagert and 95th are classified as Minor Collectors
        - Fee-in-lieu potentials may include cross-walks, sidewalks, or signal relating Tualatin Moving Forward, 95th Ave and Avery St (Tualatin Elementary School), https://www.tualatinmovingforward.com/95th-avenue-and-avery/
        - Please propose alternatives that are less than preferred for confirmation with the City Engineer ahead of land use for initial responses and potential modification to proposed plans.
    - Rezoning includes the possibility of increase of public sanitary sewer downstream conveyance and water use. Capacity and availability must be confirmed.

- Hydraulic Modeling is required for over 48,300 square footage of new building area, 870 gallons/acre/day use, and/or more than 49 residential units. Hydraulic Modeling may be requested in advance of application for a land use to confirm availability and requirements, but may need to be updated depending on changes due to conditions of approval. When submitting a modeling application include:
    - Requirements/alternatives allowed by Tom Mooney, TVF&R (503) 259-1419; thomas.mooney@tvfr.com
    - Hydrant flow test results. Request testing via https://www.tualatinoregon.gov/publicworks/hydrant-flow-tests. For questions contact Terrance Leahy, Water Division Manager, (503) 691-3095; tleahy@tualatin.gov

Transportation and Site Access

- Have your transportation engineer confirm their proposed Traffic Impact Analysis scope by emailing Mike McCarthy, Principal Traffic Engineer, mmccarthy@tualatin.gov (please also copy tdoran@tualatin.gov).

Fire

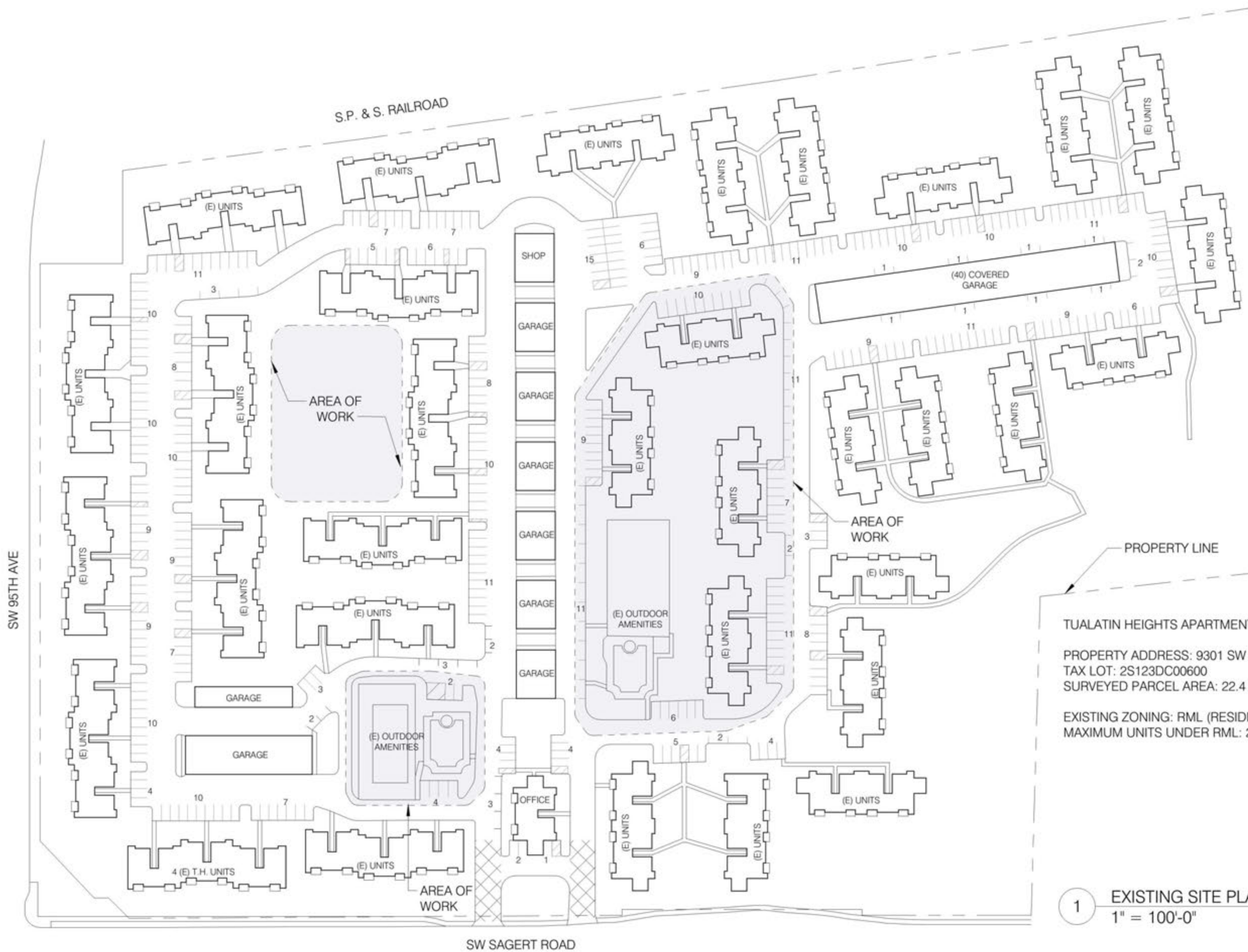
- Additional comments from Tualatin Valley Fire and Rescue are attached.
- Tom Mooney, TVF&R (503) 259-1419; thomas.mooney@tvfr.com)
- Flow testing: Terrance Leahy, Water Division Manager, (503) 691-3095; tleahy@tualatin.gov)

Fees

- Current fee schedule: https://www.tualatinoregon.gov/finance/fee-schedule
- For calculating SDC fees, please work with Lauren Gonzalez, lgonzalez@tualatin.gov

EXHIBIT A

Conceptual Site Plan



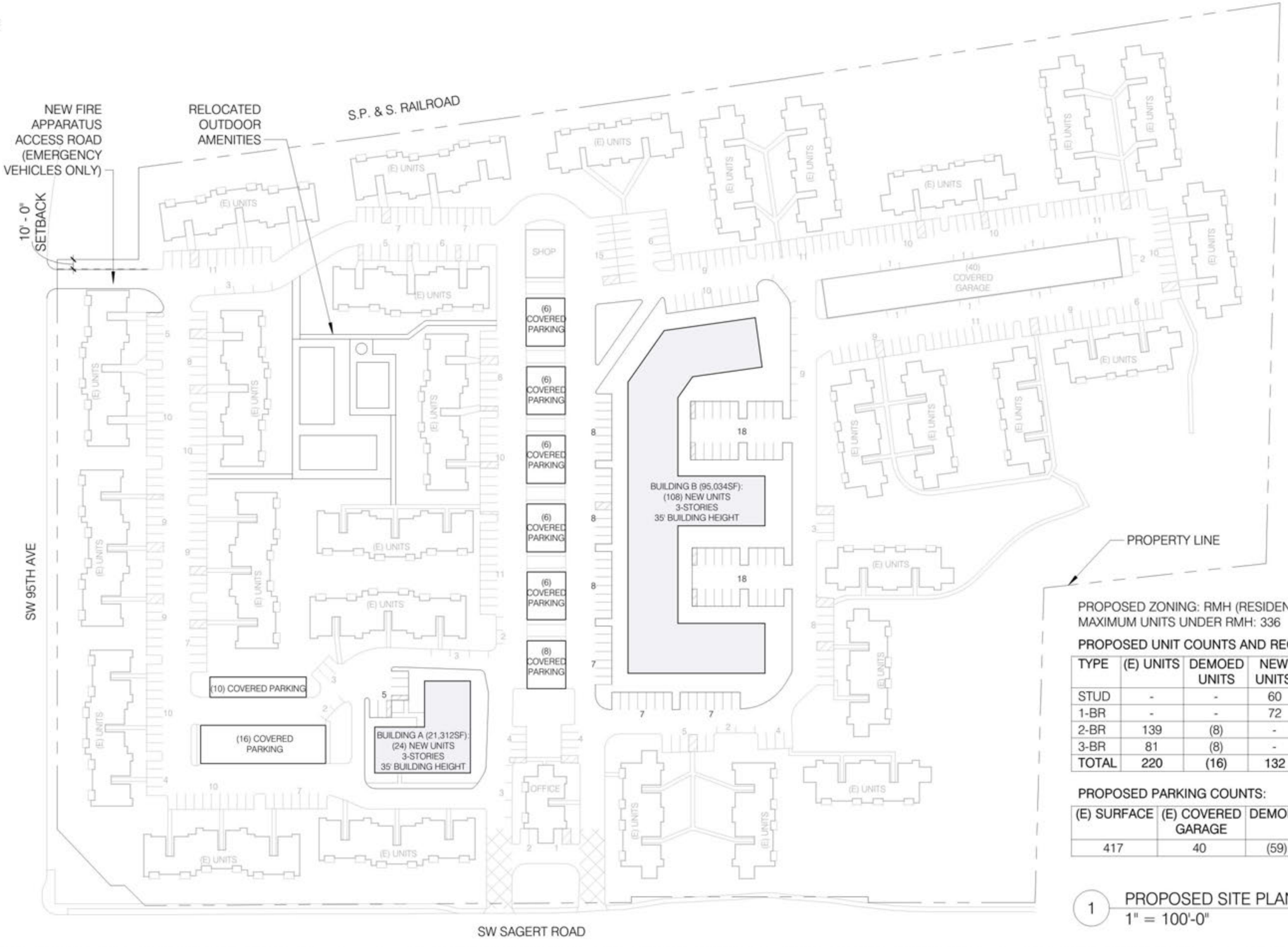
TUALATIN HEIGHTS APARTMENTS

PROPERTY ADDRESS: 9301 SW SAGERT ST, TUALATIN, OR 97062
TAX LOT: 2S123DC00600
SURVEYED PARCEL AREA: 22.4 ACRES

EXISTING ZONING: RML (RESIDENTIAL MEDIUM LOW)
MAXIMUM UNITS UNDER RML: 224

1 EXISTING SITE PLAN
1" = 100'-0"

NORTH



PROPOSED ZONING: RMH (RESIDENTIAL MEDIUM HIGH)
MAXIMUM UNITS UNDER RMH: 336

PROPOSED UNIT COUNTS AND REQUIRED PARKING:

TYPE	(E) UNITS	DEMOED UNITS	NEW UNITS	TOTAL UNITS	REQ. PARKING	REQ. GARAGE
STUD	-	-	60	60	60	0
1-BR	-	-	72	72	90	0
2-BR	139	(8)	-	131	196.5	0
3-BR	81	(8)	-	73	127.75	0
TOTAL	220	(16)	132	336	475	0

PROPOSED PARKING COUNTS:

(E) SURFACE	(E) COVERED GARAGE	DEMOED	NEW SURFACE	NEW COVERED	TOTAL
417	40	(59)	86	64	548

1 PROPOSED SITE PLAN
1" = 100'-0"

NORTH

EXHIBIT C

Tualatin Heights Parking Assessment

KITTELSON & ASSOCIATES

851 SW 6th AVENUE, SUITE 600
PORTLAND, OR 97204
P 503.228.5230 F 503.273.8169

MEMORANDUM

Date: August 16, 2021 Project #: 26462

To: Dustin Miller, UDR

Cc: Andrew Lavaux, Jon McGrew, Erica Thompson, Frank Angelo, Chylo Schwab, Erin Long

From: Matt Hughart, AICP

Project: Tualatin Heights

Subject: Parking Assessment

A parking assessment was performed for the existing Tualatin Heights apartment complex and the immediately adjacent local streets to the south. These study areas are illustrated in Exhibit 1. Consistent with industry practice, parking data was collected on a mid-week and Saturday in July 2021. The parking assessment included the total number of stalls available along each roadway segment and within the Tualatin Heights apartment complex and compared it to the total number of vehicles parking during multiple key study periods. Tables 1 and 2 summarize the parking conditions during the mid-week and Saturday time periods, respectively.

Exhibit 1 – Parking Inventory Study Area

FILENAME: H:\26\26462 - TUALATIN HEIGHTS ZONE AMENDMENT\REPORT\FINAL\26462 TUALATIN HEIGHTS PARKING SUMMARY_UPDATE.DOCX

Table 1 – Existing Neighborhood On-Street and Tualatin Heights Parking Conditions (Weekday)

Street	Segment	Side	Parking Supply[1]	Existing Weekday Neighborhood Street Demand				
				5:00-6:00 AM	10:00 – 11:00 AM	3:00-4:00 PM	7:00 – 8:00 PM	11:00 PM – 12:00 AM
On-Street Parking								
SW Sagert Street	SW 95th Avenue to SW 93rd Avenue	South	11	9	8	8	9	10
	SW 93rd Avenue to SW Apache Drive	South	8	5	3	3	4	4
	SW Apache Drive to SW 90th Place	South	12	5	3	4	4	6
SW 93rd Avenue	SW Sagert Street to SW Umait Street	West	8	3	3	1	2	2
		East	5	0	1	0	0	0
SW Apache Drive	SW Sagert Street to SW Cree Circle	West	7	4	3	2	4	5
		East	6	0	1	1	2	1
Existing Total			57	26	22	19	25	28
Existing On Street Parking Utilization				**47%**	**39%**	**33%**	**44%**	**49%**
Tualatin Heights Parking								
Tualatin Heights Complex			457[2]	363	237	203	268	344
Existing Tualatin Heights Parking Utilization				**79%**	**52%**	**44%**	**59%**	**75%**

[1] Parking supply is estimated based on visual observations and taking into account buffers from fire hydrants and mailboxes
[2] Includes 417 striped surface parking spaces and 40 covered garage spaces

Table 2 – Existing Neighborhood On-Street and Tualatin Heights Parking Conditions (Saturday)

Street	Segment	Side	Parking Supply[1]	Existing Weekday Neighborhood Street Demand				
				5:00-6:00 AM	10:00 – 11:00 AM	3:00-4:00 PM	7:00 – 8:00 PM	11:00 PM – 12:00 AM
On-Street Parking								
SW Sagert Street	SW 95th Avenue to SW 93rd Avenue	South	11	10	10	7	6	11
	SW 93rd Avenue to SW Apache Drive	South	8	6	4	4	5	6
	SW Apache Drive to SW 90th Place	South	12	4	4	5	6	6
SW 93rd Avenue	SW Sagert Street to SW Umait Street	West	8	3	2	1	2	2
		East	5	0	1	1	3	2
SW Apache Drive	SW Sagert Street to SW Cree Circle	West	7	5	4	4	4	3
		East	6	2	1	1	1	1
Existing Total			57	30	26	23	27	31
Existing On Street Parking Utilization				**53%**	**46%**	**40%**	**47%**	**54%**
Tualatin Heights Parking								
Tualatin Heights Complex			457[2]	368	291	247	275	345
Existing Tualatin Heights Parking Utilization				**81%**	**64%**	**54%**	**60%**	**75%**

[1] Parking supply is estimated based on visual observations and taking into account buffers from fire hydrants and mailboxes
[2] Includes 417 striped surface parking spaces and 40 covered garage spaces

A review of the on-street and apartment complex parking conditions revealed the following key findings:

- During the mid-week and Saturday time periods, existing on-street parking occupancy on the neighborhood street segments is never more than 54% utilized when looking at the collective whole. However, some segments along SW Sagert Street (between SW 95th Avenue and SW 93rd Avenue) have parking occupancy levels at 100% or close to 100% for most the study periods. It is unknown if the on-street parking is being generated by the adjacent single family homes, Tualatin Heights residents, or a combination of both.
- The total active parking supply within the Tualatin Heights apartment complex (excluding stalls available within the parking garage units that are primarily being used for storage) is 457 spaces.
- Peak apartment complex parking utilization was found during the 5:00-6:00 AM study period (79% during a mid-week day and 81% on a Saturday). These findings indicate that the parking supply exceeds current demand.

Tualatin Heights Parking Management/Policies

In order to better understand the summarized parking profile within the Tualatin Heights apartment complex, the existing parking management practices and polices are summarized below.

- Each apartment home comes with one assigned/permitted parking space. This space is located in close proximity to the apartment home.
- A second assigned parking space is available upon request and rents for $25/month.
- There are 9 signed guest parking spaces for the complex. A virtual permit is required and obtained by scanning a QR code on the adjacent sign.

MEMORANDUM

Parking Policies

TUALATIN HEIGHTS PLAN MAP AMENDMENT (PMA 21-0001)

DATE	January 20, 2022
TO	Steve Koper, Assistant Community Development Director Keith Leonard, Associate Planner
FROM	Frank Angelo and Emma Porricolo, APG
CC	Brad Hodack, UDR Andrew Lavaux, UDR Dustin Miller, UDR Jon McGrew, Hennebery Edy Matt Hughart, Kittelson & Associates

The issue of on-site parking at the Tualatin Heights Apartments was raised at the Planning Commission meeting. The following is information on the current parking policies at Tualatin Heights. In addition, the project team collected information from six apartment developments within 1 mile of Tualatin Heights to get an understanding of how they currently address on-site vehicle parking.

A. Tualatin Heights Parking Management/Policies (from page 3 of Parking Study submitted with application

In order to better understand the summarized parking profile within the Tualatin Heights apartment complex, the existing parking management practices and policies are summarized below.

- Each apartment home comes with one assigned/permitted parking space. This space is located in close proximity to the apartment home.
- A second assigned parking space is available upon request and rents for $25/month.
- There are 9 signed guest parking spaces for the complex. A virtual permit is required and obtained by scanning a QR code on the adjacent sign

B. Other Apartment Developments

The apartment developments surveyed by the project team provided the following information:

1. **Chelan Apts.** – 1 assigned space – free. The have 0 additional spaces so any additional cars are on the street.

2. **Fox Meadows** – 1 assigned open parking – free – they are currently moving to a reserved paid model – spaces will rent for $55/month
3. **Todd Village** – 1 assigned free space – another other car can park in visitor parking or if it's full, on the street.
4. **Tualatin Meadows** – 1 car is allowed – 1 space free, however, they also have $35 carports (waiting list) and $135 garages (waiting list) or ok to park in visitor.
5. **Arya @ Hedges Creek –** 1 bed – 1 assigned space; 2 bed – 2 assigned spaces (assigned is free). Additional parking is $50 for open reserved, $55 carport, $110 garage
6. **Martinazzi Village –** 1 assigned free space – additional cars park in visitor parking or street

As can be seen in the above information, it is standard practice to provide one free parking spot per unit and offer additional parking spots with a monthly fee. The properties that currently don't charge for parking (#3 and #6) don't have any additional parking to charge for.

EXHIBIT D

TPR Analysis

KITTELSON & ASSOCIATES
851 SW 6th AVENUE, SUITE 600
PORTLAND, OR 97204
P 503.228.5230 F 503.273.8169

September 16, 2021 Project #: 26462

Mike McCarthy, P.E.
City of Tualatin
18880 SW Martinazzi Avenue
Tualatin, OR 97062

RE: Tualatin Heights Plan Map Amendment

Dear Mike,

This letter presents a Traffic Impact Analysis supporting a proposed plan map amendment that would rezone the Tualatin Heights multifamily apartment property from its existing Residential Medium Low zoning to Residential Medium-High Density zoning.

Based on the results of the transportation analysis outlined in this report, the proposed rezone has the potential to create a significant effect on the surrounding transportation network if no mitigations are proposed. However, acceptable operational levels can be achieved at the study intersections in the planning horizon year 2040 with potential mitigation measures in place as described in the report.

FINDINGS

Existing Transportation Conditions

- Traffic counts were collected in June 2021 at all of the study intersections during the critical weekday AM and PM peak travel periods. Historical 2019 counts were supplemented at several key intersections in order to account for travel demand reductions associated with on-going COVID-related factors.
- Operational analyses indicate that all of the study intersections currently operate acceptably based on the applicable City of Tualatin and Washington county standards.

Future Year 2040 Traffic Conditions

- The proposed land use action is a unique case that would involve upzoning the Tualatin Heights apartment complex property. The complex is approximately 22 acres in size and contains 220-unit multifamily apartment units. The underlying zoning is Residential Medium Low (RML) which currently allows for a maximum density of 10 dwelling units per

acre. Accordingly, the Tualatin Heights apartment complex is essentially maximizing the allowed development potential under the existing zoning. In order to support a vision for additional housing units on the site, the property owner is proposing to modify the zoning to Residential Medium-High Density (RMH) which would increase the density to a maximum of 15 dwelling units per acre.

- Background traffic volumes for the 2040 planning horizon year were estimated using a combination of regional travel demand model output and historical growth trends. Since the existing site is built out to its maximum allowed density, the resulting 2040 background traffic volumes represent the future traffic conditions that can be expected under the existing RML zoning.
- Operations of the study intersections under 2040 Background conditions (assuming regional and local traffic growth but no land use action on the Tualatin Heights site) found that all of the study intersections are forecast to continue to operate acceptably during both the weekday AM and PM peak hours with the exception of the SW Boones Ferry Road/SW Sagert Street intersection. During the weekday AM Peak hour, this intersection is forecast to operate over capacity (v/c of 1.09) and at Level of Service F conditions.
- With the proposed RMH zoning, it was determined that the increased density allowance can potentially result in 116 additional multifamily housing units. Using ITE land use code 221, this increased density has the potential to generate approximately 630 net new daily trips, 42 net new AM peak hour trips, and 51 net new PM peak hour trips.
- Operations of the study intersections under the 2040 proposed RMH zoning scenario found that all of the study intersections are forecast to operate acceptably during both the weekday AM and PM peak hours with the continued exception of the SW Boones Ferry Road/SW Sagert Street intersection. During the weekday AM Peak hour, this intersection is forecast to also operate over capacity (v/c of 1.10) and at Level of Service F conditions. While a very small degradation in operations compared to existing zoning, this technically represents an impact to the operations of the intersection. To address TPR requirements, the identification of a long-term mitigation plan would be needed to restore capacity to the intersection and show it can meet operating standards.
    - Although not formally included in the City of Tualatin's latest Transportation System Plan project list, the future year analysis behind the study did identify the potential for a northbound right-turn lane at the intersection. Such an improvement would restore capacity to the intersection and result in acceptable operations.

PROJECT BACKGROUND

The property located at 9301 SW Sagert Street, Tualatin, Oregon (see Figure 1) is approximately 22 acres in size and consists of the Tualatin Heights Apartments, a 220-unit multifamily apartment complex. The underlying zoning is Residential Medium Low (RML) which currently allows for a maximum density of 10 dwelling units per acre. Accordingly, the Tualatin Heights Apartments is essentially maximizing the allowed development potential under the existing zoning. In order to support a vision for additional housing units on the site, the property owner is proposing to modify the zoning to Residential Medium-High Density (RMH) which would increase the density to a maximum of 15 dwelling units per acre.

Per Oregon Administrative Rule 660-012-0060, also known as the Transportation Planning Rule (TPR), land use actions such as these need to determine if there will be a significant effect on an existing or planned transportation facility. Under these types of land use actions, a significant effect to a transportation facility typically is anything that could involve the degradation of the performance of an existing or planned transportation facility such that it would not meet adopted local performance standards. The following report addresses the TPR requirements.

Figure 1 – Site Vicinity Map

STUDY SCOPE & ANALYSIS METHODOLOGY

The proposed land use action is a unique case in that the existing development already represents the maximum development potential under the existing zoning. As such, the focus of this analysis is on the transportation impacts of the proposed zone amendment.

Study Scope

This analysis identifies the transportation-related impacts associated with the proposed land change. The study was prepared in accordance with the City of Tualatin's traffic impact study requirements and supplemental direction provided by City staff. The study scope and overall study area for this project were selected based on an analysis of current and future traffic volumes at study intersections and discussions with City staff. As required by the City's development review requirements and the TPR requirements, the analysis was prepared to address the following transportation issues:

- Existing land use and transportation system conditions within the site vicinity;
- Review of regional traffic growth and seasonal traffic patterns, in-process developments, planned transportation improvements, and related transportation impact studies for other developments in the study area;
- Site trip generation and distribution estimates for reasonable worst-case development scenarios for the proposed RMH zoning;
- Planning horizon year 2034 traffic operations under existing zoning and proposed RMH zoning scenarios;
- Identification of traffic system deficiencies and potential mitigation measures;
- Assessment of zone change compliance with the TPR (OAR Section 660-12-060); and,
- Conclusions and recommendations.

Study Intersections

The study intersections were identified in collaboration with City staff. Figure 1 illustrates the location of the study intersections that are listed below. For ease of review, each intersection is referenced within this report using a numerical ID.

1. Tualatin Sherwood Road / SW 95th Avenue
2. SW Sagert Street / SW 95th Avenue
3. SW Sagert Street / SW 93rd Avenue / West Tualatin Heights Site Access Driveway
4. SW Sagert Street / East Tualatin Heights Site Access Driveway
5. SW Sagert Street / SW Boones Ferry Road
6. SW Avery Street / SW 95th Avenue

Traffic Analysis Time Periods

Study intersection operations were analyzed during the weekday morning (intersection peak hour between 7:00-9:00 AM) and evening peak hour (intersection peak hour between 4:00-6:00 PM).

Analysis Methodology

The unsignalized and signalized intersection operational analyses presented in this report were prepared following Highway Capacity Manual 6th edition (Reference 2) analysis procedures using VISTRO software.

Applicable Mobility Standards

While the study area roadways are located exclusively within the City of Tualatin, some of the study intersections are owned/operated by Washington County. Intersection operating targets adopted by the City of Tualatin and Washington County are summarized below.

Washington County Intersection Operating Standards

Washington County maintains the traffic signal timing at the signalized SW Tualatin Sherwood Road/SW 95th Avenue and SW Boones Ferry Road/SW Sagert Street intersections. The acceptable standard for signalized intersections per Washington County motor vehicle performance measures is a v/c ratio no greater than 0.99 during the peak hour.

City of Tualatin Operating Standards

The City of Tualatin maintains all of the other study intersections. At unsignalized intersections, LOS E is considered the maximum operating standard.

EXISTING CONDITIONS TRAFFIC ANALYSIS

The existing conditions analysis identifies field conditions and the current operational, traffic control, and geometric characteristics of the roadways and other transportation facilities within the study vicinity. These conditions will be compared with future year conditions later in this report. Kittelson staff visited the study area and inventoried the existing transportation system to identify lane configurations, traffic control devices, bicycle and pedestrian facilities, transit stops, and geometric features at the study intersections during the summer of 2019.

Site Conditions and Adjacent Land Uses

The Tualatin Heights apartment complex is bounded by SW Sagert Street to the south, SW 95th Avenue to the west, a Pacific & Wester rail line to the north, and residential development to the east.

Transportation Facilities

Table 2 summarizes the attributes of key roadways in the site vicinity. Figure 2 illustrates the existing lane configurations and traffic control devices at the study intersections.

Table 1 – Existing Transportation Facilities

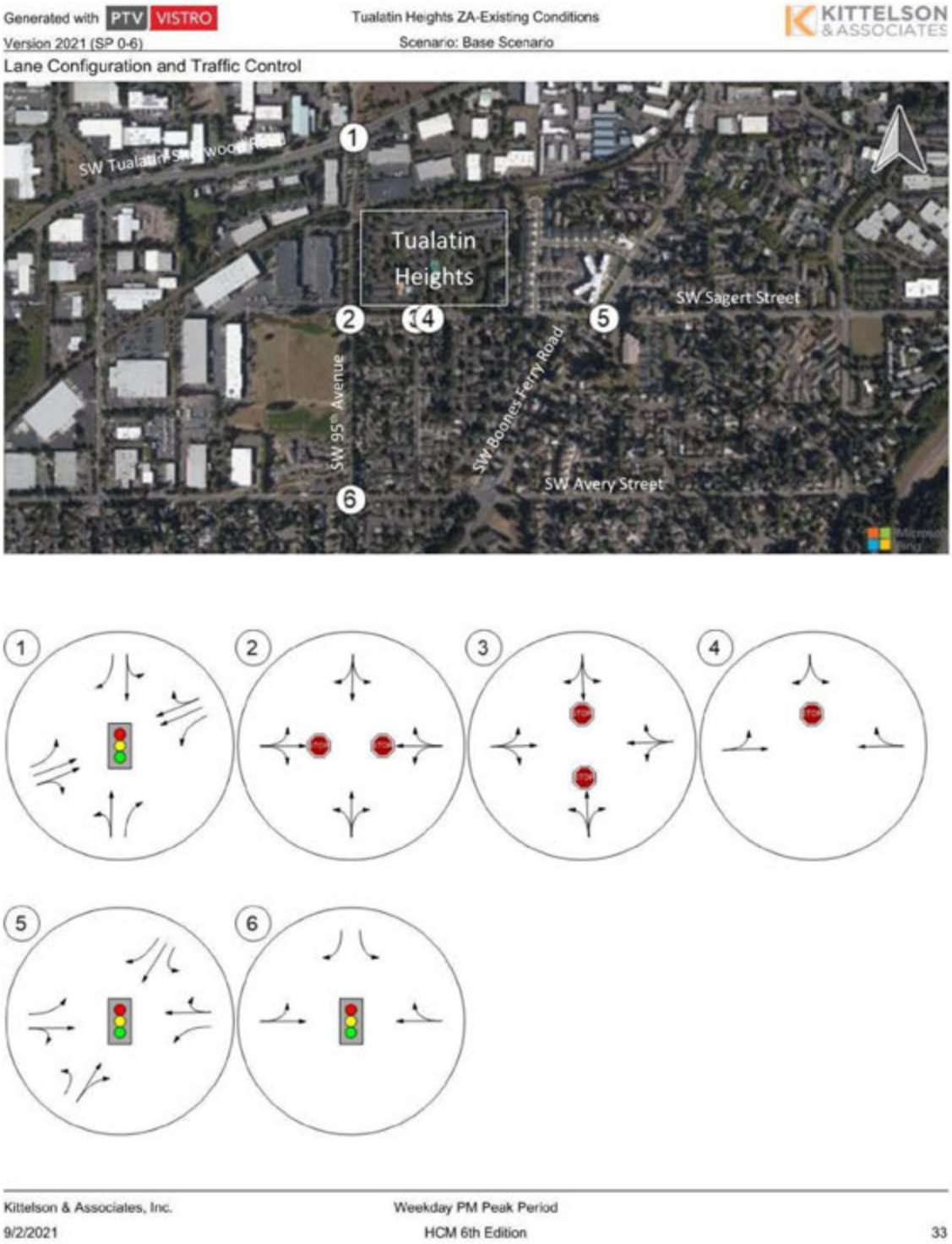
Roadway	Jurisdictional Authority	Functional Classification[1]	Number of Auto Lanes	Posted Speed (MPH)	Sidewalks Present	Bicycle Lanes Present	On-Street Parking Allowed?
SW Tualatin Sherwood Road	Washington County	Arterial – Washinton County Major Arterial - Tualatin	5	45	Yes	Yes	No
SW Sagert Street	Tualatin	Minor Collector	2	25	Yes	Yes[2]	Yes[2]
SW Avery Street	Tualatin	Major Collector	2	35	Yes	Yes	No
SW 95th Avenue	Tualatin	Minor Collector	2	35	Yes	Partial	No
SW 93rd Avenue	Tualatin	Local Street	2	25	Partial	No	Yes
SW Boones Ferry Road	Tualatin	Arterial – Washington County Major Arterial - Tualatin	3	35	Yes	Yes	No

[1] Source: City of Tualatin Transportation System Plan and Washington County Transportation System Plan
[3] Only on the south side

Transit Facilities

TriMet provides transit service in the Portland Metro area including fixed bust route, light rail, and commuter rail transit services. The Tualatin Heights apartment complex is not directly served by fixed route transit service. However, Route 97 provides daily weekday service along SW Tualatin Sherwood Road and Route 96 provides daily weekday service along portions of SW Boones Ferry Road and SW Sagert Street (east of SW Boones Ferry Road). Both stops are within a ¼-mile walking distance of the Tualatin Heights apartment complex.

Figure 2 - Existing Study Intersection Lane Configurations and Traffic Control Devices



Existing Conditions Operational Analysis

COVID Adjustment

Turning movement counts at the study intersections were conducted on a mid-week day in June 2021. *Appendix "A" contains the intersection turning movement count sheets*. Due to the atypical traffic conditions associated with the on-going COVID-19 pandemic, prior turning movement counts at several of the study intersections were consulted to assess the validity of the June 2021 counts. Available counts collected in 2019 at SW 95th Avenue/SW Avery Street, SW 95th Avenue/SW Sagert Street, SW Boones Ferry Road/SW Avery Street, and SW Tualatin Sherwood Road/SW Teton Avenue[1] were compared to counts taken in June 2021. As shown in Table 2, the 2021 counts revealed significantly lower volumes at the SW 95th Avenue/SW Sagert Street and SW 95th Avenue/SW Avery Street intersections. This is likely due in part to the fact that although the 2021 counts were taken while the nearby Tualatin Elementary School was still in session, the school was operating in a hybrid setting with split cohort schedules and some kids still in a virtual learning setting. In addition to these differences, the SW Boones Ferry Road corridor volumes measured in 2021 appear to be significantly lower when compared to the 2019 volumes takes at the SW Boones Ferry Road/SW Avery Street intersection.

Based on these findings, the following changes were made to the study intersection volumes to better reflect conditions that occur when schools are fully in-session and fewer people are working from home:

- The 2019 AM peak hour volumes at the SW 95th Avenue/SW Avery Street and SW 95th Avenue/SW Sagert Street intersections were used in place of the more recent 2021 AM peak hour counts as it was determined that they more accurately represent typical traffic volumes with the Tualatin Elementary School in full/normal session.
- The 2021 AM peak hour volumes at the SW Boones Ferry Road/SW Sagert Street intersection were proportionally adjusted based on the SW Boones Ferry Road corridor volumes extracted from the 2019 SW Boones Ferry Road/SW Avery Street intersection volumes.
- All other intersection volumes were factored and balanced (where necessary) according to the percent change in volumes summarized in Table 2.

[1] Although not study intersections, counts at the SW Tualatin Sherwood Road/SW Teton Avenue and SW Boones Ferry Road/SW Avery Street intersection were assessed to help understand volume differences along the SW Tualatin Sherwood Road and SW Boones Ferry Road corridors.

Table 2 - COVID Adjustment

Intersection	Weekday AM Peak Hour			Weekday PM Peak Hour		
	2019 Count	2021 Count	Difference	2019 Count	2021 Count	Difference
SW 95th Avenue/ SW Sagert Street[1]	583	265	-120%	492	468	-5%
SW 95th Avenue/ SW Avery Street[1]	920	583	-58%	962	949	-1%
SW Boones Ferry Road/ SW Avery Street[2]	1,228	810	-68%	1,428	1,433	+1%
SW Tualatin Sherwood Road/ SW Teton Avenue[3]	2,039	1,902	-7%	2,126	2,140	+1%

[1] Identified volumes represent the total entering volume at the intersection
[2] Identified volume is the total volume on the north leg of SW Boones Ferry Road (representing the segment volume between SW Sagert Street and SW Avery Street.
[3] Identified volume is the total volume on the east leg of SW Tualatin Sherwood Road (representing the segment volume between SW Teton Avenue and SW 95th Avenue.

Figures 3 and 4 illustrate the adjusted 2021 existing traffic volumes at the study intersections while Table 3 summarizes the corresponding traffic operations during the weekday morning and evening peak hours. As shown in Table 3 and detailed in *Appendix "B"* (which includes the existing conditions operations analysis worksheets), the study intersection operations satisfy applicable City of Tualatin and Washington County standards.

Table 3 – Existing Traffic Conditions

Intersection	Weekday AM Peak Hour				Weekday PM Peak Hour			
	Critical Approach/ Lane	V/C	Delay (sec)	LOS	Critical Approach/ Lane	V/C	Delay (sec)	LOS
SW Tualatin Sherwood Road/ SW 95th Avenue	-	0.54	16.9	B	-	0.55	17.6	B
SW Sagert Street/ SW 95th Avenue	WB	0.55	19.3	C	WB	0.24	12.8	B
SW Sagert Street/ SW 93rd Avenue/ West Tualatin Heights Driveway	SB	0.06	11.7	B	SB	0.04	11.7	B
SW Sagert Street/East Tualatin Heights Driveway	SB	0.07	11.7	B	SB	0.07	10.9	B
SW Sagert Street/ SW Boones Ferry Road	-	0.86	32.5	C	-	0.70	19.0	B
SW Avery Street/ SW 95th Avenue	-	0.55	6.6	A	-	0.54	6.4	A

Figure 3 – Existing Traffic Volumes, Weekday AM Peak Hour

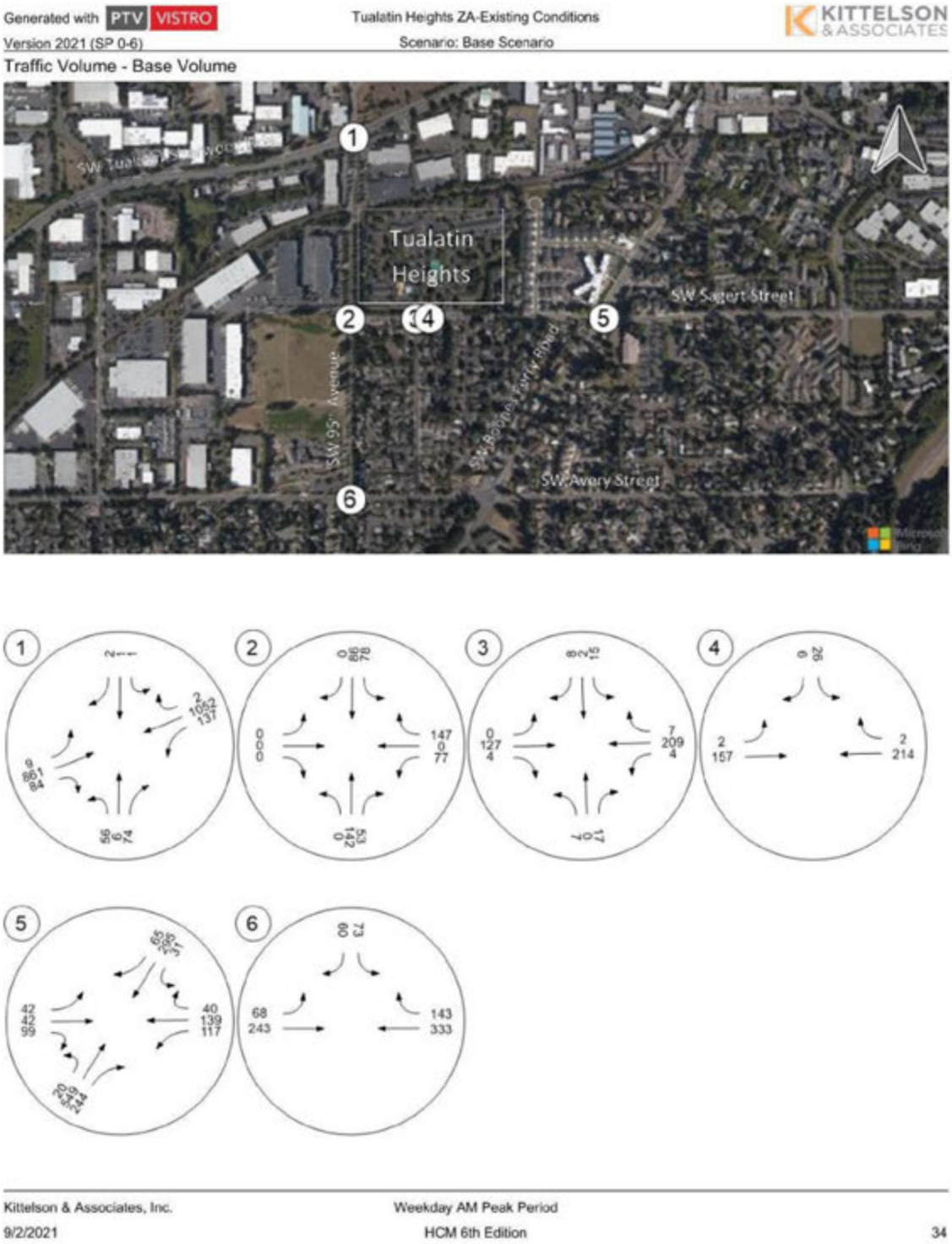
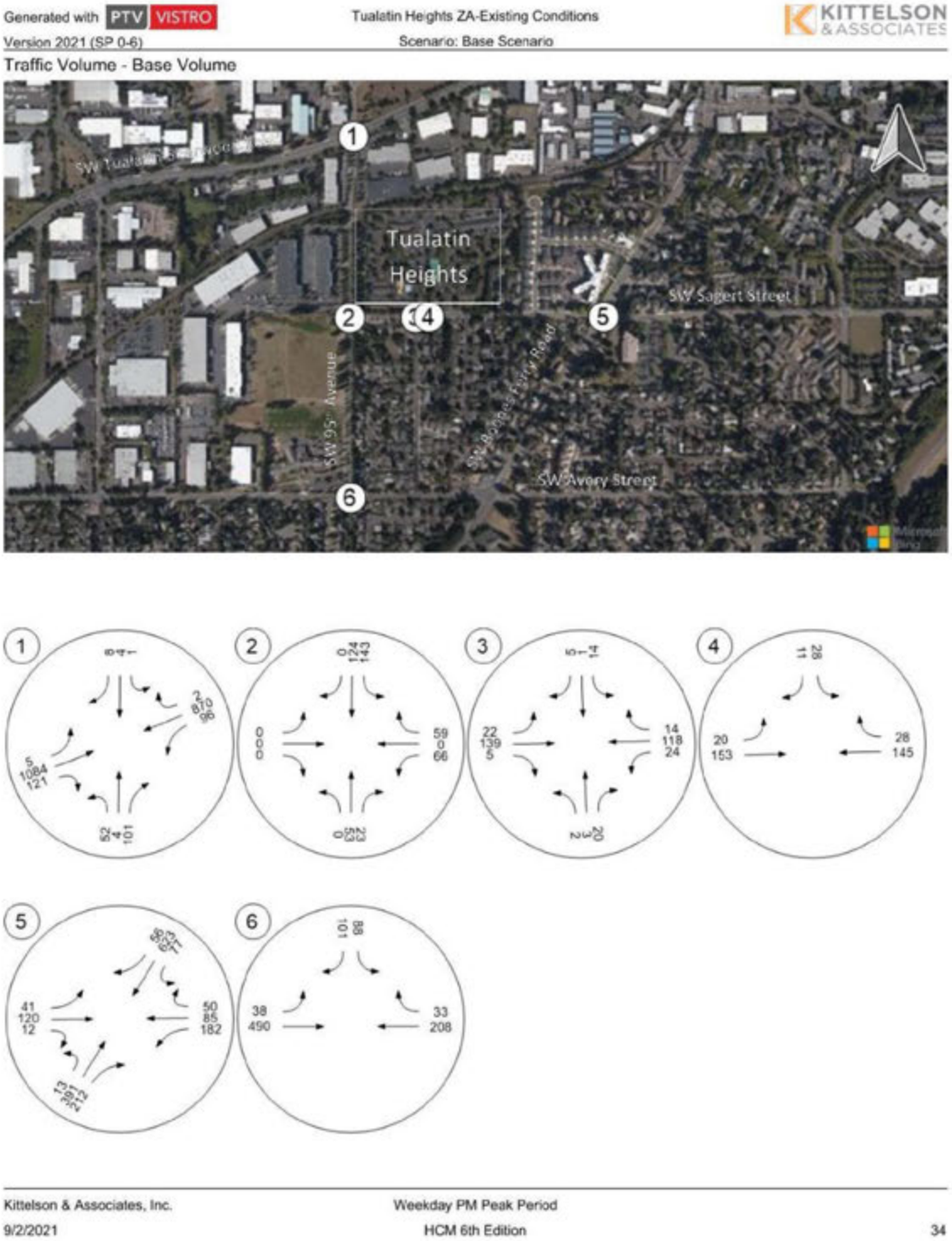


Figure 4 – Existing Traffic Volumes, Weekday PM Peak Hour



Intersection Crash History

The crash histories at the individual study intersections were obtained and reviewed in an effort to identify potential safety issues. ODOT provided crash records for the study intersections for the five-year period from January 1, 2015 through December 31, 2019. Table 4 summarizes the ODOT crash data.

Table 4 – Study Intersection Crash Summary (January 2015 to December 2019)

Study Intersections	Collision Type					Severity			Total
	Rear-End	Turning	Angle	Fixed Object	Other	PDO	Injury	Fatal	
Tualatin Sherwood Road / SW 95th Avenue	9	7	1	0	0	6	11	0	17
SW Sagert Street / SW 95th Avenue	0	3	0	0	0	0	3	0	3
SW Sagert Street / SW 93rd Avenue / Tualatin Heights Site Access Driveway	0	0	0	0	0	0	0	0	0
SW Sagert Street / SW Boones Ferry Road	1	7	3	0	0	5	6	0	11
SW Avery Street / SW 95th Avenue	1	0	0	0	0	1	0	0	1

In addition to the crash types, intersection crash rates were calculated and compared to statewide crash rate performance thresholds per guidance in the ODOT *Analysis Procedures Manual*. For this analysis, the observed crash rate was calculated and compared with the 90th percentile crash rates for urban intersections by traffic control and approach configuration. The intersection crash rate assessment for the study intersections is summarized in Table 5.

Table 5 – Intersection Critical Crash Rate Assessment

Intersection	Total Crashes	Observed Crash Rate	90th Percentile Crash Rate by Lane Type and Traffic Control	Observed Crash Rate > 90th Percentile Crash Rate?
Tualatin Sherwood Road / SW 95th Avenue	17	0.40	0.86	No
SW Sagert Street / SW 95th Avenue	3	0.35	0.29	Yes
SW Sagert Street / SW 93rd Avenue / Tualatin Heights Site Access Driveway	0	0.00	0.29	No
SW Sagert Street / SW Boones Ferry Road	11	0.32	0.86	No
SW Avery Street / SW 95th Avenue	1	0.06	0.29	No

A review of Table 5 revealed the following:

- The majority of crashes at the SW Tualatin Sherwood Road/SW 95th Avenue intersection consisted of rear-end and turning crashes. A review of these crashes indicated they were evenly distributed amongst the applicable approaches/movements with no other discernable patterns.

- The observed crash rate at the SW Sagert Street/SW 95th Avenue intersection exceeds the 90th percentile crash rates for similar urban intersections statewide. Partly for this reason, the City of Tualatin will be converting the intersection to an all-way stop-controlled intersection in late 2021/2022. Additional details regarding this planned and funded improvement are provided later in this report.
- The majority of crashes at the SW Boones Ferry Road/SW Sagert Street intersection consisted of turning crashes. A review of these crashes revealed that the crashes were generally distributed amongst the various turn movements with no other discernable patterns.

No safety-based mitigation measures were identified for implementation with the proposed development based on review of the study intersection crash history. *Appendix "C" contains the crash data summary sheets.*

YEAR 2040 TRAFFIC CONDITIONS

This section of the report contains a detailed assessment of the long-term traffic impacts associated with the proposed plan map amendment. More specifically, it evaluates the impacts of additional housing units within the Tualatin Heights apartment complex consistent with the higher density allowed in the proposed RMH zone. The analysis of long-term traffic conditions is mandated by the State's Transportation Planning Rule (TPR, OAR Section 660-12-0060), given that the proposed plan map amendment would require an amendment to an acknowledged land use regulation and may have the potential to significantly affect a transportation facility.

To test for significant effect, an analysis of traffic conditions was conducted under reasonable worst-case site development scenarios for the subject site under the proposed RMH zoning and its maximum 15 dwelling units per acre allowance.

Based on the required analysis, the impacts of traffic generated by the potential RMH zoning were examined in the following manner:

- Anticipated background traffic growth patterns were identified for the weekday AM and PM peak hour under the 2040 planning horizon year[2].
- Planned transportation improvements in the site vicinity were identified and reviewed.
- Reasonable worst-case land development scenarios were developed under the proposed RMH zoning designation. Estimates of average daily, weekday AM, and weekday PM peak hour site trips were prepared for the potential RMH zoning designation.
- A site trip distribution pattern was derived through a review of existing traffic volumes at the Tualatin Heights site access driveways.
- Weekday AM and PM peak hour site-generated trips from the RMH zoning were assigned to the surrounding street/study intersections network.
- Planning horizon year 2040 traffic volumes, operations, and vehicle queuing conditions were analyzed for the weekday AM and PM peak hour under existing background conditions and for the proposed RMH zoning designation.
- Operational deficiencies were identified and appropriate mitigation measures were evaluated.

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[2] 2034 is technically the official planning horizon year as it matches the 20-year planning period from the City of Tualatin's 2014 Transportation System Plan. This time period is consistent with OAR 660-012-0060 which requires that the comparative operations analysis be *measured at the end of the planning period identified in the adopted TSP*. However, as will be outlined later in this report, a more conservative 2040 horizon year was chosen as it is consistent with the long-term planning year used in the Metro Regional Travel Demand Model.

Year 2040 Planned Transportation Improvements

The Transportation Planning Rule provides specific language and direction on how planned transportation improvements can be included in the long-range transportation impact analyses for proposed comprehensive plan and zone changes. Specifically, the TPR allows roadway or intersection improvement projects to be included in the analysis if they are in a Capital Improvement Plan with secured funding, are on a "financially constrained" project list in the adopted TSP, or alternatively, are deemed by the local agency to be "reasonably likely to occur" within the planning horizon. Within the study area, the following improvements have been identified to occur within the 2040 planning horizon based on consultation with City of Tualatin engineering staff:

- Conversion of the SW 95th Avenue/SW Sagert Street intersection to all-way stop-control. This project includes the removal of the existing curb extensions and reconstruction of the curbs, ramps, and sidewalks in the vicinity of the intersection.
- Installation of a pedestrian activated pedestrian beacon to facilitate mid-block pedestrian crossings of SW Sagert Street near the SW 93rd Avenue intersection.
- Installation of "No Turn on Red" signs at the south and east legs of the SW 95th Avenue/SW Avery Street intersection.

Year 2040 Background Traffic Forecast

To achieve a reasonable estimate of background traffic levels during the 2040 planning horizon year, this analysis relied primarily on travel forecasting data from the Metro Regional Travel Demand Model. For the weekday PM time period, intersection turn movements were generated by the model at the study intersections for the base year 2015 and forecast year 2040 model scenarios. These turn movement volumes were then processed and refined using the 2019 and 2021 intersection turning movement counts to generate base level future year intersection volumes. To account for a noted imbalance and inconsistency with the volumes generated by the 2015 Tualatin Transportation System Plan (TSP), an additional 2% per year growth rate was applied to the north/south volumes on SW Boones Ferry Road at the SW Sagert Street intersection.

Since the travel demand model is only a PM peak hour based model, the weekday AM 2040 background volumes at the study intersections were developed by applying a growth rate calculated from the percentage increase in total entering volumes from the existing weekday PM and 2040 background weekday PM volumes.

The resulting Year 2040 background traffic volumes forecast for the weekday AM and PM peak hour are illustrated in Figures 5 and 6 for all study intersections. These figures reflect background traffic levels without any changes to the underlying zoning on the subject site.

Figure 5 – 2040 Background Traffic Volumes, Weekday AM Peak Hour

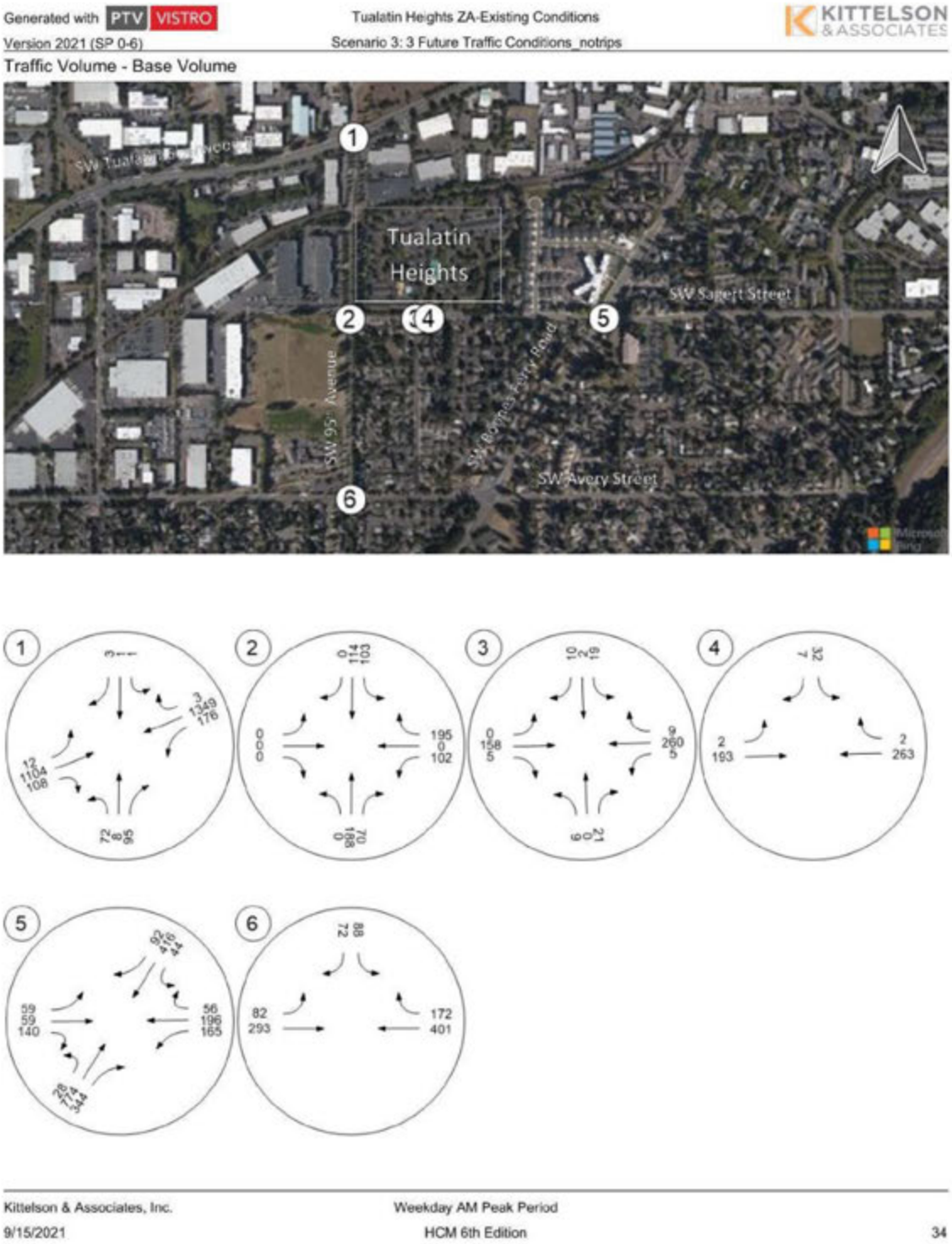
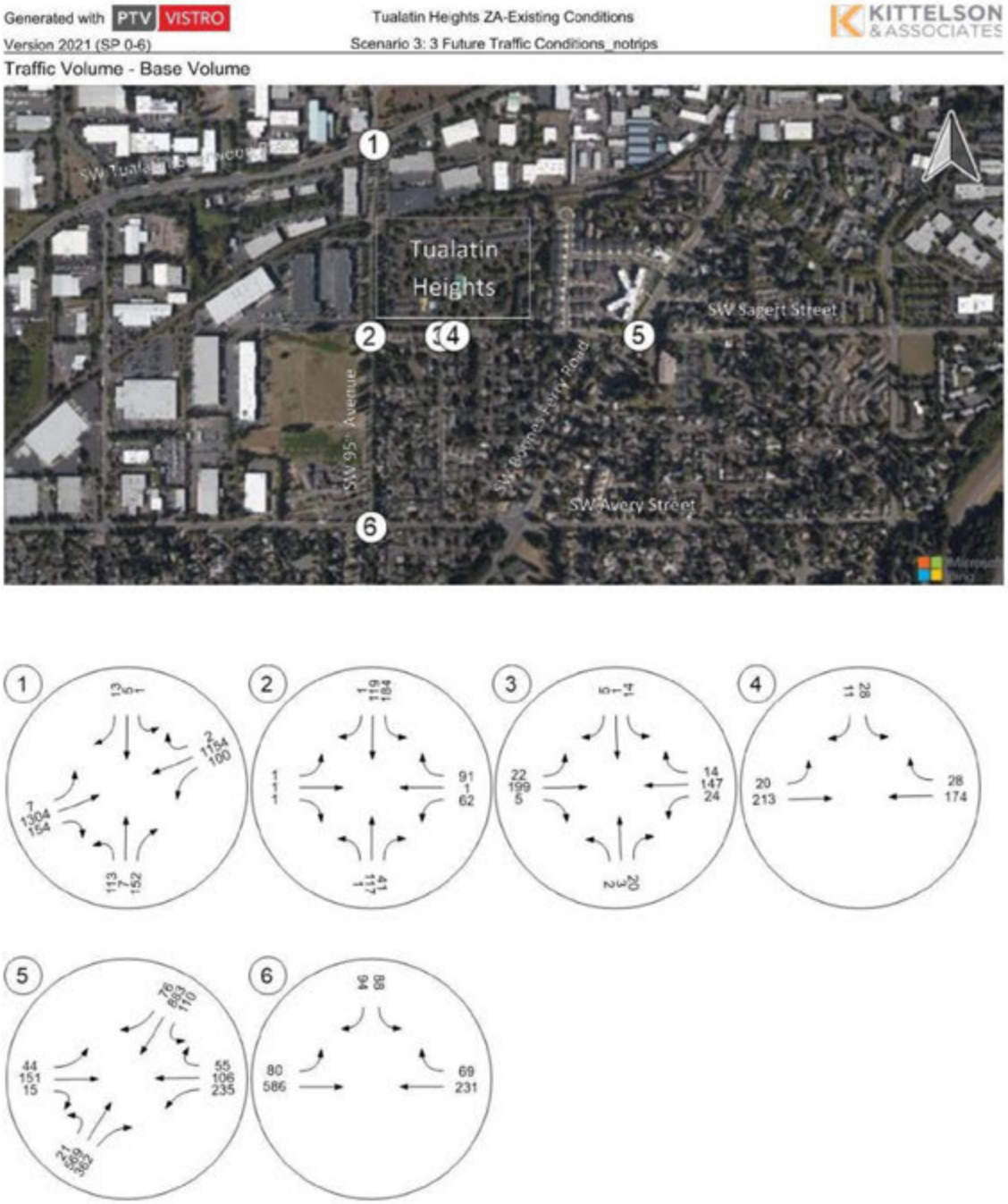


Figure 6 – 2040 Background Traffic Volumes, Weekday PM Peak Hour



Year 2040 Background Intersection Operations (No Change in Zoning)

Operations of the study intersections under 2040 Background conditions (representing no zoning modifications on the Tualatin Heights property) were assessed with the previously noted transportation improvements to understand the base future year operations assuming no changes are made to the Tualatin Heights Apartment site zoning. Table 6 summarizes the operational analyses for the weekday AM and PM peak hour reflective of anticipated regional and local traffic volume growth. As shown, all of the study intersections are forecast to continue to operate acceptably during both the weekday AM and PM peak hours with the exception of the SW Boones Ferry Road/SW Sagert Street intersection. During the weekday AM Peak hour, the intersection is forecast to operate with a volume-to-capacity ratio of 1.09[3] which exceeds the 0.99 volume to capacity ratio standard. *Appendix "D" includes the 2040 background conditions intersection operations analysis worksheets.*

Table 6 – 2040 Background Traffic Conditions (No Change in Zoning)

Intersection	Weekday AM Peak Hour				Weekday PM Peak Hour			
	Critical Approach/ Lane	V/C	Delay (sec)	LOS	Critical Approach/ Lane	V/C	Delay (sec)	LOS
SW Tualatin Sherwood Road/ SW 95th Avenue	-	0.67	19.6	B	-	0.66	21.4	C
SW Sagert Street/ SW 95th Avenue	-	0.61	15.1	C	-	0.41	9.9	A
SW Sagert Street/ SW 93rd Avenue/ West Tualatin Heights Driveway	SB	0.09	13.0	B	SB	0.05	12.8	B
SW Sagert Street/East Tualatin Heights Driveway	SB	0.09	12.9	B	SB	0.08	11.7	B
SW Sagert Street/ SW Boones Ferry Road	-	1.09	102.8	F	-	0.91	45.1	D
SW Avery Street/ SW 95th Avenue	-	0.64	7.2	A	-	0.64	6.7	A

[3] The 2040 operations are reflective of the existing overall cycle length and no timing optimization.

Proposed RMH Zoning

Under the proposed RMH zoning, the maximum allowed density would be increased to 15 dwelling units/acre. Increasing the density to 15 dwelling units per acres would result in a maximum of 336 multifamily housing units. Considering the site already has 220 units, this zone change analysis is conservatively assessing the impacts of 116 additional housing units on the site.

Table 7 shows the trip generation estimate for 116 additional multifamily housing units as calculated by Land Use 221 (Multifamily Housing Mid-Rise) in the ITE *Trip Generation Manual, 10th Edition*. As shown, the additional housing units are forecast to generate approximately 630 new daily trips, 42 new AM peak hour trips, and 51 new PM peak hour trips.

Table 7 – Estimated Trip Generation (Proposed RMH Zone w/116 Additional Multifamily Housing Units)

Land Use	ITE Code	Size	Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out
Assumed RMH Zoning									
Multifamily Housing (Mid-Rise)	221	116 units	630	42	11	31	51	31	20

Site Trip Distribution and Assignment

The trips from the additional 116 housing units were assigned to the study area network utilizing the Tualatin Heights Apartment's two site driveways along SW Sagert Street. From these points of access, the distribution of site-generated trips onto the study area roadway system was estimated based on a review of major transportation facilities within the site vicinity and travel characteristics observed from the existing weekday AM and PM traffic counts.

Year 2040 Rezone Intersection Operations (w/Proposed RMH Zoning)

To produce the analysis under the 2040 RMH zoning scenario, the weekday AM and PM peak hour site generated traffic volumes shown in Table 7 were added to the background traffic volumes shown in Figures 5 an 6 to arrive at the cumulative 2040 traffic volumes shown in Figures 7 and 8.

Operations of the study intersections under 2040 conditions (with the site converted to RMH zoning) are summarized in Table 8 for the weekday AM and PM peak hours. As shown, all of the study intersections are forecast to continue to operate acceptably during both the weekday AM and PM peak hours with the continued exception of the SW Boones Ferry Road/SW Sagert Street intersection. During the weekday AM Peak hour, the intersection is forecast to operate with a volume-to-capacity ratio of 1.10 which exceeds the respective 0.99 volume to capacity ratio standard. *Appendix "E" includes the 2040 total traffic conditions intersection operations analysis worksheets.*

Table 8 - 2040 Rezone Traffic Conditions (w/Proposed RMH Zoning)

Intersection	Weekday AM Peak Hour				Weekday PM Peak Hour			
	Critical Approach/ Lane	V/C	Delay (sec)	LOS	Critical Approach/ Lane	V/C	Delay (sec)	LOS
SW Tualatin Sherwood Road/ SW 95th Avenue	-	0.68	19.9	B	-	0.66	21.7	C
SW Sagert Street/ SW 95th Avenue	-	0.64	16.0	C	-	0.43	10.1	B
SW Sagert Street/ SW 93rd Avenue/ West Tualatin Heights Driveway	SB	0.16	13.7	B	SB	0.09	13.1	B
SW Sagert Street/East Tualatin Heights Driveway	SB	0.10	13.2	B	SB	0.08	12.0	B
SW Sagert Street/ SW Boones Ferry Road	-	1.10	104.9	F	-	0.91	46.3	D
SW Avery Street/ SW 95th Avenue	-	0.64	7.2	A	-	0.64	6.7	A

Figure 7 – 2040 Traffic Volumes (w/ Proposed RMH Zoning), Weekday AM Peak Hour

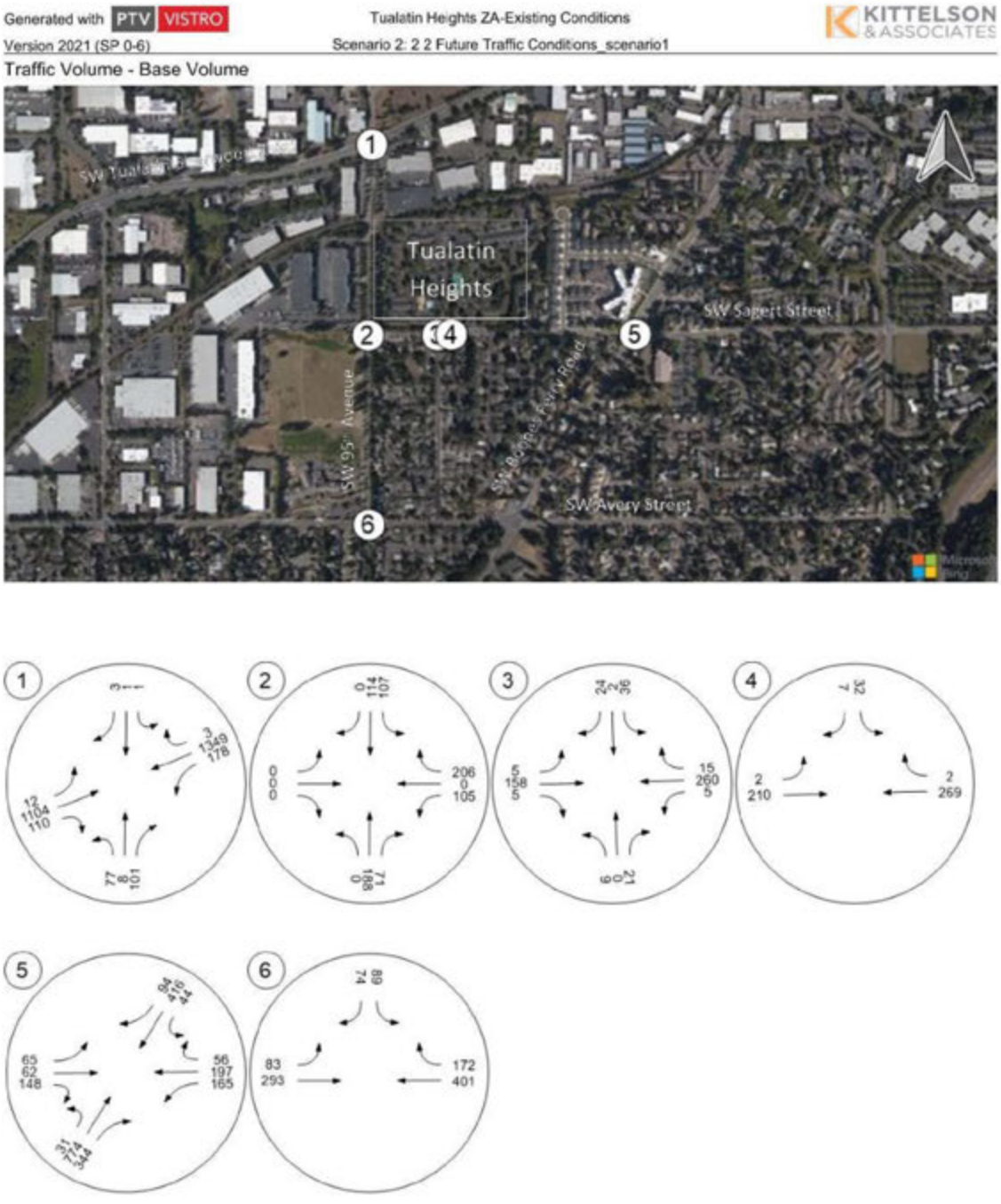
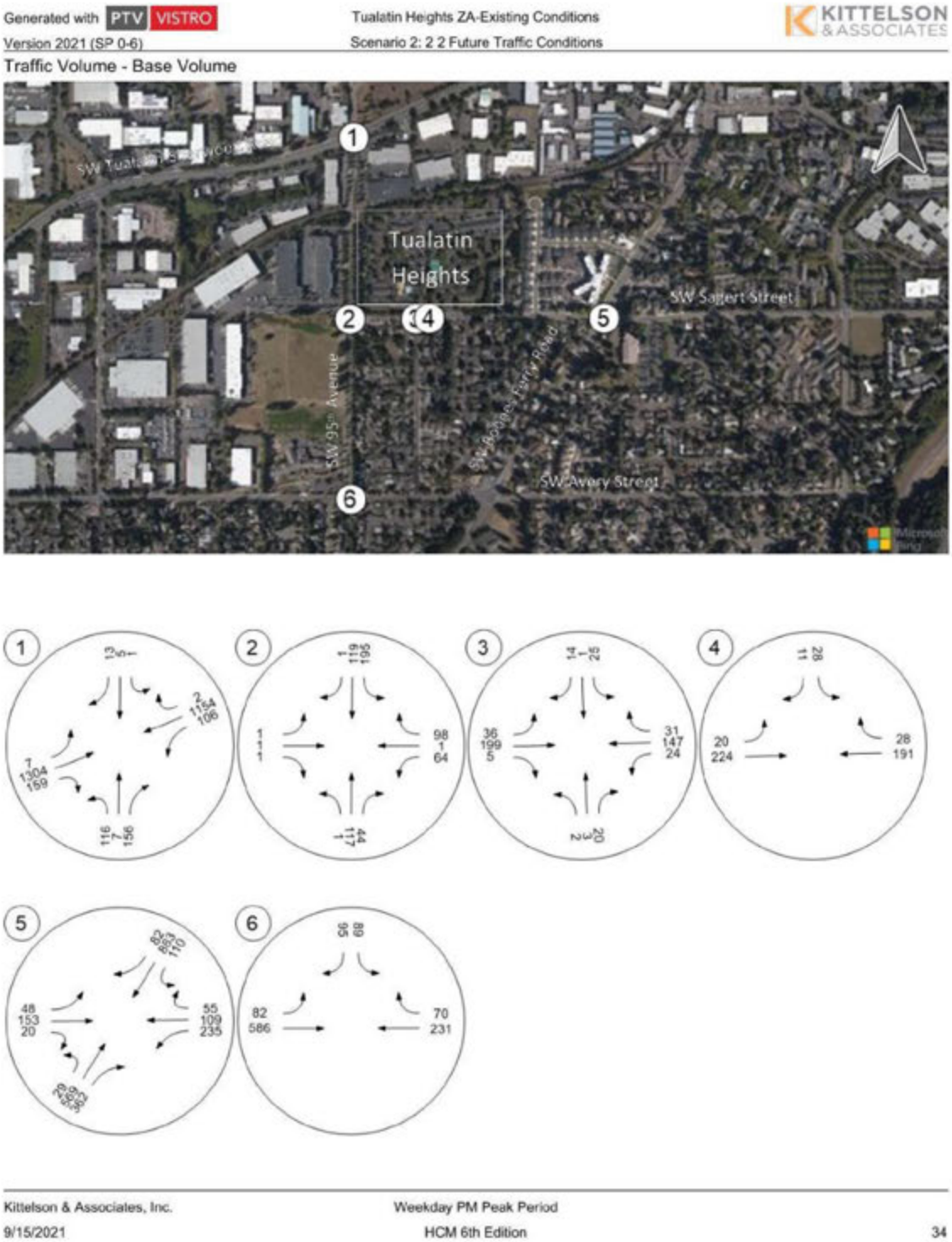


Figure 8 – 2040 Traffic Volumes (w/ Proposed RMH Zoning), Weekday PM Peak Hour



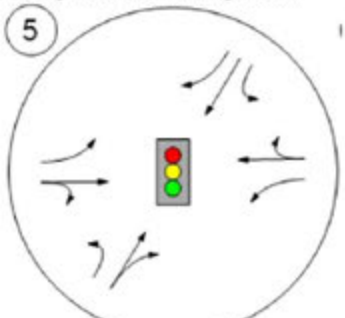
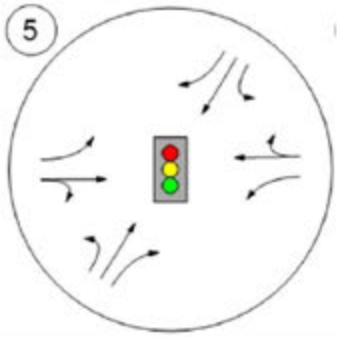
Kittelson & Associates, Inc.
9/15/2021
Weekday PM Peak Period
HCM 6th Edition
34

Year 2040 Intersection Operation Deficiencies and Mitigation Measures

As noted in Table 8, the inclusion of RMH zoning and the potential for up to 116 additional multifamily housing units is forecast to result in a slight degradation of the SW Boones Ferry Road/SW Sagert Street intersection when compared to the 2040 Background Conditions analysis. While minor, this further degradation of an intersection that is already forecast to experience capacity constraints requires the identification of mitigation measures to address forecast operations.

A review of the City of Tualatin's Transportation System Plan revealed no long-term improvement projects at the SW Boones Ferry Road/SW Sagert Street intersection. However, the future alternatives analysis did identify and investigate several potential capacity enhancing projects. One specific project involved the construction of a separate northbound right-turn lane on SW Boones Ferry Road to better facilitate peak time period demand to the SW Sagert Street corridor. Based on a review of the existing and 2040 forecast volumes generated in this study, such an improvement would restore long-term capacity to the intersection and result in acceptable operations under both the 2040 Background (no zone change) and 2040 Rezone (with RMH zoning) conditions as summarized below. *Appendix "E" includes the 2040 mitigation operations analysis worksheets.*

Table 9 - SW Boones Ferry Road/SW Sagert Street Intersection Mitigation Operations

	2040 Background (No Change in Zoning)		2040 Rezone (With RMZ Zoning)	
Scenario	Weekday AM Peak Hour	Weekday PM Peak Hour	Weekday AM Peak Hour	Weekday PM Peak Hour
Existing Intersection Configuration 	LOS F Delay = 102.8 V/C = 1.09	LOS D Delay = 45.1 V/C = 0.91	LOS F Delay = 104.9 V/C = 1.10	LOS D Delay = 46.3 V/C = 0.91
With a NB Right-Turn Lane 	LOS D Delay = 37.8 V/C = 0.88	LOS C Delay = 26.6 V/C = 0.82	LOS D Delay = 38.7 V/C = 0.89	LOS C Delay = 27.6 V/C = 0.83

TRANSPORTATION PLANNING RULE COMPLIANCE

This section addresses the Oregon Administrative Rule Section 660-12-0060 of the Oregon Transportation Planning Rule (TPR) requirements for the proposed zone change.

TRANSPORTATION PLAN RULE

OAR Section 660-12-0060 Plan and Land Use Regulation Amendments of the TPR sets forth the criteria for evaluating plan and land use regulation amendments. The criteria establish the determination of significant effect on a transportation system resulting from a land use action; where a significant effect is identified, the criteria establish the means for achieving compliance. The relevant portion of this section of the TPR is reproduced below in italics followed by the response for this project in standard text.

660-12-0060 Plan and Land Use Regulation Amendments

(1) If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:

(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);

Response: The proposed rezone will not require or result in any changes to the functional classification of any transportation facility in the vicinity of the site.

(b) Change standards implementing a functional classification system; or

Response: The proposed rezone will not outright require changes to the standards that implement the functional classification system.

(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.

(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

Response: The proposed rezone would result in future traffic volumes that are still consistent with the functional classifications of the roadways in the study area.

(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or

Response: The proposed rezone would slightly degrade operations of the SW Boones Ferry Road/SW Sagert Street intersection beyond 2040 background conditions. However, the intersection is already forecast to operate over capacity under 2040 background conditions. The installation of a northbound right-turn lane would restore long-term capacity to the intersection and result in acceptable operations under both the 2040 Background (no zone change) and 2040 Rezone (with RMH zoning) conditions.

(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.

Response: Without any mitigation measures in place, the proposed rezone would result in a small degradation of failing operations at the SW Boones Ferry Road/SW Sagert Street intersection. The installation of a northbound right-turn lane would restore long-term capacity to the intersection and result in acceptable operations under both the 2040 Background (no zone change) and 2040 Rezone (with RMH zoning) conditions.

CONCLUSIONS

Based on the long-term traffic impact analyses detailed in this report, the proposed rezone has the potential to generate a small degradation in the operations of the SW Boones Ferry Road/SW Sagert Street intersection compared to existing zoning. To comply with the TPR (OAR Section 660-012-0060), the installation of a northbound right-turn lane on SW Boones Ferry Road would restore long-term capacity to the intersection and result in acceptable operations under both the 2040 Background (no zone change) and 2040 Rezone (with RMH zoning) conditions.

Sincerely,
KITTELSON & ASSOCIATES, INC.

Matt Hughart

Matt Hughart, AICP
Principal Planner

Bincy Koshy
Transportation Analyst

Julia Kuhn, P.E.
Senior Principal Engineer

Appendix A Traffic Counts

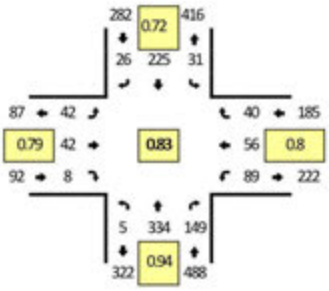
Type of peak hour being reported: Intersection Peak

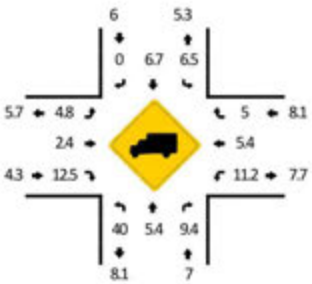
Method for determining peak hour: Total Entering Volume

LOCATION: SW Boones Ferry Rd -- SW Sagert St
CITY/STATE: Tualatin, OR

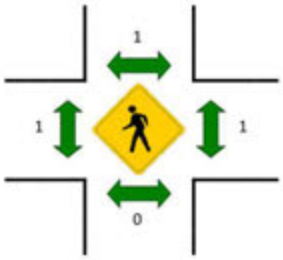
QC JOB #: 15473301
DATE: Fri, Jun 11 2021

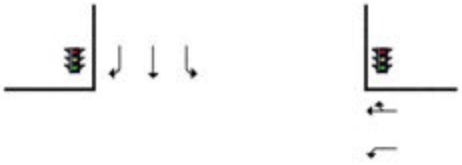
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

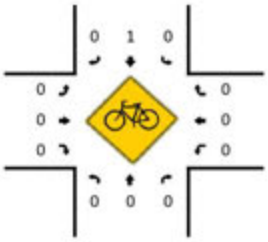


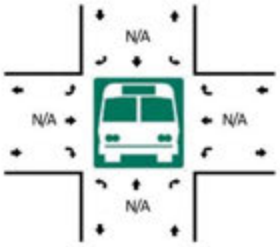


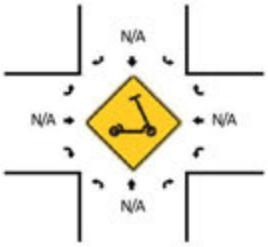
Quality Counts
DATA THAT DRIVES COMMUNITIES











15-Min Count Period Beginning At	SW Boones Ferry Rd (Northbound)				SW Boones Ferry Rd (Southbound)				SW Sagert St (Eastbound)				SW Sagert St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	69	18	0	6	16	5	0	10	6	1	0	23	6	3	0	163	
7:15 AM	0	77	36	0	6	38	14	0	5	11	1	0	24	12	8	0	232	
7:30 AM	1	92	31	0	4	41	6	0	12	10	2	0	23	17	7	0	246	
7:45 AM	2	90	38	0	11	74	13	0	12	15	2	0	26	26	6	0	315	956
8:00 AM	1	79	41	0	4	39	4	0	13	10	3	0	28	11	9	0	242	1035
8:15 AM	0	73	35	0	9	58	3	0	6	9	0	0	17	9	15	0	234	1037
8:30 AM	2	92	35	0	7	54	6	0	11	8	3	0	18	10	10	0	256	1047
8:45 AM	2	83	27	0	14	56	8	0	12	14	0	0	31	12	15	0	274	1006

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	8	360	152	0	44	296	52	0	48	60	8	0	104	104	24	0	1260
Heavy Trucks	4	12	4		4	24	0		4	0	4		12	0	0		68
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 6/25/2021 12:06 PM

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

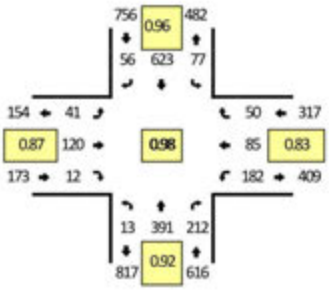
Type of peak hour being reported: Intersection Peak

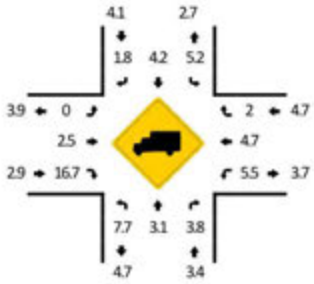
Method for determining peak hour: Total Entering Volume

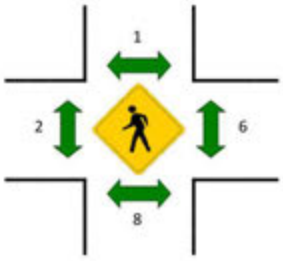
LOCATION: SW Boones Ferry Rd -- SW Sagert St
CITY/STATE: Tualatin, OR

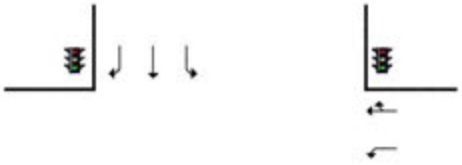
QC JOB #: 15473302
DATE: Thu, Jun 10 2021

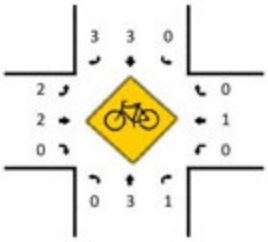
Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

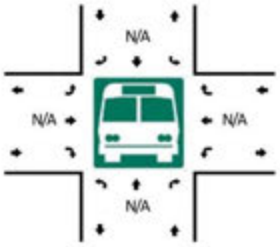


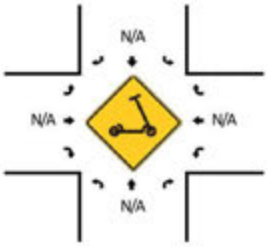












15-Min Count Period Beginning At	SW Boones Ferry Rd (Northbound)				SW Boones Ferry Rd (Southbound)				SW Sagert St (Eastbound)				SW Sagert St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	106	64	0	10	159	19	0	12	38	2	0	37	17	5	0	472	
4:15 PM	3	103	48	0	13	171	12	0	6	22	3	0	43	20	8	0	452	
4:30 PM	4	97	66	0	21	161	13	0	15	25	2	0	36	16	18	0	474	
4:45 PM	3	92	44	0	20	153	17	0	4	41	5	0	47	23	10	0	459	1857
5:00 PM	3	99	54	0	23	138	14	0	16	32	2	0	56	26	14	0	477	1862
5:15 PM	1	97	51	0	18	150	19	0	5	25	1	0	59	20	6	0	452	1862
5:30 PM	3	100	41	0	21	168	15	0	14	26	0	0	37	26	18	0	469	1857
5:45 PM	3	81	46	0	20	150	23	0	8	23	2	0	47	25	12	0	440	1838

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	12	396	216	0	92	552	56	0	64	128	8	0	224	104	56	0	1908
Heavy Trucks	0	12	4		4	8	0		0	4	0		4	4	4		44
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 6/25/2021 12:06 PM

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

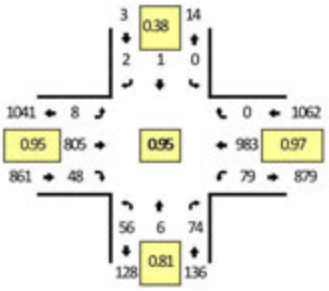
Type of peak hour being reported: Intersection Peak

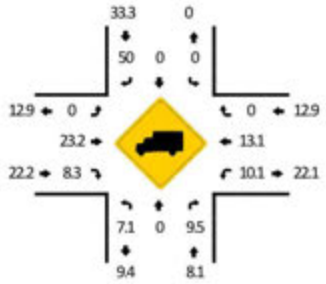
Method for determining peak hour: Total Entering Volume

LOCATION: SW 95th Ave -- Tualatin-Sherwood Rd
CITY/STATE: Tualatin, OR

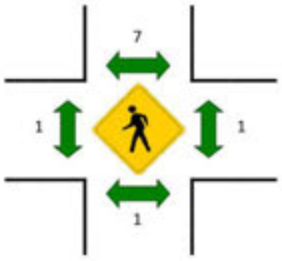
QC JOB #: 15473303
DATE: Fri, Jun 11 2021

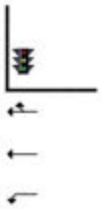
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

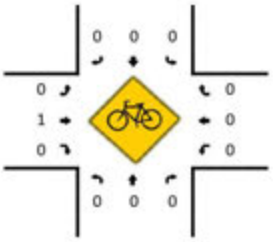


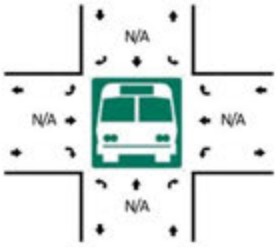


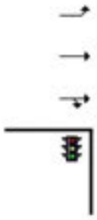
Quality Counts
DATA THAT DRIVES COMMUNITIES

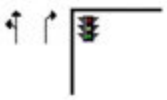


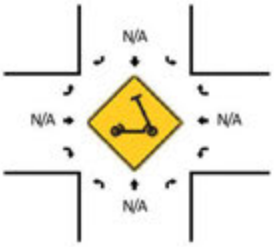












15-Min Count Period Beginning At	SW 95th Ave (Northbound)				SW 95th Ave (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	16	0	7	0	0	0	0	0	0	154	9	0	20	230	0	0	436	
7:15 AM	10	2	16	0	0	0	0	0	1	177	10	0	11	261	0	0	488	
7:30 AM	17	2	18	0	0	0	0	0	1	210	15	0	12	242	0	0	517	
7:45 AM	18	2	22	0	0	1	1	0	4	206	15	0	37	238	0	0	544	1985
8:00 AM	11	0	18	0	0	0	1	0	2	212	8	0	19	242	0	0	513	2062
8:15 AM	7	0	16	0	0	0	2	0	1	218	7	0	9	198	1	0	459	2033
8:30 AM	12	3	17	0	0	0	1	0	3	213	11	0	14	223	1	0	498	2014
8:45 AM	11	2	22	0	1	0	2	0	1	198	9	0	22	199	1	0	468	1938

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	72	8	88	0	0	4	4	0	16	824	60	0	148	952	0	0	2176
Heavy Trucks	0	0	4		0	0	4		0	204	8		24	148	0		392
Buses																	
Pedestrians		0				8				0				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 6/25/2021 12:06 PM

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

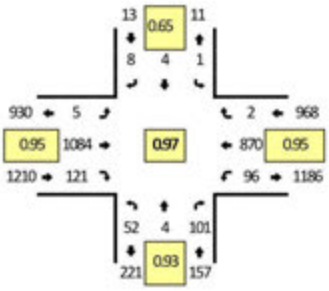
Type of peak hour being reported: Intersection Peak

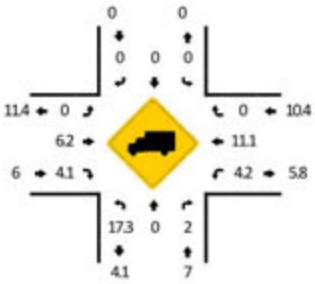
Method for determining peak hour: Total Entering Volume

LOCATION: SW 95th Ave -- Tualatin-Sherwood Rd
CITY/STATE: Tualatin, OR

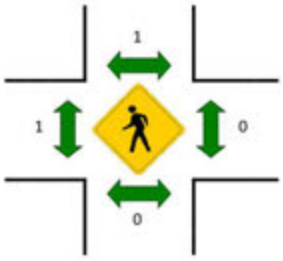
QC JOB #: 15473304
DATE: Thu, Jun 10 2021

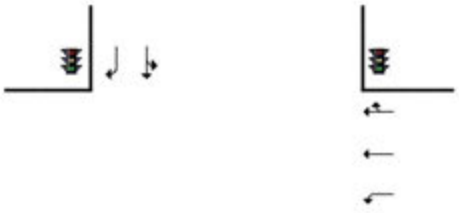
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:45 PM -- 5:00 PM

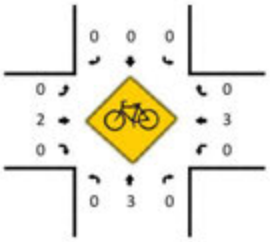


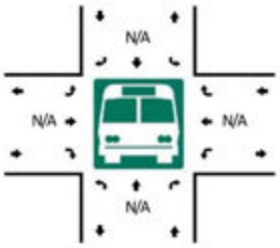


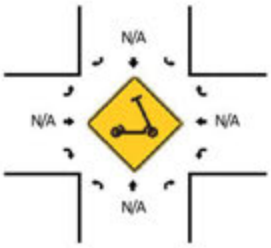
Quality Counts
DATA THAT DRIVES COMMUNITIES











15-Min Count Period Beginning At	SW 95th Ave (Northbound)				SW 95th Ave (Southbound)				Tualatin-Sherwood Rd (Eastbound)				Tualatin-Sherwood Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	14	1	27	0	0	0	1	0	1	281	31	0	18	226	0	0	600	
4:15 PM	14	0	25	0	0	1	2	0	0	240	24	0	16	225	2	0	549	
4:30 PM	11	1	30	0	1	1	3	0	2	279	36	0	24	203	0	0	591	
4:45 PM	13	2	19	0	0	2	2	0	2	284	30	0	38	216	0	0	608	2348
5:00 PM	17	0	28	0	1	2	0	0	1	235	33	0	25	189	1	0	532	2280
5:15 PM	18	0	22	0	2	3	3	0	2	267	25	0	29	206	1	0	578	2309
5:30 PM	16	0	15	0	0	1	4	0	0	244	26	0	28	227	0	0	561	2279
5:45 PM	19	0	11	0	0	0	0	0	0	217	18	0	15	241	0	0	521	2192

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	52	8	76	0	0	8	8	0	8	1136	120	0	152	864	0	0	2432
Heavy Trucks	4	0	0		0	0	0		0	80	12		0	104	0		200
Buses																	
Pedestrians		0				0				4				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	4	0		4
Scooters																	

Comments:

Report generated on 6/25/2021 12:06 PM

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

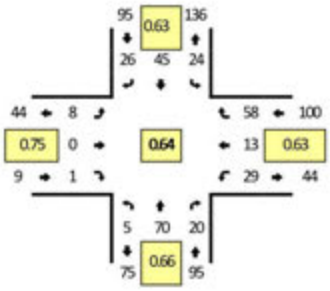
Type of peak hour being reported: Intersection Peak

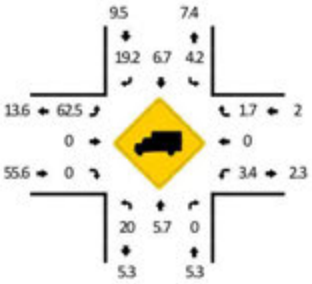
Method for determining peak hour: Total Entering Volume

LOCATION: SW 95th Ave -- SW Sagert St
CITY/STATE: Tualatin, OR

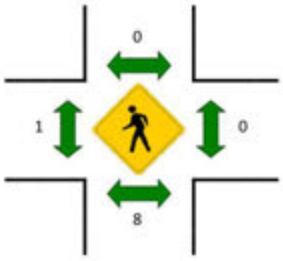
QC JOB #: 15473305
DATE: Fri, Jun 11 2021

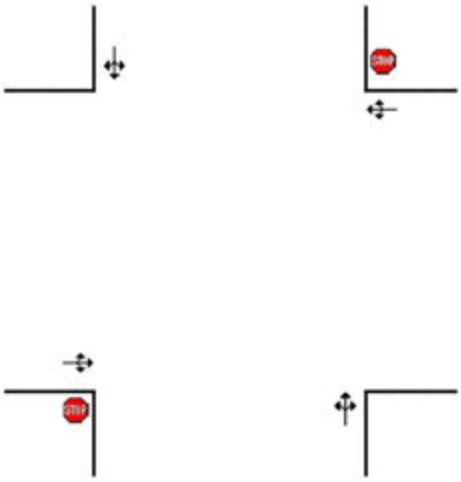
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

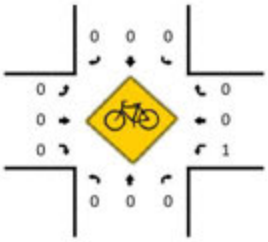


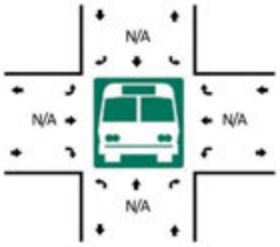


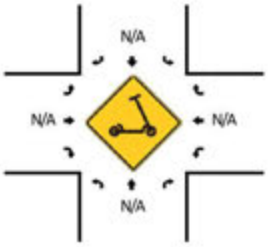
Quality Counts
DATA THAT DRIVES COMMUNITIES











15-Min Count Period Beginning At	SW 95th Ave (Northbound)				SW 95th Ave (Southbound)				SW Sagert St (Eastbound)				SW Sagert St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	6	1	0	6	9	5	0	1	1	0	0	3	1	16	0	51	
7:15 AM	1	18	1	0	5	5	4	0	1	0	0	0	4	5	9	0	53	
7:30 AM	2	14	0	0	11	8	2	0	3	0	0	0	5	3	18	0	66	
7:45 AM	2	23	11	0	5	23	10	0	1	0	1	0	16	2	22	0	116	286
8:00 AM	0	15	8	0	3	9	10	0	3	0	0	0	4	3	9	0	64	299
8:15 AM	2	11	1	0	3	3	7	0	1	1	0	0	2	1	7	0	39	285
8:30 AM	1	14	1	0	8	6	2	0	3	3	2	0	5	1	15	0	61	280
8:45 AM	0	20	1	0	10	10	8	0	2	1	2	0	2	4	14	0	74	238

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	8	92	44	0	20	92	40	0	4	0	4	0	64	8	88	0	464
Heavy Trucks	0	4	0		0	8	20		4	0	0		4	0	0		40
Buses																	
Pedestrians		8				0				0				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 6/25/2021 12:06 PM

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

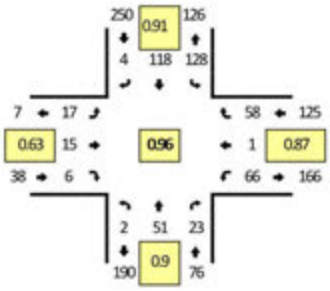
Type of peak hour being reported: Intersection Peak

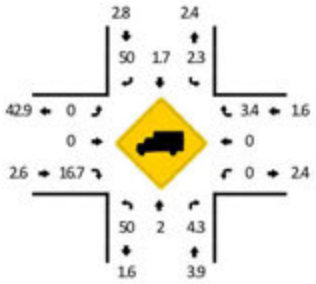
Method for determining peak hour: Total Entering Volume

LOCATION: SW 95th Ave -- SW Sagert St
CITY/STATE: Tualatin, OR

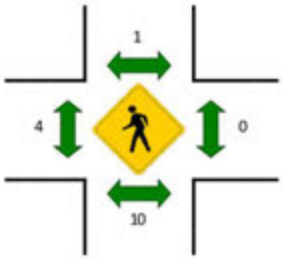
QC JOB #: 15473306
DATE: Thu, Jun 10 2021

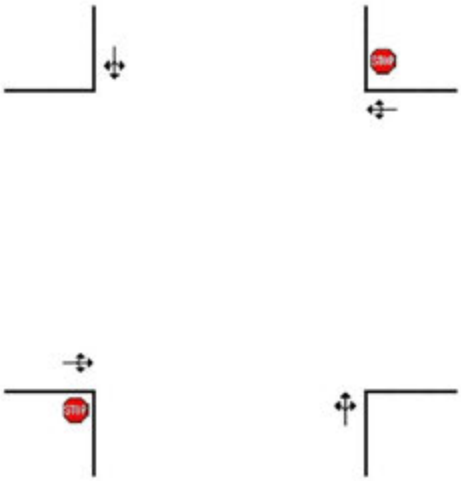
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

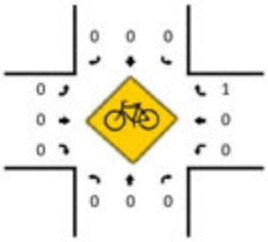


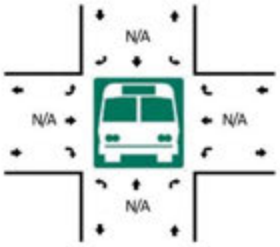


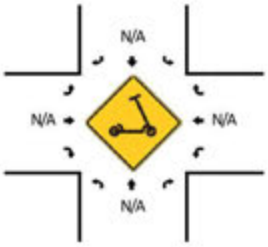
Quality Counts
DATA THAT DRIVES COMMUNITIES











15-Min Count Period Beginning At	SW 95th Ave (Northbound)				SW 95th Ave (Southbound)				SW Sagert St (Eastbound)				SW Sagert St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	16	8	0	33	16	1	0	2	8	4	0	6	0	16	0	112	
4:15 PM	0	17	7	0	20	18	3	0	1	1	2	0	6	3	18	0	96	
4:30 PM	0	11	7	0	36	28	0	0	9	5	1	0	11	0	15	0	123	
4:45 PM	0	13	6	0	36	32	1	0	1	3	2	0	16	0	15	0	125	456
5:00 PM	1	15	5	0	32	29	1	0	5	7	1	0	21	0	11	0	128	472
5:15 PM	1	12	5	0	24	29	2	0	2	0	2	0	18	1	17	0	113	489
5:30 PM	2	11	2	0	28	23	1	0	2	6	2	0	4	0	16	0	97	463
5:45 PM	0	9	3	0	13	21	0	0	2	1	0	0	18	1	16	0	84	422

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	4	60	20	0	128	116	4	0	20	28	4	0	84	0	44	0	512
Heavy Trucks	4	0	0		4	4	4		0	0	0		0	0	0		16
Buses																	
Pedestrians		12				4				8				0			24
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 6/25/2021 12:06 PM

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

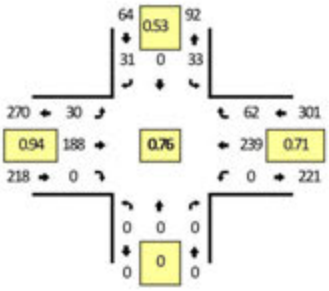
Type of peak hour being reported: Intersection Peak

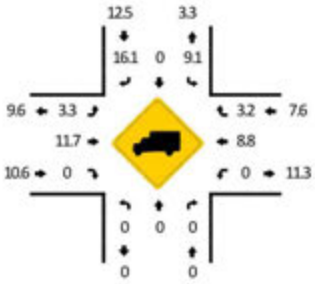
Method for determining peak hour: Total Entering Volume

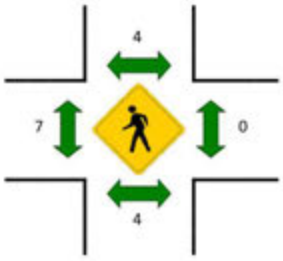
LOCATION: SW 95th Ave -- SW Avery St
CITY/STATE: Tualatin, OR

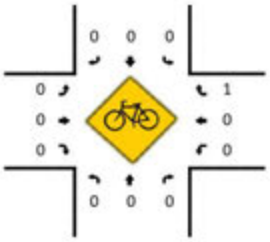
QC JOB #: 15473307
DATE: Fri, Jun 11 2021

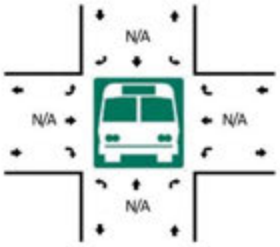
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

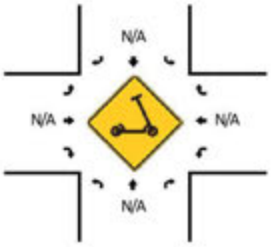












15-Min Count Period Beginning At	SW 95th Ave (Northbound)				SW 95th Ave (Southbound)				SW Avery St (Eastbound)				SW Avery St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	4	0	9	0	3	26	0	0	0	46	11	0	99	
7:15 AM	0	0	0	0	1	0	5	0	10	39	0	0	0	69	11	0	135	
7:30 AM	0	0	0	0	3	0	1	0	11	42	0	0	0	53	13	0	123	
7:45 AM	0	0	0	0	16	0	14	0	14	41	0	0	0	77	29	0	191	548
8:00 AM	0	0	0	0	7	0	7	0	4	45	0	0	0	43	12	0	118	567
8:15 AM	0	0	0	0	5	0	2	0	6	50	0	0	0	65	10	0	138	570
8:30 AM	0	0	0	0	5	0	8	0	6	52	0	0	0	54	11	0	136	583
8:45 AM	0	0	0	0	4	0	10	0	7	46	0	0	0	54	10	0	131	523

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	64	0	56	0	56	164	0	0	0	308	116	0	764
Heavy Trucks	0	0	0		4	0	4		0	28	0		0	32	4		72
Buses																	
Pedestrians		4				12				28				0			44
Bicycles	0	0	0		0	0	0		0	0	0		0	0	4		4
Scooters																	

Comments:

Report generated on 6/25/2021 12:06 PM

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

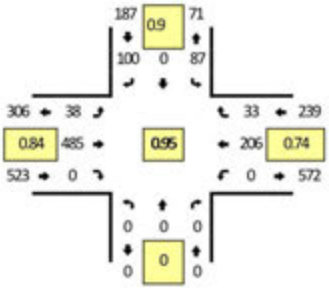
Type of peak hour being reported: Intersection Peak

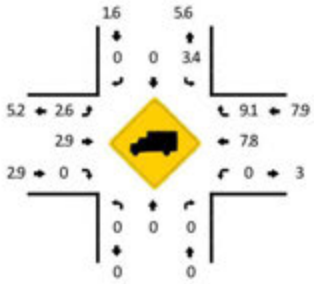
Method for determining peak hour: Total Entering Volume

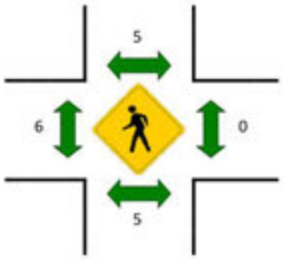
LOCATION: SW 95th Ave -- SW Avery St
CITY/STATE: Tualatin, OR

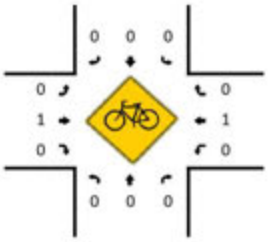
QC JOB #: 15473308
DATE: Thu, Jun 10 2021

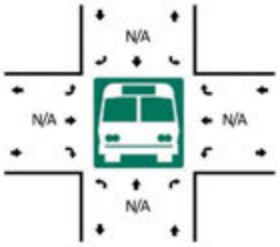
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

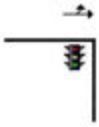


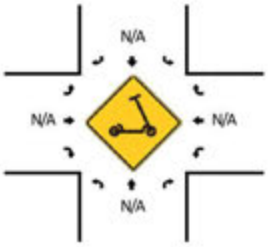












15-Min Count Period Beginning At	SW 95th Ave (Northbound)				SW 95th Ave (Southbound)				SW Avery St (Eastbound)				SW Avery St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	18	0	14	0	8	122	0	0	0	44	12	0	218	
4:15 PM	0	0	0	0	14	0	12	0	13	88	0	0	0	41	10	0	178	
4:30 PM	0	0	0	0	19	0	19	0	11	145	0	0	0	45	5	0	244	
4:45 PM	0	0	0	0	23	0	26	0	8	111	0	0	0	39	8	0	215	855
5:00 PM	0	0	0	0	20	0	32	0	12	124	0	0	0	54	7	0	249	886
5:15 PM	0	0	0	0	25	0	23	0	7	105	0	0	0	68	13	0	241	949
5:30 PM	0	0	0	0	17	0	12	0	5	98	0	0	0	47	7	0	186	891
5:45 PM	0	0	0	0	12	0	24	0	4	54	0	0	0	41	8	0	143	819

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	80	0	128	0	48	496	0	0	0	216	28	0	996
Heavy Trucks	0	0	0		4	0	0		0	8	0		0	20	4		36
Buses																	
Pedestrians		4				4				8				0			16
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 6/25/2021 12:06 PM

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

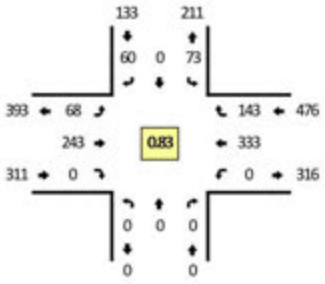
Type of peak hour being reported: Intersection Peak

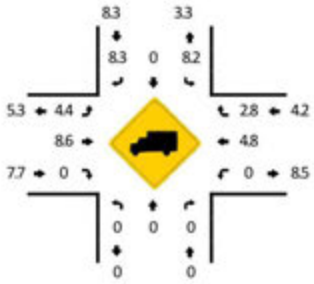
Method for determining peak hour: Total Entering Volume

LOCATION: SW 95th Ave -- SW Avery St
CITY/STATE: Washington, OR

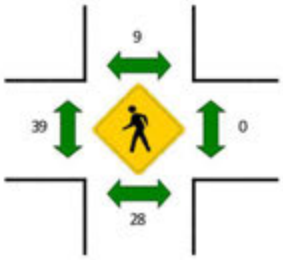
QC JOB #: 15109501
DATE: Tue, Oct 29 2019

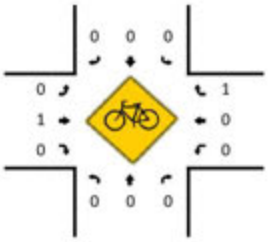
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

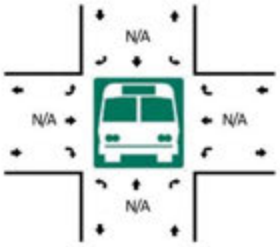


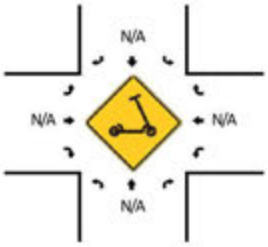


Quality Counts
DATA THAT DRIVES COMMUNITIES









5-Min Count Period Beginning At	SW 95th Ave (Northbound)				SW 95th Ave (Southbound)				SW Avery St (Eastbound)				SW Avery St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:30 AM	0	0	0	0	1	0	5	0	6	18	0	0	0	32	9	0	71	
7:35 AM	0	0	0	0	7	0	3	0	6	23	0	0	0	46	17	0	102	
7:40 AM	0	0	0	0	8	0	2	0	4	24	0	0	0	25	17	0	80	
7:45 AM	0	0	0	0	6	0	3	0	7	25	0	0	0	24	10	0	75	
7:50 AM	0	0	0	0	14	0	5	0	10	15	0	0	0	35	24	0	103	
7:55 AM	0	0	0	0	12	0	2	0	9	19	0	0	0	26	19	0	87	
8:00 AM	0	0	0	0	9	0	10	0	7	18	0	0	0	29	15	0	88	
8:05 AM	0	0	0	0	11	0	11	0	4	26	0	0	0	29	9	0	90	
8:10 AM	0	0	0	0	1	0	9	0	2	26	0	0	0	19	8	0	65	
8:15 AM	0	0	0	0	3	0	1	0	5	21	0	0	0	24	4	0	58	
8:20 AM	0	0	0	0	0	0	3	0	4	17	0	0	0	24	4	0	52	
8:25 AM	0	0	0	0	1	0	6	0	4	11	0	0	0	20	7	0	49	920

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	140	0	68	0	104	208	0	0	0	360	232	0	1112
Heavy Trucks	0	0	0		8	0	8		4	8	0		0	8	12		48
Buses																	
Pedestrians		76				8				136				0			220
Bicycles	0	0	0		0	0	0		0	0	0		0	0	4		4
Scooters																	

Comments:

Report generated on 8/26/2021 9:59 AM

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

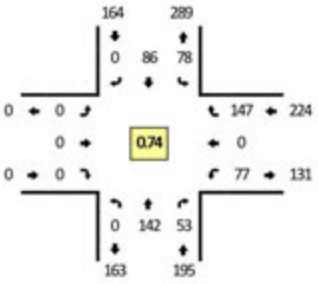
Type of peak hour being reported: Intersection Peak

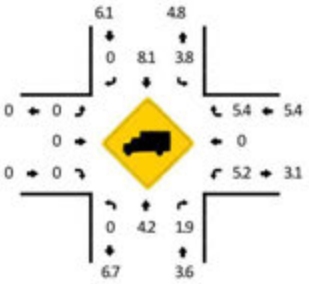
Method for determining peak hour: Total Entering Volume

LOCATION: SW 95th Ave -- SW Sagert St
CITY/STATE: Washington, OR

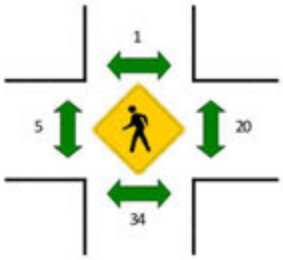
QC JOB #: 15109504
DATE: Tue, Oct 29 2019

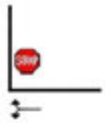
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

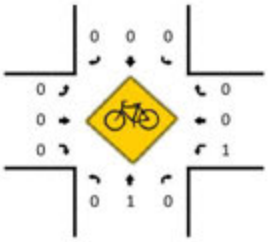


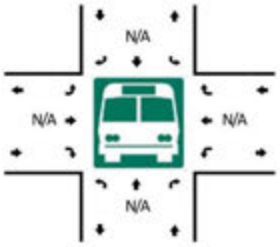


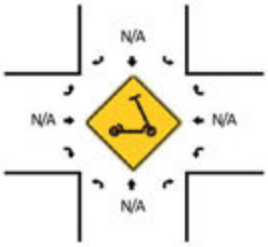
Quality Counts
DATA THAT DRIVES COMMUNITIES











5-Min Count Period Beginning At	SW 95th Ave (Northbound)				SW 95th Ave (Southbound)				SW Sagert St (Eastbound)				SW Sagert St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:30 AM	0	11	1	0	4	7	0	0	0	0	0	0	5	0	9	0	37	
7:35 AM	0	19	1	0	4	5	0	0	0	0	0	0	8	0	16	0	53	
7:40 AM	0	11	1	0	8	7	0	0	0	0	0	0	7	0	6	0	40	
7:45 AM	0	11	6	0	10	8	0	0	0	0	0	0	7	0	18	0	60	
7:50 AM	0	7	2	0	7	9	0	0	0	0	0	0	11	0	6	0	42	
7:55 AM	0	17	11	0	11	14	0	0	0	0	0	0	8	0	16	0	77	
8:00 AM	0	9	5	0	7	10	0	0	0	0	0	0	12	0	19	0	62	
8:05 AM	0	11	12	0	6	13	0	0	0	0	0	0	6	0	10	0	58	
8:10 AM	0	20	9	0	5	5	0	0	0	0	0	0	3	0	17	0	59	
8:15 AM	0	11	3	0	5	3	0	0	0	0	0	0	0	0	10	0	32	
8:20 AM	0	5	1	0	9	5	0	0	0	0	0	0	3	0	7	0	30	
8:25 AM	0	10	1	0	2	0	0	0	0	0	0	0	7	0	13	0	33	583

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	148	112	0	96	148	0	0	0	0	0	0	104	0	180	0	788
Heavy Trucks	0	8	4		8	16	0		0	0	0		0	0	12		48
Buses																	
Pedestrians		20				0				8				8			36
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 8/26/2021 9:59 AM

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

Appendix B Existing Operations

Tualatin Heights ZA-Existing Conditions

Vistro File: H:\...\26462_AM.vistro
Report File: H:\...\Existing_AM.pdf

Scenario: Base Scenario
9/2/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SW 95th Ave/Tualatin-Sherwood Rd	Signalized	HCM 6th Edition	NB Right	0.541	16.9	B
2	SW 95th Ave/SW Sagert St	Two-way stop	HCM 6th Edition	WB Left	0.292	22.9	C
3	Tualatin Heights West Dwy/SW 93rd Ave/SW Sagert St	Two-way stop	HCM 6th Edition	SB Thru	0.006	12.5	B
4	Tualatin Heights East Dwy/SW Sagert St	Two-way stop	HCM 6th Edition	SB Left	0.060	12.1	B
5	SW Boones Ferry Rd/SW Sagert St	Signalized	HCM 6th Edition	EB Right	0.855	32.5	C
6	SW 95th Ave/SW Avery St	Signalized	HCM 6th Edition	SB Left	0.553	6.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SW 95th Ave/Tualatin-Sherwood Rd

Control Type:	Signalized	Delay (sec / veh):	16.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.541

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	70.00	100.00	100.00	100.00	120.00	100.00	100.00	400.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	56	6	74	1	1	2	9	861	84	137	1052	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	7.00	0.00	9.00	0.00	0.00	50.00	0.00	23.00	8.00	10.00	13.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	6	74	1	1	2	9	861	84	137	1052	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	2	19	0	0	1	2	227	22	36	277	1
Total Analysis Volume [veh/h]	59	6	78	1	1	2	9	906	88	144	1107	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		1			4			0			3	
v_di, Inbound Pedestrian Volume crossing major street [		0			3			1			4	
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			1			1	
v_ci, Inbound Pedestrian Volume crossing minor street [		1			1			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			1			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	7.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	10	0	10	10	0
Maximum Green [s]	0	35	0	0	35	0	20	65	0	20	65	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	0	41	0	0	41	0	25	74	0	25	74	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	50	50	50	50	50	50	50	50	50	50
L, Total Lost Time per Cycle [s]	5.50	5.50	5.50	5.50	5.00	6.50	6.50	5.00	6.50	6.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.50	3.50	3.50	3.50	3.00	4.50	4.50	3.00	4.50	4.50
g_i, Effective Green Time [s]	4	4	4	4	8	19	19	9	20	20
g / C, Green / Cycle	0.09	0.09	0.09	0.09	0.17	0.39	0.39	0.17	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.04	0.05	0.00	0.00	0.00	0.32	0.33	0.09	0.33	0.33
s, saturation flow rate [veh/h]	1620	1495	1826	974	1810	1555	1500	1667	1705	1704
c, Capacity [veh/h]	285	135	274	88	307	611	590	291	679	678
d1, Uniform Delay [s]	21.34	21.71	20.60	20.62	17.24	13.56	13.59	18.55	13.35	13.36
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.40	3.84	0.01	0.10	0.04	2.90	3.08	1.30	2.49	2.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.23	0.58	0.01	0.02	0.03	0.83	0.83	0.50	0.82	0.82
d, Delay for Lane Group [s/veh]	21.74	25.54	20.61	20.72	17.27	16.46	16.67	19.85	15.84	15.84
Lane Group LOS	C	C	C	C	B	B	B	B	B	B
Critical Lane Group	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.68	0.94	0.02	0.02	0.08	4.59	4.49	1.44	4.92	4.92
50th-Percentile Queue Length [ft/ln]	17.06	23.46	0.50	0.55	2.02	114.86	112.23	36.09	123.11	123.05
95th-Percentile Queue Length [veh/ln]	1.23	1.69	0.04	0.04	0.15	8.11	7.96	2.60	8.56	8.56
95th-Percentile Queue Length [ft/ln]	30.72	42.23	0.91	0.98	3.63	202.74	199.10	64.97	214.09	214.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.74	21.74	25.54	20.61	20.61	20.72	17.27	16.55	16.67	19.85	15.84	15.84
Movement LOS	C	C	C	C	C	C	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	23.82			20.67			16.57			16.30		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	16.87											
Intersection LOS	B											
Intersection V/C	0.541											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	9664.49	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	16.62	16.62	16.62	16.62
I_p,int, Pedestrian LOS Score for Intersection	2.032	1.917	2.777	2.708
Crosswalk LOS	B	A	C	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1431	1431	2721	2721
d_b, Bicycle Delay [s]	2.01	2.01	3.23	3.22
I_b,int, Bicycle LOS Score for Intersection	1.796	1.566	2.387	2.593
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SW 95th Ave/SW Sagert St

Control Type:	Two-way stop	Delay (sec / veh):	22.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.292

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	142	53	78	86	0	0	0	0	77	0	147
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.00	2.00	4.00	8.00	0.00	0.00	0.00	0.00	5.00	0.00	5.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	142	53	78	86	0	0	0	0	77	0	147
Peak Hour Factor	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	48	18	26	29	0	0	0	0	26	0	50
Total Analysis Volume [veh/h]	0	192	72	105	116	0	0	0	0	104	0	199
Pedestrian Volume [ped/h]	34			1			5			20		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.26
d_M, Delay for Movement [s/veh]	7.45	0.00	0.00	8.16	0.00	0.00	18.84	14.91	9.17	22.86	22.21	17.45
Movement LOS	A	A	A	A	A	A	C	B	A	C	C	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.28	0.28	0.28	0.00	0.00	0.00	3.33	3.33	3.33
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	6.91	6.91	6.91	0.00	0.00	0.00	83.22	83.22	83.22
d_A, Approach Delay [s/veh]	0.00			3.88			14.31			19.31		
Approach LOS	A			A			B			C		
d_I, Intersection Delay [s/veh]	8.51											
Intersection LOS	C											

Intersection Level Of Service Report

Intersection 3: Tualatin Heights West Dwy/SW 93rd Ave/SW Sagert St

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	7	0	17	15	2	8	0	127	4	4	209	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	6.00	0.00	0.00	0.00	0.00	4.00	25.00	0.00	4.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	0	17	15	2	8	0	127	4	4	209	7
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	5	5	1	3	0	40	1	1	65	2
Total Analysis Volume [veh/h]	9	0	21	19	3	10	0	159	5	5	261	9
Pedestrian Volume [ped/h]	2			2			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.02	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.21	12.33	9.36	12.46	12.47	10.02	7.77	0.00	0.00	7.54	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.13	0.18	0.18	0.18	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	3.25	3.25	3.25	4.46	4.46	4.46	0.00	0.00	0.00	0.26	0.26	0.26
d_A, Approach Delay [s/veh]	10.22			11.70			0.00			0.14		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	1.43											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 4: Tualatin Heights East Dwy/SW Sagert St

Control Type:	Two-way stop	Delay (sec / veh):	12.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.060

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	26	6	2	157	214	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	3.00	4.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	6	2	157	214	2
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	2	1	49	67	1
Total Analysis Volume [veh/h]	33	8	3	196	268	3
Pedestrian Volume [ped/h]	5		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.06	10.18	7.79	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.23	0.23	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.70	5.70	0.17	0.17	0.00	0.00
d_A, Approach Delay [s/veh]	11.69		0.12		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.98					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: SW Boones Ferry Rd/SW Sagert St

Control Type:	Signalized	Delay (sec / veh):	32.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.855

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	115.00	100.00	100.00	125.00	100.00	210.00	90.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	20	549	244	31	295	65	42	42	99	117	139	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	40.00	5.00	9.00	6.00	7.00	0.00	5.00	2.00	12.00	11.00	5.00	5.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	549	244	31	295	65	42	42	99	117	139	40
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	165	73	9	89	20	13	13	30	35	42	12
Total Analysis Volume [veh/h]	24	661	294	37	355	78	51	51	119	141	167	48
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		0			1			0			0	
v_di, Inbound Pedestrian Volume crossing major street [		0			0			0			1	
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			1			1	
v_ci, Inbound Pedestrian Volume crossing minor street [		1			1			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			1			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	14.00

Phasing & Timing

Control Type	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	6	0	5	6	0
Maximum Green [s]	15	60	0	15	60	0	15	20	0	15	20	0
Amber [s]	3.5	4.0	0.0	3.5	4.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	65	0	20	65	0	20	25	0	20	25	0
Vehicle Extension [s]	2.0	4.5	0.0	2.0	4.5	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	21	0	0	22	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	3.0	0.0	2.5	3.0	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	Yes		No	Yes		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	L	C
C, Cycle Length [s]	101	101	101	101	101	101	101	101	101
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	0.00	3.00	3.00	0.00	2.50	0.00	2.50
g_i, Effective Green Time [s]	66	58	66	59	59	26	12	26	17
g / C, Green / Cycle	0.65	0.57	0.65	0.58	0.58	0.25	0.12	0.25	0.17
(v / s)_i Volume / Saturation Flow Rate	0.03	0.55	0.06	0.20	0.05	0.04	0.10	0.10	0.12
s, saturation flow rate [veh/h]	753	1730	670	1795	1580	1286	1664	1362	1754
c, Capacity [veh/h]	514	994	243	1045	920	302	201	338	301
d1, Uniform Delay [s]	6.78	20.34	21.13	10.95	9.23	29.55	43.34	31.19	39.36
k, delay calibration	0.19	0.43	0.04	0.19	0.19	0.04	0.04	0.13	0.08
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	18.43	0.11	0.33	0.07	0.10	3.71	0.97	2.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.96	0.15	0.34	0.08	0.17	0.84	0.42	0.71
d, Delay for Lane Group [s/veh]	6.85	38.77	21.23	11.28	9.30	29.65	47.05	32.16	41.84
Lane Group LOS	A	D	C	B	A	C	D	C	D
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.18	24.28	0.27	3.98	0.74	0.95	4.31	2.86	5.17
50th-Percentile Queue Length [ft/ln]	4.42	606.89	6.66	99.58	18.43	23.79	107.80	71.47	129.28
95th-Percentile Queue Length [veh/ln]	0.32	32.36	0.48	7.17	1.33	1.71	7.72	5.15	8.90
95th-Percentile Queue Length [ft/ln]	7.96	808.90	11.99	179.25	33.18	42.81	192.94	128.65	222.51

Movement, Approach, & Intersection Results

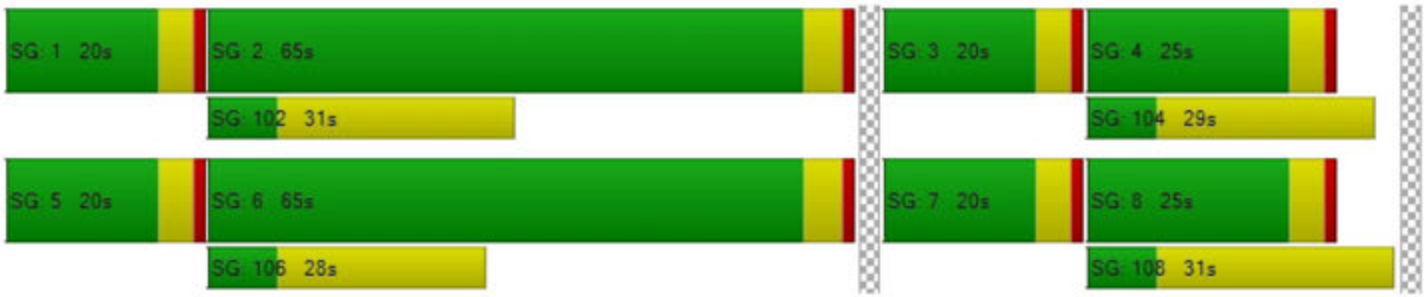
d_M, Delay for Movement [s/veh]	6.85	38.77	38.77	21.23	11.28	9.30	29.65	47.05	47.05	32.16	41.84	41.84
Movement LOS	A	D	D	C	B	A	C	D	D	C	D	D
d_A, Approach Delay [s/veh]		37.99			11.73			43.03			38.00	
Approach LOS		D			B			D			D	
d_I, Intersection Delay [s/veh]	32.45											
Intersection LOS	C											
Intersection V/C	0.855											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	39.89	39.89	39.89	39.89
l_p,int, Pedestrian LOS Score for Intersection	2.492	2.450	2.125	2.216
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1193	1193	408	408
d_b, Bicycle Delay [s]	8.18	8.19	31.88	31.88
l_b,int, Bicycle LOS Score for Intersection	3.175	2.335	1.924	2.147
Bicycle LOS	C	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: SW 95th Ave/SW Avery St

Control Type:	Signalized	Delay (sec / veh):	6.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.553

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	80.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	73	60	68	243	333	143
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	8.00	8.00	4.00	9.00	5.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	73	60	68	243	333	143
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	18	20	73	100	43
Total Analysis Volume [veh/h]	88	72	82	293	401	172
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	3		4		0	
v_di, Inbound Pedestrian Volume crossing major street [	4		3		0	
v_co, Outbound Pedestrian Volume crossing minor stree	2		0		2	
v_ci, Inbound Pedestrian Volume crossing minor street [	2		0		2	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	4	0	0	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	0	10	10	0
Maximum Green [s]	25	0	0	40	40	0
Amber [s]	3.5	0.0	0.0	4.0	4.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	14	0	0	0	16	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	0.0	0.0	3.0	3.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	26	26	26	26
L, Total Lost Time per Cycle [s]	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	4	4	12	12
g / C, Green / Cycle	0.15	0.15	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.05	0.05	0.35	0.33
s, saturation flow rate [veh/h]	1695	1477	1068	1718
c, Capacity [veh/h]	252	220	685	828
d1, Uniform Delay [s]	9.83	9.78	4.84	5.18
k, delay calibration	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.83	0.86	0.68	1.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.33	0.55	0.69
d, Delay for Lane Group [s/veh]	10.65	10.64	5.52	6.23
Lane Group LOS	B	B	A	A
Critical Lane Group	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.36	0.29	0.72	0.95
50th-Percentile Queue Length [ft/ln]	8.88	7.37	18.01	23.65
95th-Percentile Queue Length [veh/ln]	0.64	0.53	1.30	1.70
95th-Percentile Queue Length [ft/ln]	15.98	13.26	32.42	42.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.65	10.64	5.52	5.52	6.23	6.23
Movement LOS	B	B	A	A	A	A
d_A, Approach Delay [s/veh]	10.65		5.52		6.23	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	6.63					
Intersection LOS	A					
Intersection V/C	0.553					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	6701.16	3864.57	0.00
d_p, Pedestrian Delay [s]	4.23	4.23	4.23
l_p,int, Pedestrian LOS Score for Intersection	2.107	2.043	2.095
Crosswalk LOS	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1941	3106	3106
d_b, Bicycle Delay [s]	0.01	3.94	3.94
l_b,int, Bicycle LOS Score for Intersection	1.560	2.178	2.505
Bicycle LOS	A	B	B

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tualatin Heights ZA-Existing Conditions

Vistro File: H:\...\26462_PM.vistro
Report File: H:\...\Existing_PM.pdf

Scenario: Base Scenario
9/2/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SW 95th Ave/Tualatin-Sherwood Rd	Signalized	HCM 6th Edition	NB Right	0.550	17.6	B
2	SW 95th Ave/SW Sagert St	Two-way stop	HCM 6th Edition	WB Left	0.157	14.9	B
3	Tualatin Heights West Dwy/SW 93rd Ave/SW Sagert St	Two-way stop	HCM 6th Edition	SB Left	0.032	12.5	B
4	Tualatin Heights East Dwy/SW Sagert St	Two-way stop	HCM 6th Edition	SB Left	0.054	11.5	B
5	SW Boones Ferry Rd/SW Sagert St	Signalized	HCM 6th Edition	EB Thru	0.697	19.0	B
6	SW 95th Ave/SW Avery St	Signalized	HCM 6th Edition	SB Right	0.536	6.4	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SW 95th Ave/Tualatin-Sherwood Rd

Control Type:	Signalized	Delay (sec / veh):	17.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.550

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	70.00	100.00	100.00	100.00	120.00	100.00	100.00	400.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	52	4	101	1	4	8	5	1084	121	96	870	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	17.00	0.00	2.00	0.00	0.00	0.00	0.00	6.00	4.00	4.00	11.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	52	4	101	1	4	8	5	1084	121	96	870	2
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	1	26	0	1	2	1	279	31	25	224	1
Total Analysis Volume [veh/h]	54	4	104	1	4	8	5	1118	125	99	897	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		0			1			0			0	
v_di, Inbound Pedestrian Volume crossing major street [		0			0			0			1	
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			1			0	
v_ci, Inbound Pedestrian Volume crossing minor street [		0			1			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		3			0			2			3	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	7.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	10	0	10	10	0
Maximum Green [s]	0	35	0	0	35	0	20	65	0	20	65	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	0	41	0	0	41	0	25	74	0	25	74	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	52	52	52	52	52	52	52	52	52	52
L, Total Lost Time per Cycle [s]	5.50	5.50	5.50	5.50	5.00	6.50	6.50	5.00	6.50	6.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.50	3.50	3.50	3.50	3.00	4.50	4.50	3.00	4.50	4.50
g_i, Effective Green Time [s]	5	5	5	5	13	22	22	8	17	17
g / C, Green / Cycle	0.10	0.10	0.10	0.10	0.25	0.42	0.42	0.15	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.04	0.07	0.00	0.00	0.00	0.35	0.35	0.06	0.26	0.26
s, saturation flow rate [veh/h]	1599	1560	1860	1610	1810	1810	1738	1752	1735	1733
c, Capacity [veh/h]	293	155	268	160	450	768	737	259	561	560
d1, Uniform Delay [s]	21.66	22.44	21.03	21.08	14.64	13.17	13.23	19.90	15.98	15.98
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	4.95	0.03	0.13	0.01	2.29	2.49	0.93	2.72	2.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.67	0.02	0.05	0.01	0.82	0.83	0.38	0.80	0.80
d, Delay for Lane Group [s/veh]	21.99	27.39	21.05	21.20	14.65	15.46	15.71	20.83	18.70	18.71
Lane Group LOS	C	C	C	C	B	B	B	C	B	B
Critical Lane Group	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.63	1.33	0.05	0.09	0.04	5.70	5.57	1.04	4.56	4.56
50th-Percentile Queue Length [ft/ln]	15.67	33.20	1.31	2.16	1.02	142.49	139.37	26.12	114.01	113.94
95th-Percentile Queue Length [veh/ln]	1.13	2.39	0.09	0.16	0.07	9.62	9.45	1.88	8.06	8.06
95th-Percentile Queue Length [ft/ln]	28.21	59.77	2.35	3.88	1.83	240.38	236.18	47.02	201.57	201.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.99	21.99	27.39	21.05	21.05	21.20	14.65	15.57	15.71	20.83	18.70	18.71
Movement LOS	C	C	C	C	C	C	B	B	B	C	B	B
d_A, Approach Delay [s/veh]	25.46			21.15			15.58			18.92		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	17.65											
Intersection LOS	B											
Intersection V/C	0.550											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	17.57	17.57	17.57	17.57
l_p,int, Pedestrian LOS Score for Intersection	2.039	1.920	2.779	2.707
Crosswalk LOS	B	A	C	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1377	1377	2618	2618
d_b, Bicycle Delay [s]	2.51	2.50	2.47	2.47
l_b,int, Bicycle LOS Score for Intersection	1.827	1.581	2.589	2.383
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SW 95th Ave/SW Sagert St

Control Type:	Two-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.157

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	53	23	143	124	0	0	0	0	66	0	59
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	50.00	2.00	4.00	2.00	2.00	50.00	0.00	0.00	17.00	0.00	0.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	53	23	143	124	0	0	0	0	66	0	59
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	14	6	37	32	0	0	0	0	17	0	15
Total Analysis Volume [veh/h]	0	55	24	149	129	0	0	0	0	69	0	61
Pedestrian Volume [ped/h]	10			1			4			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.06
d_M, Delay for Movement [s/veh]	8.00	0.00	0.00	7.63	0.00	0.00	14.05	13.61	9.21	14.90	15.17	10.32
Movement LOS	A	A	A	A	A	A	B	B	A	B	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.33	0.33	0.33	0.00	0.00	0.00	0.83	0.83	0.83
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	8.14	8.14	8.14	0.00	0.00	0.00	20.73	20.73	20.73
d_A, Approach Delay [s/veh]	0.00			4.09			12.29			12.75		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	5.74											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Tualatin Heights West Dwy/SW 93rd Ave/SW Sagert St

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2	3	20	14	1	5	22	139	5	24	118	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	5.00	7.00	0.00	0.00	9.00	3.00	0.00	0.00	7.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	3	20	14	1	5	22	139	5	24	118	14
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	6	4	0	1	6	39	1	7	34	4
Total Analysis Volume [veh/h]	2	3	23	16	1	6	25	158	6	27	134	16
Pedestrian Volume [ped/h]	3			6			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.03	0.03	0.00	0.01	0.02	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	11.97	12.38	9.31	12.55	12.44	9.28	7.67	0.00	0.00	7.59	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.11	0.11	0.11	0.13	0.13	0.13	0.06	0.06	0.06	0.06	0.06	0.06
95th-Percentile Queue Length [ft/ln]	2.81	2.81	2.81	3.20	3.20	3.20	1.39	1.39	1.39	1.45	1.45	1.45
d_A, Approach Delay [s/veh]	9.83			11.69			1.01			1.16		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	2.26											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 4: Tualatin Heights East Dwy/SW Sagert St

Control Type:	Two-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.054

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	28	11	20	153	145	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	3.00	6.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	11	20	153	145	28
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	3	6	43	41	8
Total Analysis Volume [veh/h]	32	13	23	174	165	32
Pedestrian Volume [ped/h]	4		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.02	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.49	9.60	7.66	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.22	0.22	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	5.56	5.56	1.27	1.27	0.00	0.00
d_A, Approach Delay [s/veh]	10.94		0.89		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.52					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: SW Boones Ferry Rd/SW Sagert St

Control Type:	Signalized	Delay (sec / veh):	19.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.697

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	115.00	100.00	100.00	125.00	100.00	210.00	90.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	13	391	212	77	623	56	41	120	12	182	85	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	8.00	3.00	4.00	5.00	4.00	2.00	0.00	2.00	17.00	5.00	5.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	391	212	77	623	56	41	120	12	182	85	50
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	100	54	20	159	14	10	31	3	46	22	13
Total Analysis Volume [veh/h]	13	399	216	79	636	57	42	122	12	186	87	51
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		4			1			4			0	
v_di, Inbound Pedestrian Volume crossing major street [		4			0			4			1	
v_co, Outbound Pedestrian Volume crossing minor stree		3			1			1			3	
v_ci, Inbound Pedestrian Volume crossing minor street [		3			1			1			3	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		4			6			4			1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	14.00

Phasing & Timing

Control Type	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	6	0	5	6	0
Maximum Green [s]	15	60	0	15	60	0	15	20	0	15	20	0
Amber [s]	3.5	4.0	0.0	3.5	4.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	65	0	20	65	0	20	25	0	20	25	0
Vehicle Extension [s]	2.0	4.5	0.0	2.0	4.5	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	21	0	0	22	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	3.0	0.0	2.5	3.0	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	Yes		No	Yes		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	L	C
C, Cycle Length [s]	65	65	65	65	65	65	65	65	65
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	0.00	3.00	3.00	0.00	2.50	0.00	2.50
g_i, Effective Green Time [s]	36	27	36	30	30	19	8	19	12
g / C, Green / Cycle	0.55	0.42	0.55	0.47	0.47	0.30	0.12	0.30	0.19
(v / s)_i Volume / Saturation Flow Rate	0.02	0.36	0.08	0.35	0.04	0.03	0.07	0.13	0.08
s, saturation flow rate [veh/h]	847	1726	956	1840	1547	1413	1828	1483	1696
c, Capacity [veh/h]	418	730	440	857	720	504	218	528	324
d1, Uniform Delay [s]	9.18	16.74	10.49	14.12	9.58	16.31	27.07	17.84	23.04
k, delay calibration	0.19	0.19	0.04	0.19	0.19	0.04	0.04	0.04	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.05	4.60	0.07	2.20	0.08	0.03	1.05	0.15	0.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.84	0.18	0.74	0.08	0.08	0.61	0.35	0.43
d, Delay for Lane Group [s/veh]	9.23	21.34	10.56	16.33	9.66	16.34	28.12	17.99	23.37
Lane Group LOS	A	C	B	B	A	B	C	B	C
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.07	8.07	0.44	7.04	0.41	0.42	1.93	2.03	1.78
50th-Percentile Queue Length [ft/ln]	1.84	201.73	10.90	176.03	10.31	10.45	48.27	50.75	44.42
95th-Percentile Queue Length [veh/ln]	0.13	12.73	0.79	11.39	0.74	0.75	3.48	3.65	3.20
95th-Percentile Queue Length [ft/ln]	3.31	318.20	19.63	284.82	18.55	18.82	86.89	91.34	79.95

Movement, Approach, & Intersection Results

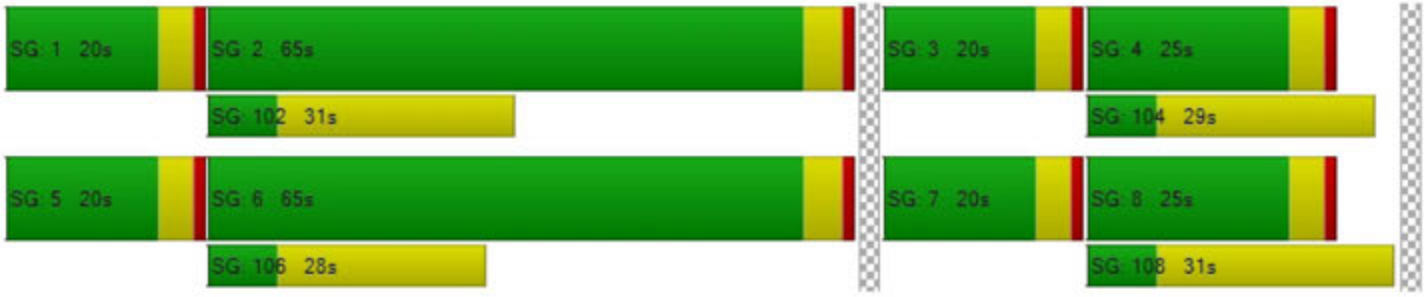
d_M, Delay for Movement [s/veh]	9.23	21.34	21.34	10.56	16.33	9.66	16.34	28.12	28.12	17.99	23.37	23.37
Movement LOS	A	C	C	B	B	A	B	C	C	B	C	C
d_A, Approach Delay [s/veh]		21.08			15.24			25.31			20.28	
Approach LOS		C			B			C			C	
d_I, Intersection Delay [s/veh]	18.97											
Intersection LOS	B											
Intersection V/C	0.697											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.22	22.22	22.22	22.22
I_p,int, Pedestrian LOS Score for Intersection	2.437	2.434	2.039	2.214
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1859	1859	635	635
d_b, Bicycle Delay [s]	0.16	0.16	15.07	15.04
I_b,int, Bicycle LOS Score for Intersection	2.596	2.833	1.850	2.094
Bicycle LOS	B	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: SW 95th Ave/SW Avery St

Control Type:	Signalized	Delay (sec / veh):	6.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.536

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	80.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	88	101	38	490	208	33
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	0.00	3.00	3.00	8.00	9.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	88	101	38	490	208	33
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	27	10	129	55	9
Total Analysis Volume [veh/h]	93	106	40	516	219	35
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	0		0		0	
v_di, Inbound Pedestrian Volume crossing major street [	0		0		0	
v_co, Outbound Pedestrian Volume crossing minor stree	0		0		0	
v_ci, Inbound Pedestrian Volume crossing minor street [	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	4	0	0	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	0	10	10	0
Maximum Green [s]	25	0	0	40	40	0
Amber [s]	3.5	0.0	0.0	4.0	4.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	14	0	0	0	16	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	0.0	0.0	3.0	3.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	23	23	23	23
L, Total Lost Time per Cycle [s]	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	4	4	10	10
g / C, Green / Cycle	0.16	0.16	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.05	0.07	0.31	0.15
s, saturation flow rate [veh/h]	1767	1615	1810	1732
c, Capacity [veh/h]	286	262	940	740
d1, Uniform Delay [s]	8.58	8.70	5.42	4.44
k, delay calibration	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.65	1.01	0.60	0.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.41	0.59	0.34
d, Delay for Lane Group [s/veh]	9.23	9.70	6.02	4.72
Lane Group LOS	A	A	A	A
Critical Lane Group	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.30	0.35	0.77	0.29
50th-Percentile Queue Length [ft/ln]	7.38	8.86	19.31	7.19
95th-Percentile Queue Length [veh/ln]	0.53	0.64	1.39	0.52
95th-Percentile Queue Length [ft/ln]	13.28	15.95	34.76	12.94

Movement, Approach, & Intersection Results

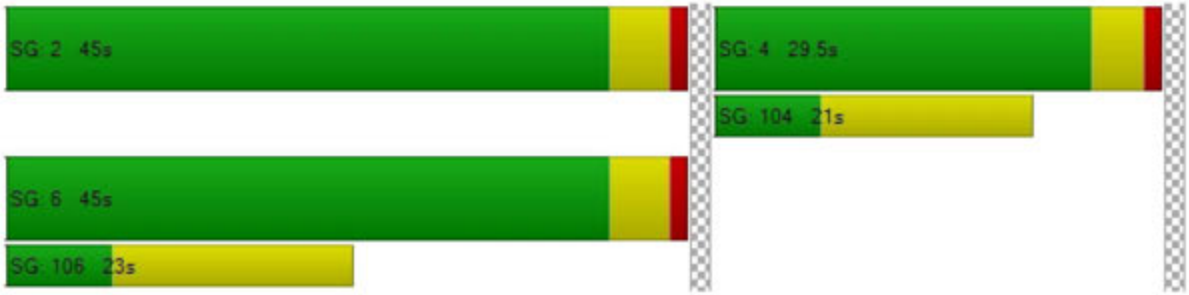
d_M, Delay for Movement [s/veh]	9.23	9.70	6.02	6.02	4.72	4.72
Movement LOS	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	9.48		6.02		4.72	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.37					
Intersection LOS	A					
Intersection V/C	0.536					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	3.12	3.12	3.12
l_p,int, Pedestrian LOS Score for Intersection	1.989	2.047	2.039
Crosswalk LOS	A	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	2175	3481	3481
d_b, Bicycle Delay [s]	0.09	6.30	6.30
l_b,int, Bicycle LOS Score for Intersection	1.560	2.477	1.979
Bicycle LOS	A	B	A

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Appendix C Crash Data

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

CITY OF TUALATIN, WASHINGTON COUNTY

Intersectional Crashes at SW Avery St & SW 95th Ave in Tualatin, OR
January 1, 2015 through December 31, 2019

SER# / INVEST / UNLOC?	SPED	ALC	DRUG/MJ	SCHL	WORK	DATE / DAY/TIME / *LAT/LONG*	FC / DISTNC	CITY STREET / FIRST STREET / SECOND STREET / INTERSECTION SEQ #	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFF-RD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
01784	N	N	N			03/17/2016	17	SW AVERY ST	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 9	STRGHT											29
CITY			N			Thu 6P	0	SW 95TH AVE	E		TRF SIGNAL	N	DRY	REAR		N/A	E W									000		00
No	*45 22 17.97*					*-122 46 29.41*	1		06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000		00
															02	NONE 9	STOP											
																N/A	E W									011		00
																PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000		00

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

ACTION CODE TRANSLATION LIST

ACTION CODE	SHORT DESCRIPTION	LONG DESCRIPTION
055	SPRAY	BLINDED BY WATER SPRAY
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)

ERROR CODE TRANSLATION LIST

ERROR CODE	SHORT DESCRIPTION	FULL DESCRIPTION
040	THRU MED	DRIVING THROUGH SAFETY ZONE OR OVER ISLAND
041	F/ST BUS	FAILED TO STOP FOR SCHOOL BUS
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/ VEHI(
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

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
058	OTH SIGN	OTHER SIGN, INCLUDING STREET SIGNS
059	HYDRANT	HYDRANT
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

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
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
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)
135	RAIL OCC	INJURED OCCUPANT OF RAILWAY TRAIN, LIGHT RAIL, STREET CAR OR CABLE CAR

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 (K)
2	INJA	SUSPECTED SERIOUS INJURY (A)
3	INJB	SUSPECTED MINOR INJURY (B)
4	INJC	POSSIBLE INJURY (C)
5	PRI	DIED PRIOR TO CRASH
7	NO<5	NO INJURY - 0 TO 4 YEARS OF AGE
9	NONE	NO APPARENT INJURY (O)

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	OTHR	OTHER 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

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SER# / INVEST / UNLOC?	SPED	ALC	DRUG/MJ	SCHL	WORK	DATE / DAY/TIME / *LAT/LONG*	FC / DISTNC	CITY STREET / FIRST STREET / SECOND STREET / INTERSECTION SEQ #	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFF-RD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
05417	N	N	N	N	N	09/18/2015	16	SW BOONES FERRY RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
CITY		N				Fri 5P	0	SW SAGERT ST	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N S									000		00
No	*45 22 31.14*					*-122 46 3.18*		1	06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	21	F	OR-Y OR<25		026	000		29
															02	NONE 0	STOP											
																PRVTE	N S									011		00
																PSNGR CAR		01	DRVR	NONE	34	M	OR-Y OR>25		000	000		00
04396	N	N	N			07/02/2015	16	SW BOONES FERRY RD	INTER	CROSS	N	N	CLR	BIKE	01	NONE 0	TURN-R											110	02
CITY		N				Thu 4P	0	SW SAGERT ST	E		TRF SIGNAL	N	DRY	TURN		PRVTE	E N									000		00
No	*45 22 31.14*					*-122 46 3.18*		1	06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	34	M	OR-Y OR<25		027	000		29
																	STRGHT S N	01	BIKE	INJB	15	F		01	000	035	110	00
01979	N	N	N	N	N	04/09/2017	16	SW BOONES FERRY RD	INTER	CROSS	N	N	CLD	ANGL-STP	01	NONE 0	TURN-L											27,08,32
CITY		N				Sun 2P	0	SW SAGERT ST	E		TRF SIGNAL	N	DRY	TURN		PRVTE	N E									000		00
No	*45 22 31.14*					*-122 46 3.18*		1	06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	17	F	OR-Y OR<25		016,002,052	038		27,08,32
															02	NONE 0	STOP											
																PRVTE	E W									012		00
																PSNGR CAR		01	DRVR	NONE	32	M	OR-Y OR<25		000	000		00
																		02	PSNG	INJC	32	F			000	000		00
																		03	PSNG	NO<5	03	M			000	000		00
																		04	PSNG	NO<5	01	F			000	000		00
08232	N	Y	N	N	N	12/22/2017	16	SW BOONES FERRY RD	INTER	CROSS	N	N	CLR	ANGL-STP	01	NONE 0	TURN-R											08
CITY		N				Fri 3P	0	SW SAGERT ST	E		TRF SIGNAL	N	DRY	TURN		PRVTE	S E									000		00
No	*45 22 31.14*					*-122 46 3.18*		1	06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	59	M	OR-Y OR<25		001	000		08
															02	NONE 0	STOP											
																PRVTE	E W									012		00
																PSNGR CAR		01	DRVR	NONE	65	F	OR-Y OR<25		000	000		00
															03	NONE 0	STOP											
																PRVTE	E W									022		00
																PSNGR CAR		01	DRVR	INJA	48	F	OR-Y OR<25		000	000		00
																		02	PSNG	INJA	43	M			000	000		00
04949	N	N	N	N	N	09/26/2019	16	SW BOONES FERRY RD	INTER	CROSS	N	N	CLR	ANGL-STP	01	NONE 9	TURN-L											08
CITY		N				Thu 3P	0	SW SAGERT ST	E		TRF SIGNAL	N	DRY	TURN		N/A	N E									000		00
No	*45 22 31.14*					*-122 46 3.18*		1	06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000		00

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															02	NONE 9 N/A	STOP E W									012	00
																PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000	00
04901	N	N	N	N	N	07/25/2016	16	SW BOONES FERRY RD	INTER	CROSS	N		N	CLR	ANGL-OTH	01	NONE 9	STRGHT										27,04
CITY		N				Mon 1P	0	SW SAGERT ST	CN		TRF SIGNAL		N	DRY	ANGL		N/A	N S								000	00
No	*45 22 31.14*					*-122 46 3.18*		1	01	0			N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000	00
															02	NONE 9 N/A	STRGHT E W									000	00
																PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000	00
01878	N	N	N			03/21/2016	16	SW BOONES FERRY RD	INTER	CROSS	N		N	RAIN	ANGL-OTH	01	NONE 0	STRGHT										04
CITY		N				Mon 4P	0	SW SAGERT ST	CN		TRF SIGNAL		N	WET	ANGL		PRVTE	E W								000	00
No	*45 22 31.14*					*-122 46 3.18*		1	02	0			N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	32	M	OR-Y OR<25		000	000	00
															02	NONE 0 PRVTE	STRGHT S N									000	00
																PSNGR CAR		01	DRVR	INJC	52	F	OR-Y OR<25		020	000	04
02871	N	N	N	N	N	06/05/2018	16	SW BOONES FERRY RD	INTER	CROSS	N		N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										02
CITY		N				Tue 1P	0	SW SAGERT ST	CN		TRF SIGNAL		N	DRY	TURN		PRVTE	E S								000	00
No	*45 22 31.14*					*-122 46 3.18*		1	03	0			N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	21	F	OR-Y OR<25		028,004	000	02
															02	NONE 0 PRVTE	STRGHT W E									000	00
																PSNGR CAR		01	DRVR	INJC	53	F	OR-Y OR<25		000	000	00
04209	N	N	N	N	N	08/07/2018	16	SW BOONES FERRY RD	INTER	CROSS	N		N	CLR	O-1 L-TURN	01	NONE 9	TURN-L										02
CITY		N				Tue 11A	0	SW SAGERT ST	CN		TRF SIGNAL		N	DRY	TURN		N/A	E S								000	00
No	*45 22 31.14*					*-122 46 3.18*		1	03	0			N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000	00
															02	NONE 9 N/A	STRGHT W E									000	00
																PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000	00
06922	N	N	N			12/16/2018	16	SW BOONES FERRY RD	INTER	CROSS	N		N	CLR	ANGL-OTH	01	NONE 9	STRGHT										04
NONE		N				Sun 4P	0	SW SAGERT ST	CN		TRF SIGNAL		N	DRY	ANGL		N/A	N S								000	00
No	*45 22 31.14*					*-122 46 3.18*		1	03	0			N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000	00

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															02	NONE 9 N/A	STRGHT W E									000	00
																PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000		00
01467 CITY	N	N	N	N	N	03/23/2019 Sat 10A	16 0	SW BOONES FERRY RD SW SAGERT ST	INTER CN	CROSS	N TRF SIGNAL	N	CLD DRY	O-1 L-TURN TURN	01	NONE 0 PRVTE	TURN-L E S										000	04 00
No	*45*	*22*	*31.14*	*-122*	*46*	*3.18*	1		03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	22	F	OR-Y OR<25		020	000		04
															02	NONE 0 PRVTE	STRGHT W E									000	00
																PSNGR CAR		01	DRVR	INJC	26	F	OR-Y OR<25		000	000		00

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

ACTION CODE TRANSLATION LIST

ACTION CODE	SHORT DESCRIPTION	LONG DESCRIPTION
055	SPRAY	BLINDED BY WATER SPRAY
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)

ERROR CODE TRANSLATION LIST

ERROR CODE	SHORT DESCRIPTION	FULL DESCRIPTION
040	THRU MED	DRIVING THROUGH SAFETY ZONE OR OVER ISLAND
041	F/ST BUS	FAILED TO STOP FOR SCHOOL BUS
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/ VEHI(
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

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
058	OTH SIGN	OTHER SIGN, INCLUDING STREET SIGNS
059	HYDRANT	HYDRANT
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

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
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
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)
135	RAIL OCC	INJURED OCCUPANT OF RAILWAY TRAIN, LIGHT RAIL, STREET CAR OR CABLE CAR

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 (K)
2	INJA	SUSPECTED SERIOUS INJURY (A)
3	INJB	SUSPECTED MINOR INJURY (B)
4	INJC	POSSIBLE INJURY (C)
5	PRI	DIED PRIOR TO CRASH
7	NO<5	NO INJURY - 0 TO 4 YEARS OF AGE
9	NONE	NO APPARENT INJURY (O)

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	OTHR	OTHER 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

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

Intersectional Crashes at SW Sagert St & SW 95th Ave in Tualatin, OR
January 1, 2015 through December 31, 2019

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: 2016														
TURNING MOVEMENTS	0	2	0	2	0	2	0	0	2	2	0	2	0	0
2016 TOTAL	0	2	0	2	0	2	0	0	2	2	0	2	0	0
YEAR: 2015														
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	0	1	1	0	0
2015 TOTAL	0	1	0	1	0	2	0	1	0	0	1	1	0	0
FINAL TOTAL	0	3	0	3	0	4	0	1	2	2	1	3	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.

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

Intersectional Crashes at SW Tualatin-Sherwood Rd & SW 95th Ave in Tualatin, OR
January 1, 2015 through December 31, 2019

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: 2019														
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	2	0	2	0	2	0	1	1	2	0	2	0	0
2019 TOTAL	0	3	0	3	0	3	0	2	1	3	0	3	0	0
YEAR: 2018														
REAR-END	0	1	1	2	0	2	1	2	0	2	0	2	0	0
TURNING MOVEMENTS	0	3	0	3	0	4	0	2	1	2	1	3	0	0
2018 TOTAL	0	4	1	5	0	6	1	4	1	4	1	5	0	0
YEAR: 2017														
REAR-END	0	1	1	2	0	1	0	2	0	2	0	2	0	0
2017 TOTAL	0	1	1	2	0	1	0	2	0	2	0	2	0	0
YEAR: 2016														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	1	3	4	0	1	0	3	1	4	0	4	0	0
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	0	1	1	0	0
2016 TOTAL	0	2	4	6	0	3	0	5	1	5	1	6	0	0
YEAR: 2015														
TURNING MOVEMENTS	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
FINAL TOTAL	0	11	6	17	0	14	1	14	3	15	2	17	0	0

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

Crashes on SW Sagert St between SW Boones Ferry Rd & SW 95th Ave in Tualatin, OR
January 1, 2015 through December 31, 2019

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: 2019														
REAR-END	0	1	0	1	0	1	0	1	0	1	0	0	0	0
2019 TOTAL	0	1	0	1	0	1	0	1	0	1	0	0	0	0
YEAR: 2017														
MISCELLANEOUS	0	0	1	1	0	0	0	0	1	1	0	0	0	0
2017 TOTAL	0	0	1	1	0	0	0	0	1	1	0	0	0	0
YEAR: 2016														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	0	0	0
2016 TOTAL	0	0	1	1	0	0	0	1	0	1	0	0	0	0
FINAL TOTAL	0	1	2	3	0	1	0	2	1	3	0	0	0	0

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

CITY OF TUALATIN, WASHINGTON COUNTY

Crashes on SW Sagert St between SW Boones Ferry Rd & SW 95th Ave in Tualatin, OR
January 1, 2015 through December 31, 2019

SER# / INVEST / UNLOC?	SPED	ALC	DRUG/MJ	SCHL	WORK	DATE / DAY/TIME / *LAT/LONG*	FC / DISTNC	CITY STREET / FIRST STREET / SECOND STREET / INTERSECTION SEQ #	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFF-RD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
03520	N	N	N			05/30/2016	18	SW SAGERT ST	STRGHT		N	N	CLR	PRKD MV	01	NONE 9	STRGHT											27
NONE			N			Mon 3P	200	SW 95TH AVE	E	(NONE)	UNKNOWN	N	DRY	REAR		N/A	W E									000		00
No						*45 22 31.10 -122 46 26.43*	1		07	(02)		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000		00
															02	NONE 9 N/A PSNGR CAR	PRKD-P W E									008		00
01270	N	N	N			03/06/2017	18	SW SAGERT ST	STRGHT		N	N	RAIN	O-STRGHT	01	NONE 9	STRGHT											080	10
NONE			N			Mon 11A	110	SW APACHE DR	E	(NONE)	UNKNOWN	N	WET	OTH		N/A	W E									000		00
No						*45 22 31.18 -122 46 15.40*	1		08	(02)		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	U	UNK UNK		000	000		00
															02	NONE 9 N/A PSNGR CAR	STRGHT E W	01	DRVR	NONE	00	U	UNK UNK		000 000	000		00 00
04827	N	N	N			09/08/2019	18	SW SAGERT ST	ALLEY		N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE			N			Sun 11A	200	SW BOONES FERRY RD	W	(NONE)	UNKNOWN	N	DRY	REAR		PRVTE	W E									000		00
No						*45 22 31.23 -122 46 6.74*	1		08	(02)		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	32	M	OR-Y OR<25		026	000		29
															02	NONE 0 PRVTE PSNGR CAR	STOP W E	01	DRVR	INJC	58	F	OR-Y OR<25		000	012 000		00 00

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

ACTION CODE TRANSLATION LIST

ACTION CODE	SHORT DESCRIPTION	LONG DESCRIPTION
055	SPRAY	BLINDED BY WATER SPRAY
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)

ERROR CODE TRANSLATION LIST

ERROR CODE	SHORT DESCRIPTION	FULL DESCRIPTION
040	THRU MED	DRIVING THROUGH SAFETY ZONE OR OVER ISLAND
041	F/ST BUS	FAILED TO STOP FOR SCHOOL BUS
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/ VEHI(
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

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
058	OTH SIGN	OTHER SIGN, INCLUDING STREET SIGNS
059	HYDRANT	HYDRANT
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

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
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
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)
135	RAIL OCC	INJURED OCCUPANT OF RAILWAY TRAIN, LIGHT RAIL, STREET CAR OR CABLE CAR

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 (K)
2	INJA	SUSPECTED SERIOUS INJURY (A)
3	INJB	SUSPECTED MINOR INJURY (B)
4	INJC	POSSIBLE INJURY (C)
5	PRI	DIED PRIOR TO CRASH
7	NO<5	NO INJURY - 0 TO 4 YEARS OF AGE
9	NONE	NO APPARENT INJURY (O)

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	OTHR	OTHER 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

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CITY STREET LOCATIONS BY COUNTY - DRIVER BEHAVIOR FORMAT

Crashes on SW Sagert St between SW Boones Ferry Rd & SW 95th Ave in Tualatin, OR
January 1, 2015 through December 31, 2019

WASHINGTON COUNTY

SERIAL NO	DATE	TIME	DAY	*COUNTY OR CITY NAME	CRASH LOCATION	COLL TYPE	EVENT	CAUSE	ERROR	SURF	TOT VEH	VEHICLE TYP #1	VEHICLE OWN #2	PEOPLE KILL	PEOPLE INJ	PEOPLE ALC	PEOPLE SPED
03520	05/30/2016	3P	MO	Tualatin	SW SAGERT ST 200 FT E OF SW 95TH AVE	REAR		27		DRY	2	010	010	0	0	N	N
01270	03/06/2017	11A	MO	Tualatin	SW SAGERT ST 110 FT E OF SW APACHE DR	OTH	080	10		WET	2	010	010	0	0	N	N
04827	09/08/2019	11A	SU	Tualatin	SW SAGERT ST 200 FT W OF SW BOONES FERRY RD	REAR		29	026	DRY	2	011	011	0	1	N	N

VEHICLE OWNERSHIP CODES

Code	Short Description	Long Description
0	N/A	Not collected for PDO Crashes
1	PRVTE	Private
2	GOVMT	Government
3	PUBLC	Public
4	RENTL	Rental vehicle
5	STOLN	Stolen vehicle
9	UNKN	Unknown ownership

VEHICLE TYPE CODES

Code	Short Description	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

CAUSE CODES

Code	Short Description	Medium Description	Long Description	Code Termination Date
00	NO CODE	NO CODE APPLICABLE	No cause associated at this level	
01	TOO-FAST	TOO FAST FOR COND	Too fast for conditions (not exceed posted speed)	
02	NO-YIELD	FAILED YIELD ROW	Did not yield right-of-way	
03	PAS-STOP	PASSED STOP SIGN	Passed stop sign or red flasher	
04	DIS SIG	DISREGRD TRAF SIGNAL	Disregarded traffic signal	
05	LEFT-CTR	LEFT OF CTR/STRADDLE	Drove left of center on two-way road; straddling	
06	IMP-OVER	IMPROPER PASSING	Improper overtaking	
07	TOO-CLOS	FOLLOW TOO CLOSE	Followed too closely	
08	IMP-TURN	IMPROPER TURN	Made improper turn	
09	DRINKING	ALC OR DRUGS	Alcohol or Drug Involved	12/31/2002
10	OTHR-IMP	OTHER DRIVE ERR	Other improper driving	
11	MECH-DEF	MECH DEFECT	Mechanical defect	
12	OTHER	OTHER	Other (not improper driving)	
13	IMP LN C	IMP LANE CHANGE	Improper change of traffic lanes	
14	DIS TCD	DISRG OTHR TCD	Disregarded other traffic control device	
15	WRNG WAY	WRONG WAY / 1-WAY RD	Wrong way on one-way road; wrong side divided road	
16	FATIGUE	DRIVER FATIGUED	Driver drowsy/fatigued/sleepy	
17	ILLNESS	PHYSICAL ILLNESS	Physical illness	
18	IN RDWY	ILLEGALLY IN RDWY	Non-motorist illegally in roadway	
19	NT VISBL	NOT VISIBLE	Non-motorist not visible; non-reflective clothing	
20	IMP PKNG	IMPROPER PARKING	Vehicle improperly parked	
21	DEF STER	DEFECTIVE STEERING	Defective steering mechanism	
22	DEF BRKE	DEFECTIVE BRAKES	Inadequate or no brakes	
24	LOADSHFT	LOAD SHIFTED	Vehicle lost load or load shifted	
25	TIREFAIL	TIRE FAILURE	Tire Failure	
26	PHANTOM	PHANTOM VEHICLE	Phantom / Non-contact Vehicle	
27	INATTENT	INATTENTION	Inattention	
28	NM INATT	NON-MTRST INATTENT	Non-Motorist Inattention	
29	F AVOID	FAIL AVOID VEH AHEAD	Failed to avoid vehicle ahead	
30	SPEED	EXCED POSTED SPEED	Driving in excess of posted speed	
31	RACING	SPEED RACING	Speed Racing (per PAR)	
32	CARELESS	CARELESS DRIVING	Careless Driving (per PAR)	
33	RECKLESS	RECKLESS DRIVING	Reckless Driving (per PAR)	
34	AGGRESV	AGGRESSIVE DRIVING	Aggressive Driving (per PAR)	
35	RD RAGE	ROAD RAGE	Road Rage (per PAR)	
40	VIEW OBS	VIEW OBSCURED	View obscured	
50	USED MDN	IMP USE MEDIAN/SHLDR	Improper use of median or shoulder	
51	FAIL LN	F MAINT LANE	Failed to maintain lane	12/31/2015
52	OFF RD	RAN OFF RD	Ran off road	12/31/2015

ERR CODES

Code	Short Description	Medium Description	Long Description
000	NONE	NO ERROR	No error
001	WIDE TRN	WIDE TURN	Wide turn
002	CUT CORN	CUT CORNER	Cut corner on turn
003	FAIL TRN	F OBEY TRN	Failed to obey mandatory traffic turn signal, sign or lane markings
004	L IN TRF	LTRN FNT TRAF	Left turn in front of oncoming traffic
005	L PROHIB	LTRN PROHIB	Left turn where prohibited
006	FRM WRNG	T FRM WRNG LN	Turned from wrong lane
007	TO WRONG	T TO WRONG LN	Turned into wrong lane
008	ILLEG U	ILLEG U-TURN	U-turned illegally
009	IMP STOP	IMP STOP	Improperly stopped in traffic lane
010	IMP SIG	IMP/FAIL SIG	Improper signal or failure to signal
011	IMP BACK	IMP BACKING	Backing improperly (not parking)
012	IMP PARK	IMP PARKED	Improperly parked
013	UNPARK	IMP STRT PARK	Improper start leaving parked position
014	IMP STRT	IMP STRT STOP	Improper start from stopped position
015	IMP LGHT	IMP/NO LIGHTS	Improper or no lights (vehicle in traffic)
016	INATTENT	INATTENTION	Inattention (Failure to Dim Lights prior to 4/1/97)
017	UNSF VEH	DR UNSAFE VEH	Driving unsafe vehicle (no other error apparent)
018	OTH PARK	PRK MAN N/CLR	Entering/exiting parked position w/ insufficient clearance; other improper parking maneuver
019	DIS DRIV	DISRG DR SIG	Disregarded other driver's signal
020	DIS SGNL	DISRG TRF SIG	Disregarded traffic signal
021	RAN STOP	DISRG STP SGN	Disregarded stop sign or flashing red
022	DIS SIGN	DISRG WRN SGN	Disregarded warning sign, flares or flashing amber
023	DIS OFCR	DISRG POL/FLG	Disregarded police officer or flagman
024	DIS EMER	DISRG SIR/EMR	Disregarded siren or warning of emergency vehicle
025	DIS RR	DISRG RR SIG	Disregarded RR signal, RR sign, or RR flagman
026	REAR-END	F AVOID STP V	Failed to avoid stopped or parked vehicle ahead other than school bus
027	BIKE ROW	F/YLD ROW BIK	Did not have right-of-way over pedalcyclist
028	NO ROW	NO R-O-W	Did not have right-of-way
029	PED ROW	F/YLD ROW PED	Failed to yield right-of-way to pedestrian
030	PAS CURV	PASS ON CURVE	Passing on a curve
031	PAS WRNG	PASS WRNG SID	Passing on the wrong side
032	PAS TANG	PASS TANGENT	Passing on straight road under unsafe conditions
033	PAS X-WK	PASS STP4PED	Passed vehicle stopped at crosswalk for pedestrian
034	PAS INTR	PASS AT INTER	Passing at intersection
035	PAS HILL	PASS ON HILL	Passing on crest of hill
036	N/PAS ZN	PASS N/PASSNG	Passing in "No Passing" zone
037	PAS TRAF	PASS ONC TRAF	Passing in front of oncoming traffic
038	CUT-IN	CUTTING IN	Cutting in (two lanes - two way only)
039	WRNGSIDE	DR WRONG SIDE	Driving on wrong side of the road (2-way undivided roadways)
040	THRU MED	DR THRU MEDN	Driving through safety zone or over island
041	F/ST BUS	F/STP SCHLBUS	Failed to stop for school bus
042	F/SLO MV	F/SLO SLO VEH	Failed to decrease speed for slower moving vehicle
043	TOO CLOSE	FOLLW TO CLOS	Following too closely (must be on officer's report)
044	STRDL LN	STRD/DR WRNG	Straddling or driving on wrong lanes
045	IMP CHG	IMP LANE CHG	Improper change of traffic lanes

ERR CODES

Code	Short Description	Medium Description	Long Description
046	WRNG WAY	WRNG WY/1 WAY	Wrong way on one-way roadway; wrong side divided road
047	BASCRULE	V BASIC RULE	Driving too fast for conditions (not exceeding posted speed)
048	OPN DOOR	OPN DOOR TRAF	Opened door into adjacent traffic lane
049	IMPEDING	IMPEDING TRAF	Impeding Traffic
050	SPEED	SPEED	Driving in excess of posted speed
051	RECKLESS	RECKLSS DRVNG	Reckless driving (per PAR)
052	CARELESS	CARELSS DRVNG	Careless driving (per PAR)
053	RACING	RACING	Speed Racing (per PAR)
054	X N/SGNL	X-INT NO SGNL	Crossing at intersection, no traffic signal present
055	X W/SGNL	X-INT W/ SGNL	Crossing at intersection, traffic signal present
056	DIAGONAL	X-INT DIAGNL	Crossing at intersection - diagonally
057	BTWN INT	X-BTWN INTER	Crossing between intersections
059	W/TRAF-S	W SHLD W/TRAF	Walking, running, riding, etc., on shoulder WITH traffic
060	A/TRAF-S	W SHLD A/TRAF	Walking, running, riding, etc., on shoulder FACING traffic
061	W/TRAF-P	W PAVE W/TRAF	Walking, running, riding, etc., on pavement WITH traffic
062	A/TRAF-P	W PAVE A/TRAF	Walking, running, riding, etc., on pavement FACING traffic
063	PLAYINRD	PLAY IN RDWY	Playing in street or road
064	PUSH MV	PUSH MV IN RD	Pushing or working on vehicle in road or on shoulder
065	WORK IN RD	WORK IN RD	Working in roadway or along shoulder
070	LAY ON RD	LYING IN RD	Standing or lying in roadway
071	NM IMP USE	N-M IMP USE	Improper use of traffic lane by non-motorist
073	ELUDING	ELUDING	Eluding / Attempt to elude
079	F NEG CURV	FAIL NEG CURV	Failed to negotiate a curve
080	FAIL LN	F MAINT LANE	Failed to maintain lane
081	OFF RD	RAN OFF RD	Ran off road
082	NO CLEAR	MISJUDGE CLR	Driver misjudged clearance
083	OVRSTEER	OVERSTEER	Over-correcting
084	NOT USED	NOT USED	Code not in use
085	OVRLOAD	OVERLOAD	Overloading or improper loading of vehicle with cargo or passengers
097	UNA DIS TC	UNA DISRG TCD	Unable to determine which driver disregarded traffic control device

EVENT CODES

Code	Short Description	Medium Description	Long Description
001	FEL/JUMP	FELL/JUMPED MV	Occupant fell, jumped or was ejected from moving vehicle
002	INTERFER	PSNGR INTERFERED	Passenger interfered with driver
003	BUG INTF	ANML INTERFERED	Animal or insect in vehicle interfered with driver
004	INDRCT PED	PED INDRCTLY INVLV	Pedestrian indirectly involved (not struck)
005	SUB-PED	SUBSEQUENT PED	"Sub-Ped": pedestrian injured subsequent to collision, etc.
006	INDRCT BIK	BIKE INDRCTLY INVLV	Pedalcyclist indirectly involved (not struck)
007	HITCHIKR	HITCHHIKER	Hitchhiker (soliciting a ride)
008	PSNGR TOW	PSNGR TOWED	Passenger or non-motorist being towed or pushed on conveyance
009	ON/OFF V	ON/OFF STOP VEH	Getting on/off stopped/parked vehicle (occupants only; must have physical contact w/ vehicle)
010	SUB OTRN	SUBSEQ OVERTURN	Overturned after first harmful event
011	MV PUSHD	VEH BEING PUSHED	Vehicle being pushed
012	MV TOWED	VEH TOWED/TOWING	Vehicle towed or had been towing another vehicle
013	FORCED	FORCED BY IMPACT	Vehicle forced by impact into another vehicle, pedalcyclist or pedestrian
014	SET MOTN	MV SET IN MOTION	Vehicle set in motion by non-driver (child released brakes, etc.)
015	RR ROW	RAILROAD ROW	At or on railroad right-of-way (not Light Rail)
016	LT RL ROW	LIGHT RAIL ROW	At or on Light-Rail right-of-way
017	RR HIT V	TRAIN HIT VEH	Train struck vehicle
018	V HIT RR	VEH HIT TRAIN	Vehicle struck train
019	HIT RR CAR	VEH HIT RR CAR	Vehicle struck railroad car on roadway
020	JACKNIFE	JACKKNIFE	Jackknife; trailer or towed vehicle struck towing vehicle
021	TRL OTRN	TRAILER O'TURN	Trailer or towed vehicle overturned
022	CN BROKE	TRLR CONN BROKE	Trailer connection broke
023	DETACH TRL	DETCHD TRLR STRKNG	Detached trailing object struck other vehicle, non-motorist, or object
024	V DOOR OPN	V DOOR OPN IN TRAF	Vehicle door opened into adjacent traffic lane
025	WHEELOFF	WHEEL CAME OFF	Wheel came off
026	HOOD UP	HOOD FLEW UP	Hood flew up
028	LOAD SHIFT	LOAD SHIFTED	Lost load, load moved or shifted
029	TIREFAIL	TIRE FAILURE	Tire failure
030	PET	PET	Pet: cat, dog and similar
031	LVSTOCK	LIVESTOCK	Stock: cow, calf, bull, steer, sheep, etc.
032	HORSE	HORSE	Horse, mule, or donkey
033	HRSE&RID	HORSE & RIDER	Horse and rider
034	GAME	GAME NO DEER/ELK	Wild animal, game (includes birds; not deer or elk)
035	DEER ELK	DEER OR ELK	Deer or elk, wapiti
036	ANML VEH	ANIMAL-DRAWN VEH	Animal-drawn vehicle
037	CULVERT	CULVERT/MANHOLE	Culvert, open low or high manhole
038	ATENUATN	IMPACT CUSHION	Impact attenuator
039	PK METER	PARKING METER	Parking meter
040	CURB	CURB	Curb (also narrow sidewalks on bridges)
041	JIGGLE	JIGGLE BAR N/MED	Jiggle bar or traffic snake for channelization

EVENT CODES

Code	Short Description	Medium Description	Long Description
042	GDRL END	GUARDRAIL END	Leading edge of guardrail
043	GARDRAIL	GUARDRAIL	Guard rail (not metal median barrier)
044	BARRIER	MEDIAN BARRIER	Median barrier (raised or metal)
045	WALL	WALL	Retaining wall or tunnel wall
046	BR RAIL	BRIDGE RAIL	Bridge railing or parapet (on bridge or approach)
047	BR ABUTMNT	BRIDGE ABUTMENT	Bridge abutment (included "approach end" thru 2013)
048	BR COLMN	BRIDGE COLUMN	Bridge pillar or column
049	BR GIRDR	BRIDGE GIRDER	Bridge girder (horizontal bridge structure overhead)
050	ISLAND	TRAFFIC ISLAND	Traffic raised island
051	GORE	GORE	Gore
052	POLE UNK	POLE-UNKNOWN	Pole – type unknown
053	POLE UTL	POLE-UTILITY	Pole – power or telephone
054	ST LIGHT	POLE-ST LIGHT	Pole – street light only
055	TRF SGNL	POLE-TRAF SIGNAL	Pole – traffic signal and ped signal only
056	SGN BRDG	POLE-SIGN BRIDGE	Pole – sign bridge
057	STOPSIGN	STOP/YIELD SIGN	Stop or yield sign
058	OTH SIGN	OTHER SIGN	Other sign, including street signs
059	HYDRANT	HYDRANT	Hydrant
060	MARKER	DELINEATOR	Delineator or marker (reflector posts)
061	MAILBOX	MAILBOX	Mailbox
062	TREE	TREE/STUMP	Tree, stump or shrubs
063	VEG OHED	VEGTN OVER RDWY	Tree branch or other vegetation overhead, etc.
064	WIRE/CBL	CABLE ACROSS RD	Wire or cable across or over the road
065	TEMP SGN	TEMP SIGN/BARR	Temporary sign or barricade in road, etc.
066	PERM SGN	PERM SIGN/BARR	Permanent sign or barricade in/off road
067	SLIDE	SLIDE/ROCKS	Slides, fallen or falling rocks
068	FRGN OBJ	FOREIGN OBJECT	Foreign obstruction/debris in road (not gravel)
069	EQP WORK	EQUIP WORKING	Equipment working in/off road
070	OTH EQP	OTHER EQUIPMENT	Other equipment in or off road (includes parked trailer, boat)
071	MAIN EQP	MAINTNCE EQUIP	Wrecker, street sweeper, snow plow or sanding equipment
072	OTHER WALL	OTHER WALL	Rock, brick or other solid wall
073	IRRGL PVMT	IRREGULAR PAVEMENT	Other bump (not speed bump), pothole or pavement irregularity (per PAR)
074	OVERHD OBJ	OTHER OVERHEAD OBJ	Other overhead object (highway sign, signal head, etc.); not bridge
075	CAVE IN	CAVE IN	Bridge or road cave in
076	HI WATER	HIGH WATER	High Water
077	SNO BANK	SNOW BANK	Snow Bank
078	LO-HI EDGE	LOW-HIGH PVMNT EDGE	Low or high shoulder at pavement edge
079	DITCH	CUT SLOPE/DITCH	Cut slope or ditch embankment
080	OBJ FRM MV	OBJ FRM OTHR VEH	Struck by rock or other object set in motion by other vehicle (incl. lost loads)
081	FLY-OBJ	OTHER MOVING OBJ	Struck by rock or other moving or flying object (not set in motion by vehicle)
082	VEH HID	VEH OBSCURE VIEW	Vehicle obscured view
083	VEG HID	VEG OBSCURE VIEW	Vegetation obscured view
084	BLDG HID	BLD OBSCURE VIEW	View obscured by fence, sign, phone booth, etc.

EVENT CODES

Code	Short Description	Medium Description	Long Description
085	WIND GUST	WIND GUST	Wind Gust
086	IMMERSED	IMMERSION	Vehicle immersed in body of water
087	FIRE/EXP	FIRE/EXPLOSION	Fire or explosion
088	FENC/BLD	FENCE/BUILDING	Fence or building, etc.
089	OTHR CRASH	REFER OTHR CRASH	Crash related to another separate crash
090	TO 1 SIDE	TWO WAY ONE SIDE	Two-way traffic on divided roadway all routed to one side
091	BUILDING	BUILDING	Building or other structure
092	PHANTOM	PHANTOM VEH	Other (phantom) non-contact vehicle
093	CELL PHONE	CELL PHONE PER PAR	Cell phone (on PAR or driver in use)
094	VIOL GDL	VIOL GRAD DR LIC	Teenage driver in violation of graduated license pgm
095	GUY WIRE	GUY WIRE	Guy wire
096	BERM	BERM	Berm (earthen or gravel mound)
097	GRAVEL	GRAVEL IN RDWY	Gravel in roadway
098	ABR EDGE	ABRUPT EDGE	Abrupt edge
099	CELL WTNSD	CELL PHONE WITNESSED	Cell phone use witnessed by other participant
100	UNK FIXD	UNK FIX OBJ	Fixed object, unknown type.
101	OTHER OBJ	OTHER OBJ NOT FIXED	Non-fixed object, other or unknown type
102	TEXTING	TEXTING	Texting
103	WZ WORKER	WZ WORKER	Work Zone Worker
104	ON VEHICLE	RIDE ON VEH EXTERIOR	Passenger riding on vehicle exterior
105	PEDAL PSGR	PSNGR ON PEDALCYCLE	Passenger riding on pedalcycle
106	MAN WHLCHR	NONMOTOR WHEELCHAIR	Pedestrian in non-motorized wheelchair
107	MTR WHLCHR	MOTORIZED WHEELCHAIR	Pedestrian in motorized wheelchair
108	OFFICER	POLICE OFFICER	Law Enforcement / Police Officer
109	SUB-BIKE	SUBSEQUENT BICYCLIST	"Sub-Bike": pedalcyclist injured subsequent to collision, etc.
110	N-MTR	NM STR VEH	Non-motorist struck vehicle
111	S CAR VS V	ST CAR STRUCK VEH	Street Car/Trolley (on rails or overhead wire system) struck vehicle
112	V VS S CAR	VEH STRUCK ST CAR	Vehicle struck Street Car/Trolley (on rails or overhead wire system)
113	S CAR ROW	STREET CAR ROW	At or on street car or trolley right-of-way
114	RR EQUIP	VEH STRUCK RR EQUIP	Vehicle struck railroad equipment (not train) on tracks
115	DSTRCT GPS	DISTRACT GPS DEVICE	Distracted by navigation system or GPS device
116	DSTRCT OTH	DISTRACT OTHR DEVICE	Distracted by other electronic device
117	RR GATE	RR DROP-ARM GATE	Rail crossing drop-arm gate
118	EXPNSN JNT	EXPANSION JOINT	Expansion joint
119	JERSEY BAR	JERSEY BARRIER	Jersey barrier
120	WIRE BAR	WIRE BARRIER	Wire or cable median barrier
121	FENCE	FENCE	Fence
123	OBJ IN VEH	LOOSE OBJ IN VEHICLE	Loose object in vehicle struck occupant
124	SLIPPERY	SLIPPERY SURFACE	Sliding or swerving due to wet, icy, slippery or loose surface (not gravel)
125	SHLDR	SHLDR GAVE	Shoulder gave way
126	BOULDER	ROCKS / BOULDER	Rock(s), boulder (not gravel; not rock slide)
127	LAND SLIDE	ROCK OR LAND SLIDE	Rock slide or land slide
128	CURVE INV	CURVE PRESENT	Curve present at crash location

EVENT CODES

Code	Short Description	Medium Description	Long Description
129	HILL INV	HILL PRESENT	Vertical grade / hill present at crash location
130	CURVE HID	CURVE OBSCURED VIEW	View obscured by curve
131	HILL HID	HILL OBSCURED VIEW	View obscured by vertical grade / hill
132	WINDOW HID	WINDOW VIEW OBSCURED	View obscured by vehicle window conditions
133	SPRAY HID	SPRAY OBSCURED VIEW	View obscured by water spray
134	TORRENTIAL	TORRENTIAL RAIN	Torrential Rain (exceptionally heavy rain)
135	RAIL OCC	RAIL/CABLE CAR OCC	Injured occupant of railway train, light rail, street car or cable car

Appendix D 2040 Background Operations

Tualatin Heights ZA-Existing Conditions

Vistro File: H:\...\26462_AM.vistro
Report File: H:\...\Future_AM_notrips.pdf

Scenario 3 Future Traffic Conditions_notrips
9/15/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SW 95th Ave/Tualatin-Sherwood Rd	Signalized	HCM 6th Edition	NB Right	0.672	19.6	B
2	SW 95th Ave/SW Sagert St	All-way stop	HCM 6th Edition	WB Right	0.605	15.1	C
3	Tualatin Heights West Dwy/SW 93rd Ave/SW Sagert St	Two-way stop	HCM 6th Edition	SB Left	0.056	14.1	B
4	Tualatin Heights East Dwy/SW Sagert St	Two-way stop	HCM 6th Edition	SB Left	0.084	13.3	B
5	SW Boones Ferry Rd/SW Sagert St	Signalized	HCM 6th Edition	NB Thru	1.094	102.8	F
6	SW 95th Ave/SW Avery St	Signalized	HCM 6th Edition	SB Left	0.639	7.2	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SW 95th Ave/Tualatin-Sherwood Rd

Control Type:	Signalized	Delay (sec / veh):	19.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.672

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	70.00	100.00	100.00	100.00	120.00	100.00	100.00	400.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	72	8	95	1	1	3	12	1104	108	176	1349	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	7.00	0.00	9.00	0.00	0.00	50.00	0.00	23.00	8.00	10.00	13.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	72	8	95	1	1	3	12	1104	108	176	1349	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	2	25	0	0	1	3	291	28	46	355	1
Total Analysis Volume [veh/h]	76	8	100	1	1	3	13	1162	114	185	1420	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		1			4			0			3	
v_di, Inbound Pedestrian Volume crossing major street [		0			3			1			4	
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			1			1	
v_ci, Inbound Pedestrian Volume crossing minor street [		1			1			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			1			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	7.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	10	0	10	10	0
Maximum Green [s]	0	35	0	0	35	0	20	65	0	20	65	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	0	41	0	0	41	0	25	74	0	25	74	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	63	63	63	63	63	63	63	63	63	63
L, Total Lost Time per Cycle [s]	5.50	5.50	5.50	5.50	5.00	6.50	6.50	5.00	6.50	6.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.50	3.50	3.50	3.50	3.00	4.50	4.50	3.00	4.50	4.50
g_i, Effective Green Time [s]	6	6	6	6	9	30	30	10	30	30
g / C, Green / Cycle	0.10	0.10	0.10	0.10	0.15	0.48	0.48	0.15	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.05	0.07	0.00	0.00	0.01	0.42	0.42	0.11	0.42	0.42
s, saturation flow rate [veh/h]	1579	1496	1813	974	1810	1555	1500	1667	1705	1704
c, Capacity [veh/h]	270	152	270	99	272	739	713	255	815	814
d1, Uniform Delay [s]	26.65	27.22	25.43	25.48	22.90	14.84	14.92	25.42	14.73	14.73
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.65	4.74	0.01	0.12	0.07	3.48	3.81	3.93	3.12	3.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.66	0.01	0.03	0.05	0.88	0.88	0.73	0.87	0.87
d, Delay for Lane Group [s/veh]	27.31	31.96	25.44	25.61	22.98	18.32	18.73	29.35	17.84	17.86
Lane Group LOS	C	C	C	C	C	B	B	C	B	B
Critical Lane Group	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.18	1.57	0.03	0.04	0.16	7.68	7.56	2.76	8.33	8.33
50th-Percentile Queue Length [ft/ln]	29.44	39.31	0.66	1.05	4.05	191.91	189.04	68.89	208.13	208.14
95th-Percentile Queue Length [veh/ln]	2.12	2.83	0.05	0.08	0.29	12.22	12.07	4.96	13.06	13.06
95th-Percentile Queue Length [ft/ln]	53.00	70.75	1.19	1.89	7.29	305.50	301.79	124.01	326.43	326.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.31	27.31	31.96	25.44	25.44	25.61	22.98	18.50	18.73	29.35	17.85	17.86
Movement LOS	C	C	C	C	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	29.83			25.54			18.57			19.17		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	19.57											
Intersection LOS	B											
Intersection V/C	0.672											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	6209.66	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	23.08	23.08	23.08	23.08
l_p,int, Pedestrian LOS Score for Intersection	2.081	1.933	2.935	2.844
Crosswalk LOS	B	A	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1129	1129	2147	2147
d_b, Bicycle Delay [s]	5.96	5.96	0.17	0.17
l_b,int, Bicycle LOS Score for Intersection	1.863	1.568	2.623	2.886
Bicycle LOS	A	A	B	C

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SW 95th Ave/SW Sagert St

Control Type:	All-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.605

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	188	70	103	114	0	0	0	0	102	0	195
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.00	2.00	4.00	8.00	0.00	0.00	0.00	0.00	5.00	0.00	5.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	188	70	103	114	0	0	0	0	102	0	195
Peak Hour Factor	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	64	24	35	39	0	0	0	0	34	0	66
Total Analysis Volume [veh/h]	0	254	95	139	154	0	0	0	0	138	0	264
Pedestrian Volume [ped/h]	34			1			5			20		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	656	615	547	664
Degree of Utilization, x	0.53	0.48	0.00	0.61

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.15	2.57	0.00	4.09
95th-Percentile Queue Length [ft]	78.84	64.24	0.00	102.28
Approach Delay [s/veh]	14.56	14.08	0.00	16.38
Approach LOS	B	B	A	C
Intersection Delay [s/veh]	15.13			
Intersection LOS	C			

Intersection Level Of Service Report

Intersection 3: Tualatin Heights West Dwy/SW 93rd Ave/SW Sagert St

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.056

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	9	0	21	19	2	10	0	158	5	5	260	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	5.00	0.00	0.00	0.00	0.00	3.00	20.00	0.00	3.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	0	21	19	2	10	0	158	5	5	260	9
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	7	6	1	3	0	49	2	2	81	3
Total Analysis Volume [veh/h]	11	0	26	24	3	13	0	198	6	6	325	11
Pedestrian Volume [ped/h]	2			2			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

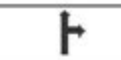
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.03	0.06	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.64	13.52	9.68	14.09	13.81	10.70	7.93	0.00	0.00	7.63	0.00	0.00
Movement LOS	B	B	A	B	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.18	0.18	0.18	0.26	0.26	0.26	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	4.50	4.50	4.50	6.61	6.61	6.61	0.00	0.00	0.00	0.33	0.33	0.33
d_A, Approach Delay [s/veh]	10.85			12.96			0.00			0.13		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	1.55											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 4: Tualatin Heights East Dwy/SW Sagert St

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.084

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	32	7	2	193	263	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	3.00	3.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	7	2	193	263	2
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	2	1	60	82	1
Total Analysis Volume [veh/h]	40	9	3	241	329	3
Pedestrian Volume [ped/h]	5		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.35	10.85	7.94	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.32	0.32	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.01	8.01	0.18	0.18	0.00	0.00
d_A, Approach Delay [s/veh]	12.89		0.10		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.05					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: SW Boones Ferry Rd/SW Sagert St

Control Type:	Signalized	Delay (sec / veh):	102.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.094

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	115.00	100.00	100.00	125.00	100.00	210.00	90.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	28	774	344	44	416	92	59	59	140	165	196	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	40.00	5.00	9.00	6.00	7.00	0.00	5.00	2.00	12.00	11.00	5.00	5.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	774	344	44	416	92	59	59	140	165	196	56
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	215	96	12	116	26	16	16	39	46	54	16
Total Analysis Volume [veh/h]	31	860	382	49	462	102	66	66	156	183	218	62
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	0			1			0			0		
v_di, Inbound Pedestrian Volume crossing major street [	0			0			0			1		
v_co, Outbound Pedestrian Volume crossing minor stree	0			0			1			1		
v_ci, Inbound Pedestrian Volume crossing minor street [	1			1			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	14.00

Phasing & Timing

Control Type	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	6	0	5	6	0
Maximum Green [s]	15	60	0	15	60	0	15	20	0	15	20	0
Amber [s]	3.5	4.0	0.0	3.5	4.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	65	0	20	65	0	20	25	0	20	25	0
Vehicle Extension [s]	2.0	4.5	0.0	2.0	4.5	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	21	0	0	22	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	3.0	0.0	2.5	3.0	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	Yes		No	Yes		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	L	C
C, Cycle Length [s]	111	111	111	111	111	111	111	111	111
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	0.00	3.00	3.00	0.00	2.50	0.00	2.50
g_i, Effective Green Time [s]	68	60	68	61	61	33	17	33	24
g / C, Green / Cycle	0.62	0.54	0.62	0.55	0.55	0.30	0.15	0.30	0.22
(v / s)_i Volume / Saturation Flow Rate	0.04	0.72	0.09	0.26	0.06	0.05	0.13	0.14	0.16
s, saturation flow rate [veh/h]	695	1730	556	1795	1580	1214	1664	1325	1755
c, Capacity [veh/h]	410	934	204	982	864	297	252	350	380
d1, Uniform Delay [s]	9.94	25.58	25.56	15.35	12.17	29.78	46.20	31.91	40.57
k, delay calibration	0.19	0.50	0.10	0.19	0.19	0.04	0.19	0.39	0.31
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.13	155.74	0.53	0.60	0.10	0.14	15.49	4.28	7.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	1.33	0.24	0.47	0.12	0.22	0.88	0.52	0.74
d, Delay for Lane Group [s/veh]	10.08	181.32	26.08	15.95	12.27	29.92	61.69	36.18	48.15
Lane Group LOS	B	F	C	B	B	C	E	D	D
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.30	63.29	0.48	7.04	1.23	1.30	7.05	4.28	7.89
50th-Percentile Queue Length [ft/ln]	7.47	1582.24	12.00	175.91	30.69	32.48	176.24	106.96	197.15
95th-Percentile Queue Length [veh/ln]	0.54	93.19	0.86	11.39	2.21	2.34	11.40	7.67	12.49
95th-Percentile Queue Length [ft/ln]	13.45	2329.73	21.60	284.67	55.23	58.46	285.10	191.77	312.29

Movement, Approach, & Intersection Results

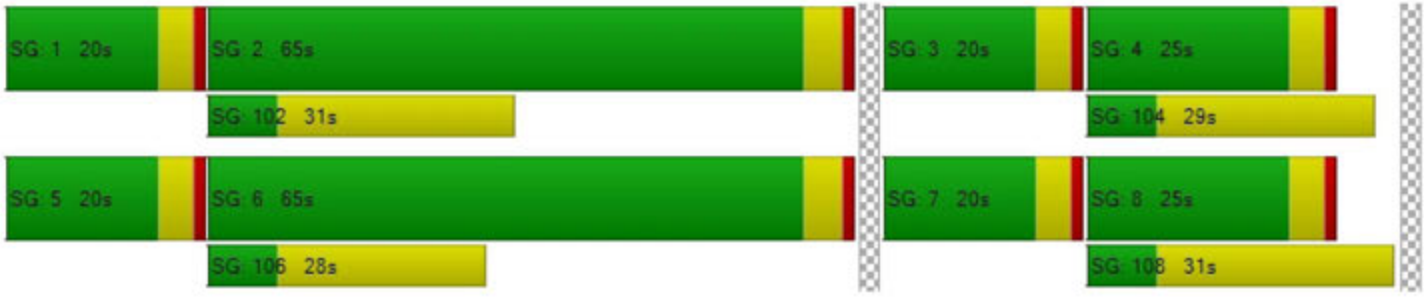
d_M, Delay for Movement [s/veh]	10.08	181.32	181.32	26.08	15.95	12.27	29.92	61.69	61.69	36.18	48.15	48.15
Movement LOS	B	F	F	C	B	B	C	E	E	D	D	D
d_A, Approach Delay [s/veh]	177.15			16.15			54.41			43.42		
Approach LOS	F			B			D			D		
d_I, Intersection Delay [s/veh]	102.84											
Intersection LOS	F											
Intersection V/C	1.094											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	45.03	45.03	45.03	45.03
l_p,int, Pedestrian LOS Score for Intersection	2.668	2.553	2.183	2.301
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1081	1081	369	369
d_b, Bicycle Delay [s]	11.70	11.71	36.88	36.88
l_b,int, Bicycle LOS Score for Intersection	3.660	2.571	2.035	2.324
Bicycle LOS	D	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: SW 95th Ave/SW Avery St

Control Type:	Signalized	Delay (sec / veh):	7.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.639

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	80.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	88	72	82	293	401	172
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	8.00	8.00	4.00	9.00	5.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	88	72	82	293	401	172
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	22	25	88	121	52
Total Analysis Volume [veh/h]	106	87	99	353	483	207
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	3		4		0	
v_di, Inbound Pedestrian Volume crossing major street [	4		3		0	
v_co, Outbound Pedestrian Volume crossing minor stree	2		0		2	
v_ci, Inbound Pedestrian Volume crossing minor street [	2		0		2	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	4	0	0	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	0	10	10	0
Maximum Green [s]	25	0	0	40	40	0
Amber [s]	3.5	0.0	0.0	4.0	4.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	14	0	0	0	16	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	0.0	0.0	3.0	3.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	32	32	32	32
L, Total Lost Time per Cycle [s]	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	5	5	18	18
g / C, Green / Cycle	0.14	0.14	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.06	0.06	0.44	0.40
s, saturation flow rate [veh/h]	1695	1476	1038	1719
c, Capacity [veh/h]	244	213	716	955
d1, Uniform Delay [s]	12.36	12.29	5.01	5.22
k, delay calibration	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.21	1.26	0.93	1.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.41	0.63	0.72
d, Delay for Lane Group [s/veh]	13.57	13.55	5.94	6.27
Lane Group LOS	B	B	A	A
Critical Lane Group	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.61	0.50	1.29	1.46
50th-Percentile Queue Length [ft/ln]	15.22	12.60	32.26	36.59
95th-Percentile Queue Length [veh/ln]	1.10	0.91	2.32	2.63
95th-Percentile Queue Length [ft/ln]	27.39	22.68	58.07	65.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.57	13.55	5.94	5.94	6.27	6.27
Movement LOS	B	B	A	A	A	A
d_A, Approach Delay [s/veh]	13.57		5.94		6.27	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	7.21					
Intersection LOS	A					
Intersection V/C	0.639					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	4848.67	3007.54	0.00
d_p, Pedestrian Delay [s]	6.77	6.77	6.77
I_p,int, Pedestrian LOS Score for Intersection	2.177	2.147	2.209
Crosswalk LOS	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1576	2522	2522
d_b, Bicycle Delay [s]	0.71	1.08	1.08
I_b,int, Bicycle LOS Score for Intersection	1.560	2.305	2.698
Bicycle LOS	A	B	B

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tualatin Heights ZA-Existing Conditions

Vistro File: H:\...\26462_PM.vistro
Report File: H:\...\Future_PM_notrips.pdf

Scenario 3 Future Traffic Conditions_notrips
9/15/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SW 95th Ave/Tualatin-Sherwood Rd	Signalized	HCM 6th Edition	NB Right	0.655	21.4	C
2	SW 95th Ave/SW Sagert St	All-way stop	HCM 6th Edition	SB Left	0.411	9.9	A
3	Tualatin Heights West Dwy/SW 93rd Ave/SW Sagert St	Two-way stop	HCM 6th Edition	SB Left	0.038	13.9	B
4	Tualatin Heights East Dwy/SW Sagert St	Two-way stop	HCM 6th Edition	SB Left	0.062	12.5	B
5	SW Boones Ferry Rd/SW Sagert St	Signalized	HCM 6th Edition	NB Thru	0.907	45.1	D
6	SW 95th Ave/SW Avery St	Signalized	HCM 6th Edition	SB Right	0.638	6.7	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SW 95th Ave/Tualatin-Sherwood Rd

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.655

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	70.00	100.00	100.00	100.00	120.00	100.00	100.00	400.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	113	7	152	1	5	13	7	1304	154	100	1154	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	17.00	0.00	2.00	0.00	0.00	0.00	0.00	6.00	4.00	4.00	11.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	113	7	152	1	5	13	7	1304	154	100	1154	2
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	2	39	0	1	3	2	336	40	26	297	1
Total Analysis Volume [veh/h]	116	7	157	1	5	13	7	1344	159	103	1190	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		0			1			0			0	
v_di, Inbound Pedestrian Volume crossing major street [		0			0			0			1	
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			1			0	
v_ci, Inbound Pedestrian Volume crossing minor street [		0			1			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		3			0			2			3	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	7.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	10	0	10	10	0
Maximum Green [s]	0	35	0	0	35	0	20	65	0	20	65	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	0	41	0	0	41	0	25	74	0	25	74	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	67	67	67	67	67	67	67	67	67	67
L, Total Lost Time per Cycle [s]	5.50	5.50	5.50	5.50	5.00	6.50	6.50	5.00	6.50	6.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.50	3.50	3.50	3.50	3.00	4.50	4.50	3.00	4.50	4.50
g_i, Effective Green Time [s]	9	9	9	9	15	33	33	9	27	27
g / C, Green / Cycle	0.13	0.13	0.13	0.13	0.22	0.49	0.49	0.13	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.08	0.10	0.00	0.01	0.00	0.42	0.43	0.06	0.34	0.34
s, saturation flow rate [veh/h]	1536	1563	1874	1611	1810	1810	1735	1752	1735	1734
c, Capacity [veh/h]	310	210	314	216	393	881	845	223	688	688
d1, Uniform Delay [s]	27.27	28.08	25.38	25.51	20.77	15.34	15.53	27.33	18.71	18.71
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.82	5.27	0.02	0.11	0.02	2.68	3.14	1.49	3.45	3.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.75	0.02	0.06	0.02	0.86	0.88	0.46	0.87	0.87
d, Delay for Lane Group [s/veh]	28.09	33.35	25.41	25.62	20.79	18.02	18.66	28.83	22.16	22.17
Lane Group LOS	C	C	C	C	C	B	B	C	C	C
Critical Lane Group	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.84	2.63	0.08	0.18	0.08	9.49	9.45	1.56	8.30	8.30
50th-Percentile Queue Length [ft/ln]	46.05	65.72	2.06	4.54	2.12	237.35	236.32	39.12	207.54	207.48
95th-Percentile Queue Length [veh/ln]	3.32	4.73	0.15	0.33	0.15	14.55	14.49	2.82	13.03	13.02
95th-Percentile Queue Length [ft/ln]	82.89	118.29	3.70	8.17	3.81	363.68	362.37	70.42	325.68	325.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.09	28.09	33.35	25.41	25.41	25.62	20.79	18.30	18.66	28.83	22.17	22.17
Movement LOS	C	C	C	C	C	C	C	B	B	C	C	C
d_A, Approach Delay [s/veh]	31.04			25.56			18.35			22.70		
Approach LOS	C			C			B			C		
d_I, Intersection Delay [s/veh]	21.35											
Intersection LOS	C											
Intersection V/C	0.655											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	25.30	25.30	25.30	25.30
l_p,int, Pedestrian LOS Score for Intersection	2.105	1.938	3.003	2.834
Crosswalk LOS	B	A	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1054	1054	2003	2003
d_b, Bicycle Delay [s]	7.56	7.55	0.00	0.00
l_b,int, Bicycle LOS Score for Intersection	2.022	1.591	2.805	2.628
Bicycle LOS	B	A	C	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SW 95th Ave/SW Sagert St

Control Type:	All-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.411

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	117	41	184	119	1	1	1	1	62	1	91
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	50.00	2.00	4.00	2.00	2.00	50.00	0.00	0.00	17.00	0.00	0.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	117	41	184	119	1	1	1	1	62	1	91
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	30	11	48	31	0	0	0	0	16	0	24
Total Analysis Volume [veh/h]	1	122	43	192	124	1	1	1	1	65	1	95
Pedestrian Volume [ped/h]	10			1			4			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	784	771	685	750
Degree of Utilization, x	0.21	0.41	0.00	0.21

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.80	2.02	0.01	0.81
95th-Percentile Queue Length [ft]	19.93	50.58	0.33	20.28
Approach Delay [s/veh]	8.82	10.89	8.28	9.11
Approach LOS	A	B	A	A
Intersection Delay [s/veh]	9.90			
Intersection LOS	A			

Intersection Level Of Service Report

Intersection 3: Tualatin Heights West Dwy/SW 93rd Ave/SW Sagert St

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.038

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2	3	20	14	1	5	22	199	5	24	147	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	5.00	7.00	0.00	0.00	9.00	2.00	0.00	0.00	5.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	3	20	14	1	5	22	199	5	24	147	14
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	6	4	0	1	6	57	1	7	42	4
Total Analysis Volume [veh/h]	2	3	23	16	1	6	25	226	6	27	167	16
Pedestrian Volume [ped/h]	3			6			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.03	0.04	0.00	0.01	0.02	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	13.17	13.46	9.73	13.91	13.56	9.54	7.75	0.00	0.00	7.74	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.13	0.15	0.15	0.15	0.06	0.06	0.06	0.06	0.06	0.06
95th-Percentile Queue Length [ft/ln]	3.13	3.13	3.13	3.71	3.71	3.71	1.43	1.43	1.43	1.54	1.54	1.54
d_A, Approach Delay [s/veh]	10.38			12.75			0.75			1.00		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	1.90											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 4: Tualatin Heights East Dwy/SW Sagert St

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.062

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	28	11	20	213	174	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	5.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	11	20	213	174	28
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	3	6	61	49	8
Total Analysis Volume [veh/h]	32	13	23	242	198	32
Pedestrian Volume [ped/h]	4		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.02	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.48	9.89	7.73	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.25	0.25	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.29	6.29	1.31	1.31	0.00	0.00
d_A, Approach Delay [s/veh]	11.73		0.67		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.31					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: SW Boones Ferry Rd/SW Sagert St

Control Type:	Signalized	Delay (sec / veh):	45.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.907

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	115.00	100.00	100.00	125.00	100.00	210.00	90.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	21	569	362	110	883	76	44	151	15	235	106	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	8.00	3.00	4.00	5.00	4.00	2.00	0.00	2.00	17.00	5.00	5.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	569	362	110	883	76	44	151	15	235	106	55
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	145	92	28	225	19	11	39	4	60	27	14
Total Analysis Volume [veh/h]	21	581	369	112	901	78	45	154	15	240	108	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		4			1			4			0	
v_di, Inbound Pedestrian Volume crossing major street [		4			0			4			1	
v_co, Outbound Pedestrian Volume crossing minor stree		3			1			1			3	
v_ci, Inbound Pedestrian Volume crossing minor street [		3			1			1			3	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		4			6			4			1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	14.00

Phasing & Timing

Control Type	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	6	0	5	6	0
Maximum Green [s]	15	60	0	15	60	0	15	20	0	15	20	0
Amber [s]	3.5	4.0	0.0	3.5	4.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	65	0	20	65	0	20	25	0	20	25	0
Vehicle Extension [s]	2.0	4.5	0.0	2.0	4.5	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	21	0	0	22	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	3.0	0.0	2.5	3.0	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	Yes		No	Yes		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	L	C
C, Cycle Length [s]	112	112	112	112	112	112	112	112	112
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	0.00	3.00	3.00	0.00	2.50	0.00	2.50
g_i, Effective Green Time [s]	69	60	69	62	62	33	14	33	25
g / C, Green / Cycle	0.62	0.53	0.62	0.56	0.56	0.30	0.13	0.30	0.22
(v / s)_i Volume / Saturation Flow Rate	0.03	0.55	0.16	0.49	0.05	0.03	0.09	0.16	0.10
s, saturation flow rate [veh/h]	668	1715	701	1840	1549	1350	1829	1471	1705
c, Capacity [veh/h]	250	915	222	1022	860	394	231	429	380
d1, Uniform Delay [s]	19.47	26.23	25.76	21.76	11.68	28.87	47.27	32.73	37.56
k, delay calibration	0.19	0.49	0.50	0.42	0.19	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.25	39.97	8.02	9.37	0.08	0.05	1.67	5.20	0.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	1.04	0.51	0.88	0.09	0.11	0.73	0.56	0.43
d, Delay for Lane Group [s/veh]	19.72	66.20	33.78	31.13	11.76	28.91	48.94	37.93	37.84
Lane Group LOS	B	F	C	C	B	C	D	D	D
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.21	32.99	1.57	22.00	0.92	0.88	4.65	5.92	3.91
50th-Percentile Queue Length [ft/ln]	5.22	824.72	39.34	550.03	22.93	22.10	116.15	148.04	97.63
95th-Percentile Queue Length [veh/ln]	0.38	43.75	2.83	29.69	1.65	1.59	8.18	9.91	7.03
95th-Percentile Queue Length [ft/ln]	9.40	1093.71	70.81	742.35	41.27	39.78	204.52	247.81	175.73

Movement, Approach, & Intersection Results

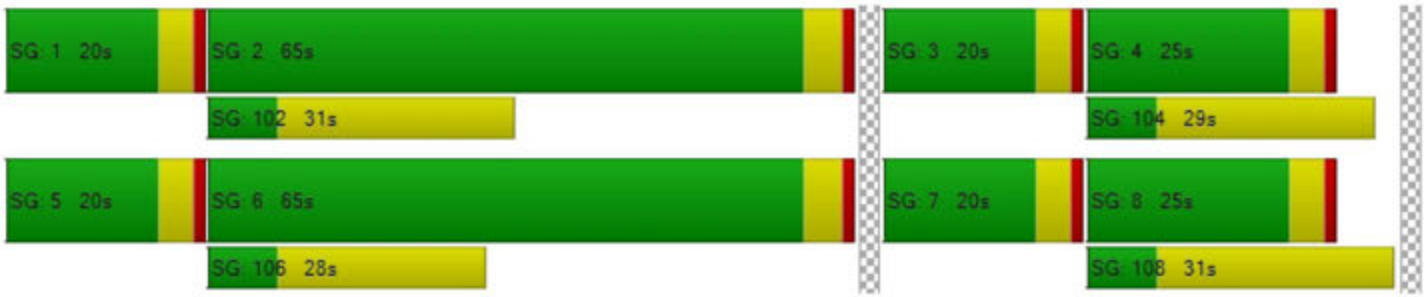
d_M, Delay for Movement [s/veh]	19.72	66.20	66.20	33.78	31.13	11.76	28.91	48.94	48.94	37.93	37.84	37.84
Movement LOS	B	E	E	C	C	B	C	D	D	D	D	D
d_A, Approach Delay [s/veh]		65.19			30.02			44.73			37.90	
Approach LOS		E			C			D			D	
d_I, Intersection Delay [s/veh]	45.13											
Intersection LOS	D											
Intersection V/C	0.907											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	45.68	45.68	45.68	45.68
l_p,int, Pedestrian LOS Score for Intersection	2.691	2.589	2.105	2.376
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1069	1069	365	365
d_b, Bicycle Delay [s]	12.20	12.21	37.59	37.53
l_b,int, Bicycle LOS Score for Intersection	3.162	3.360	1.913	2.226
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: SW 95th Ave/SW Avery St

Control Type:	Signalized	Delay (sec / veh):	6.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.638

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	80.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	88	94	80	586	231	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	0.00	3.00	3.00	8.00	9.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	88	94	80	586	231	69
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	25	21	154	61	18
Total Analysis Volume [veh/h]	93	99	84	617	243	73
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	0		0		0	
v_di, Inbound Pedestrian Volume crossing major street [	0		0		0	
v_co, Outbound Pedestrian Volume crossing minor stree	0		0		0	
v_ci, Inbound Pedestrian Volume crossing minor street [	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	4	0	0	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	0	10	10	0
Maximum Green [s]	25	0	0	40	40	0
Amber [s]	3.5	0.0	0.0	4.0	4.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	14	0	0	0	16	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	0.0	0.0	3.0	3.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	26	26	26	26
L, Total Lost Time per Cycle [s]	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	4	4	13	13
g / C, Green / Cycle	0.15	0.15	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.05	0.06	0.40	0.19
s, saturation flow rate [veh/h]	1767	1615	1738	1701
c, Capacity [veh/h]	260	238	998	824
d1, Uniform Delay [s]	9.90	9.99	5.62	4.21
k, delay calibration	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.83	1.16	0.91	0.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.42	0.70	0.38
d, Delay for Lane Group [s/veh]	10.73	11.15	6.54	4.50
Lane Group LOS	B	B	A	A
Critical Lane Group	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.38	0.42	1.16	0.38
50th-Percentile Queue Length [ft/ln]	9.44	10.45	28.89	9.45
95th-Percentile Queue Length [veh/ln]	0.68	0.75	2.08	0.68
95th-Percentile Queue Length [ft/ln]	16.99	18.81	52.00	17.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.73	11.15	6.54	6.54	4.50	4.50
Movement LOS	B	B	A	A	A	A
d_A, Approach Delay [s/veh]	10.94		6.54		4.50	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	6.70					
Intersection LOS	A					
Intersection V/C	0.638					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	4.24	4.24	4.24
l_p,int, Pedestrian LOS Score for Intersection	2.088	2.139	2.130
Crosswalk LOS	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1938	3101	3101
d_b, Bicycle Delay [s]	0.01	3.91	3.91
l_b,int, Bicycle LOS Score for Intersection	1.560	2.716	2.081
Bicycle LOS	A	B	B

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix E 2040 Rezone Operations

Tualatin Heights ZA-Existing Conditions

Vistro File: H:\...\26462_AM.vistro
Report File: H:\...\Future_AM.pdf

Scenario 2 2 Future Traffic Conditions_scenario1
9/15/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SW 95th Ave/Tualatin-Sherwood Rd	Signalized	HCM 6th Edition	NB Right	0.678	19.9	B
2	SW 95th Ave/SW Sagert St	All-way stop	HCM 6th Edition	WB Right	0.639	16.0	C
3	Tualatin Heights West Dwy/SW 93rd Ave/SW Sagert St	Two-way stop	HCM 6th Edition	SB Left	0.109	15.0	C
4	Tualatin Heights East Dwy/SW Sagert St	Two-way stop	HCM 6th Edition	SB Left	0.088	13.7	B
5	SW Boones Ferry Rd/SW Sagert St	Signalized	HCM 6th Edition	NB Thru	1.100	104.9	F
6	SW 95th Ave/SW Avery St	Signalized	HCM 6th Edition	SB Right	0.642	7.2	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SW 95th Ave/Tualatin-Sherwood Rd

Control Type:	Signalized	Delay (sec / veh):	19.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.678

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	70.00	100.00	100.00	100.00	120.00	100.00	100.00	400.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	77	8	101	1	1	3	12	1104	110	178	1349	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	7.00	0.00	9.00	0.00	0.00	50.00	0.00	23.00	8.00	10.00	13.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	8	101	1	1	3	12	1104	110	178	1349	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	2	27	0	0	1	3	291	29	47	355	1
Total Analysis Volume [veh/h]	81	8	106	1	1	3	13	1162	116	187	1420	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		1			4			0			3	
v_di, Inbound Pedestrian Volume crossing major street [		0			3			1			4	
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			1			1	
v_ci, Inbound Pedestrian Volume crossing minor street [		1			1			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			1			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	7.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	10	0	10	10	0
Maximum Green [s]	0	35	0	0	35	0	20	65	0	20	65	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	0	41	0	0	41	0	25	74	0	25	74	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	64	64	64	64	64	64	64	64	64	64
L, Total Lost Time per Cycle [s]	5.50	5.50	5.50	5.50	5.00	6.50	6.50	5.00	6.50	6.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.50	3.50	3.50	3.50	3.00	4.50	4.50	3.00	4.50	4.50
g_i, Effective Green Time [s]	7	7	7	7	10	30	30	10	30	30
g / C, Green / Cycle	0.11	0.11	0.11	0.11	0.15	0.48	0.48	0.15	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.06	0.07	0.00	0.00	0.01	0.42	0.42	0.11	0.42	0.42
s, saturation flow rate [veh/h]	1571	1496	1812	974	1810	1555	1499	1667	1705	1704
c, Capacity [veh/h]	275	159	277	104	271	740	713	252	814	813
d1, Uniform Delay [s]	26.81	27.40	25.50	25.55	23.22	15.03	15.12	25.87	14.95	14.95
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.68	4.73	0.01	0.11	0.07	3.50	3.85	4.26	3.15	3.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.67	0.01	0.03	0.05	0.88	0.88	0.74	0.87	0.87
d, Delay for Lane Group [s/veh]	27.49	32.14	25.51	25.66	23.30	18.54	18.97	30.12	18.10	18.11
Lane Group LOS	C	C	C	C	C	B	B	C	B	B
Critical Lane Group	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.26	1.68	0.03	0.04	0.16	7.83	7.71	2.85	8.48	8.49
50th-Percentile Queue Length [ft/ln]	31.58	42.07	0.67	1.05	4.11	195.64	192.69	71.26	212.12	212.13
95th-Percentile Queue Length [veh/ln]	2.27	3.03	0.05	0.08	0.30	12.41	12.26	5.13	13.26	13.26
95th-Percentile Queue Length [ft/ln]	56.84	75.73	1.20	1.89	7.40	310.34	306.52	128.27	331.55	331.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.49	27.49	32.14	25.51	25.51	25.66	23.30	18.73	18.97	30.12	18.10	18.11
Movement LOS	C	C	C	C	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	30.02			25.60			18.79			19.50		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	19.88											
Intersection LOS	B											
Intersection V/C	0.678											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	6025.03	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	23.46	23.46	23.46	23.46
l_p,int, Pedestrian LOS Score for Intersection	2.086	1.933	2.944	2.847
Crosswalk LOS	B	A	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1116	1116	2121	2121
d_b, Bicycle Delay [s]	6.22	6.22	0.12	0.12
l_b,int, Bicycle LOS Score for Intersection	1.881	1.568	2.625	2.888
Bicycle LOS	A	A	B	C

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SW 95th Ave/SW Sagert St

Control Type:	All-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.639

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	188	71	107	114	0	0	0	0	105	0	206
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	4.00	2.00	4.00	8.00	0.00	0.00	0.00	0.00	5.00	0.00	5.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	188	71	107	114	0	0	0	0	105	0	206
Peak Hour Factor	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	64	24	36	39	0	0	0	0	35	0	70
Total Analysis Volume [veh/h]	0	254	96	145	154	0	0	0	0	142	0	278
Pedestrian Volume [ped/h]	34			1			5			20		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	644	604	536	658
Degree of Utilization, x	0.54	0.49	0.00	0.64

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.28	2.74	0.00	4.59
95th-Percentile Queue Length [ft]	82.01	68.53	0.00	114.79
Approach Delay [s/veh]	15.05	14.65	0.00	17.63
Approach LOS	C	B	A	C
Intersection Delay [s/veh]	15.95			
Intersection LOS	C			

Intersection Level Of Service Report

Intersection 3: Tualatin Heights West Dwy/SW 93rd Ave/SW Sagert St

Control Type:	Two-way stop	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.109

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	9	0	21	36	2	24	5	158	5	5	260	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	5.00	0.00	0.00	0.00	0.00	3.00	20.00	0.00	3.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	0	21	36	2	24	5	158	5	5	260	15
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	7	11	1	8	2	49	2	2	81	5
Total Analysis Volume [veh/h]	11	0	26	45	3	30	6	198	6	6	325	19
Pedestrian Volume [ped/h]	2			2			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.00	0.03	0.11	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.23	13.80	9.70	15.05	14.74	11.44	7.96	0.00	0.00	7.63	0.00	0.00
Movement LOS	B	B	A	C	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.19	0.19	0.19	0.56	0.56	0.56	0.01	0.01	0.01	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	4.65	4.65	4.65	13.91	13.91	13.91	0.37	0.37	0.37	0.33	0.33	0.33
d_A, Approach Delay [s/veh]	11.05			13.65			0.23			0.13		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	2.32											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 4: Tualatin Heights East Dwy/SW Sagert St

Control Type:	Two-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.088

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	32	7	2	210	269	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	3.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	7	2	210	269	2
Peak Hour Factor	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	2	1	66	84	1
Total Analysis Volume [veh/h]	40	9	3	263	336	3
Pedestrian Volume [ped/h]	5		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.71	10.96	7.96	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.33	0.33	0.01	0.01	0.00	0.00
95th-Percentile Queue Length [ft/ln]	8.32	8.32	0.18	0.18	0.00	0.00
d_A, Approach Delay [s/veh]	13.20		0.09		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.03					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: SW Boones Ferry Rd/SW Sagert St

Control Type:	Signalized	Delay (sec / veh):	104.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.100

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	115.00	100.00	100.00	125.00	100.00	210.00	90.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	31	774	344	44	416	94	65	62	148	165	197	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	40.00	5.00	9.00	6.00	7.00	0.00	5.00	2.00	12.00	11.00	5.00	5.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	774	344	44	416	94	65	62	148	165	197	56
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	215	96	12	116	26	18	17	41	46	55	16
Total Analysis Volume [veh/h]	34	860	382	49	462	104	72	69	164	183	219	62
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		0			1			0			0	
v_di, Inbound Pedestrian Volume crossing major street [		0			0			0			1	
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			1			1	
v_ci, Inbound Pedestrian Volume crossing minor street [		1			1			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			1			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	14.00

Phasing & Timing

Control Type	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	6	0	5	6	0
Maximum Green [s]	15	60	0	15	60	0	15	20	0	15	20	0
Amber [s]	3.5	4.0	0.0	3.5	4.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	65	0	20	65	0	20	25	0	20	25	0
Vehicle Extension [s]	2.0	4.5	0.0	2.0	4.5	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	21	0	0	22	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	3.0	0.0	2.5	3.0	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	Yes		No	Yes		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	L	C
C, Cycle Length [s]	112	112	112	112	112	112	112	112	112
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	0.00	3.00	3.00	0.00	2.50	0.00	2.50
g_i, Effective Green Time [s]	68	60	68	61	61	34	18	34	24
g / C, Green / Cycle	0.61	0.54	0.61	0.54	0.54	0.30	0.16	0.30	0.22
(v / s)_i Volume / Saturation Flow Rate	0.05	0.72	0.09	0.26	0.07	0.06	0.14	0.14	0.16
s, saturation flow rate [veh/h]	697	1730	556	1795	1580	1218	1663	1312	1756
c, Capacity [veh/h]	406	927	203	972	856	304	262	347	384
d1, Uniform Delay [s]	10.28	26.00	25.69	15.85	12.58	29.70	46.22	31.82	40.66
k, delay calibration	0.19	0.50	0.10	0.19	0.19	0.04	0.22	0.40	0.31
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.15	160.16	0.56	0.62	0.11	0.15	18.00	4.56	7.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.08	1.34	0.24	0.48	0.12	0.24	0.89	0.53	0.73
d, Delay for Lane Group [s/veh]	10.43	186.16	26.25	16.47	12.69	29.85	64.23	36.38	48.16
Lane Group LOS	B	F	C	B	B	C	E	D	D
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.34	64.22	0.49	7.21	1.28	1.42	7.62	4.30	7.95
50th-Percentile Queue Length [ft/ln]	8.42	1605.60	12.33	180.37	32.12	35.56	190.56	107.56	198.83
95th-Percentile Queue Length [veh/ln]	0.61	94.79	0.89	11.62	2.31	2.56	12.15	7.70	12.58
95th-Percentile Queue Length [ft/ln]	15.16	2369.73	22.19	290.49	57.82	64.01	303.75	192.60	314.45

Movement, Approach, & Intersection Results

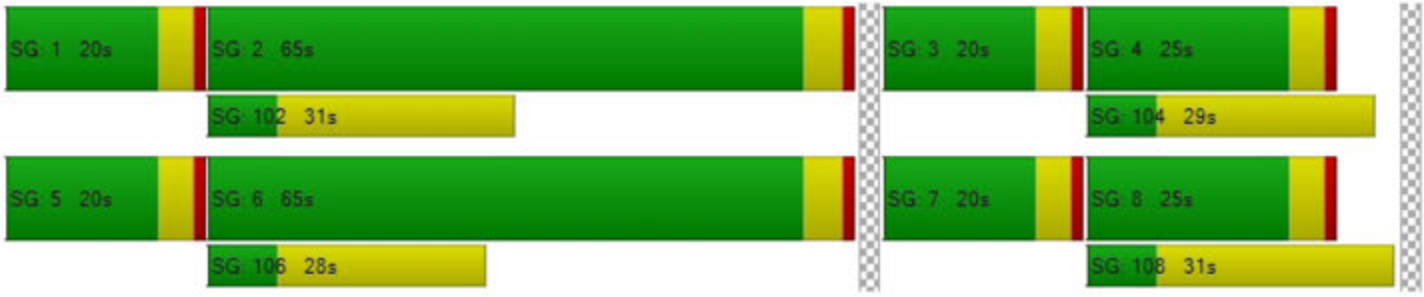
d_M, Delay for Movement [s/veh]	10.43	186.16	186.16	26.25	16.47	12.69	29.85	64.23	64.23	36.38	48.16	48.16
Movement LOS	B	F	F	C	B	B	C	E	E	D	D	D
d_A, Approach Delay [s/veh]	181.48			16.61			56.11			43.51		
Approach LOS	F			B			E			D		
d_I, Intersection Delay [s/veh]	104.92											
Intersection LOS	F											
Intersection V/C	1.100											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	45.44	45.44	45.44	45.44
I_p,int, Pedestrian LOS Score for Intersection	2.674	2.558	2.193	2.303
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1073	1073	367	367
d_b, Bicycle Delay [s]	12.00	12.01	37.28	37.28
I_b,int, Bicycle LOS Score for Intersection	3.665	2.574	2.063	2.325
Bicycle LOS	D	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: SW 95th Ave/SW Avery St

Control Type:	Signalized	Delay (sec / veh):	7.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.642

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	80.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	89	74	83	293	401	172
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	8.00	8.00	4.00	9.00	5.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	89	74	83	293	401	172
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	22	25	88	121	52
Total Analysis Volume [veh/h]	107	89	100	353	483	207
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	3		4		0	
v_di, Inbound Pedestrian Volume crossing major street [	4		3		0	
v_co, Outbound Pedestrian Volume crossing minor stree	2		0		2	
v_ci, Inbound Pedestrian Volume crossing minor street [	2		0		2	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	4	0	0	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	0	10	10	0
Maximum Green [s]	25	0	0	40	40	0
Amber [s]	3.5	0.0	0.0	4.0	4.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	14	0	0	0	16	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	0.0	0.0	3.0	3.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	32	32	32	32
L, Total Lost Time per Cycle [s]	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	5	5	18	18
g / C, Green / Cycle	0.14	0.14	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.06	0.06	0.44	0.40
s, saturation flow rate [veh/h]	1695	1476	1035	1719
c, Capacity [veh/h]	245	213	714	956
d1, Uniform Delay [s]	12.40	12.34	5.03	5.22
k, delay calibration	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.22	1.30	0.94	1.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.42	0.63	0.72
d, Delay for Lane Group [s/veh]	13.62	13.64	5.97	6.27
Lane Group LOS	B	B	A	A
Critical Lane Group	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.62	0.52	1.31	1.47
50th-Percentile Queue Length [ft/ln]	15.44	12.98	32.65	36.80
95th-Percentile Queue Length [veh/ln]	1.11	0.93	2.35	2.65
95th-Percentile Queue Length [ft/ln]	27.78	23.36	58.77	66.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.62	13.64	5.97	5.97	6.27	6.27
Movement LOS	B	B	A	A	A	A
d_A, Approach Delay [s/veh]	13.63		5.97		6.27	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	7.24					
Intersection LOS	A					
Intersection V/C	0.642					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	4819.85	2986.76	0.00
d_p, Pedestrian Delay [s]	6.82	6.82	6.82
l_p,int, Pedestrian LOS Score for Intersection	2.180	2.149	2.210
Crosswalk LOS	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1571	2513	2513
d_b, Bicycle Delay [s]	0.73	1.05	1.05
l_b,int, Bicycle LOS Score for Intersection	1.560	2.307	2.698
Bicycle LOS	A	B	B

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tualatin Heights ZA-Existing Conditions

Vistro File: H:\...\26462_PM.vistro
Report File: H:\...\Future_PM_v2.pdf

Scenario 2 2 Future Traffic Conditions
9/15/2021

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	SW 95th Ave/Tualatin-Sherwood Rd	Signalized	HCM 6th Edition	NB Right	0.662	21.7	C
2	SW 95th Ave/SW Sagert St	All-way stop	HCM 6th Edition	SB Left	0.429	10.1	B
3	Tualatin Heights West Dwy/SW 93rd Ave/SW Sagert St	Two-way stop	HCM 6th Edition	SB Left	0.071	14.9	B
4	Tualatin Heights East Dwy/SW Sagert St	Two-way stop	HCM 6th Edition	SB Left	0.065	12.8	B
5	SW Boones Ferry Rd/SW Sagert St	Signalized	HCM 6th Edition	NB Thru	0.911	46.3	D
6	SW 95th Ave/SW Avery St	Signalized	HCM 6th Edition	SB Right	0.635	6.7	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: SW 95th Ave/Tualatin-Sherwood Rd

Control Type:	Signalized	Delay (sec / veh):	21.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.662

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	70.00	100.00	100.00	100.00	120.00	100.00	100.00	400.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	116	7	156	1	5	13	7	1304	159	106	1154	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	17.00	0.00	2.00	0.00	0.00	0.00	0.00	6.00	4.00	4.00	11.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	116	7	156	1	5	13	7	1304	159	106	1154	2
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	2	40	0	1	3	2	336	41	27	297	1
Total Analysis Volume [veh/h]	120	7	161	1	5	13	7	1344	164	109	1190	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		0			1			0			0	
v_di, Inbound Pedestrian Volume crossing major street [		0			0			0			1	
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			1			0	
v_ci, Inbound Pedestrian Volume crossing minor street [		0			1			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		3			0			2			3	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	7.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	0	5	0	0	5	0	5	10	0	10	10	0
Maximum Green [s]	0	35	0	0	35	0	20	65	0	20	65	0
Amber [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	0.0
All red [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Split [s]	0	41	0	0	41	0	25	74	0	25	74	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	17	0	0	18	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.5	0.0	0.0	3.5	0.0	3.0	4.5	0.0	3.0	4.5	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	R	L	C	C	L	C	C
C, Cycle Length [s]	68	68	68	68	68	68	68	68	68	68
L, Total Lost Time per Cycle [s]	5.50	5.50	5.50	5.50	5.00	6.50	6.50	5.00	6.50	6.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.50	3.50	3.50	3.50	3.00	4.50	4.50	3.00	4.50	4.50
g_i, Effective Green Time [s]	9	9	9	9	15	33	33	9	27	27
g / C, Green / Cycle	0.14	0.14	0.14	0.14	0.22	0.49	0.49	0.13	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.08	0.10	0.00	0.01	0.00	0.42	0.43	0.06	0.34	0.34
s, saturation flow rate [veh/h]	1533	1563	1874	1611	1810	1810	1733	1752	1735	1734
c, Capacity [veh/h]	311	213	317	220	398	883	845	224	687	686
d1, Uniform Delay [s]	27.64	28.46	25.66	25.78	20.96	15.57	15.77	27.82	19.07	19.07
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.86	5.36	0.02	0.11	0.02	2.71	3.19	1.63	3.51	3.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.75	0.02	0.06	0.02	0.87	0.88	0.49	0.87	0.87
d, Delay for Lane Group [s/veh]	28.50	33.82	25.68	25.89	20.98	18.28	18.96	29.45	22.58	22.59
Lane Group LOS	C	C	C	C	C	B	B	C	C	C
Critical Lane Group	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.94	2.74	0.08	0.18	0.09	9.74	9.70	1.69	8.49	8.49
50th-Percentile Queue Length [ft/ln]	48.47	68.59	2.09	4.61	2.15	243.43	242.47	42.36	212.28	212.21
95th-Percentile Queue Length [veh/ln]	3.49	4.94	0.15	0.33	0.15	14.85	14.81	3.05	13.27	13.27
95th-Percentile Queue Length [ft/ln]	87.24	123.46	3.76	8.29	3.87	371.37	370.16	76.24	331.75	331.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.50	28.50	33.82	25.68	25.68	25.89	20.98	18.57	18.96	29.45	22.58	22.59
Movement LOS	C	C	C	C	C	C	C	B	B	C	C	C
d_A, Approach Delay [s/veh]	31.47			25.83			18.62			23.16		
Approach LOS	C			C			B			C		
d_I, Intersection Delay [s/veh]	21.74											
Intersection LOS	C											
Intersection V/C	0.662											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	25.83	25.83	25.83	25.83
l_p,int, Pedestrian LOS Score for Intersection	2.112	1.939	3.012	2.836
Crosswalk LOS	B	A	C	C
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1037	1037	1972	1972
d_b, Bicycle Delay [s]	7.95	7.94	0.01	0.01
l_b,int, Bicycle LOS Score for Intersection	2.035	1.591	2.809	2.633
Bicycle LOS	B	A	C	B

Sequence

Ring 1	1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: SW 95th Ave/SW Sagert St

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.429

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	1	117	44	195	119	1	1	1	1	64	1	98
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	50.00	2.00	4.00	2.00	2.00	50.00	0.00	0.00	17.00	0.00	0.00	3.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	117	44	195	119	1	1	1	1	64	1	98
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	30	11	51	31	0	0	0	0	17	0	26
Total Analysis Volume [veh/h]	1	122	46	203	124	1	1	1	1	67	1	102
Pedestrian Volume [ped/h]	10			1			4			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	778	765	677	745
Degree of Utilization, x	0.22	0.43	0.00	0.23

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.82	2.16	0.01	0.88
95th-Percentile Queue Length [ft]	20.58	54.12	0.33	21.90
Approach Delay [s/veh]	8.90	11.19	8.34	9.25
Approach LOS	A	B	A	A
Intersection Delay [s/veh]	10.11			
Intersection LOS	B			

Intersection Level Of Service Report

Intersection 3: Tualatin Heights West Dwy/SW 93rd Ave/SW Sagert St

Control Type:	Two-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.071

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	2	3	20	25	1	14	36	199	5	24	147	31
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	5.00	4.00	0.00	0.00	6.00	2.00	0.00	0.00	5.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	3	20	25	1	14	36	199	5	24	147	31
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	6	7	0	4	10	57	1	7	42	9
Total Analysis Volume [veh/h]	2	3	23	28	1	16	41	226	6	27	167	35
Pedestrian Volume [ped/h]	3			6			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.03	0.07	0.00	0.02	0.03	0.00	0.00	0.02	0.00	0.00
d_M, Delay for Movement [s/veh]	13.96	14.17	9.74	14.86	14.52	9.97	7.79	0.00	0.00	7.74	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.13	0.30	0.30	0.30	0.10	0.10	0.10	0.06	0.06	0.06
95th-Percentile Queue Length [ft/ln]	3.21	3.21	3.21	7.57	7.57	7.57	2.38	2.38	2.38	1.54	1.54	1.54
d_A, Approach Delay [s/veh]	10.52			13.12			1.17			0.91		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	2.46											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 4: Tualatin Heights East Dwy/SW Sagert St

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.065

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	28	11	20	224	191	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	2.00	4.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	11	20	224	191	28
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	3	6	64	54	8
Total Analysis Volume [veh/h]	32	13	23	255	217	32
Pedestrian Volume [ped/h]	4		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.06	0.02	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.83	10.05	7.78	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.26	0.26	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	6.56	6.56	1.33	1.33	0.00	0.00
d_A, Approach Delay [s/veh]	12.03		0.64		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.26					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: SW Boones Ferry Rd/SW Sagert St

Control Type:	Signalized	Delay (sec / veh):	46.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.911

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	115.00	100.00	100.00	125.00	100.00	210.00	90.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	29	569	362	110	883	82	48	153	20	235	109	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	8.00	3.00	4.00	5.00	4.00	2.00	0.00	2.00	17.00	5.00	5.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	569	362	110	883	82	48	153	20	235	109	55
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	145	92	28	225	21	12	39	5	60	28	14
Total Analysis Volume [veh/h]	30	581	369	112	901	84	49	156	20	240	111	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	4			1			4			0		
v_di, Inbound Pedestrian Volume crossing major street [	4			0			4			1		
v_co, Outbound Pedestrian Volume crossing minor stree	3			1			1			3		
v_ci, Inbound Pedestrian Volume crossing minor street [	3			1			1			3		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	4			6			4			1		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	14.00

Phasing & Timing

Control Type	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	6	0	5	6	0
Maximum Green [s]	15	60	0	15	60	0	15	20	0	15	20	0
Amber [s]	3.5	4.0	0.0	3.5	4.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	65	0	20	65	0	20	25	0	20	25	0
Vehicle Extension [s]	2.0	4.5	0.0	2.0	4.5	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	21	0	0	22	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	3.0	0.0	2.5	3.0	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	Yes		No	Yes		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	L	C
C, Cycle Length [s]	113	113	113	113	113	113	113	113	113
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	0.00	3.00	3.00	0.00	2.50	0.00	2.50
g_i, Effective Green Time [s]	69	60	69	62	62	34	15	34	25
g / C, Green / Cycle	0.62	0.53	0.62	0.55	0.55	0.30	0.13	0.30	0.22
(v / s)_i Volume / Saturation Flow Rate	0.04	0.55	0.16	0.49	0.05	0.04	0.10	0.16	0.10
s, saturation flow rate [veh/h]	679	1715	702	1840	1548	1348	1818	1463	1707
c, Capacity [veh/h]	250	911	221	1008	848	395	237	426	384
d1, Uniform Delay [s]	20.27	26.49	25.84	22.66	12.21	28.84	47.31	32.67	37.61
k, delay calibration	0.19	0.50	0.50	0.42	0.19	0.04	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.36	41.61	8.08	10.48	0.09	0.05	1.74	5.32	0.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.12	1.04	0.51	0.89	0.10	0.12	0.74	0.56	0.43
d, Delay for Lane Group [s/veh]	20.64	68.10	33.92	33.14	12.29	28.89	49.05	37.98	37.90
Lane Group LOS	C	F	C	C	B	C	D	D	D
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.30	33.41	1.59	22.83	1.02	0.97	4.87	5.93	3.99
50th-Percentile Queue Length [ft/ln]	7.62	835.34	39.80	570.80	25.50	24.13	121.66	148.34	99.83
95th-Percentile Queue Length [veh/ln]	0.55	44.41	2.87	30.67	1.84	1.74	8.48	9.93	7.19
95th-Percentile Queue Length [ft/ln]	13.72	1110.35	71.64	766.70	45.90	43.43	212.10	248.22	179.69

Movement, Approach, & Intersection Results

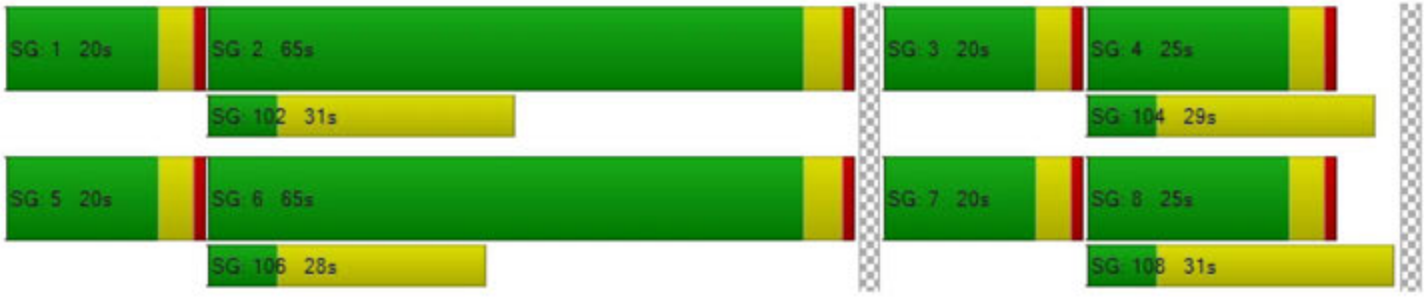
d_M, Delay for Movement [s/veh]	20.64	68.10	68.10	33.92	33.14	12.29	28.89	49.05	49.05	37.98	37.90	37.90
Movement LOS	C	E	E	C	C	B	C	D	D	D	D	D
d_A, Approach Delay [s/veh]	66.65			31.62			44.66			37.95		
Approach LOS	E			C			D			D		
d_I, Intersection Delay [s/veh]	46.32											
Intersection LOS	D											
Intersection V/C	0.911											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	45.95	45.95	45.95	45.95
l_p,int, Pedestrian LOS Score for Intersection	2.697	2.593	2.121	2.378
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1064	1064	363	363
d_b, Bicycle Delay [s]	12.39	12.40	37.85	37.79
l_b,int, Bicycle LOS Score for Intersection	3.177	3.370	1.931	2.231
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: SW 95th Ave/SW Avery St

Control Type:	Signalized	Delay (sec / veh):	6.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.635

Intersection Setup

Name						
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	0	0
Entry Pocket Length [ft]	100.00	80.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	89	95	82	586	231	70
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	0.00	3.00	3.00	8.00	9.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	89	95	82	586	231	70
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	25	22	154	61	18
Total Analysis Volume [veh/h]	94	100	86	617	243	74
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	0		0		0	
v_di, Inbound Pedestrian Volume crossing major street [	0		0		0	
v_co, Outbound Pedestrian Volume crossing minor stree	0		0		0	
v_ci, Inbound Pedestrian Volume crossing minor street [	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	7.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	4	0	0	2	6	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	5	0	0	10	10	0
Maximum Green [s]	25	0	0	40	40	0
Amber [s]	3.5	0.0	0.0	4.0	4.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	0	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	14	0	0	0	16	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	0.0	0.0	3.0	3.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	26	26	26	26
L, Total Lost Time per Cycle [s]	4.50	4.50	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	2.50	2.50	3.00	3.00
g_i, Effective Green Time [s]	4	4	13	13
g / C, Green / Cycle	0.15	0.15	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.05	0.06	0.40	0.19
s, saturation flow rate [veh/h]	1767	1615	1750	1700
c, Capacity [veh/h]	262	240	1008	828
d1, Uniform Delay [s]	9.98	10.07	5.60	4.22
k, delay calibration	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.83	1.15	0.89	0.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.42	0.70	0.38
d, Delay for Lane Group [s/veh]	10.81	11.23	6.48	4.51
Lane Group LOS	B	B	A	A
Critical Lane Group	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.38	0.42	1.17	0.39
50th-Percentile Queue Length [ft/ln]	9.58	10.60	29.30	9.63
95th-Percentile Queue Length [veh/ln]	0.69	0.76	2.11	0.69
95th-Percentile Queue Length [ft/ln]	17.25	19.08	52.74	17.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.81	11.23	6.48	6.48	4.51	4.51
Movement LOS	B	B	A	A	A	A
d_A, Approach Delay [s/veh]	11.02		6.48		4.51	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	6.69					
Intersection LOS	A					
Intersection V/C	0.635					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	4.30	4.30	4.30
l_p,int, Pedestrian LOS Score for Intersection	2.093	2.141	2.132
Crosswalk LOS	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1929	3086	3086
d_b, Bicycle Delay [s]	0.02	3.82	3.82
l_b,int, Bicycle LOS Score for Intersection	1.560	2.720	2.083
Bicycle LOS	A	B	B

Sequence

Ring 1	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix F 2040 Mitigation Operations

Intersection Level Of Service Report
Intersection 5: SW Boones Ferry Rd/SW Sagert St

Control Type:	Signalized	Delay (sec / veh):	37.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.876

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	115.00	100.00	100.00	125.00	100.00	210.00	90.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	28	774	344	44	416	92	59	59	140	165	196	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	40.00	5.00	9.00	6.00	7.00	0.00	5.00	2.00	12.00	11.00	5.00	5.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	774	344	44	416	92	59	59	140	165	196	56
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	233	104	13	125	28	18	18	42	50	59	17
Total Analysis Volume [veh/h]	34	933	414	53	501	111	71	71	169	199	236	67
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		4			1			4			0	
v_di, Inbound Pedestrian Volume crossing major street [		4			0			4			1	
v_co, Outbound Pedestrian Volume crossing minor stree		3			1			1			3	
v_ci, Inbound Pedestrian Volume crossing minor street [		3			1			1			3	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			1			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	14.00

Phasing & Timing

Control Type	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	6	0	5	6	0
Maximum Green [s]	15	60	0	15	60	0	15	20	0	15	20	0
Amber [s]	3.5	4.0	0.0	3.5	4.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	65	0	20	65	0	20	25	0	20	25	0
Vehicle Extension [s]	2.0	4.5	0.0	2.0	4.5	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	21	0	0	22	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	3.0	0.0	2.5	3.0	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	Yes		No	Yes		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	0.00	3.00	3.00	0.00	2.50	0.00	2.50
g_i, Effective Green Time [s]	69	60	60	69	61	61	37	20	37	28
g / C, Green / Cycle	0.60	0.52	0.52	0.60	0.53	0.53	0.32	0.17	0.32	0.24
(v / s)_i Volume / Saturation Flow Rate	0.05	0.51	0.28	0.08	0.28	0.07	0.06	0.15	0.15	0.17
s, saturation flow rate [veh/h]	676	1825	1495	692	1795	1579	1187	1635	1303	1755
c, Capacity [veh/h]	369	949	777	209	945	831	306	282	360	423
d1, Uniform Delay [s]	11.88	27.20	18.36	25.88	17.94	13.89	29.22	46.34	31.57	40.19
k, delay calibration	0.19	0.46	0.19	0.04	0.19	0.19	0.04	0.27	0.50	0.39
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.18	24.26	1.00	0.26	0.82	0.12	0.14	16.20	6.03	8.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.09	0.98	0.53	0.25	0.53	0.13	0.23	0.85	0.55	0.72
d, Delay for Lane Group [s/veh]	12.06	51.46	19.36	26.14	18.76	14.01	29.37	62.53	37.60	48.20
Lane Group LOS	B	D	B	C	B	B	C	E	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.37	30.19	7.34	0.57	8.73	1.49	1.41	7.91	4.86	8.78
50th-Percentile Queue Length [ft/ln]	9.27	754.67	183.54	14.14	218.27	37.22	35.13	197.77	121.49	219.59
95th-Percentile Queue Length [veh/ln]	0.67	39.20	11.79	1.02	13.58	2.68	2.53	12.52	8.47	13.64
95th-Percentile Queue Length [ft/ln]	16.68	979.93	294.64	25.45	339.41	67.00	63.23	313.09	211.87	341.11

Movement, Approach, & Intersection Results

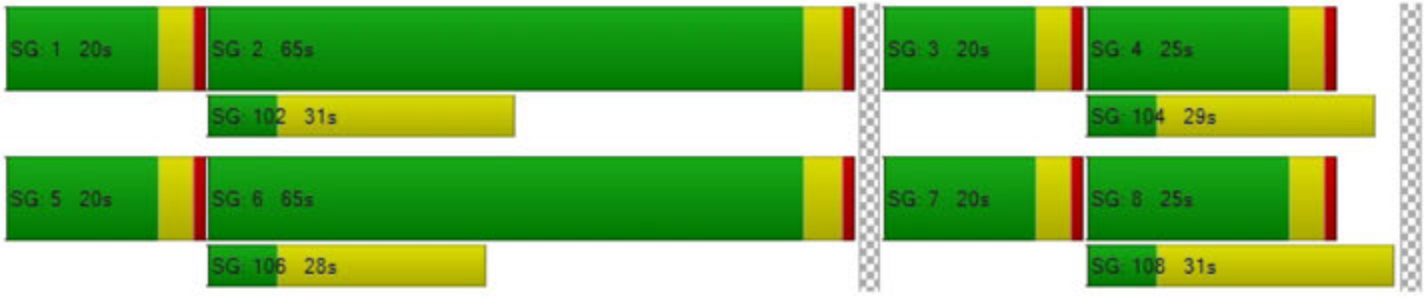
d_M, Delay for Movement [s/veh]	12.06	51.46	19.36	26.14	18.76	14.01	29.37	62.53	62.53	37.60	48.20	48.20
Movement LOS	B	D	B	C	B	B	C	E	E	D	D	D
d_A, Approach Delay [s/veh]	40.87			18.56			54.96			44.00		
Approach LOS	D			B			D			D		
d_I, Intersection Delay [s/veh]	37.76											
Intersection LOS	D											
Intersection V/C	0.876											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	47.15	47.15	47.15	47.15
l_p,int, Pedestrian LOS Score for Intersection	2.745	2.592	2.203	2.437
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1041	1041	356	356
d_b, Bicycle Delay [s]	13.24	13.25	38.95	38.95
l_b,int, Bicycle LOS Score for Intersection	3.838	2.657	2.073	2.388
Bicycle LOS	D	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: SW Boones Ferry Rd/SW Sagert St

Control Type:	Signalized	Delay (sec / veh):	38.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.885

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	115.00	100.00	100.00	125.00	100.00	210.00	90.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	31	774	344	44	416	94	65	62	148	165	197	56
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	40.00	5.00	9.00	6.00	7.00	0.00	5.00	2.00	12.00	11.00	5.00	5.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	774	344	44	416	94	65	62	148	165	197	56
Peak Hour Factor	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300	0.8300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	233	104	13	125	28	20	19	45	50	59	17
Total Analysis Volume [veh/h]	37	933	414	53	501	113	78	75	178	199	237	67
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		4			1			4			0	
v_di, Inbound Pedestrian Volume crossing major street [		4			0			4			1	
v_co, Outbound Pedestrian Volume crossing minor stree		3			1			1			3	
v_ci, Inbound Pedestrian Volume crossing minor street [		3			1			1			3	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			1			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	14.00

Phasing & Timing

Control Type	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	6	0	5	6	0
Maximum Green [s]	15	60	0	15	60	0	15	20	0	15	20	0
Amber [s]	3.5	4.0	0.0	3.5	4.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	65	0	20	65	0	20	25	0	20	25	0
Vehicle Extension [s]	2.0	4.5	0.0	2.0	4.5	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	21	0	0	22	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	3.0	0.0	2.5	3.0	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	Yes		No	Yes		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	0.00	3.00	3.00	0.00	2.50	0.00	2.50
g_i, Effective Green Time [s]	69	60	60	69	61	61	37	20	37	27
g / C, Green / Cycle	0.59	0.52	0.52	0.59	0.53	0.53	0.32	0.17	0.32	0.24
(v / s)_i Volume / Saturation Flow Rate	0.05	0.51	0.28	0.08	0.28	0.07	0.07	0.15	0.15	0.17
s, saturation flow rate [veh/h]	678	1825	1495	692	1795	1579	1194	1635	1294	1756
c, Capacity [veh/h]	369	948	777	209	942	828	308	283	350	418
d1, Uniform Delay [s]	11.97	27.29	18.42	25.92	18.10	14.03	29.35	46.72	31.74	40.57
k, delay calibration	0.19	0.46	0.19	0.05	0.19	0.19	0.04	0.31	0.50	0.40
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.20	24.52	1.00	0.27	0.83	0.13	0.16	22.59	6.57	8.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.10	0.98	0.53	0.25	0.53	0.14	0.25	0.89	0.57	0.73
d, Delay for Lane Group [s/veh]	12.17	51.82	19.43	26.18	18.94	14.16	29.51	69.31	38.32	49.14
Lane Group LOS	B	D	B	C	B	B	C	E	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.41	30.34	7.37	0.57	8.79	1.53	1.55	8.85	4.90	8.91
50th-Percentile Queue Length [ft/ln]	10.16	758.45	184.23	14.21	219.87	38.22	38.76	221.16	122.41	222.86
95th-Percentile Queue Length [veh/ln]	0.73	39.37	11.82	1.02	13.66	2.75	2.79	13.72	8.53	13.81
95th-Percentile Queue Length [ft/ln]	18.28	984.28	295.54	25.57	341.46	68.79	69.78	343.11	213.14	345.28

Movement, Approach, & Intersection Results

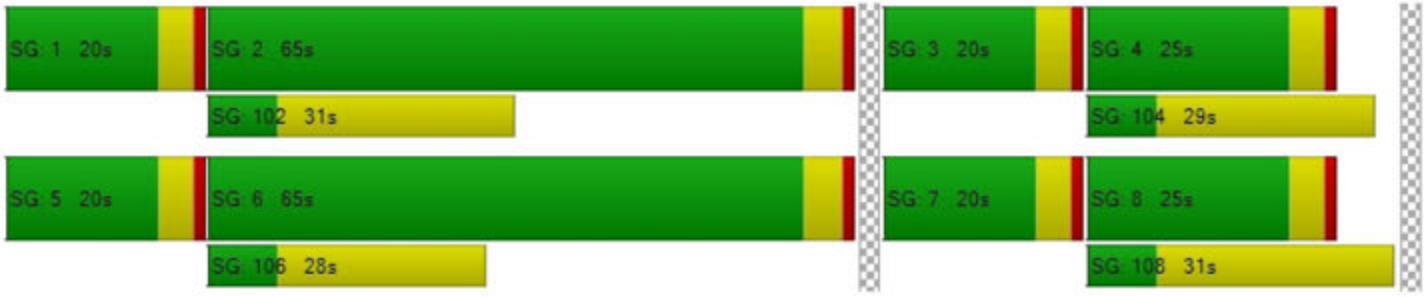
d_M, Delay for Movement [s/veh]	12.17	51.82	19.43	26.18	18.94	14.16	29.51	69.31	69.31	38.32	49.14	49.14
Movement LOS	B	D	B	C	B	B	C	E	E	D	D	D
d_A, Approach Delay [s/veh]	41.07			18.70			59.93			44.86		
Approach LOS	D			B			E			D		
d_I, Intersection Delay [s/veh]	38.72											
Intersection LOS	D											
Intersection V/C	0.885											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	47.23	47.23	47.23	47.23
l_p,int, Pedestrian LOS Score for Intersection	2.748	2.597	2.214	2.438
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1040	1040	355	355
d_b, Bicycle Delay [s]	13.30	13.31	39.03	39.03
l_b,int, Bicycle LOS Score for Intersection	3.843	2.660	2.106	2.390
Bicycle LOS	D	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: SW Boones Ferry Rd/SW Sagert St

Control Type:	Signalized	Delay (sec / veh):	26.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.822

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	115.00	100.00	100.00	125.00	100.00	210.00	90.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	21	569	362	110	883	76	44	151	15	235	106	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	8.00	3.00	4.00	5.00	4.00	2.00	0.00	2.00	17.00	5.00	5.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	569	362	110	883	76	44	151	15	235	106	55
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	145	92	28	225	19	11	39	4	60	27	14
Total Analysis Volume [veh/h]	21	581	369	112	901	78	45	154	15	240	108	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		4			1			4			0	
v_di, Inbound Pedestrian Volume crossing major street [		4			0			4			1	
v_co, Outbound Pedestrian Volume crossing minor stree		3			1			1			3	
v_ci, Inbound Pedestrian Volume crossing minor street [		3			1			1			3	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		4			6			4			1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	14.00

Phasing & Timing

Control Type	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	6	0	5	6	0
Maximum Green [s]	15	60	0	15	60	0	15	20	0	15	20	0
Amber [s]	3.5	4.0	0.0	3.5	4.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	65	0	20	65	0	20	25	0	20	25	0
Vehicle Extension [s]	2.0	4.5	0.0	2.0	4.5	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	21	0	0	22	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	3.0	0.0	2.5	3.0	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	Yes		No	Yes		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C
C, Cycle Length [s]	99	99	99	99	99	99	99	99	99	99
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	0.00	3.00	3.00	0.00	2.50	0.00	2.50
g_i, Effective Green Time [s]	59	50	50	59	52	52	30	13	30	22
g / C, Green / Cycle	0.60	0.50	0.50	0.60	0.53	0.53	0.31	0.13	0.31	0.23
(v / s)_i Volume / Saturation Flow Rate	0.03	0.31	0.24	0.12	0.49	0.05	0.03	0.09	0.16	0.10
s, saturation flow rate [veh/h]	677	1855	1537	927	1840	1548	1355	1829	1470	1705
c, Capacity [veh/h]	245	933	773	478	974	819	424	236	454	385
d1, Uniform Delay [s]	18.64	17.78	15.98	11.52	21.49	11.53	24.69	41.30	28.03	32.81
k, delay calibration	0.19	0.19	0.19	0.21	0.35	0.19	0.04	0.04	0.43	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.26	1.17	0.79	0.48	11.99	0.09	0.04	1.51	3.75	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.09	0.62	0.48	0.23	0.93	0.10	0.11	0.71	0.53	0.43
d, Delay for Lane Group [s/veh]	18.90	18.95	16.77	12.00	33.48	11.62	24.73	42.82	31.78	33.09
Lane Group LOS	B	B	B	B	C	B	C	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.19	9.40	5.36	1.04	20.96	0.84	0.75	4.01	4.96	3.36
50th-Percentile Queue Length [ft/ln]	4.78	234.94	134.01	26.06	524.02	21.07	18.72	100.24	124.07	84.04
95th-Percentile Queue Length [veh/ln]	0.34	14.43	9.16	1.88	28.47	1.52	1.35	7.22	8.62	6.05
95th-Percentile Queue Length [ft/ln]	8.60	360.63	228.93	46.90	711.73	37.92	33.70	180.43	215.40	151.27

Movement, Approach, & Intersection Results

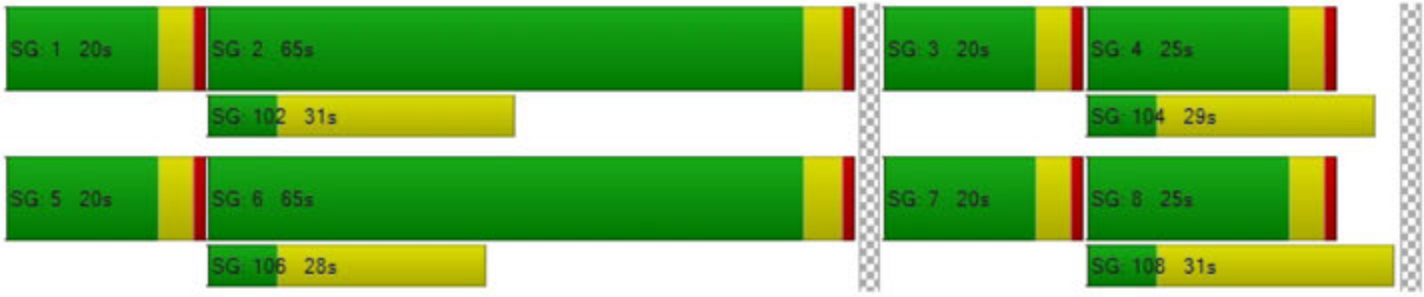
d_M, Delay for Movement [s/veh]	18.90	18.95	16.77	12.00	33.48	11.62	24.73	42.82	42.82	31.78	33.09	33.09
Movement LOS	B	B	B	B	C	B	C	D	D	C	C	C
d_A, Approach Delay [s/veh]	18.12			29.71			39.01			32.31		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	26.65											
Intersection LOS	C											
Intersection V/C	0.822											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.98	38.98	38.98	38.98
l_p,int, Pedestrian LOS Score for Intersection	2.705	2.583	2.098	2.472
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1215	1215	415	415
d_b, Bicycle Delay [s]	7.62	7.62	31.06	31.01
l_b,int, Bicycle LOS Score for Intersection	3.162	3.360	1.913	2.226
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: SW Boones Ferry Rd/SW Sagert St

Control Type:	Signalized	Delay (sec / veh):	27.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.825

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	0	1	0	0
Entry Pocket Length [ft]	115.00	100.00	100.00	125.00	100.00	210.00	90.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	29	569	362	110	883	82	48	153	20	235	109	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	8.00	3.00	4.00	5.00	4.00	2.00	0.00	2.00	17.00	5.00	5.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	569	362	110	883	82	48	153	20	235	109	55
Peak Hour Factor	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	145	92	28	225	21	12	39	5	60	28	14
Total Analysis Volume [veh/h]	30	581	369	112	901	84	49	156	20	240	111	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		4			1			4			0	
v_di, Inbound Pedestrian Volume crossing major street [		4			0			4			1	
v_co, Outbound Pedestrian Volume crossing minor stree		3			1			1			3	
v_ci, Inbound Pedestrian Volume crossing minor street [		3			1			1			3	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		4			6			4			1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	14.00

Phasing & Timing

Control Type	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis	ProtPer	Permis	Permis
Signal Group	5	2	0	1	6	0	7	4	0	3	8	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	6	0	5	6	0
Maximum Green [s]	15	60	0	15	60	0	15	20	0	15	20	0
Amber [s]	3.5	4.0	0.0	3.5	4.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	65	0	20	65	0	20	25	0	20	25	0
Vehicle Extension [s]	2.0	4.5	0.0	2.0	4.5	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	21	0	0	22	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.5	3.0	0.0	2.5	3.0	0.0	2.5	2.5	0.0	2.5	2.5	0.0
Minimum Recall	No	Yes		No	Yes		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	L	C
C, Cycle Length [s]	102	102	102	102	102	102	102	102	102	102
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00	4.50	4.50	4.50	4.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	3.00	0.00	3.00	3.00	0.00	2.50	0.00	2.50
g_i, Effective Green Time [s]	61	52	52	61	53	53	31	13	31	23
g / C, Green / Cycle	0.60	0.51	0.51	0.60	0.53	0.53	0.31	0.13	0.31	0.23
(v / s)_i Volume / Saturation Flow Rate	0.04	0.31	0.24	0.12	0.49	0.05	0.04	0.10	0.16	0.10
s, saturation flow rate [veh/h]	686	1855	1537	924	1840	1548	1352	1818	1462	1707
c, Capacity [veh/h]	247	941	780	476	968	814	420	241	446	387
d1, Uniform Delay [s]	19.46	17.99	16.17	11.73	22.39	12.06	25.39	42.38	28.80	33.69
k, delay calibration	0.19	0.19	0.19	0.23	0.37	0.19	0.04	0.04	0.46	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.37	1.16	0.77	0.53	13.00	0.09	0.05	1.61	4.23	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.12	0.62	0.47	0.24	0.93	0.10	0.12	0.73	0.54	0.43
d, Delay for Lane Group [s/veh]	19.84	19.15	16.94	12.26	35.39	12.16	25.44	43.99	33.03	33.97
Lane Group LOS	B	B	B	B	D	B	C	D	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.28	9.63	5.49	1.08	22.02	0.95	0.84	4.32	5.16	3.54
50th-Percentile Queue Length [ft/ln]	7.09	240.79	137.29	27.03	550.49	23.79	21.09	107.90	128.94	88.38
95th-Percentile Queue Length [veh/ln]	0.51	14.72	9.33	1.95	29.72	1.71	1.52	7.72	8.88	6.36
95th-Percentile Queue Length [ft/ln]	12.76	368.04	233.37	48.66	742.88	42.83	37.96	193.08	222.05	159.09

Movement, Approach, & Intersection Results

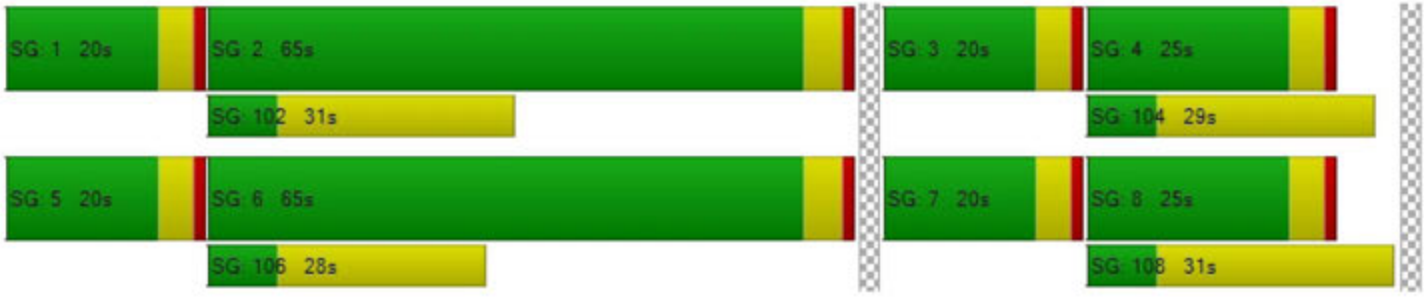
d_M, Delay for Movement [s/veh]	19.84	19.15	16.94	12.26	35.39	12.16	25.44	43.99	43.99	33.03	33.97	33.97
Movement LOS	B	B	B	B	D	B	C	D	D	C	C	C
d_A, Approach Delay [s/veh]	18.34			31.25			39.95			33.42		
Approach LOS	B			C			D			C		
d_I, Intersection Delay [s/veh]	27.63											
Intersection LOS	C											
Intersection V/C	0.825											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	40.39	40.39	40.39	40.39
l_p,int, Pedestrian LOS Score for Intersection	2.711	2.588	2.115	2.475
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1181	1181	404	404
d_b, Bicycle Delay [s]	8.53	8.54	32.43	32.38
l_b,int, Bicycle LOS Score for Intersection	3.177	3.370	1.931	2.231
Bicycle LOS	C	C	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



KITTELSON & ASSOCIATES
851 SW 6th AVENUE, SUITE 600
PORTLAND, OR 97204
P 503.228.5230 F 503.273.8169

January 4, 2022 Project #: 26462

Steve Koper and Keith Leonard
City of Tualatin
10699 SW Herman Road
Tualatin, OR 97062-8233

RE: Tualatin Heights Plan Map Amendment– Response to December 23, 2021 Transportation Impact Analysis Comments

Dear Steve and Keith,

This letter provides supplemental transportation-related information and a response to comments provided in the City of Tualatin's technical review of our September 16, 2021 *Tualatin Heights Plan Map Amendment* traffic analysis (herein referred to as the "September report"). The details addressed herein respond specifically to comments provided by DKS on December 23, 2021, on behalf of City staff. For ease of review, the individual DKS comments are shown below in italics followed by our response to each.

Comment

The trip distribution estimate for the proposed project is stated that it is based on review of travel characteristics from the count data. However, no distribution percentages are described or presented in a figure. The analysis should include, at minimum, a description of the trip distribution percentages in the study area.

Response

The trip distribution and trip assignment figures were inadvertently left out when the September report was compiled. Figures showing the site-generated trips and their assignment onto the study area network as an attachment to this memo. In general, the overall trip distribution percentages were calculated based on existing travel patterns at the Terrace Heights site driveways and the location of regional destinations within the larger study area.

Comment

Regarding the distribution, no new trips are assigned to the eastern site driveway. The study states that the new trips are distributed between the two site accesses.

Response

The existing Tualatin Heights apartment complex has two full access site driveways within close proximity to one another along SW Sagert Street. Based on discussions with the Applicant, the site may expand with a higher number of units oriented closer to the western access; as such, all of the new site generated trips were assigned to the westernmost driveway for conservative purposes.

Comment

To obtain background volumes for horizon year 2040, the Metro travel demand models for 2015 and 2040 were used. The procedure used to forecast volumes was a bit vague on the methodology used. At minimum, a description of what equivalent annual percent growth is assumed at the study intersections would be appropriate.

Response

The year 2040 background traffic forecast volumes were developed primarily on travel forecasting data from the Metro Regional Travel Demand Model using model runs supplied by Washington County staff. The standard NCHRP 765 methodology was used to post-process future turning movement volumes at the study intersections using 2015 base year model volumes, forecast year 2040 model output, and 2019 and 2021 existing volume counts. A copy of the spreadsheet that follows the NCHRP 765 methodology is available upon request.

The resulting volumes used in the 2040 base year operations are reflective of annual growth rates ranging from 1.5% (SW 95th Avenue corridor) to 2.2% (SW Boones Ferry Road corridor).

Conclusions

Based on our review, the comments provided by City staff clarify the findings of our September report but do not change any of the analyses nor the conclusions. Please let us know if you need any additional information as part of your review of the application.

Sincerely,
KITTELSON & ASSOCIATES, INC.

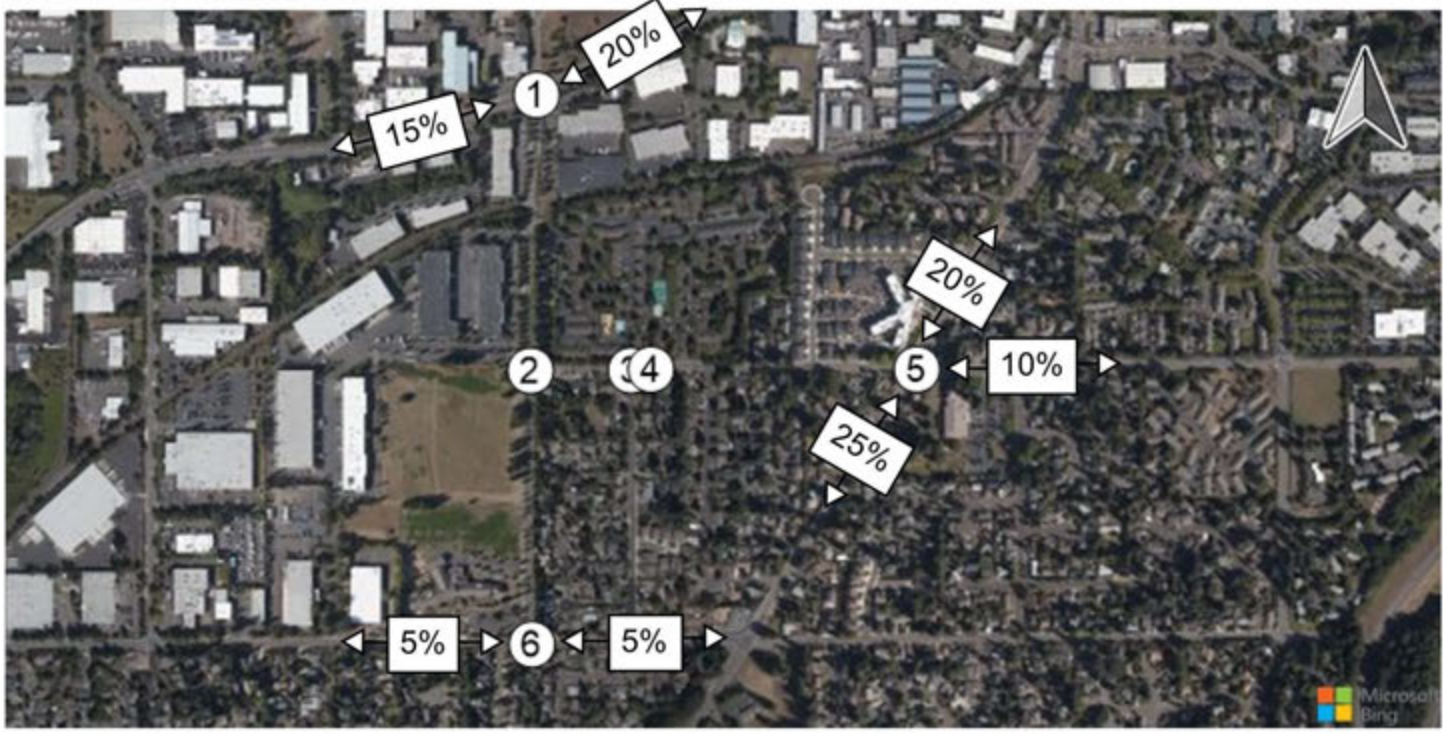
Matt Hughart

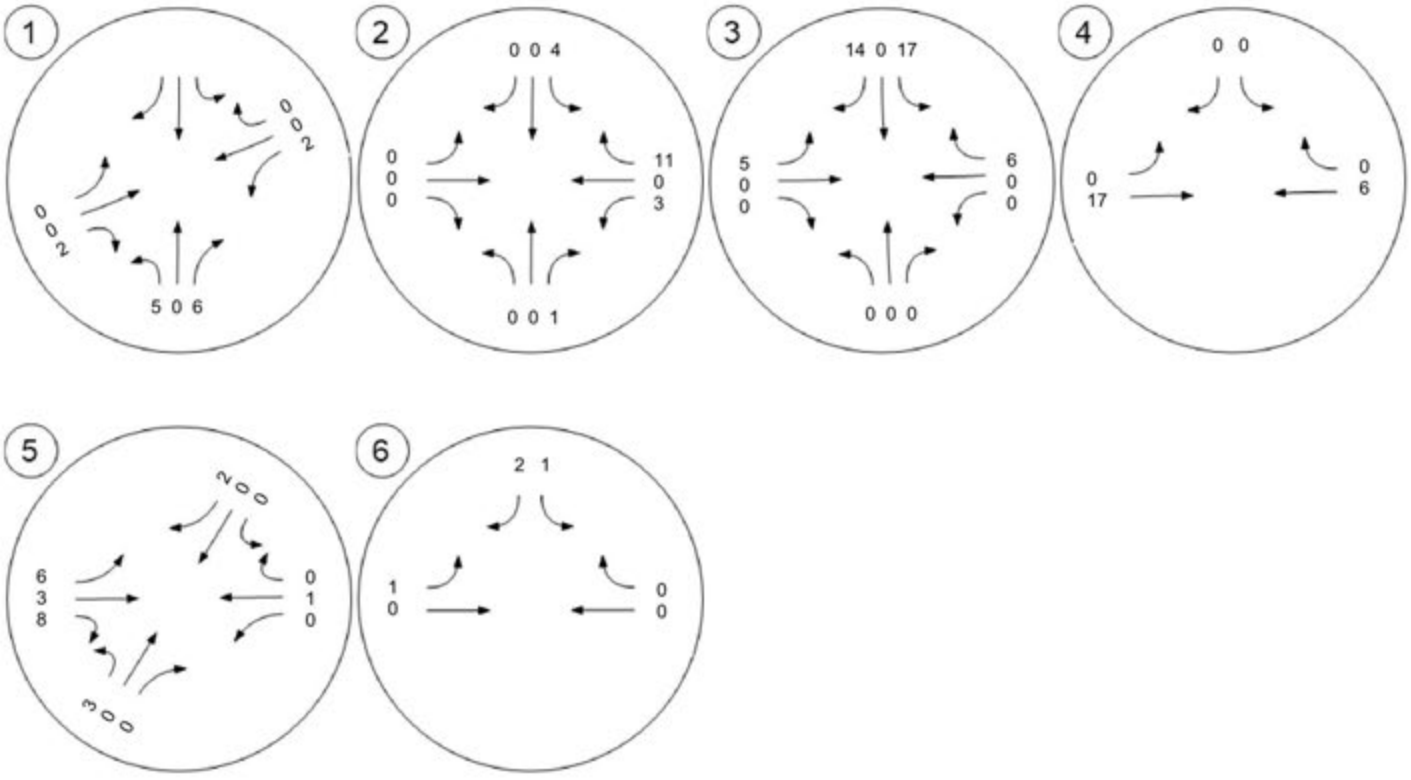
Matt Hughart, AICP
Principal Planner

Julia Kuhn

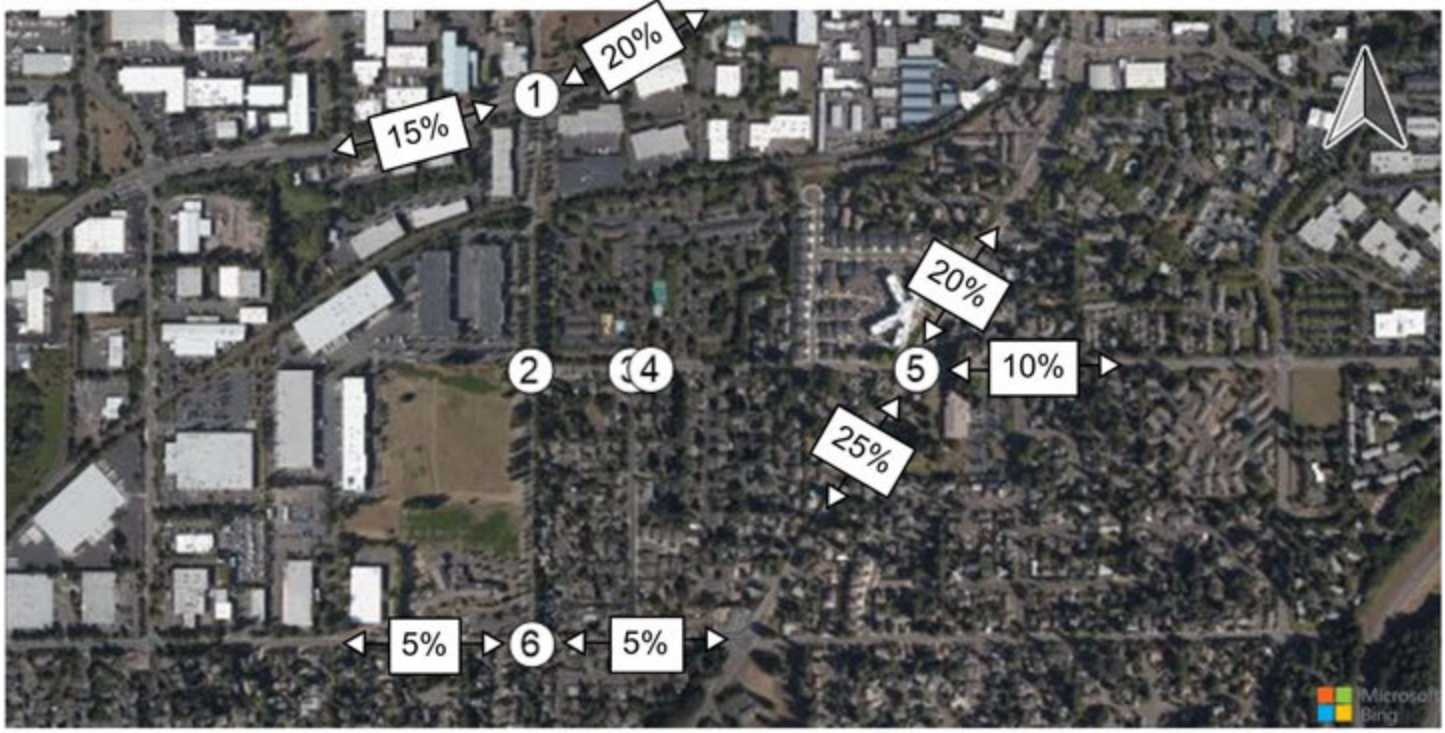
Julia Kuhn, P.E.
Senior Principal Engineer

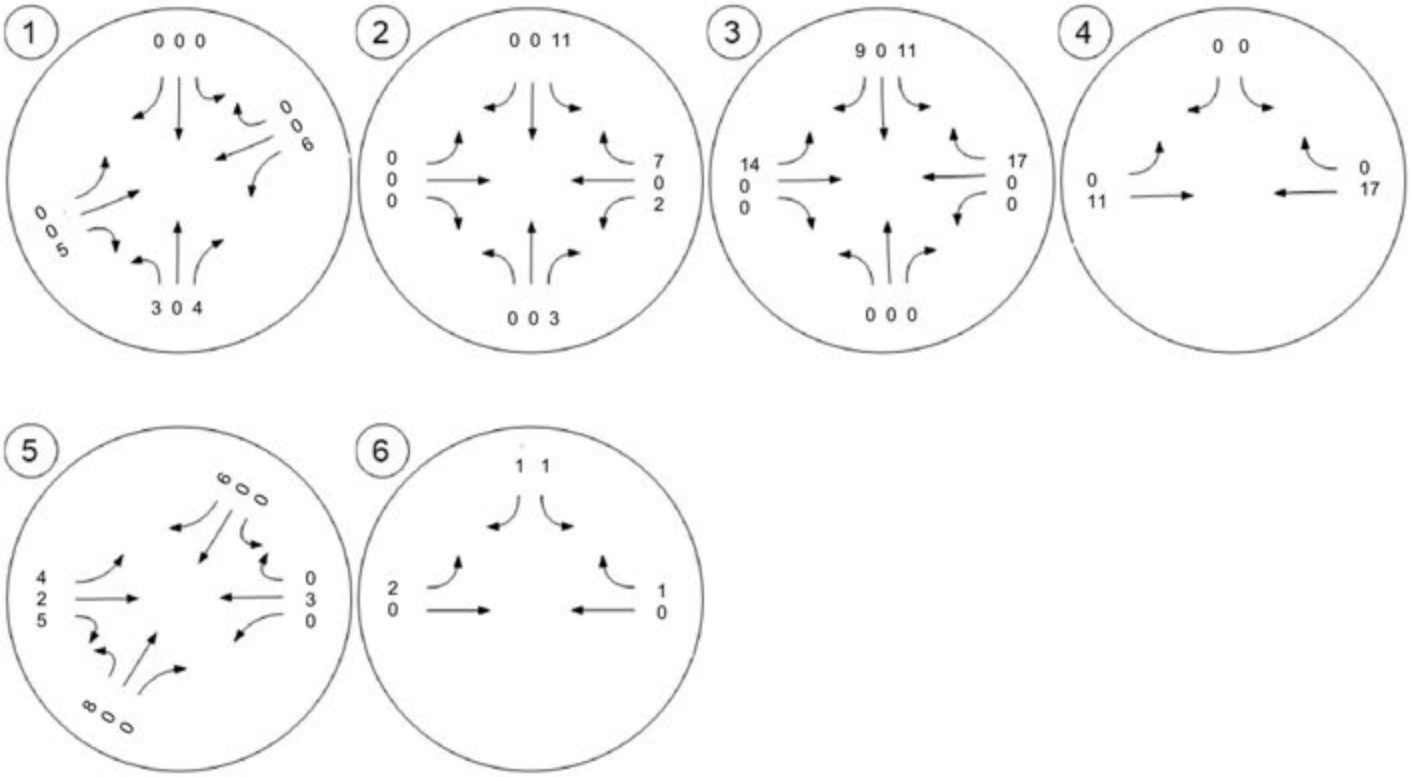
Traffic Volume - Base Volume





Traffic Volume - Base Volume





DKS 720 SW WASHINGTON STREET, SUITE 500, PORTLAND, OR 97205 • 503.243.3500 • DKSASSOCIATES.COM

DATE: January 10, 2022

REQUEST: Tualatin Heights Up-zone Transportation Review

TASK NO: Tualatin On-Call Task 3 (P#21208-003)

REVIEWER: Amanda Deering, PE and Randy Johnson, PE, PTOE, DKS Associates

DKS Associates has reviewed the transportation planning rule (TPR) analysis[1] and the comment response[2] for the Tualatin Heights Up-zone. The proposed zone change amendment would upgrade the current zoning from residential medium low (RML) zoning to residential medium high-density (RMH) zoning, which would allow for up to 116 additional multi-family units to be built in addition to the existing 220 units. The Tualatin Heights apartment complex is located at 9301 SW Sagert Street in Tualatin, Oregon. The general comments are based on a review of the TPR analysis.

TPR ANALYSIS REVIEW

Key comments and issues related to the proposed zone change analysis include:

- The proposed zone change would allow for the construction of an additional 116 multifamily dwelling units. This is based on the upgrade from 10 to 15 dwelling units per acre under the proposed zoning.
- The proposed zone change would result in additional vehicle trips: 42 (11 in/31 out) AM peak hour vehicle trips, 51 (31 in/20 out) PM peak hour vehicle trips and 630 weekday trips. Note that ITE Land Use of Multi-Family Housing Mid-Rise was used for the multifamily units.
- Public street access to the site includes two existing accesses on Sagert Street at 93rd Avenue.
- Based on review of the last 5 years of available ODOT crash history database, Sagert Street/95th Avenue has a crash rate less than one per million entering vehicles, but greater than the 90th percentile crash rate for similar intersections. Most of the crashes were of the collision type "turning", which would likely be mitigated by the planned project at the location. All other intersections showed no safety concerns.
- The trip distribution estimate for the proposed project is stated that it is based on review of travel characteristics from the count data. The comment response provides the trip distribution

[1] Tualatin Heights Plan Map Amendment, Kittelson and Associates, September 16, 2021.

[2] Tualatin Heights Plan Map Amendment – Response to December 23, 2021 Transportation Impact Analysis Comments, Kittelson and Associates, January 4, 2022.

figures. These show 35 percent of trips using Tualatin-Sherwood Road, 45 percent using Boones Ferry Road, and the remaining 20 percent using Sagert St and Avery Street.

- Regarding the distribution, no new trips are assigned to the eastern site driveway.
- Traffic counts collected in June 2021 were used for this analysis. Historical data from 2019 was used to factor up volumes to adjust for impacts from COVID-19.
- To obtain background volumes for horizon year 2040, the Metro travel demand models for 2015 and 2040 were used. The comment response elaborates that NCHRP 765 methods were used to post-process future volumes.
- All study intersections except for Sagert Street/Boones Ferry Road would operate at an acceptable level of service during all three AM and PM peak hour scenarios. In the AM peak hour, Sagert Street/Boones Ferry Road at LOS F with a v/c ratio of 1.09 and 1.10 under Future Background and Future Rezone conditions, respectively.
- The proposed mitigation is to install a northbound right turn lane at Sagert Street/Boones Ferry Road. This capacity improvement is not in the planned improvements but was studied in the 2015 Tualatin Transportation System Plan update. The mitigation would result in the intersection operations meeting standards in both the future scenarios.

From: Tim G
To: Ext - Planning
Subject: Fwd: re: PMA 21-0001 (corrected copy)
Date: Wednesday, December 15, 2021 5:21:06 PM

Corrected copy with minor mistakes fixed from original email:

Dear Tualatin Planning Commission (city employees only)

References:
a. www.tualatinoregon.gov/planning/pma-21-0001-tualatin-heights-apartments
b. Tualatin Heights Apartment Site Plan, 8/27/21
c. Kittleson & Associated Parking Assessment, 8/16/21

I write this with sincerity and concern regarding the move to push forward on substantially increasing the number of residential units at the Tualatin Heights apartment complex without sufficient consideration of the impact to the surrounding neighborhood.

It is also my view that this submission is clearly skewed to move the proposal from concept to approval as quickly as possible, disregarding our concerns as homeowners which were previously stated.

I reviewed the submitted planning documents and believe the Exhibit C parking study is - plain and simple - hogwash. On the site plan, the proposed new Building A has 24 new units and five new parking spaces. The proposed Building B has 108 new units and 100 new parking spaces. Simple math - 132 new units and only 105 new parking spots. Simple translation is 27 units will not have parking which will overflow into the surrounding neighborhood - and that is assuming (incorrectly) that each new unit occupant will only have one vehicle. If we consider that half of those new units will have two vehicles, than it is obvious that the surrounding neighborhood will become congested in front of homeowners' houses with over 90 - yes, NINETY - tenant vehicles congesting our streets on SW Sagert, SW Apache, SW 93rd, SW Umiat, and beyond. This is unacceptable.

The parking study is flawed because it does not address this type of information stated above, and because it was conducted by a group hired by the developer to put the best light on the current situation - for the developer's sake - and disregard or wash over stated/polled concerns of homeowners in the area.

Simply put, we do not want our streets in the surrounding neighborhood congested even more with overflow vehicles from the Tualatin Heights apartment complex. It is less than tolerable now, and will be INSUFFERABLE if this development is allowed to proceed without identifying additional parking space on the Tualatin Heights land itself.

I will attempt to rally other homeowners to fight this development - tooth and nail - if it continues to proceed as a rubber-stamped, preordained process without sufficiently addressing our concerns as homeowners in the area.

Tim G
SW Tonopah Street

PS: I do not wish to hear back from any organization hired by the developer in response to this email. This is addressed to the city workers in the Tualatin Planning Commission.

January 9, 2022

Attention Keith Leonard:

Thank you for this opportunity to comment on the application to rezone Tualatin Heights Apartments at 9301 SW Sagert Street - to higher density. Let me start out by saying I fully support the City of Tualatin's Housing Needs Analysis (HNA) and this project's ability to help meet the city's housing needs. My concern is over traffic and public safety at the intersection of 93rd and Sagert. Below is my description of the problems and my suggested solutions. It's already a crowded intersection and a new housing development in the immediate vicinity will make it worse. And the added traffic from this apartment expansion proposal will make it far worse.

Background

The proposal would add 116 units of additional multi-family housing on top of the current 220 units for a total of 336 units. Tualatin Heights is right across the street from the intersection of Sagert and 93rd (the street I live down). The area already experiences problems at the intersection of 93rd and Sagert and I've seen extremely high speeding 60+mph vehicles traveling north on 93rd as motorists try to take shortcut routes to avoid traffic that backs up on Avery street west of Boones Ferry road and similarly drivers trying to avoid backups on Boones Ferry, they'll exit on Sagert and take 93rd south.

Ditch and lack of sidewalk

Problem – On the east side corner of 93rd and Sagart, there is a fairly deep ditch along 93rd with no sidewalk. When I'm traveling north on 93rd near the stop sign, I must be extra cautious around that area – especially if there is a westbound driver turning left onto 93rd from Sagert and they are cutting the corner just as I am arriving to the stop sign at Sagert. The only way I can avoid the vehicle cutting across my stop line is to quickly swerve toward the ditch at the last second.
Proposed Solution - Fill in the ditch and add a sidewalk similar to work recently completed on the west side of 93rd's corner.

Parking on south side of Sagert near 93rd

Problem - Drivers trying to turn right or left from 93rd have difficulty seeing traffic coming from either direction because vehicles are allowed to park too close to the corners on Sagert. It has recently been a bit better with improvements on the SW corner, but the SE corner sometimes has vehicles parked past the corner – protruding into 93rd. This forces drivers from 93rd to carefully inch out past the stop sign, keep looking both ways and slam their brakes if a car is suddenly coming.
Proposed Solution – Paint the Sagert curb yellow on the SE corner of Sagert and 93rd and disallow parking on Sagert near that corner.

Exiting vehicles from the apartment complex

Problem - As if the aforementioned problems aren't enough for drivers to navigate near the stop sign on 93rd - as they attempt to turn left or right onto Sagert, they must also contend with trying to guess when and which way vehicles are turning as they exit Tualatin Heights from its two exits on either side of them. Currently a driver stopped at the 93rd and Sagert stop sign must take into account the possibility of vehicles coming at them from 4 different directions:

1) Eastbound Sagert drivers
2) Drivers in front of them exiting the west side driveway of Tualatin Heights
3) Drivers in front of them exiting the east side driveway of Tualatin Heights
4) Westbound Sagert drivers

As a driver stopped at the 93rd stop sign, I often have to guess what all these drivers are intending to do. Did they forget to turn their blinker on or off – are they are going to turn onto 93rd or will they keep going? Is the driver coming out of the west side driveway of Tualatin Heights crossing Sagert to get directly onto 93rd or will they turn right toward 92nd or left and drive in front of me on Sagert? By the time I'm done figuring it out, there's often another car coming.

Several Proposed Solutions:

- Make the stop signs normal-sized for traffic exiting Tualatin Heights.
- It has become a de facto 4-way intersection at 93rd and Sagert – with 93rd practically in line with the west side drive way of Tualatin Heights. So the city should make it official by making it a true 4-way stop at that intersection. As part of added densitity construction at Tualatin Heights, require that the west side driveway align better with 93rd so it's more clearly a 4-way intersection.
- If the city does agree to make it an official 4-way stop, then remove the 3-way stop on Sagert at the Apache Dr intersection. Leave only 1 stop sign for Apache Dr. It is ridiculous that the city forces drivers on Sagert to stop at Apache Dr. I have lived in Tualatin for 15+ years and not once has there been a vehicle stopped at the Apache Dr stop sign while I am stopped going east or west on Sagert. Because of this, many people never come to a complete stop going east and west on Sagert - and many motorists just sort of coast through it because it's such a joke. The city should consider why it continues to have stop signs on Sagert there. I'm sure if the city used technology to measure simultaneous stops, it would learn it is unnecessary to continue stopping Sagert traffic at Apache Dr. There is far more traffic currently coming in and out of Tualatin Heights than Apache Dr. And after the higher density allowance there will be even great traffic coming in and out of the apartment complex.
- If the city chooses not to create an official 4-way stop at 93rd and Sagert, then:
    - Do not remove the 3-way stop at Apache Dr. because that at least helps slow down Sagert motorists to some degree.
    - Consider requiring Tualatin Heights exiting vehicles to only exit from the east side driveway. The east side could be for entering and exiting vehicles, but the west side driveway would be entrance only. From Sagert and 93rd, the driveway's signage should make it clear it is one way traffic so it's clear it is not an exit. The west side driveway is directly across from 93rd and that is what makes it a de facto 4-way stop. If the city won't make it official, then don't allow vehicles to enter onto Sagert from that driveway.

Thank you,

Gerry Preston
Resident within 1,000 feet of increased density project

From: corsage.vogues_0l@icloud.com
To: Nicole J. Morris
Subject: Tualatin Heights Apartment City Council Meeting
Date: Monday, January 24, 2022 3:29:21 PM

Hello!

I am so glad that my neighbor found your information via the Internet as your contact information was not included in the flyer sent out to our complex!

This expansion of Tualatin Heights seems to be one that was hastily drawn and not thought about when it comes to residents of both the complex, in addition to the residents of Sagert and 53rd. I highly suggest that this be rethought. We are one of the only green spaces in any of the complexes and it has been nice having space. I don't actually understand why two new three-story buildings need to be erected and in such awful placements. I feel sorry for the residents of Sagert who will have to look at these eyesores.

Not to mention, none of the residents signing these leases agreed to losing the garage spaces in favor of some parking which will still not help our current parking headache. Please don't approve this!

From: corsage.vogues_0l@icloud.com
To: Nicole J. Morris
Subject: PMA 21-0001 Tualatin Heights Apartments
Date: Monday, January 24, 2022 3:21:49 PM

To whom it may concern,

We received a letter a week ago about the planned updates to the Tualatin Heights complex. On the letter we given the person to contact to write comments/concerns however it was very interesting to see that no contact information was included. I had to look up this information myself.

I am an extremely concerned resident as the complex and its officials already cannot manage the amount of residents it currently houses yet is looking to expand further? During covid times, they expected the entire apartment community to crowd into one of their two pools and refused to open another yet considered this to be best practice? The parking is atrocious as it stands and nothing is monitored even though it is a "permit only" complex. Guests have to park on the street as the maybe 10 guest spots for the *entire* complex are taken always thus crowding the residential parking. This just seems like an excessive venture to add more units. In addition, residents of 53rd are concerned about the traffic as it stand…yet UDR wants to add more traffic? This does not seem to be well thought out, the opposite in fact.

Concerned Resident

Keith Leonard

From: Lindsay Marshall <ljmarshall07@gmail.com>
Sent: Monday, January 24, 2022 4:34 PM
To: Nicole J. Morris
Subject: Fwd: Tualatin Heights Apartments Public Hearing 1.24.2022

Council –

I am writing in response to the following January 24, 2022 meeting agenda item:

Consideration of Approval of a Plan Map Amendment (PMA-21-0001) and Adoption of Ordinance No. 1464-22 to Rezone the Tualatin Heights Apartments Site Located at 9301 SW Sagert Street (Tax Map 2S123DC, Tax Lot 600) from the Medium Low Residential (RML) Zoning District to the Medium High Density Residential (RMH) Zoning District

I am a Tualatin resident whose home is within 1,000 feet of the Tualatin Heights Apartments.

However, my concern is not with the rezoning of the district – I believe that creating relatively affordable attached single-family housing and multi-family housing should be a priority of the City.

Concern:

My concern focuses on the parking calculations (as provided by the parking study provided by Angelo Planning Group), which will undoubtedly impact both residents of Tualatin Heights Apartments and neighboring residents (SW Sagert, SW 93rd and streets off of SW 93rd, and SW Apache and streets off of SW Apache).

1. Currently, Tualatin Heights Apartments allows one parking space free of charge per each dwelling unit, additional parking for $25/month. If Tualatin Heights Apartments are considered to be "affordable" housing, residents may not be able to spare the extra $300/year for an extra parking space. Therefore, they may (and many do) choose to park along the streets of nearby residential neighborhoods. This reduces parking for the residential neighborhoods, who then cannot find parking close to their homes.

2. If Tualatin Heights Apartments are considered "affordable" housing, they should be affordable in all ways. In the proposal, Angelo Planning Group cites the HNA's demographic trends in "relatively affordable housing":

- The key demographic trends that will affect Tualatin's future housing needs are: (1) Baby Boomers 2) Millennials, and 3) Growth in the number of Latinx households, which are more likely to be larger than average, with more children and possibly with multigenerational households. (Source: 2019 HNA)
- Considering these demographics (households with aging members and households with multiple drivers and potentially small children), parking close to the home would be of extra importance.

3. The parking study provided by Angelo Planning Group and Kittelsen and Associates found:

    - Peak apartment complex parking utilization was 79% during a mid-weekday and 81% on a Saturday, but segments of SW Sagert Street (between SW 95th Ave and SW 93rd Ave) experience parking occupancy levels at 100% or close to 100% for most study hours.
    - However – these numbers do not delineate between the type of parking spaces available in the complex (assigned with unit, extra cost, or guest). What was the utilization percentage of those parking spaces that come with the each unit (1 per unit)? Comparatively, what was the utilization rate of those spaces that are technically available, but only for an extra monthly charge? It may very well be that the 1 space per unit parking was 100% full, but additional charge parking was relatively empty, which can skew the overall final usage percentage.
    - If residents are not able to pay for extra parking space, utilizing free on-street parking on neighboring streets makes sense (and happens).

4. At the Neighborhood/Developer Meeting that was held in June 2021, parking was a major concern from apartment residents and neighbors. Given that parking is already an essential issue with the number of current units, the proposal to add more units should focus very specifically on working to address these concerns – rather than saying that everything is adequate according to numbers. Simply because the numbers on the page say something, actual lived experiences from residents and neighbors often tell a vastly different story – one that should be a high priority to address in terms of quality of life.

5. The proposal shows that there are nine (9) bus stops located within a quarter mile from the site. It can take approximately 6-10 minutes to walk – longer if people have mobility issues, when carrying heavy loads, or with small children. These bus stops are across and along major intersections (Boones Ferry and Tualatin Sherwood Road), which may not feel safe or easily accessible. A bus stop along Sagert St should be considered, as having a bus stop within 100-500 feet of the apartments would drastically increase the usage of public transportation and perhaps help to alleviate the need for vehicle parking for some residents of the apartments (as well as residents of the surrounding neighborhoods).

6. The proposal cites Title 12 – Protection of Residential Neighborhoods protects existing residential neighborhoods from pollution, noise, crime, and provides adequate levels of public services and reports that it has been addressed. Extra parking nearby neighboring homes could result in increased pollution from additional cars starting and idling in front of homes.

7. Tualatin is a suburban city. While public transportation is available, we are still very much vehicle based. Residents – anywhere in the City – should have access to reliable and close by parking, regardless of income.

Thank you for your consideration. To reiterate, affordable housing should be a major priority for the city – but the livability of that housing should be a key component of that process.

L.M - Resident of Tonopah St

---------- Original Message ----------
From: Tim G <hadasaugh@comcast.net>
To: Keith Leonard <kleonard@tualatin.gov>
Date: 02/03/2022 7:34 PM
Subject: PMA21-0001 additional input prior to 14 February 2022 meeting

Dear Tualatin Planning Commission:

Thank you for delaying the vote on the PMA21-0001 development proposal of Tualatin Heights at 9301 SW Sagert. There is much more to address about the parking issue overflowing onto the surrounding streets that has not been adequately addressed by the developer and/or representative for the owner of that complex.

First, it must be made clear that parking within the Tualatin Heights complex is fee-based when the owner representatives are discussing unoccupied parking spaces presently on their lot. I don't believe that was adequately conveyed during the last meeting when it was stated that something like 20% parking remains available. That 20% parking likely represents individuals who do not want to pay for parking and for units that are presently unoccupied. Full disclosure of facts needs to be conveyed by all parties, instead of cherry-picking details.

Second, I have attached photos that show common areas where tenant vehicles from Tualatin Heights park on both SW 93rd and SW Sagert (I've witnessed individuals walking to and from those cars from the Tualatin Heights complex). I've also attached a photo of "creative" homeowner solutions to keep their curbs clear of congestion on both SW 93rd and SW Sagert, by spreading out their garbage containers and leaving them on the street permanently. Last year, one homeowner left large branches on the street and curb in front of his house for over three months to ensure there was parking for his family and friends. This shouldn't be necessary, but this is what is happening now, and has been happening for the past year or more. All photos were taken on Sunday, 30 January 2022, mid-morning.

Third. Referring to the planning documents, it is still quite obvious that there will not be enough parking to accommodate the proposed new buildings. Count the spaces and compare them to the new units. There is a clear deficiency. And this deficiency does not factor in tenants with multiple vehicles and overflow parking for THEIR guests.

Fourth. If this proposal is approved, there will need to be consideration for overflow parking during construction as well. This, to my knowledge, has yet to be discussed. That overflow parking should not burden the surrounding neighborhood; it should be a burden placed on the owner and his representatives to resolve and to provide adequate alternative solutions for their tenants.

Fifth and final. It is my belief that an independent parking survey and study should be conducted which not only addresses congestion of Tualatin Heights tenants parking on our streets, but also addresses shortfalls within the Tualatin Heights complex itself, and looks for solutions to address it inside the

borders of their property - and not on our streets (i.e., underground parking beneath the proposed large apartment building, or clearing of additional areas to free up more space on their lot).

If nothing is done to address the parking issue now, it will become a major problem in the future if this development is approved as is presently outlined and planned.

Sincerely and respectfully,
Tim G
SW Tonopah Street
(photo attachments)

"Creative measures" by homeowners on SW 93rd and SW Sagert to ensure parking is available for family and guest at their homes. Sunday, 30 January 2022

Cars on SW 93rd on Sunday, 30 Jan 2022. This is a common area where residents from Tualatin Heights park (personally witnessed)

Cars from Tualatin Heights along SW Sagert at the corner of SW Apache on Sunday, 30 January 2022. SW Sagert, SW Apache and SW 93rd presently receive the bulk of the congested parking (regardless of the "study" provided).

AFFIDAVIT OF MAILING

STATE OF OREGON)
) ss
COUNTY OF WASHINGTON)

I, Lindsey Hagerman being first duly sworn, depose and say:

That on the 29 day of December, I served upon the persons shown on Exhibit A, attached hereto and by this reference incorporated herein, a copy of a Notice of Hearing/Application/Decision marked Exhibit B, attached hereto and by this reference incorporated herein, by mailing to them a true and correct copy of the original hereof. I further certify that the addresses reflect information received from the relevant party or agency, and that said envelopes were placed in the United States Mail at Tualatin, Oregon, prepared to receive postage administered by city staff.

Dated this 29 of December, 2021 Lindsey Hag
Signature

SUBSCRIBED AND SWORN to before me this 29 day of December, 2021.

OFFICIAL STAMP
GLADYS GOMEZ
NOTARY PUBLIC - OREGON
COMMISSION NO. 1003223
MY COMMISSION EXPIRES AUGUST 30, 2024

Gladys G.
Notary Public for Oregon

My commission expires: August 30, 2024

RE: PMA21-0001 Notice
PROPERTY: 9301 SW SAGERT ST.
TAXLOT MAP: 2S123DC-00600
SEE EXHIBIT A-P , Exhibit Q,R

NOTICE OF PUBLIC HEARING AND OPPORTUNITY TO COMMENT
CITY OF TUALATIN, OREGON

NOTICE IS HEREBY GIVEN that a public hearing before the **City Council** will be held:

Monday, January 24, 2022
5:00 pm
Juanita Pohl Center
8513 SW Tualatin Road
Tualatin, OR 97062

Type IV-A Quasi-Judicial Procedure, PMA21-0001, Tualatin Heights Apartments Plan Map Amendment (PMA)

The property is located at: 9301 SW Sagert Street, Tax Lot #2S123DC-00600

Comments and questions can be submitted to:

Planning Division
Attn: Keith Leonard
City of Tualatin
18880 SW Martinazzi Avenue
Tualatin, OR 97062-7092
503-691-3029

- **Project Description:** Request to rezone property located at 9301 SW Sagert Street from Residential Medium-Low Density Residential (RML) zone to Medium-High Density Residential (RMH) zone. If the PMA is approved, the proposal would increase the allowable development density of 10 dwelling units per acre to 15 dwelling units per acre.
- **Criteria**: Applicable Oregon Statewide Planning Goals; Oregon Administrative Rules Chapter 660 Division 9 and 12; Metro Urban Growth Management Functional Plan Chapter 3.07; and Tualatin Development Code Sections 32.240 and 33.070.
- **Print copies of the application**: all documents and evidence relied upon by the applicant and applicable criteria are available for inspection at no cost and copies will be provided at a reasonable cost.
- **Staff report:** A copy of the staff report, and supporting documents will be available for inspection at no cost at least seven days prior to the hearing and will be provided at reasonable cost at the Tualatin Planning Division.

- **Individuals wishing to comment** may do so in writing to the Planning Division prior to the hearing and/or present written and/or verbal testimony to the City Council at the hearing. Hearings begin with a staff presentation, followed by testimony by proponents, testimony by opponents, and rebuttal. The time of individual testimony may be limited. If a participant requests, before the hear-

Exhibit A.

City of Tualatin
18880 SW Martinazzi Ave
Tualatin, OR 97062

Exhibit B.

ing is closed, the record shall remain open for at least 7 days after the hearing.

- Failure of an issue to be raised in the hearing, in person, or by letter, or failure to provide sufficient specificity to afford the decision maker an opportunity to respond to the issue precludes appeal to the State Land Use Board of Appeals (LUBA) based on that issue. The failure of the applicant to raise constitutional or other issues relating to proposed conditions of approval with sufficient specificity to the decision maker to respond to the issue precludes an action for damages in circuit court.

You received this mailing because you own property within 1,000 feet (ft) of the site or within a residential subdivision which is partly within 1,000 ft.

To view the application materials visit www.tualatinoregon.gov/projects.

For additional information contact:
Keith Leonard, 503-691-3029

Exhibit C.

TLID	OWNER1
2S123D002400	ZIAN LP
2S124CC90982	ZHU HE
2S124CC91131	WOOTEN SHAWN
2S124CC91031	WOOLFE JANIE L
2S126AB05400	WOLFE CHRISTIAN B & WOLFE KRISTIN
2S126AB01600	WISBEY KEITH E & WISBEY TRACEY R
2S124CC91102	WINTERS TERRY M
2S124CC90841	WILSON BYRON
2S126AB13100	WILSON NICHOLAS & CHERNOBELSKY ELANA
2S126AB05600	WILLMING CHARLES O & WILLMING VERNELLE D
2S126AB09500	WILLIAMS GREGORY J & WILLIAMS STEPHANIE A
2S123DD02400	WILLAMETTE GRAYSTONE LLC
2S126AA09300	WHITNEY MICHAEL ALAN
2S124CC90161	WHITEMAN BETTY J
2S124CC90851	WHITE SUZANNE B LIVING TRUST
2S126AA00900	WHEELER CANDI
2S126AB00801	WHEATCROFT PAUL R & WHEATCROFT AMY L
2S123DD04200	WEST THOMAS B JR & WEST AMY R
2S124CC91042	WEST TREVOR M
2S123CA00700	WENZEL GENE SCOTT & VICKI SANDRA REV LIV TRUST
2S124CC90951	WENDT GLADYS T LIVING TRUST
2S126AB08900	WELLONS LAURA
2S126AB06600	WELLER LINDA
2S123DC00300	WATUMULL PROPERTIES CORP
2S126AB07900	WATROBA MICHAEL P & CUMMINGS CAROL A
2S123DC00900	WASHINGTON COUNTY FACILITIES MGMT
2S124CC90171	WARNEKE SPENCER
2S124CC90531	VONTUNGEIN RITA K
2S124CC90011	VITERITTI TRACY A
2S126AB09800	VETTER LEA ANN & VETTER CRAIG B
2S124CC90221	VENTI KATHERINE M
2S124CC91291	VALENTIN RODOLFO
2S126AB05800	UNDERHILL LYNN
2S126AB12000	TWEDT JAMES R & TWEDT PEGGY A
2S126AA09400	TUTTLE STEPHEN R & LEHMAN BARBARA L
2S124CC90401	TUCKER SHERRY D
2S123CA01200	TUALATIN INDUSTRIAL INVESTORS LLC
2S123CA90000	TUALATIN-SHERWOOD INDUSTRIAL CONDO HOA
2S123CD01000	TUALATIN LLC
2S123DA01500	TUALATIN SHERWOOD LLC
2S123DB00300	TUALATIN VALLEY FIRE & RESCUE
2S123DD00501	TUALATIN LTC PROPERTIES II LLC
2S124CC90000	TUALATIN VILLAGE CONDO PH II OWNERS OF UNITS
2S123D002200	T-S 90 LLC
2S124CC90831	TRYSIL MAYA & FLANAGAN CHRISTOPHER
2S126AB01300	TRUONG LUU NGOC & TRUONG KHANH NGOC & TRUONG BAO NGOC ET AL
2S126AB07800	TRAPP CHET D & TRAPP DAWN K
2S123DC90010	TRACY LAUREN MARIE & HENKLE PETER ANDREW
2S126AB13200	TOSUNTIKOOL NEIL & DIAZ DANIELA
2S124CC00300	TODD VILLAGE-285 LLC
2S123DC00451	TLF LOGISTICS II TUALATIN CORPORATE CENTER LLC
2S123CD00800	TINWOOD LLC
2S126BA00102	TIGARD-TUALATIN SCHOOL DISTRICT #23J
2S123DA01701	THREE LITTLE BEARS LLC
2S126AA08700	THORSON ERIC R & THORSON JEAN M
2S123CD00900	THOLE PROPERTIES LLC
2S123DA00800	TGOC LLC
2S124CC91251	TEWINPAGTI ITTI
2S126AB05200	TEUTSCH HOLLY B
2S124CC90341	TEEL SHELLEY A
2S124CC91171	TAFUA COLETTE L

Exhibit D.

OWNERADDR	OWNERCITY	OWNERSTATE	OWNERZIP
6712 N CUTTER CIR	PORTLAND	OR	97217
8320 SW MOHAWK ST	TUALATIN	OR	97062
8310 SW MOHAWK ST	TUALATIN	OR	97062
8330 SW MOHAWK ST	TUALATIN	OR	97062
9236 SW CREE CIR	TUALATIN	OR	97062
9150 SW APACHE DR	TUALATIN	OR	97062
8304 SW MOHAWK ST	TUALATIN	OR	97062
8370 SW MOHAWK ST	TUALATIN	OR	97062
20254 SW 93RD AVE	TUALATIN	OR	97062
1125 MCGEE CT NE APT 251	KEIZER	OR	97303
9350 SW UMIAT ST	TUALATIN	OR	97062
3490 PIEDMONT RD NE STE 1300	ATLANTA	GA	30305
20285 SW COMANCHE TER	TUALATIN	OR	97062
5185 CARMAN DR	LAKE OSWEGO	OR	97035
8368 SW MOHAWK ST	TUALATIN	OR	97062
20310 SW BOONES FERRY RD	TUALATIN	OR	97062
20230 SW 93RD AVE	TUALATIN	OR	97062
8678 SW LOGAN LN	TUALATIN	OR	97062
8332 SW MOHAWK ST	TUALATIN	OR	97062
11520 SW GRABHORN RD	BEAVERTON	OR	97007
8336 SW MOHAWK ST	TUALATIN	OR	97062
9369 SW UMIAT ST	TUALATIN	OR	97062
9250 SW APACHE DR	TUALATIN	OR	97062
307 LEWERS ST FL 6	HONOLULU	HI	96815
9101 SW RARITAN CT	TUALATIN	OR	97062
169 N 1ST AVE #42	HILLSBORO	OR	97124
8456 SW MOHAWK ST	TUALATIN	OR	97062
8448 SW MOHAWK ST	TUALATIN	OR	97062
8344 SW MOHAWK ST	TUALATIN	OR	97062
20267 SW 93RD AVE	TUALATIN	OR	97062
8486 SW MOHAWK ST	TUALATIN	OR	97062
3809 NE 73RD AVE	PORTLAND	OR	97213
9220 SW CREE CIR	TUALATIN	OR	97062
20244 SW 93RD AVE	TUALATIN	OR	97062
20275 SW COMANCHE TER	TUALATIN	OR	97062
8522 SW MOHAWK ST	TUALATIN	OR	97062
1211 SW 5TH AVE STE 2185	PORTLAND	OR	97204
		OR	00000
688 6TH ST	LAKE OSWEGO	OR	97035
5611 NE COLUMBIA BLVD	PORTLAND	OR	97218
11945 SW 70TH AVE	TIGARD	OR	97223
4560 SE INTERNATIONAL WAY #100	MILWAUKIE	OR	97222
		OR	00000
1508 DIVISION ST #15	OREGON CITY	OR	97045
8372 SW MOHAWK ST	TUALATIN	OR	97062
9200 SW APACHE DR	TUALATIN	OR	97062
9063 SW RARITAN CT	TUALATIN	OR	97062
9089 SW SAGERT ST	TUALATIN	OR	97062
20258 SW 93RD AVE	TUALATIN	OR	97062
9500 SW BARBUR BLVD STE 300	PORTLAND	OR	97219
851 SW 6TH AVE STE 1200	PORTLAND	OR	97204
19749 SW CHAPMAN RD	SHERWOOD	OR	97140
6960 SW SANDBURG ST	TIGARD	OR	97223
8620 SW MIAMI ST	WILSONVILLE	OR	97070
20320 SW COMANCHE TER	TUALATIN	OR	97062
25070 N GRAHAM RD	AURORA	OR	97002
PO BOX 2237	TUALATIN	OR	97062
1220 SW 3RD AVE RM 1616	PORTLAND	OR	97204
9242 SW CREE CIR	TUALATIN	OR	97062
8510 SW MOHAWK ST	TUALATIN	OR	97062
8274 SW MOHAWK ST	TUALATIN	OR	97062

2S123DA01300	SWT LLC
2S124CC90961	SWANSON LEGACY IRREV TRUST
2S126AB08100	STRIPLING PERRY L & STRIPLING JANICE L
2S126AB00701	STONE JONATHAN & STONE MARLENE
2S124CC91322	STELL THOMAS C & STELL DAWN R
2S123CD01200	STEIN TUALATIN LLC
2S126BA00600	STE200 LLC
2S124CC90741	STARK MYLON K
2S124CC91311	STANLEY MATTHEW E
2S126AB09600	SPEERS KAREN K
2S123DD02800	SOLTERO ALFONSO & SANCHEZ FRANCISCO SOLTERO
2S126AB11800	SNOWBERGER MICHAEL & SNOWBERGER MELISSA
2S124CC90731	SNELL SUSAN E
2S126AB14100	SMITHERS CRYSTAL & TIMSON ANTHONY
2S126AA01000	SKOGLUND DAVID K
2S126AB06700	SKILES FRANKLIN W
2S123DD00700	SIMPSON SHELLEY
2S126AB13700	SCHOENHEIT DIANE M
2S126AB12400	SCHERMAN MICHAEL & SCHERMAN ASHLEY
2S124CC90881	SCHEER HILARY JANAYE
2S126AB06400	SAUER JOHN C & SAUER LOELIA ANN
2S126AA09800	SANTMYER ROSE MARIE
2S124CC91122	SANTA GYORGYI
2S126AB05500	SALGADO MICHAEL EARL & SALGADO BRITTANY ANN
2S126AB04500	SAGERT GROVE LLC
2S123DC01200	SADLER GERALD H & SADLER REBEKAH E
2S126AA08800	RUSSELL JAMES L & RUSSELL MARILYN & CADY TINA LYNN
2S126AA00800	RULE BRADLEY I & RULE LORINDA M
2S126AB12300	ROWE DANIEL L
2S126AA08500	RHODES BRADLEY E & RHODES ELAINE D
2S124CC90721	REID MICHAEL ALLEN & REID KRISTI R
2S123DC90000	REBECCA WOODS CONDO UNIT OWNERS
2S126AB11500	RAMIREZ MINERVA & RAMIREZ JUAN MIGUEL
2S123DA00700	RALF LEOPOLD INVESTMENTS LLC
2S124CC90821	RADANOVIC DIANNE M
2S126AA01100	R&B PROPERTIES TUALATIN LLC
2S124CC90591	PRESTON WILLIAM M & WOOD CLINTON A
2S126AB14200	PRESTON GERALD & PRESTON AMY
2S124CC91142	PRESLEY TIMOTHY RYAN & PRESLEY TEMARA ELIZABETH
2S124CC91202	PRESLEY TIM R & PRESLEY TEMARA E
2S124CC90141	POOLE KIMBELRY K
2S126AB04200	PLAGMAN PROPERTIES LLC
2S123DD00900	PLAGGMIER JOHN R JR TRUST
2S123DD01700	PINTOS ROBERTO B
2S123DA02200	PIETKA PROPERTIES LLC
2S123DD03900	PETERSON PAUL M & PETERSON CASSANDRA D
2S124CC91091	PETERSON MARTHA K
2S123DD03700	PEREZ LUIS G & PEREZ LUCINA M
2S123DD04300	PATEL SAAJAN & VYAS HANSINI
2S124CC91231	PATEL REV TRUST
2S126AB01800	PATELZICK DANA L & PATELZICK ROSALIE
2S126AB02300	PARK MIRAN
2S126AB04400	PARENT JOHN O & PARENT STACEY L
2S123DD03500	PACKARD LIVING TRUST
2S123DB00100	PACIFIC NW PROPERTIES LP
2S123DB00600	PACIFIC WEST CONSTRUCTION INC
2S124CC91071	OUSTERHOUT SALLY M & OUSTERHOUT GERALD C
2S123DA01000	OSWEGO WEST LLC
2S124CC90891	OSMOSYS LLC
2S124CC90110	OSBORNE JUDITH E
2S126AB05700	OSBORN CHRISTIANNE
2S124CC90761	ORSBURN ANITA J & GARRIETY SUSAN J

2233 NW 23RD AVE	PORTLAND	OR	97210
8334 SW MOWHAWK ST	TUALATIN	OR	97062
9177 SW RARITAN CT	TUALATIN	OR	97062
9260 SW SAGERT ST	TUALATIN	OR	97062
8280 SW MOHAWK ST	TUALATIN	OR	97062
13001 CLACKAMAS RIVER DR STE 200	OREGON CITY	OR	97045
20215 SW 95TH AVE	TUALATIN	OR	97062
8384 SW MOHAWK ST	TUALATIN	OR	97062
8278 SW MOHAWK ST	TUALATIN	OR	97062
9334 UMIAT CT	TUALATIN	OR	97062
19760 SW BOONES FERRY RD	TUALATIN	OR	97062
20236 SW 93RD AVE	TUALATIN	OR	97062
20487 SW 69TH AVE	TUALATIN	OR	97062
9255 SW SAPONI LN	TUALATIN	OR	97062
PO BOX 642	TUALATIN	OR	97062
9260 SW APACHE DR	TUALATIN	OR	97062
PO BOX 824	TUALATIN	OR	97062
20365 SW 93RD AVE	TUALATIN	OR	97062
9360 SW SAGERT ST	TUALATIN	OR	97062
8354 SW MOHAWK ST	TUALATIN	OR	97062
9230 SW APACHE DR	TUALATIN	OR	97062
20190 SW BOONES FERRY RD	TUALATIN	OR	97062
4214 WOODSIDE CIR	LAKE OSWEGO	OR	97035
9232 SW CREE CIR	TUALATIN	OR	97062
12670 SW 68TH AVE STE 400	TIGARD	OR	97223
9035 SW SAGERT ST	TUALATIN	OR	97062
20350 SW COMANCHE TER	TUALATIN	OR	97062
20340 SW BOONES FERRY RD	TUALATIN	OR	97062
9380 SW SAGERT ST	TUALATIN	OR	97062
20300 SW COMANCHE TER	TUALATIN	OR	97062
8398 SW MOHAWK ST	TUALATIN	OR	97062
		OR	00000
6300 W LONE MOUNTAIN RD	LAS VEGAS	NV	89130
19460 SW 89TH AVE	TUALATIN	OR	97062
8374 SW MOHAWK ST	TUALATIN	OR	97062
20495 SW BOONES FERRY RD	TUALATIN	OR	97062
20300 SW NANCY LN	BEAVERTON	OR	97007
PO BOX 8075	PORTLAND	OR	97207
10335 SW HOODVIEW DR	TIGARD	OR	97224
10335 SW HOODVIEW DR	TIGARD	OR	97224
8442 SW MOHAWK ST	TUALATIN	OR	97062
20105 SW 93RD AVE	TUALATIN	OR	97062
19740 SW BOONES FERRY RD	TUALATN	OR	97062
8735 SW SAGERT ST	TUALATIN	OR	97062
PO BOX 1696	BEAVERTON	OR	97075
8609 SW LOGAN LN	TUALATIN	OR	97062
8302 SW MOHAWK ST	TUALATIN	OR	97062
8667 SW LOGAN LN	TUALATIN	OR	97062
8700 SW LOGAN LN	TUALATIN	OR	97062
28916 LA CARRETERRA	LAGUNA NIGUEL	CA	92677
23096 S BLAND CIR	WEST LINN	OR	97068
9155 SW APACHE DR	TUALATIN	OR	97062
9400 SW SAGERT ST	TUALATIN	OR	97062
8675 SW SAGERT ST	TUALATIN	OR	97062
PO BOX 2206	BEAVERTON	OR	97075
PO BOX 219	HUBBARD	OR	97032
5167 METOLIUS AVE SE	SALEM	OR	97306
15938 QUARRY RD STE B-6	LAKE OSWEGO	OR	97035
7415 SW 37TH AVE	PORTLAND	OR	97219
8428 SW MOHAWK ST	TUALATIN	OR	97062
9224 SW CREE CIR	TUALATIN	OR	97062
8388 SW MOHAWK ST	TUALATIN	OR	97062

Exhibit G.

2S126AB05100	O'RILEY KEVIN & O'RILEY WENDY
1S135CB00800	OREGON STATE OF DEPT OF TRANSPORTATION
2S124CC90252	NIELSON CRYSTAL DAWN
2S124CC90871	NIELSON DARCY
2S123DC90007	NETTER RON & DAY-NETTER ROSEMARY
2S126AB07500	NERO CHARLES & NERO VICTORIA
2S126AB10200	MURRAY CHERIE R
2S124CC90432	MURPHY BYRON K & WIKSTROM SAMANTHA A
2S126AA01700	MUNOZ ZAIDA & MUNOZ CLAUDIA
2S124CC91282	MUILENBURG SCOTT E & MUILENBURG MARILYN
2S124CB03400	MUELLER KURT & IVERSON LAURA
2S126AB06000	MUELLER RONALD B
2S123DC01000	MOYER HAROLD & MOYER SHANNON
2S124CC90352	MOTA MIGUEL JAQUIZ
2S123DC90002	MORRIS CRESLYNN S
2S124CC90481	MORGAN MICHAEL
2S124CC91242	MORGAN JAY C & MORGAN AIKO
2S126AB12700	MORAN DAVID K
2S126AB05000	MORALES LUIS & MORALES NATASHA
2S126AB07600	MOMARLS LLC
2S124CC90241	MITSVOTAI MELANIE E
2S126AB14800	MISSION WOODS OWNERS OF LOTS 1-6 8
2S126AB02200	MIRANDA RODNEY QUEMA
2S124CC90601	MILLS SANDRA M
2S126AA09500	MILLS MICHAEL C & MILLS BEVERLY
2S126AB00800	MILLS MELANIE FRANCES
2S124CC90321	MILLER DAVID JOHN
2S124CC90512	MILLER SANDRA K & HOLT TROY M
2S126AA08300	MILLER DIANE M LIV TRUST
2S126AB12500	MILLER MICHAEL S
2S124CC90021	MERRIMAN KEVIN LEE
2S124CC90811	MERCADO GUILLERMINA
2S124CC90631	MELLAND MICHELE M
2S124CC90452	MCSWAIN DAVID CORNELL II
2S123DC00200	MCLELLAN ESTATE CO
2S126AB07100	MCGINTY JEFFREY M
2S124CC90571	MCGEORGE JO ANN REV TRUST
2S126AB08200	MCCLELLAN MICHELLE K & LUNDGREN MARTIN K
2S124CC90381	MCCLANAHAN MATTHEW E
2S124CC91211	MCCAUSLAND MAUREEN E
2S126AB10000	MAYERNIK ANTHONY K
2S126AB12100	MARTIN SHARI R
2S123DA01700	MARSH JEFFREY O JR & KING JOHN J
2S126AB07300	MARSH CHRISTOPHER L REV TRUST
2S126AB06500	MARKS RACHEL L
2S123DC01100	MARCH TREVOR C & MARCH JEANINE M
2S126AB01500	MANLEY MATTHEW A & MCKINNEY GINA M
2S124CC90031	MALOS NORINE E
2S126AB02000	MALHI RAMANDEEP K
2S126AB02500	MALHI GAGANDEEP
2S126AB09000	LUDWICK STEPHEN J TRUST
2S126AA09100	LOVELAND GREGORY & LOVELAND HEATHER
2S126AB11000	LOPEZ JEFFREY G & LOPEZ CINDY L
2S123DD04400	LOGAN HOUSE ESTATES HOA
2S124CC90751	LOCKHART JANET L
2S126AA01600	LIVING SAVIOR LUTHERAN CHURCH
2S126AA02100	LITTLE RUSSELL D & LITTLE DIANA M
2S123DC90001	LINKER MARY ELIZABETH & YBARRA HENRY R
2S126AB07000	LINDLEY JUSTIN
2S124CC90232	LINDHOLM BRENT M & LINDHOLM TIFFANY R
2S124CC90120	LEWIS SANDRA
2S126AB10400	LEININGER MATT & LEININGER SZU YU

9244 SW CREE CIR	TUALATIN	OR	97062
4040 FAIRVIEW INDUSTRIAL DR SE MS #2	SALEM	OR	97302
8492 SW MOHAWK ST	TUALATIN	OR	97062
8352 SW MOHAWK ST	TUALATIN	OR	97062
9083 SW SAGERT ST	TUALATIN	OR	97062
9211 SW CREE CIR	TUALATIN	OR	97062
9337 SW TONOPAH ST	TUALATIN	OR	97062
601 QUAIL DR	NEWBERG	OR	97132
20085 SW BOONES FERRY RD	TUALATIN	OR	97062
1619 SE 176TH AVE	PORTLAND	OR	97223
16850 SW UPPER BOONES FERRY RD STE A	TIGARD	OR	97224
9212 SW CREE CIR	TUALATIN	OR	97062
9055 SW SAGERT ST	TUALATIN	OR	97062
8512 SW MOHAWK ST	TUALATIN	OR	97062
9063 SW SAGERT ST	TUALATIN	OR	97062
8462 SW MOHAWK ST	TUALATIN	OR	97062
8264 SW MOHAWK ST	TUALATIN	OR	97062
9280 SW APACHE DR	TUALATIN	OR	97062
9248 SW CREE CIR	TUALATIN	OR	97062
8525 SW 165TH AVE	BEAVERTON	OR	97007
8490 SW MOHAWK ST	TUALATIN	OR	97062
		OR	00000
9030 SW APACHE DR	TUALATIN	OR	97062
8414 SW MOHAWK ST	TUALATIN	OR	97062
20255 SW COMANCHE TER	TUALATIN	OR	97062
20228 SW 93RD AVE	TUALATIN	OR	97062
8179 RAINIER LN N	MAPLE GROVE	OR	55311
8460 SW MOHAWK ST	TUALATIN	OR	97062
8770 SW COMANCHE WAY	TUALATIN	OR	97062
20055 SW 93RD AVE	TUALATIN	OR	97062
8346 SW MOHAWK ST	TUALATIN	OR	97062
8376 SW MOHAWK ST	TUALATIN	OR	97062
19165 SW 51ST AVE	TUALATIN	OR	97062
8472 SW MOHAWK ST	TUALATIN	OR	97062
707 OLD COUNTY RD	BELMONT	CA	94002
9255 SW CREE CIR	TUALATIN	OR	97062
8436 SW MOHAWK ST	TUALATIN	OR	97062
9180 SW RARITAN CT	TUALATIN	OR	97062
8518 SW MOHAWK ST	TUALATIN	OR	97062
8266 SW MOHAWK ST	TUALATIN	OR	97062
9329 SW TONOPAH ST	TUALATIN	OR	97062
20248 SW 93RD AVE	TUALATIN	OR	97062
8810 SW TUALATIN SHERWOOD RD	TUALATIN	OR	97062
17367 LAKE HAVEN DR	LAKE OSWEGO	OR	97035
9240 SW APACHE DR	TUALATIN	OR	97062
8685 SW WOLDS DR	BEAVERTON	OR	97007
9170 SW APACHE DR	TUALATIN	OR	97062
8348 SW MOHAWK ST	TUALATIN	OR	97062
9090 SW APACHE DR	TUALATIN	OR	97062
25083 SW QUARRYVIEW RD	WILSONVILLE	OR	97070
9385 SW UMIAT ST	TUALATIN	OR	97062
20345 SW COMANCHE TER	TUALATIN	OR	97062
9360 SW TONOPAH ST	TUALATIN	OR	97062
		OR	00000
8386 SW MOHAWK ST	TUALATIN	OR	97062
8740 SW SAGERT ST	TUALATIN	OR	97062
PO BOX 1006	TUALATIN	OR	97062
9061 SW SAGERT ST	TUALATIN	OR	97062
PO BOX 3052	TUALATIN	OR	97062
8488 SW MOHAWK ST	TUALATIN	OR	97062
1532 SUNLIGHT DR	FAIRBANKS	AK	99709
9347 SW TONOPAH ST	TUALATIN	OR	97062

Exhibit I.

2S124CC90272	LAZAR GABRIEL
2S124CC90081	LARSON ROBERT F & LARSON ASHLEY N
2S123DD00800	LARSEN MARIO K & LARSEN REBECCA L
2S123DD01100	LARSEN DWAYNE L & LARSEN KAREN G ESTATE OF
2S126AB13600	LANE DAVID R & LANE MARY L
2S124CC90151	KRUSINSKI JANICE L
2S123DC90004	KREBS TANA
2S124CC90551	KRAUSE DERALD E
2S126AA08200	KNAPP STACI R & KNAPP ERIK A
2S124CC91051	KLUPENGER MORGAN WATKINS
2S126AB09700	KLEINT JAKOB W & FAHLMAN ANNE E
2S126AB13500	KINZER ZACHARY S
2S123DD03600	KIMMER WILLIAM D & KIMMER PATSY A
2S126AB12800	KIEL JAMES & KIEL PATRICIA A
2S126AA02000	KELLY JEREMY & KELLY CECELIA
2S124CC91002	KEEN ANNETTE M
2S124CC91222	KAUFFMAN SHAWNA DAY
2S126AA01902	KANE BENJAMIN B & KANE BROOKE M
2S123D003900	KAISER FOUNDATION HEALTH PLAN OF THE NORTHWEST
2S123CD00700	KAADY CHARLES
2S123DA00900	JVTC EXPLORATIONS LLC
2S124CC90392	JOHNSON SCOTT GLENN & JOHNSON SHELLEY L
2S124CC90661	JOHNSON JAMIE A & DRAKE DAVID A
2S126AB07400	JOHNSON GERALD A & JOHNSON BARBARA J
2S126AB09200	JOHNSTON LISA
2S126AB10100	JOHNSTON PATRICK D & JOHNSTON TAMMY L
2S126AB10300	JOHNSON BRIAN R & JOHNSON MIECKE LARSON
2S123DA00500	JKM PROPERTIES LLC
2S126AB10900	JENKINS DEREK R & JENKINS SANDRA L
2S124CC91271	JAMES TYLER & JAMES KELSEY
2S124CC90781	JACKSON KRYSTAL L
2S123DA01800	J C MOTORS OF TUALATIN LLC
2S124CC90051	INGMAN SCOTT M
2S124CC90041	HUTCHINS CALVIN & LARAYNE REV LIV TRUST
2S126AB08000	HUDSON RONALD R
2S123DD02900	HOUSTON BRENDA L
2S124CC90711	HORN MARTHA JENEANE
2S126AB02400	HOLLMANN GEORGE E
2S126AB01900	HESS CRAIG & HESS REBECCA
2S124CC90421	HERKOMER TAMMI
2S126AB11700	HENDERSON RYAN J
2S126AB12600	HENDERSON-BROWN CHERYL L
2S126AB09300	HEINRICH ELEONORE ERNA REV TRUST
2S124CC91162	HEBERT GERALD & HEBERT HUNG CHEN
2S123DC90003	HAYES LISA L
2S126AB05900	HAYES PAMELA JO
2S124CC90611	HAVEN HOMES II LLC
2S126AB10600	HANSEN SANDI J
2S126AB14700	HANEY LINDSEY L
2S124CC90212	HAMILTON MARY A
2S126AB14400	HAM FAMILY TRUST
2S126AB13800	HALLEY COURT OWNERS OF LOTS 1-5
2S126AB07700	HALL CHANDA & HALL BRENT
2S126AB00101	HAAS ROBERT E & MERRILY S REV TRUST
2S124CC90911	GUTIERREZ DAVID & GUTIERREZ NORMA
2S124CC90971	GUPTA SAMIR
2S124CC90361	GUDEKUNST ELAINE
2S124CC90100	GRUEN MARY M
2S123DC90006	GRIMM ROSS M & GRIMM MELINDA L
2S126AB00300	GREEAR CHAD M & GREEAR BETH
2S126AA10100	GRAHAM ALBERTA
2S126AA10200	GRAHAM ALBERTA

Exhibit J.

1481 NW 13TH AVE APT 732	PORTLAND	OR	97209
14919 NE LAWNVIEW CIR	AURORA	OR	97002
19738 SW BOONES FERRY RD	TUALATIN	OR	97062
19770 SW BOONES FERRY RD	TUALATIN	OR	97062
3077 SE CAMWAL DR	HILLSBORO	OR	97123
8444 SW MOHAWK ST	TUALATIN	OR	97062
9073 SW SAGERT ST	TUALATIN	OR	97062
8452 SW MOHAWK ST	TUALATIN	OR	97062
8775 SW COMANCHE WAY	TUALATIN	OR	97062
8298 SW MOHAWK ST	TUALATIN	OR	97062
20243 SW 93RD AVE	TUALATIN	OR	97062
9350 SW GERTZ LN	TUALATIN	OR	97062
10344 SW BROADMOOR PL	TIGARD	OR	97223
9250 SW SAGERT ST	TUALATIN	OR	97062
20195 SW BOONES FERRY RD	TUALATIN	OR	97062
11970 SW HAZELWOOD LOOP	TIGARD	OR	97223
8268 SW MOHAWK ST	TUALATIN	OR	97062
8940 SW SAGERT ST	TUALATIN	OR	97062
500 NE MULTNOMAH ST	PORTLAND	OR	97232
2545 SW SPRING GARDEN ST #200	PORTLAND	OR	97219
19463 SW 89TH AVE	TUALATIN	OR	97062
8520 SW MOHAWK ST	TUALATIN	OR	97062
8408 SW MOHAWK ST	TUALATIN	OR	97062
9207 SW CREE CIR	TUALATIN	OR	97062
9397 SW UMIAT ST	TUALATIN	OR	97062
9331 SW TONOPAH ST	TUALATIN	OR	97062
9341 SW TONOPAH ST	TUALATIN	OR	97062
20135 S IMPALA LN	OREGON CITY	OR	97045
9366 SW TONOPAH ST	TUALATIN	OR	97062
21711 SW MARTINAZZI AVE	TUALATIN	OR	97062
8392 SW MOHAWK ST	TUALATIN	OR	97062
19401 SW MOHAVE CT	TUALATIN	OR	97062
8364 SW MOHAWK ST	TUALATIN	OR	97062
17547 N SOMERSET DR	SURPRISE	AZ	85374
16715 SW CAMBRIDGE DR	DURHAM	OR	97224
20532 SW 84TH CT	TUALATIN	OR	97062
8400 SW MOHAWK ST	TUALATIN	OR	97062
9105 SW APACHE DR	TUALATIN	OR	97062
9110 SW APACHE DR	TUALATIN	OR	97062
8474 SW MOHAWK ST	TUALATIN	OR	97062
20232 SW 93RD AVE	TUALATIN	OR	97062
9200 SW SAGERT ST	TUALATIN	OR	97062
PO BOX 623	BEAVERTON	OR	97075
21885 NE ALTON ST	FAIRVIEW	OR	97024
9067 SW SAGERT ST	TUALATIN	OR	97062
9216 SW CREE CIR	TUALATIN	OR	97062
12424 SE WINTER CREEK CT	HAPPY VALLEY	OR	97086
9359 SW TONOPAH ST	TUALATIN	OR	97062
20340 SW 93RD AVE	TUALATIN	OR	97062
8484 SW MOHAWK ST	TUALATIN	OR	97062
9220 SW SAPONI LN	TUALATIN	OR	97062
		OR	00000
20385 SW BOONES FERRY RD	TUALATIN	OR	97062
20887 SW WILLAPA WAY	TUALATIN	OR	97062
8360 SW MOHAWK ST	TUALATIN	OR	97062
104 SOUTH ASPEN CT	CHANDLER	AZ	85226
8514 SW MOHAWK ST	TUALATIN	OR	97062
8426 SW MOHAWK ST	TUALATIN	OR	97062
9077 SW SAGERT ST	TUALATIN	OR	97062
9100 SW SAGERT ST	TUALATIN	OR	97062
8920 SW SAGERT ST	TUALATIN	OR	97062
8920 SW SAGERT ST	TUALATIN	OR	97062

2S126AB09900	GRADT TIMOTHY R
2S124CC90641	GOLDSBY KATHLEEN M
2S126AB00700	GOHEEN GORDON G & GOHEEN LAVILLE M
2S124CC90941	GODARD JIMMY J & GODARD STA'CEE A
2S126AB08500	GIZA BRYNN & GIZA JORDAN
2S123DD04100	GEORGE AUGUSTINE & ROSE REV LIV TRUST
2S126AB10500	GEORGE WINFRED & GEORGE NICHOLE MARIE
2S126AB08800	GENSMAN MONTE
2S126AB10700	GENSMAN MARK D
2S126AB10800	GENSMAN MITCHELL E
2S126AB11100	GENSMAN MONTE LEE
2S126AA01300	GENDE DAVID PAUL III & GENDE ANGELA JOY
2S124CC90671	GARRISON ROBERT A & GARRISON LORI L
2S124CC90071	GARNER SYLVIA E
2S126AB06300	GARIBAY BENJAMIN & GARIBAY EMILIA & VASQUEZ MARIBEL
2S123DD90000	GARDEN COURT CONDO UNIT OWNERS
2S124CC90681	GALLAGHER RONALD A & GALLAGHER KATIE L
2S124CC90521	FURTNEY JOSEPH C
2S123DD01400	FROST AARON R
2S123DB00200	FRONTIER COMMUNICATIONS NORTHWEST INC
2S124CC90701	FRANKS JONNIE A JR
2S124CC91151	FLANNERY FAMILY TRUST
2S126AB07200	FISHER CURTIS J
2S126AB13000	FISHER RYAN D & FISHER CHRISTINA M
2S126AB08600	FERRASCI-O'MALLEY KEVIN MICHAEL & FERRASCI-O'MALLEY KATHRYN C
2S124CC90901	FEHLMAN STEVEN D & FEHLMAN MELISSA J
2S124CC90561	FECHNER ROBERT J
2S124CC90192	FARRELL DONALD L & FARRELL MARIETTA L
2S124CC90651	FANTA CAROL C
2S124CC90292	FAIRCHILD DENA
2S124CC90441	FAGERQUIST AMBRE
2S123DD00600	FABRYCKI HAL
2S126AB06800	EVONUK MATTHEW
2S123CD01100	EVANS FAMILY INVESTMENTS LLC
2S126AB02600	EVANS RICK A
2S126AB14300	EVANS BRIAN WAYNE & EVANS KELLE ANN
2S123DD00400	ENVOY CHELAN LLC & REALVEST CHELAN LLC
2S124CC90501	ELLIOTT RAYMOND
2S124CC90281	EISERT CLARK L & EISERT STEPHANIE
2S124CC91182	EISERT STEPHANIE
2S126AB12900	EICHENBERGER MICHAEL G
2S126AA01703	EDWARDS DONALD J
2S126AB04800	EDGINGTON JAMES N & HIVALE VIDYA E
2S126AA01801	EATON TYLER & EATON KATHRYN
2S124CC91082	DUNNING ROWAN KATHERINE WALKER
2S126AB05300	DRYDEN SERENA & JORDAN TRAVIS
2S126AB00103	DOUVILLE THOMAS A
2S126AA08400	DORAN PAUL ANTHONY
2S126AB14600	DONNELLY JOHN & DONNELLY CAROL
2S124CC90991	DONALDSON AMY L
2S124CC90621	DOBBINS 1998 FAMILY TRUST
2S126AA08600	DIRKSEN DOUGLAS & DIRKSEN MARY
2S126AA01702	DINGMAN DELORES JEAN LIV TRUST
2S123DD03800	DEVICH NICHOLAS FRANKLIN
2S126AB00102	DESKINS DANIEL & DESKINS ASHLEY
2S126AB06200	DENYSE CLINT
2S126AB08700	DENIS PAUL
2S124CC90372	DAVIS ROBERT M & DAVIS BARBARA K
2S126AB14500	DAVIDSON FAMILY TRUST
2S124CC90461	DALTON SHARON LYNN TR
2S124CC90931	DALLAL CLAIRE Y
2S123DD04000	DA YEE FAMILY TRUST

9323 SW TONOPAH ST	TUALATIN	OR	97062
8487 SW CHELAN CT	TUALATIN	OR	97062
285 HOLDER LN SE	SALEM	OR	97306
16745 SW STELLAR DR	SHERWOOD	OR	97140
9072 SW RARITAN CT	TUALATIN	OR	97062
8652 SW LOGAN LN	TUALATIN	OR	97062
9351 SW TONOPAH ST	TUALATIN	OR	97062
9352 SW TONOPAH ST	TUALATIN	OR	97062
PO BOX 1903	TUALATIN	OR	97062
PO BOX 1626	SHERWOOD	OR	97140
9352 SW TONOPAH ST	TUALATIN	OR	97062
20160 SW BOONES FERRY RD	TUALATIN	OR	97062
8410 SW MOHAWK ST	TUALATIN	OR	97062
8380 SW MOHAWK ST	TUALATIN	OR	97062
9220 SW APACHE DR	TUALATIN	OR	97062
12550 SE 93RD AVE STE #300	CLACKAMAS	OR	97015
8412 SW MOHAWK ST	TUALATIN	OR	97062
8446 SW MOHAWK ST	TUALATIN	OR	97062
19840 SW BOONES FERRY RD	TUALATIN	OR	97062
PO BOX 619015	DALLAS	TX	75261
8402 SW MOHAWK ST	TUALATIN	OR	97062
8314 SW MOHAWK ST	TUALATIN	OR	97062
9235 SW APACHE DR	TUALATIN	OR	97062
20250 SW 93RD AVE	TUALATIN	OR	97062
9317 SW UMIAT ST	TUALATIN	OR	97062
8358 SW MOHAWK ST	TUALATIN	OR	97062
8438 SW MOHAWK ST	TUALATIN	OR	97062
8480 SW MOHAWK ST	TUALATIN	OR	97062
8406 SW MOHAWK ST	TUALATIN	OR	97062
8500 SW MOHAWK ST	TUALATIN	OR	97062
8470 SW MOHAWK ST	TUALATIN	OR	97062
16543 S HARDING RD	OREGON CITY	OR	97045
9235 SW CREE CIR	TUALATIN	OR	97062
PO BOX 2295	EUGENE	OR	97402
23544 SW GAGE RD	WILSONVILLE	OR	97070
9235 SW SAPONI LN	TUALATIN	OR	97062
2727 LBJ FREEWAY STE 806	DALLAS	TX	75234
8458 SW MOHAWK ST	TUALATIN	OR	97062
10685 SW CLAY	SHERWOOD	OR	97140
10685 SW CLAY ST	SHERWOOD	OR	97140
333 W CALLE MONTERO	SAHUARITA	AZ	85629
8850 SW SAGERT ST	TUALATIN	OR	97062
9265 SW APACHE DR	TUALATIN	OR	97062
8910 SW SAGERT ST	TUALATIN	OR	97062
8296 SW MOHAWK ST	TUALATIN	OR	97062
9240 SW CREE CIR	TUALATIN	OR	97062
9040 SW SAGERT ST	TUALATIN	OR	97062
20290 SW COMANCHE TER	TUALATIN	OR	97062
20380 SW 93RD AVE	TUALATIN	OR	97062
4165 IMPERIAL DR	WEST LINN	OR	97068
8418 SW MOHAWK ST	TUALATIN	OR	97062
20310 SW COMANCHE TER	TUALATIN	OR	97062
20155 SW BOONES FERRY RD	TUALATIN	OR	97062
8631 SW LOGAN LN	TUALATIN	OR	97062
9030 SW SAGERT ST	TUALATIN	OR	97062
9204 SW CREE CIR	TUALATIN	OR	97062
9335 SW UMIAT ST	TUALATIN	OR	97062
18264 HOLLY LN	OREGON CITY	OR	97045
9240 SW SAPONI LN	TUALATIN	OR	97062
8466 SW MOHAWK ST	TUALATIN	OR	97062
8340 SW MOHAWK ST	TUALATIN	OR	97062
8614 SW LOGAN LN	TUALATIN	OR	97062

Exhibit M.

2S126AB04600	CUNNINGTON J MATTHEW & CUNNINGTON KATHLEEN
2S124CC90332	CUELLO DAMIEN C JR
2S126AB09100	CROSBY KEITH
2S126AB06100	CROMIE JOSEPH A & CROMIE JANICE C
2S124CC90312	CRISMON RACHEL
2S126AB08400	CREEK AMANDA & CREEK COLLIN
2S126AB02800	COPELAND SUNDARA & COPELAND ALLEN
2S124CC90801	COOKE GLENNA A
2S126AA09000	COMANCHE TERRACE LLC
2S123DD02701	COLUMBIA SELF-STOR LLC
2S126AA09200	COLLINS WILLIAM HENRY III
2S123DB00500	COIL PROPERTIES LLC
2S126AB00100	COHEN WILLIAM S & COHEN LORELEI L
2S126AA08900	COCHRAN RONALD & CHERYLL REV LIV TRUST
2S126AB02100	CLIFFORD THOMAS C & CLIFFORD DONNA K
2S124CC90492	CHRISTENSEN IAN
2S126AA01701	CHERNOBERSKY NAUM & CHERNOBERSKY DEENA
2S126AA01800	CASTRO TOMMY C & CASTRO KRYSTIN M
2S124CC90131	CASTILE TIGEST
2S123DA01400	CASCADE FUNERAL DIRECTORS INC
2S126AB00200	CARROLL JILL STRADER
2S124CC91191	CARR JANET STEIGER
2S123DC90009	CAMP DREW & CAMP ELISE
2S123DD03400	CAFFALL CURT & LESLIE REV LIV TRUST
2S124CC91302	BUTCHER BOYD
2S123DD04600	BUSSANICH BRIAN & BUSSANICH HOA LE
2S126AB04900	BUJANSKI DEBORAH
2S126AB14000	BRYSON ANDREW & BRYSON VICTORIA
2S123DC90008	BRYAN WILLIAM JR & WALSH ERIN
2S124CC90691	BROWN SHERRI LYNN
2S126AA01900	BROWN ELIZABETH J
2S126AB11900	BROWN ROBERT J & BROWN JOANNE
2S123DC90005	BRIGGS STEVEN P
2S126AB11400	BRICKEL GERALD M & BRICKEL REYNA S
2S126AA01400	BRANDT RACHEL A
2S126AA01500	BRANDT DWAINE C & BRANDT RACHEL A
2S126AB01700	BOWMAN DALE T & DAWSON ROBBIE L
2S126AA09600	BODEN KATIE ELIZABETH
2S126AB08300	BIXLER BRIAN & FINEFROCK SARAH
2S124CC90061	BISON DAVID P
2S124CC90771	BERRY KATHIE A
2S126AB09400	BELL RYAN J & BELL SARA K
2S124CC90301	BEES DANIEL & BEES ROYALETTA
2S126AB03201	BEDIENT DARYL M & BEDIENT NOBUE
2S124CC90581	BAXTER KARA
2S124CC90861	BATES DEBRA M
2S126AB13400	BASTON LIVING TRUST
2S124CC90791	BASSETT JEFFREY E
2S123DB00400	BARON HOLDINGS LLC & OLIVER HOLDINGS LLC
2S124CC90181	BALDUS ANN E
2S126AB06900	BALBOA DANIEL J & BALBOA JUANA
2S124CC90090	BAILEY SUSANNE J
2S123DA01100	B3 MANAGEMENT LLC
2S123DA01200	B3 MANAGEMENT LLC
2S126AB13300	AVERY G WILLIAM
2S126AB11200	AUSLAND HAYDEN & MARSHALL LINDSAY
2S126AB11300	AUSLAND RANDI E & AUSLAND ALICE L
2S124CC90541	AUGUST MICHELLE L & AUGUST JAMES WILLIAM
2S124CC91111	ASHIMINE ELLIOTT SEIJI & ASHIMINE CORINNE
2S124CC90261	ANTHONY WILMA
2S126AB02700	ANDERSON ANTHONY
2S123DD01000	AN IVETH ELIZHBA & GARFIAS MIRNA G MONTIEL

Exhibit N.

9285 SW APACHE DR	TUALATIN	OR	97062
8508 SW MOHAWK ST	TUALATIN	OR	97062
9393 SW UMIAT ST	TUALATIN	OR	97062
9208 SW CREE CIR	TUALATIN	OR	97062
8504 SW MOHAWK ST	TUALATIN	OR	97062
9098 SW RARITAN CT	TUALATIN	OR	97062
9025 SW APACHE DR	TUALATIN	OR	97062
8378 SW MOHAWK ST	TUALATIN	OR	97062
3545 UPPER DR	LAKE OSWEGO	OR	97035
17480 HOLY NAMES DR #206	LAKE OSWEGO	OR	97034
20335 SW COMANCHE TER	TUALATIN	OR	97062
2495 PALISADES CREST DR	LAKE OSWEGO	OR	97034
9050 SW SAGERT ST	TUALATIN	OR	97062
20395 SW COMANCHE TER	TUALATIN	OR	97062
9070 SW APACHE DR	TUALATIN	OR	97062
14330 SW BELL RD	SHERWOOD	OR	97140
6530 SW 89TH PL	TIGARD	OR	97223
8900 SW SAGERT ST	TUALATIN	OR	97062
8440 SW MOHAWK ST	TUALATIN	OR	97062
PO BOX 3570	TUALATIN	OR	97062
9070 SW SAGERT ST	TUALATIN	OR	97062
8270 SW MOHAWK ST	TUALATIN	OR	97062
9087 SW SAGERT ST	TUALATIN	OR	97062
8685 SW SAGERT ST	TUALATIN	OR	97062
8284 SW MOHAWK ST	TUALATIN	OR	97062
PO BOX 4183	TUALATIN	OR	97062
9252 SW CREE CIR	TUALATIN	OR	97062
9265 SW SAPONI LN	TUALATIN	OR	97062
9085 SW SAGERT ST	TUALATIN	OR	97062
8404 SW MOHAWK ST	TUALATIN	OR	97062
PO BOX 1338	TUALATIN	OR	97062
20238 SW 93RD AVE	TUALATIN	OR	97062
9075 SW SAGERT ST	TUALATIN	OR	97062
9322 SW TONOPAH ST	TUALATIN	OR	97062
20130 SW BOONES FERRY RD	TUALATIN	OR	97062
20100 SW BOONES FERRY RD	TUALATIN	OR	97062
9140 SW APACHE DR	TUALATIN	OR	97062
20245 SW COMANCHE TER	TUALATIN	OR	97062
9142 SW RARITAN CT	TUALATIN	OR	97062
8366 SW MOHAWK ST	TUALATIN	OR	97062
8390 SW MOHAWK ST	TUALATIN	OR	97062
PO BOX 181	TUALATIN	OR	97062
8502 SW MOHAWK ST	TUALATIN	OR	97062
20389 SW BOONES FERRY RD	TUALATIN	OR	97062
8434 SW MOHAWK ST	TUALATIN	OR	97062
8350 SW MOHAWK ST	TUALATIN	OR	97062
9341 SW GERTZ LN	TUALATIN	OR	97062
8394 SW MOHAWK ST	TUALATIN	OR	97062
900 SW 5TH AVE, 17TH FLOOR	PORTLAND	OR	97204
8478 SW MOHAWK ST	TUALATIN	OR	97062
9247 SW CREE CIR	TUALATIN	OR	97062
8424 SW MOHAWK ST	TUALATIN	OR	97062
1726 SE CUTTER LN	VANCOUVER	WA	98661
1726 SE CUTTER LN	VANCOUVER	WA	98661
9327 SW GERTZ LN	TUALATIN	OR	97062
9330 SW TONOPAH ST	TUALATIN	OR	97062
9328 SW TONOPAH ST	TUALATIN	OR	97062
8450 SW MOHAWK ST	TUALATINH	OR	97062
8306 SW MOHAWK ST	TUALATIN	OR	97062
8494 SW MOHAWK	TUALATIN	OR	97062
10850 SW BANNOCH ST	TUALATIN	OR	97062
19790 SW BOONES FERRY RD	TUALATIN	OR	97062

Exhibit O.

2S124CC90921	AMINI MITRA
2S123DC00600	AMERICAN APARTMENT COMMUNITIES II LP
2S124CC90472	AHREND MINDY L
2S126AB04700	AHRENS REBECCA ELIZABETH & JUREVICIUS PAULIUS
2S123DC00100	AG PROPERTIES LLC
2S124CC91062	ADAMS ERIKKA
2S124CC90201	8482 MOHAWK LLC
2S124CC91262	8292 MOHAWK LLC
2S123CA00200	2010 WA HOLDINGS LLC 2010 WA HOLDINGS LLC
2S123DD00200	19545 & 19605 SW BOONES FERRY RD PROPERTY LLC &

Exhibit P.

8342 SW MOHAWK ST	TUALATIN	OR	97062
PO BOX 4900	SCOTTSDALE	AZ	85261
8468 SW MOHAWK ST	TUALATIN	OR	97062
9275 SW APACHE DR	TUALATIN	OR	97062
PO BOX 989	EUGENE	OR	97440
8300 SW MOHAWK ST	TUALATIN	OR	97062
18725 SW BOONES FERRY RD	TUALATIN	OR	97062
8324 SW MAXINE LN UNIT #46	WILSONVILLE	OR	97070
700 N SAN VINCENE BLVD STE #G860	WEST HOLLYWOOD	CA	90069

Exhibit Q.

United Dominion Reality, L.P

1745 Shea Center Dr.

STE 200

Highlands Ranch, Co 80129

Angelo Planning Group

921 SW Washington St.

STE 468

Portland OR 97205

Exhibit R.

CIO Board of Directors List

Updated 11/30/2021
tualatincio@gmail.com

	Name	Term	Address	City	State	Zip	Phone	Email
Riverpark								riverparkcio@gmail.com
President	Janine Wilson	Elected 11/2021	18325 SW 135th Terrace	Tualatin	OR	97062	541-761-0705	jasuwi7@gmail.com
Vice President	Chris Tunstall	Elected 11/2021	17400 SW Cheyenne Way	Tualatin	OR	97062	503-789-9143	famtunstall1@frontier.com
Land Use Officer	Dan Hardy	Elected 11/2021	23070 SW Lodgepole Ave	Tualatin	OR	97062	503-332-8905	dan@danhardyproperties.com
Secretary	Kate Pinamonti	Elected 11/2021	10240 SW Fulton Drive	Tualatin	OR	97062	503-709-7466	katepinamonti@hotmail.com
Treasurer	Jeanne Raikoglo	Elected 11/2021	17630 SW Shawnee Trail	Tualatin	OR	97062	503-803-7047	jraikoglo@aol.com
At-Large	Daniel Bachhuber		10205 SW Casteel Ct	Tualatin	OR	97062	971-998-5407	daniel@bachhuber.co
East Tualatin								cio.east.west@gmail.com
President	Doug Ulmer	Interim (08/2021)	7149 SW Sagert St., Unit 105	Tualatin	OR	97062	503-522-0504	doug_ulmer@comcast.net
Vice President								
Land Use Officer	Dana Holland	Interim (11/2021)	7237 SW Delaware Ct.	Tualatin	OR	97062	503-243-1111	dana476@gmail.com
Treasurer								
Secretary	Margarita Crowell	Interim (11/2021)	7237 SW Delaware Ct.	Tualatin	OR	97062	508-243-11143	mcrowell248@comcast.net
Midwest Tualatin								tualatinmidwestcio@gmail.com
President								
Vice President								
Land Use Officer								
Secretary	Tammy Palumbo	Elected 4/2021	9510 SW Siuslaw Ln	Tualatin	OR	97062	503-793-6179	tmpgarden@comcast.net
Treasurer								
Martinazzi Woods								MartinazziWoodsCIO@gmail.com
President	Sallie Olson	Reelected 11/2021	8960 SW Arapaho Rd	Tualatin	OR	97062	503-484-8056	solson.1827@gmail.com
Vice President	Del Moore	Reelected 11/2020	8790 SW Nisqually Ct	Tualatin	OR	97062	503-807-2762	delmoore@frontier.com
Land Use Officer	Jamison Shields	Elected 11/2021	8182 SW Paiute	Tualatin	OR	97062	804-385-2695	jamison.l.shields@gmail.com
Secretary	Claudia Sterling	Elected 11/2021	20600 SW Shoshone Dr	Tualatin	OR	97062	503-701-5793	claudia.sterling@comcast.net
Treasurer	Janet Gilkey	Reelected 11/2020	21132 SW 86th Ct	Tualatin	OR	97062	503-307-6712	janet7531@gmail.com
At-Large	Roy Loop		20190 SW 86th Ct	Tualatin	OR	97062	503-969-2701	roydloop@gmail.com
Ibach								
President	Ed Casey		22255 SW 102nd Pl.	Tualatin	OR	97062	503-692-0513	edkcnw@comcast.net
Vice President								
Land Use Officer								
Secretary	Julie Makarowsky		10775 SW Willow St.	Tualatin	OR	97062	503-351-8344	jmakarowsky@comcast.net
Treasurer								
Byrom								byromcio@gmail.com
President	Alex Thurber		9875 SW Iowa Dr	Tualatin	OR	97062	503-880-2450	pdxalex@icloud.com
Vice President								
Land Use Officer	Mary Lyn Westenhaver	Interim (08/2021)	9845 SW Iowa Dr	Tualatin	OR	97062	503-341-1936	mwestenhaver@hotmail.com
Secretary	Susan Humphrey	Interim (08/2021)	8801 SW Stono Dr.	Tualatin	OR	97063	503-830-2132	humphreysusan10@gmail.com
Treasurer	Deb Fant		22680 SW Eno Pl.	Tualatin	OR	97062	408-391-8582	deb.fant@gmail.com
Commercial								tualatincommercialcio@gmail.com
President	Cathy Holland	2023	10740 SW Lucas Dr.	Tualatin	OR	97062	503-691-1813	tualatincommercialcio@gmail.com
Vice President	Scott Miller	2023	12976 SW Hillside Terrace	Tualatin	OR	97223	971-275-0341	scottm@capacitycommercial.com
Land Use Officer	Scott Miller	2023	12976 SW Hillside Terrace	Tualatin	OR	97223	971-275-0341	scottm@capacitycommercial.com
Secretary								
Treasurer	Chris Tunstall	2023	17400 SW Cheyenne Way	Tualatin	OR	97062	503-789-9143	famtunstall1@frontier.com

AFFIDAVIT OF MAILING

STATE OF OREGON)
) ss
COUNTY OF WASHINGTON)

I, Lindsey Hagerman being first duly sworn, depose and say:

That on the 26 day of January, I served upon the persons shown on Exhibit A, attached hereto and by this reference incorporated herein, a copy of a Notice of Hearing/Application/Decision marked Exhibit B, attached hereto and by this reference incorporated herein, by mailing to them a true and correct copy of the original hereof. I further certify that the addresses reflect information received from the relevant party or agency, and that said envelopes were placed in the United States Mail at Tualatin, Oregon, prepared to receive postage administered by city staff.

Dated this 26 of January, 2022

Lindsey Hagerman
Signature

SUBSCRIBED AND SWORN to before me this 1/26/2022

C. Hayes
Notary Public for Oregon

OFFICIAL STAMP
CATHY ANNE HAYES
NOTARY PUBLIC - OREGON
COMMISSION NO. 976482
MY COMMISSION EXPIRES JULY 02, 2022

My commission expires: 7/02/2022

RE: PMA21-0001 NOTICE
PROPERTY: 9301 SW SAGERT ST
TAX LOT: 2S123DC-00600
See Exhibits: A-B

Exhibit A.

TLID	OWNER1
2S123D002400	ZIAN LP
2S124CC90982	ZHU HE
2S124CC91131	WOOTEN SHAWN
2S124CC91031	WOOLFE JANIE L
2S126AB05400	WOLFE CHRISTIAN B & WOLFE KRISTIN
2S126AB01600	WISBEY KEITH E & WISBEY TRACEY R
2S124CC91102	WINTERS TERRY M
2S124CC90841	WILSON BYRON
2S126AB13100	WILSON NICHOLAS & CHERNOBELSKY ELANA
2S126AB05600	WILLMING CHARLES O & WILLMING VERNELLE D
2S126AB09500	WILLIAMS GREGORY J & WILLIAMS STEPHANIE A
2S123DD02400	WILLAMETTE GRAYSTONE LLC
2S126AA09300	WHITNEY MICHAEL ALAN
2S124CC90161	WHITEMAN BETTY J
2S124CC90851	WHITE SUZANNE B LIVING TRUST
2S126AA00900	WHEELER CANDI
2S126AB00801	WHEATCROFT PAUL R & WHEATCROFT AMY L
2S123DD04200	WEST THOMAS B JR & WEST AMY R
2S124CC91042	WEST TREVOR M
2S123CA00700	WENZEL GENE SCOTT & VICKI SANDRA REV LIV TRUST
2S124CC90951	WENDT GLADYS T LIVING TRUST
2S126AB08900	WELLONS LAURA
2S126AB06600	WELLER LINDA
2S123DC00300	WATUMULL PROPERTIES CORP
2S126AB07900	WATROBA MICHAEL P & CUMMINGS CAROL A
2S123DC00900	WASHINGTON COUNTY FACILITIES MGMT
2S124CC90171	WARNEKE SPENCER
2S124CC90531	VONTUNGEIN RITA K
2S124CC90011	VITERITTI TRACY A
2S126AB09800	VETTER LEA ANN & VETTER CRAIG B
2S124CC90221	VENTI KATHERINE M
2S124CC91291	VALENTIN RODOLFO
2S126AB05800	UNDERHILL LYNN
2S126AB12000	TWEDT JAMES R & TWEDT PEGGY A
2S126AA09400	TUTTLE STEPHEN R & LEHMAN BARBARA L
2S124CC90401	TUCKER SHERRY D
2S123CA01200	TUALATIN INDUSTRIAL INVESTORS LLC
2S123CA90000	TUALATIN-SHERWOOD INDUSTRIAL CONDO HOA
2S123CD01000	TUALATIN LLC
2S123DA01500	TUALATIN SHERWOOD LLC
2S123DB00300	TUALATIN VALLEY FIRE & RESCUE
2S123DD00501	TUALATIN LTC PROPERTIES II LLC
2S124CC90000	TUALATIN VILLAGE CONDO PH II OWNERS OF UNITS
2S123D002200	T-S 90 LLC
2S124CC90831	TRYSIL MAYA & FLANAGAN CHRISTOPHER
2S126AB01300	TRUONG LUU NGOC & TRUONG KHANH NGOC & TRUONG BAO I
2S126AB07800	TRAPP CHET D & TRAPP DAWN K
2S123DC90010	TRACY LAUREN MARIE & HENKLE PETER ANDREW
2S126AB13200	TOSUNTIKOOL NEIL & DIAZ DANIELA
2S124CC00300	TODD VILLAGE-285 LLC
2S123DC00451	TLF LOGISTICS II TUALATIN CORPORATE CENTER LLC
2S123CD00800	TINWOOD LLC
2S126BA00102	TIGARD-TUALATIN SCHOOL DISTRICT #23J
2S123DA01701	THREE LITTLE BEARS LLC
2S126AA08700	THORSON ERIC R & THORSON JEAN M
2S123CD00900	THOLE PROPERTIES LLC
2S123DA00800	TGOC LLC
2S124CC91251	TEWINPAGTI ITTI
2S126AB05200	TEUTSCH HOLLY B
2S124CC90341	TEEL SHELLEY A
2S124CC91171	TAFUA COLETTE L

OWNERADDR	OWNERCITY	OWNERSTA	OWNERZIP
6712 N CUTTER CIR	PORTLAND	OR	97217
8320 SW MOHAWK ST	TUALATIN	OR	97062
8310 SW MOHAWK ST	TUALATIN	OR	97062
8330 SW MOHAWK ST	TUALATIN	OR	97062
9236 SW CREE CIR	TUALATIN	OR	97062
9150 SW APACHE DR	TUALATIN	OR	97062
8304 SW MOHAWK ST	TUALATIN	OR	97062
8370 SW MOHAWK ST	TUALATIN	OR	97062
20254 SW 93RD AVE	TUALATIN	OR	97062
1125 MCGEE CT NE APT 251	KEIZER	OR	97303
9350 SW UMIAT ST	TUALATIN	OR	97062
3490 PIEDMONT RD NE STE 1300	ATLANTA	GA	30305
20285 SW COMANCHE TER	TUALATIN	OR	97062
5185 CARMAN DR	LAKE OSWEGO	OR	97035
8368 SW MOHAWK ST	TUALATIN	OR	97062
20310 SW BOONES FERRY RD	TUALATIN	OR	97062
20230 SW 93RD AVE	TUALATIN	OR	97062
8678 SW LOGAN LN	TUALATIN	OR	97062
8332 SW MOHAWK ST	TUALATIN	OR	97062
11520 SW GRABHORN RD	BEAVERTON	OR	97007
8336 SW MOHAWK ST	TUALATIN	OR	97062
9369 SW UMIAT ST	TUALATIN	OR	97062
9250 SW APACHE DR	TUALATIN	OR	97062
307 LEWERS ST FL 6	HONOLULU	HI	96815
9101 SW RARITAN CT	TUALATIN	OR	97062
169 N 1ST AVE #42	HILLSBORO	OR	97124
8456 SW MOHAWK ST	TUALATIN	OR	97062
8448 SW MOHAWK ST	TUALATIN	OR	97062
8344 SW MOHAWK ST	TUALATIN	OR	97062
20267 SW 93RD AVE	TUALATIN	OR	97062
8486 SW MOHAWK ST	TUALATIN	OR	97062
3809 NE 73RD AVE	PORTLAND	OR	97213
9220 SW CREE CIR	TUALATIN	OR	97062
20244 SW 93RD AVE	TUALATIN	OR	97062
20275 SW COMANCHE TER	TUALATIN	OR	97062
8522 SW MOHAWK ST	TUALATIN	OR	97062
1211 SW 5TH AVE STE 2185	PORTLAND	OR	97204
		OR	00000
688 6TH ST	LAKE OSWEGO	OR	97035
5611 NE COLUMBIA BLVD	PORTLAND	OR	97218
11945 SW 70TH AVE	TIGARD	OR	97223
4560 SE INTERNATIONAL WAY #100	MILWAUKIE	OR	97222
		OR	00000
1508 DIVISION ST #15	OREGON CITY	OR	97045
8372 SW MOHAWK ST	TUALATIN	OR	97062
9200 SW APACHE DR	TUALATIN	OR	97062
9063 SW RARITAN CT	TUALATIN	OR	97062
9089 SW SAGERT ST	TUALATIN	OR	97062
20258 SW 93RD AVE	TUALATIN	OR	97062
9500 SW BARBUR BLVD STE 300	PORTLAND	OR	97219
851 SW 6TH AVE STE 1200	PORTLAND	OR	97204
19749 SW CHAPMAN RD	SHERWOOD	OR	97140
6960 SW SANDBURG ST	TIGARD	OR	97223
8620 SW MIAMI ST	WILSONVILLE	OR	97070
20320 SW COMANCHE TER	TUALATIN	OR	97062
25070 N GRAHAM RD	AURORA	OR	97002
PO BOX 2237	TUALATIN	OR	97062
1220 SW 3RD AVE RM 1616	PORTLAND	OR	97204
9242 SW CREE CIR	TUALATIN	OR	97062
8510 SW MOHAWK ST	TUALATIN	OR	97062
8274 SW MOHAWK ST	TUALATIN	OR	97062

2S123DA01300	SWT LLC
2S124CC90961	SWANSON LEGACY IRREV TRUST
2S126AB08100	STRIPLING PERRY L & STRIPLING JANICE L
2S126AB00701	STONE JONATHAN & STONE MARLENE
2S124CC91322	STELL THOMAS C & STELL DAWN R
2S123CD01200	STEIN TUALATIN LLC
2S126BA00600	STE200 LLC
2S124CC90741	STARK MYLON K
2S124CC91311	STANLEY MATTHEW E
2S126AB09600	SPEERS KAREN K
2S123DD02800	SOLTERO ALFONSO & SANCHEZ FRANCISCO SOLTERO
2S126AB11800	SNOWBERGER MICHAEL & SNOWBERGER MELISSA
2S124CC90731	SNELL SUSAN E
2S126AB14100	SMITHERS CRYSTAL & TIMSON ANTHONY
2S126AA01000	SKOGLUND DAVID K
2S126AB06700	SKILES FRANKLIN W
2S123DD00700	SIMPSON SHELLEY
2S126AB13700	SCHOENHEIT DIANE M
2S126AB12400	SCHERMAN MICHAEL & SCHERMAN ASHLEY
2S124CC90881	SCHEER HILARY JANAYE
2S126AB06400	SAUER JOHN C & SAUER LOELIA ANN
2S126AA09800	SANTMYER ROSE MARIE
2S124CC91122	SANTA GYORGYI
2S126AB05500	SALGADO MICHAEL EARL & SALGADO BRITTANY ANN
2S126AB04500	SAGERT GROVE LLC
2S123DC01200	SADLER GERALD H & SADLER REBEKAH E
2S126AA08800	RUSSELL JAMES L & RUSSELL MARILYN & CADY TINA LYNN
2S126AA00800	RULE BRADLEY I & RULE LORINDA M
2S126AB12300	ROWE DANIEL L
2S126AA08500	RHODES BRADLEY E & RHODES ELAINE D
2S124CC90721	REID MICHAEL ALLEN & REID KRISTI R
2S123DC90000	REBECCA WOODS CONDO UNIT OWNERS
2S126AB11500	RAMIREZ MINERVA & RAMIREZ JUAN MIGUEL
2S123DA00700	RALF LEOPOLD INVESTMENTS LLC
2S124CC90821	RADANOVIC DIANNE M
2S126AA01100	R&B PROPERTIES TUALATIN LLC
2S124CC90591	PRESTON WILLIAM M & WOOD CLINTON A
2S126AB14200	PRESTON GERALD & PRESTON AMY
2S124CC91142	PRESLEY TIMOTHY RYAN & PRESLEY TEMARA ELIZABETH
2S124CC91202	PRESLEY TIM R & PRESLEY TEMARA E
2S124CC90141	POOLE KIMBELRY K
2S126AB04200	PLAGMAN PROPERTIES LLC
2S123DD00900	PLAGGMIER JOHN R JR TRUST
2S123DD01700	PINTOS ROBERTO B
2S123DA02200	PIETKA PROPERTIES LLC
2S123DD03900	PETERSON PAUL M & PETERSON CASSANDRA D
2S124CC91091	PETERSON MARTHA K
2S123DD03700	PEREZ LUIS G & PEREZ LUCINA M
2S123DD04300	PATEL SAAJAN & VYAS HANSINI
2S124CC91231	PATEL REV TRUST
2S126AB01800	PATELZICK DANA L & PATELZICK ROSALIE
2S126AB02300	PARK MIRAN
2S126AB04400	PARENT JOHN O & PARENT STACEY L
2S123DD03500	PACKARD LIVING TRUST
2S123DB00100	PACIFIC NW PROPERTIES LP
2S123DB00600	PACIFIC WEST CONSTRUCTION INC
2S124CC91071	OUSTERHOUT SALLY M & OUSTERHOUT GERALD C
2S123DA01000	OSWEGO WEST LLC
2S124CC90891	OSMOSYS LLC
2S124CC90110	OSBORNE JUDITH E
2S126AB05700	OSBORN CHRISTIANNE
2S124CC90761	ORSBURN ANITA J & GARRIETY SUSAN J

2233 NW 23RD AVE	PORTLAND	OR	97210
8334 SW MOWHAWK ST	TUALATIN	OR	97062
9177 SW RARITAN CT	TUALATIN	OR	97062
9260 SW SAGERT ST	TUALATIN	OR	97062
8280 SW MOHAWK ST	TUALATIN	OR	97062
13001 CLACKAMAS RIVER DR STE 200	OREGON CITY	OR	97045
20215 SW 95TH AVE	TUALATIN	OR	97062
8384 SW MOHAWK ST	TUALATIN	OR	97062
8278 SW MOHAWK ST	TUALATIN	OR	97062
9334 UMIAT CT	TUALATIN	OR	97062
19760 SW BOONES FERRY RD	TUALATIN	OR	97062
20236 SW 93RD AVE	TUALATIN	OR	97062
20487 SW 69TH AVE	TUALATIN	OR	97062
9255 SW SAPONI LN	TUALATIN	OR	97062
PO BOX 642	TUALATIN	OR	97062
9260 SW APACHE DR	TUALATIN	OR	97062
PO BOX 824	TUALATIN	OR	97062
20365 SW 93RD AVE	TUALATIN	OR	97062
9360 SW SAGERT ST	TUALATIN	OR	97062
8354 SW MOHAWK ST	TUALATIN	OR	97062
9230 SW APACHE DR	TUALATIN	OR	97062
20190 SW BOONES FERRY RD	TUALATIN	OR	97062
4214 WOODSIDE CIR	LAKE OSWEGO	OR	97035
9232 SW CREE CIR	TUALATIN	OR	97062
12670 SW 68TH AVE STE 400	TIGARD	OR	97223
9035 SW SAGERT ST	TUALATIN	OR	97062
20350 SW COMANCHE TER	TUALATIN	OR	97062
20340 SW BOONES FERRY RD	TUALATIN	OR	97062
9380 SW SAGERT ST	TUALATIN	OR	97062
20300 SW COMANCHE TER	TUALATIN	OR	97062
8398 SW MOHAWK ST	TUALATIN	OR	97062
		OR	00000
6300 W LONE MOUNTAIN RD	LAS VEGAS	NV	89130
19460 SW 89TH AVE	TUALATIN	OR	97062
8374 SW MOHAWK ST	TUALATIN	OR	97062
20495 SW BOONES FERRY RD	TUALATIN	OR	97062
20300 SW NANCY LN	BEAVERTON	OR	97007
PO BOX 8075	PORTLAND	OR	97207
10335 SW HOODVIEW DR	TIGARD	OR	97224
10335 SW HOODVIEW DR	TIGARD	OR	97224
8442 SW MOHAWK ST	TUALATIN	OR	97062
20105 SW 93RD AVE	TUALATIN	OR	97062
19740 SW BOONES FERRY RD	TUALATN	OR	97062
8735 SW SAGERT ST	TUALATIN	OR	97062
PO BOX 1696	BEAVERTON	OR	97075
8609 SW LOGAN LN	TUALATIN	OR	97062
8302 SW MOHAWK ST	TUALATIN	OR	97062
8667 SW LOGAN LN	TUALATIN	OR	97062
8700 SW LOGAN LN	TUALATIN	OR	97062
28916 LA CARRETERRA	LAGUNA NIGUEL	CA	92677
23096 S BLAND CIR	WEST LINN	OR	97068
9155 SW APACHE DR	TUALATIN	OR	97062
9400 SW SAGERT ST	TUALATIN	OR	97062
8675 SW SAGERT ST	TUALATIN	OR	97062
PO BOX 2206	BEAVERTON	OR	97075
PO BOX 219	HUBBARD	OR	97032
5167 METOLIUS AVE SE	SALEM	OR	97306
15938 QUARRY RD STE B-6	LAKE OSWEGO	OR	97035
7415 SW 37TH AVE	PORTLAND	OR	97219
8428 SW MOHAWK ST	TUALATIN	OR	97062
9224 SW CREE CIR	TUALATIN	OR	97062
8388 SW MOHAWK ST	TUALATIN	OR	97062

2S126AB05100	O'RILEY KEVIN & O'RILEY WENDY
1S135CB00800	OREGON STATE OF DEPT OF TRANSPORTATION
2S124CC90252	NIELSON CRYSTAL DAWN
2S124CC90871	NIELSON DARCY
2S123DC90007	NETTER RON & DAY-NETTER ROSEMARY
2S126AB07500	NERO CHARLES & NERO VICTORIA
2S126AB10200	MURRAY CHERIE R
2S124CC90432	MURPHY BYRON K & WIKSTROM SAMANTHA A
2S126AA01700	MUNOZ ZAIDA & MUNOZ CLAUDIA
2S124CC91282	MUILENBURG SCOTT E & MUILENBURG MARILYN
2S124CB03400	MUELLER KURT & IVERSON LAURA
2S126AB06000	MUELLER RONALD B
2S123DC01000	MOYER HAROLD & MOYER SHANNON
2S124CC90352	MOTA MIGUEL JAQUIZ
2S123DC90002	MORRIS CRESLYNN S
2S124CC90481	MORGAN MICHAEL
2S124CC91242	MORGAN JAY C & MORGAN AIKO
2S126AB12700	MORAN DAVID K
2S126AB05000	MORALES LUIS & MORALES NATASHA
2S126AB07600	MOMARLS LLC
2S124CC90241	MITSVOTAI MELANIE E
2S126AB14800	MISSION WOODS OWNERS OF LOTS 1-6 8
2S126AB02200	MIRANDA RODNEY QUEMA
2S124CC90601	MILLS SANDRA M
2S126AA09500	MILLS MICHAEL C & MILLS BEVERLY
2S126AB00800	MILLS MELANIE FRANCES
2S124CC90321	MILLER DAVID JOHN
2S124CC90512	MILLER SANDRA K & HOLT TROY M
2S126AA08300	MILLER DIANE M LIV TRUST
2S126AB12500	MILLER MICHAEL S
2S124CC90021	MERRIMAN KEVIN LEE
2S124CC90811	MERCADO GUILLERMINA
2S124CC90631	MELLAND MICHELE M
2S124CC90452	MCSWAIN DAVID CORNELL II
2S123DC00200	MCLELLAN ESTATE CO
2S126AB07100	MCGINTY JEFFREY M
2S124CC90571	MCGEORGE JO ANN REV TRUST
2S126AB08200	MCCLELLAN MICHELLE K & LUNDGREN MARTIN K
2S124CC90381	MCCLANAHAN MATTHEW E
2S124CC91211	MCCAUSLAND MAUREEN E
2S126AB10000	MAYERNIK ANTHONY K
2S126AB12100	MARTIN SHARI R
2S123DA01700	MARSH JEFFREY O JR & KING JOHN J
2S126AB07300	MARSH CHRISTOPHER L REV TRUST
2S126AB06500	MARKS RACHEL L
2S123DC01100	MARCH TREVOR C & MARCH JEANINE M
2S126AB01500	MANLEY MATTHEW A & MCKINNEY GINA M
2S124CC90031	MALOS NORINE E
2S126AB02000	MALHI RAMANDEEP K
2S126AB02500	MALHI GAGANDEEP
2S126AB09000	LUDWICK STEPHEN J TRUST
2S126AA09100	LOVELAND GREGORY & LOVELAND HEATHER
2S126AB11000	LOPEZ JEFFREY G & LOPEZ CINDY L
2S123DD04400	LOGAN HOUSE ESTATES HOA
2S124CC90751	LOCKHART JANET L
2S126AA01600	LIVING SAVIOR LUTHERAN CHURCH
2S126AA02100	LITTLE RUSSELL D & LITTLE DIANA M
2S123DC90001	LINKER MARY ELIZABETH & YBARRA HENRY R
2S126AB07000	LINDLEY JUSTIN
2S124CC90232	LINDHOLM BRENT M & LINDHOLM TIFFANY R
2S124CC90120	LEWIS SANDRA
2S126AB10400	LEININGER MATT & LEININGER SZU YU

9244 SW CREE CIR	TUALATIN	OR	97062
4040 FAIRVIEW INDUSTRIAL DR SE MS 1	SALEM	OR	97302
8492 SW MOHAWK ST	TUALATIN	OR	97062
8352 SW MOHAWK ST	TUALATIN	OR	97062
9083 SW SAGERT ST	TUALATIN	OR	97062
9211 SW CREE CIR	TUALATIN	OR	97062
9337 SW TONOPAH ST	TUALATIN	OR	97062
601 QUAIL DR	NEWBERG	OR	97132
20085 SW BOONES FERRY RD	TUALATIN	OR	97062
1619 SE 176TH AVE	PORTLAND	OR	97223
16850 SW UPPER BOONES FERRY RD S	TIGARD	OR	97224
9212 SW CREE CIR	TUALATIN	OR	97062
9055 SW SAGERT ST	TUALATIN	OR	97062
8512 SW MOHAWK ST	TUALATIN	OR	97062
9063 SW SAGERT ST	TUALATIN	OR	97062
8462 SW MOHAWK ST	TUALATIN	OR	97062
8264 SW MOHAWK ST	TUALATIN	OR	97062
9280 SW APACHE DR	TUALATIN	OR	97062
9248 SW CREE CIR	TUALATIN	OR	97062
8525 SW 165TH AVE	BEAVERTON	OR	97007
8490 SW MOHAWK ST	TUALATIN	OR	97062
		OR	00000
9030 SW APACHE DR	TUALATIN	OR	97062
8414 SW MOHAWK ST	TUALATIN	OR	97062
20255 SW COMANCHE TER	TUALATIN	OR	97062
20228 SW 93RD AVE	TUALATIN	OR	97062
8179 RAINIER LN N	MAPLE GROVE	OR	55311
8460 SW MOHAWK ST	TUALATIN	OR	97062
8770 SW COMANCHE WAY	TUALATIN	OR	97062
20055 SW 93RD AVE	TUALATIN	OR	97062
8346 SW MOHAWK ST	TUALATIN	OR	97062
8376 SW MOHAWK ST	TUALATIN	OR	97062
19165 SW 51ST AVE	TUALATIN	OR	97062
8472 SW MOHAWK ST	TUALATIN	OR	97062
707 OLD COUNTY RD	BELMONT	CA	94002
9255 SW CREE CIR	TUALATIN	OR	97062
8436 SW MOHAWK ST	TUALATIN	OR	97062
9180 SW RARITAN CT	TUALATIN	OR	97062
8518 SW MOHAWK ST	TUALATIN	OR	97062
8266 SW MOHAWK ST	TUALATIN	OR	97062
9329 SW TONOPAH ST	TUALATIN	OR	97062
20248 SW 93RD AVE	TUALATIN	OR	97062
8810 SW TUALATIN SHERWOOD RD	TUALATIN	OR	97062
17367 LAKE HAVEN DR	LAKE OSWEGO	OR	97035
9240 SW APACHE DR	TUALATIN	OR	97062
8685 SW WOLDS DR	BEAVERTON	OR	97007
9170 SW APACHE DR	TUALATIN	OR	97062
8348 SW MOHAWK ST	TUALATIN	OR	97062
9090 SW APACHE DR	TUALATIN	OR	97062
25083 SW QUARRYVIEW RD	WILSONVILLE	OR	97070
9385 SW UMIAT ST	TUALATIN	OR	97062
20345 SW COMANCHE TER	TUALATIN	OR	97062
9360 SW TONOPAH ST	TUALATIN	OR	97062
		OR	00000
8386 SW MOHAWK ST	TUALATIN	OR	97062
8740 SW SAGERT ST	TUALATIN	OR	97062
PO BOX 1006	TUALATIN	OR	97062
9061 SW SAGERT ST	TUALATIN	OR	97062
PO BOX 3052	TUALATIN	OR	97062
8488 SW MOHAWK ST	TUALATIN	OR	97062
1532 SUNLIGHT DR	FAIRBANKS	AK	99709
9347 SW TONOPAH ST	TUALATIN	OR	97062

2S124CC90272 LAZAR GABRIEL
2S124CC90081 LARSON ROBERT F & LARSON ASHLEY N
2S123DD00800 LARSEN MARIO K & LARSEN REBECCA L
2S123DD01100 LARSEN DWAYNE L & LARSEN KAREN G ESTATE OF
2S126AB13600 LANE DAVID R & LANE MARY L
2S124CC90151 KRUSINSKI JANICE L
2S123DC90004 KREBS TANA
2S124CC90551 KRAUSE DERALD E
2S126AA08200 KNAPP STACI R & KNAPP ERIK A
2S124CC91051 KLUPENGER MORGAN WATKINS
2S126AB09700 KLEINT JAKOB W & FAHLMAN ANNE E
2S126AB13500 KINZER ZACHARY S
2S123DD03600 KIMMER WILLIAM D & KIMMER PATSY A
2S126AB12800 KIEL JAMES & KIEL PATRICIA A
2S126AA02000 KELLY JEREMY & KELLY CECELIA
2S124CC91002 KEEN ANNETTE M
2S124CC91222 KAUFFMAN SHAWNA DAY
2S126AA01902 KANE BENJAMIN B & KANE BROOKE M
2S123D003900 KAISER FOUNDATION HEALTH PLAN OF THE NORTHWEST
2S123CD00700 KAADY CHARLES
2S123DA00900 JVTC EXPLORATIONS LLC
2S124CC90392 JOHNSON SCOTT GLENN & JOHNSON SHELLEY L
2S124CC90661 JOHNSON JAMIE A & DRAKE DAVID A
2S126AB07400 JOHNSON GERALD A & JOHNSON BARBARA J
2S126AB09200 JOHNSTON LISA
2S126AB10100 JOHNSTON PATRICK D & JOHNSTON TAMMY L
2S126AB10300 JOHNSON BRIAN R & JOHNSON MIECKE LARSON
2S123DA00500 JKM PROPERTIES LLC
2S126AB10900 JENKINS DEREK R & JENKINS SANDRA L
2S124CC91271 JAMES TYLER & JAMES KELSEY
2S124CC90781 JACKSON KRYSTAL L
2S123DA01800 J C MOTORS OF TUALATIN LLC
2S124CC90051 INGMAN SCOTT M
2S124CC90041 HUTCHINS CALVIN & LARAYNE REV LIV TRUST
2S126AB08000 HUDSON RONALD R
2S123DD02900 HOUSTON BRENDA L
2S124CC90711 HORN MARTHA JENEANE
2S126AB02400 HOLLMANN GEORGE E
2S126AB01900 HESS CRAIG & HESS REBECCA
2S124CC90421 HERKOMER TAMMI
2S126AB11700 HENDERSON RYAN J
2S126AB12600 HENDERSON-BROWN CHERYL L
2S126AB09300 HEINRICH ELEONORE ERNA REV TRUST
2S124CC91162 HEBERT GERALD & HEBERT HUNG CHEN
2S123DC90003 HAYES LISA L
2S126AB05900 HAYES PAMELA JO
2S124CC90611 HAVEN HOMES II LLC
2S126AB10600 HANSEN SANDI J
2S126AB14700 HANEY LINDSEY L
2S124CC90212 HAMILTON MARY A
2S126AB14400 HAM FAMILY TRUST
2S126AB13800 HALLEY COURT OWNERS OF LOTS 1-5
2S126AB07700 HALL CHANDA & HALL BRENT
2S126AB00101 HAAS ROBERT E & MERRILY S REV TRUST
2S124CC90911 GUTIERREZ DAVID & GUTIERREZ NORMA
2S124CC90971 GUPTA SAMIR
2S124CC90361 GUDEKUNST ELAINE
2S124CC90100 GRUEN MARY M
2S123DC90006 GRIMM ROSS M & GRIMM MELINDA L
2S126AB00300 GREEAR CHAD M & GREEAR BETH
2S126AA10100 GRAHAM ALBERTA
2S126AA10200 GRAHAM ALBERTA

1481 NW 13TH AVE APT 732	PORTLAND	OR	97209
14919 NE LAWNVIEW CIR	AURORA	OR	97002
19738 SW BOONES FERRY RD	TUALATIN	OR	97062
19770 SW BOONES FERRY RD	TUALATIN	OR	97062
3077 SE CAMWAL DR	HILLSBORO	OR	97123
8444 SW MOHAWK ST	TUALATIN	OR	97062
9073 SW SAGERT ST	TUALATIN	OR	97062
8452 SW MOHAWK ST	TUALATIN	OR	97062
8775 SW COMANCHE WAY	TUALATIN	OR	97062
8298 SW MOHAWK ST	TUALATIN	OR	97062
20243 SW 93RD AVE	TUALATIN	OR	97062
9350 SW GERTZ LN	TUALATIN	OR	97062
10344 SW BROADMOOR PL	TIGARD	OR	97223
9250 SW SAGERT ST	TUALATIN	OR	97062
20195 SW BOONES FERRY RD	TUALATIN	OR	97062
11970 SW HAZELWOOD LOOP	TIGARD	OR	97223
8268 SW MOHAWK ST	TUALATIN	OR	97062
8940 SW SAGERT ST	TUALATIN	OR	97062
500 NE MULTNOMAH ST	PORTLAND	OR	97232
2545 SW SPRING GARDEN ST #200	PORTLAND	OR	97219
19463 SW 89TH AVE	TUALATIN	OR	97062
8520 SW MOHAWK ST	TUALATIN	OR	97062
8408 SW MOHAWK ST	TUALATIN	OR	97062
9207 SW CREE CIR	TUALATIN	OR	97062
9397 SW UMIAT ST	TUALATIN	OR	97062
9331 SW TONOPAH ST	TUALATIN	OR	97062
9341 SW TONOPAH ST	TUALATIN	OR	97062
20135 S IMPALA LN	OREGON CITY	OR	97045
9366 SW TONOPAH ST	TUALATIN	OR	97062
21711 SW MARTINAZZI AVE	TUALATIN	OR	97062
8392 SW MOHAWK ST	TUALATIN	OR	97062
19401 SW MOHAVE CT	TUALATIN	OR	97062
8364 SW MOHAWK ST	TUALATIN	OR	97062
17547 N SOMERSET DR	SURPRISE	AZ	85374
16715 SW CAMBRIDGE DR	DURHAM	OR	97224
20532 SW 84TH CT	TUALATIN	OR	97062
8400 SW MOHAWK ST	TUALATIN	OR	97062
9105 SW APACHE DR	TUALATIN	OR	97062
9110 SW APACHE DR	TUALATIN	OR	97062
8474 SW MOHAWK ST	TUALATIN	OR	97062
20232 SW 93RD AVE	TUALATIN	OR	97062
9200 SW SAGERT ST	TUALATIN	OR	97062
PO BOX 623	BEAVERTON	OR	97075
21885 NE ALTON ST	FAIRVIEW	OR	97024
9067 SW SAGERT ST	TUALATIN	OR	97062
9216 SW CREE CIR	TUALATIN	OR	97062
12424 SE WINTER CREEK CT	HAPPY VALLEY	OR	97086
9359 SW TONOPAH ST	TUALATIN	OR	97062
20340 SW 93RD AVE	TUALATIN	OR	97062
8484 SW MOHAWK ST	TUALATIN	OR	97062
9220 SW SAPONI LN	TUALATIN	OR	97062
		OR	00000
20385 SW BOONES FERRY RD	TUALATIN	OR	97062
20887 SW WILLAPA WAY	TUALATIN	OR	97062
8360 SW MOHAWK ST	TUALATIN	OR	97062
104 SOUTH ASPEN CT	CHANDLER	AZ	85226
8514 SW MOHAWK ST	TUALATIN	OR	97062
8426 SW MOHAWK ST	TUALATIN	OR	97062
9077 SW SAGERT ST	TUALATIN	OR	97062
9100 SW SAGERT ST	TUALATIN	OR	97062
8920 SW SAGERT ST	TUALATIN	OR	97062
8920 SW SAGERT ST	TUALATIN	OR	97062

2S126AB09900	GRADT TIMOTHY R
2S124CC90641	GOLDSBY KATHLEEN M
2S126AB00700	GOHEEN GORDON G & GOHEEN LAVILLE M
2S124CC90941	GODARD JIMMY J & GODARD STA'CEE A
2S126AB08500	GIZA BRYNN & GIZA JORDAN
2S123DD04100	GEORGE AUGUSTINE & ROSE REV LIV TRUST
2S126AB10500	GEORGE WINFRED & GEORGE NICHOLE MARIE
2S126AB08800	GENSMAN MONTE
2S126AB10700	GENSMAN MARK D
2S126AB10800	GENSMAN MITCHELL E
2S126AB11100	GENSMAN MONTE LEE
2S126AA01300	GENDE DAVID PAUL III & GENDE ANGELA JOY
2S124CC90671	GARRISON ROBERT A & GARRISON LORI L
2S124CC90071	GARNER SYLVIA E
2S126AB06300	GARIBAY BENJAMIN & GARIBAY EMILIA & VASQUEZ MARIBEL
2S123DD90000	GARDEN COURT CONDO UNIT OWNERS
2S124CC90681	GALLAGHER RONALD A & GALLAGHER KATIE L
2S124CC90521	FURTNEY JOSEPH C
2S123DD01400	FROST AARON R
2S123DB00200	FRONTIER COMMUNICATIONS NORTHWEST INC
2S124CC90701	FRANKS JONNIE A JR
2S124CC91151	FLANNERY FAMILY TRUST
2S126AB07200	FISHER CURTIS J
2S126AB13000	FISHER RYAN D & FISHER CHRISTINA M
2S126AB08600	FERRASCI-O'MALLEY KEVIN MICHAEL & FERRASCI-O'MALLEY KA
2S124CC90901	FEHLMAN STEVEN D & FEHLMAN MELISSA J
2S124CC90561	FECHNER ROBERT J
2S124CC90192	FARRELL DONALD L & FARRELL MARIETTA L
2S124CC90651	FANTA CAROL C
2S124CC90292	FAIRCHILD DENA
2S124CC90441	FAGERQUIST AMBRE
2S123DD00600	FABRYCKI HAL
2S126AB06800	EVONUK MATTHEW
2S123CD01100	EVANS FAMILY INVESTMENTS LLC
2S126AB02600	EVANS RICK A
2S126AB14300	EVANS BRIAN WAYNE & EVANS KELLE ANN
2S123DD00400	ENVOY CHELAN LLC & REALVEST CHELAN LLC
2S124CC90501	ELLIOTT RAYMOND
2S124CC90281	EISERT CLARK L & EISERT STEPHANIE
2S124CC91182	EISERT STEPHANIE
2S126AB12900	EICHENBERGER MICHAEL G
2S126AA01703	EDWARDS DONALD J
2S126AB04800	EDGINGTON JAMES N & HIVALE VIDYA E
2S126AA01801	EATON TYLER & EATON KATHRYN
2S124CC91082	DUNNING ROWAN KATHERINE WALKER
2S126AB05300	DRYDEN SERENA & JORDAN TRAVIS
2S126AB00103	DOUVILLE THOMAS A
2S126AA08400	DORAN PAUL ANTHONY
2S126AB14600	DONNELLY JOHN & DONNELLY CAROL
2S124CC90991	DONALDSON AMY L
2S124CC90621	DOBBINS 1998 FAMILY TRUST
2S126AA08600	DIRKSEN DOUGLAS & DIRKSEN MARY
2S126AA01702	DINGMAN DELORES JEAN LIV TRUST
2S123DD03800	DEVICH NICHOLAS FRANKLIN
2S126AB00102	DESKINS DANIEL & DESKINS ASHLEY
2S126AB06200	DENYSE CLINT
2S126AB08700	DENIS PAUL
2S124CC90372	DAVIS ROBERT M & DAVIS BARBARA K
2S126AB14500	DAVIDSON FAMILY TRUST
2S124CC90461	DALTON SHARON LYNN TR
2S124CC90931	DALLAL CLAIRE Y
2S123DD04000	DA YEE FAMILY TRUST

9323 SW TONOPAH ST	TUALATIN	OR	97062
8487 SW CHELAN CT	TUALATIN	OR	97062
285 HOLDER LN SE	SALEM	OR	97306
16745 SW STELLAR DR	SHERWOOD	OR	97140
9072 SW RARITAN CT	TUALATIN	OR	97062
8652 SW LOGAN LN	TUALATIN	OR	97062
9351 SW TONOPAH ST	TUALATIN	OR	97062
9352 SW TONOPAH ST	TUALATIN	OR	97062
PO BOX 1903	TUALATIN	OR	97062
PO BOX 1626	SHERWOOD	OR	97140
9352 SW TONOPAH ST	TUALATIN	OR	97062
20160 SW BOONES FERRY RD	TUALATIN	OR	97062
8410 SW MOHAWK ST	TUALATIN	OR	97062
8380 SW MOHAWK ST	TUALATIN	OR	97062
9220 SW APACHE DR	TUALATIN	OR	97062
12550 SE 93RD AVE STE #300	CLACKAMAS	OR	97015
8412 SW MOHAWK ST	TUALATIN	OR	97062
8446 SW MOHAWK ST	TUALATIN	OR	97062
19840 SW BOONES FERRY RD	TUALATIN	OR	97062
PO BOX 619015	DALLAS	TX	75261
8402 SW MOHAWK ST	TUALATIN	OR	97062
8314 SW MOHAWK ST	TUALATIN	OR	97062
9235 SW APACHE DR	TUALATIN	OR	97062
20250 SW 93RD AVE	TUALATIN	OR	97062
9317 SW UMIAT ST	TUALATIN	OR	97062
8358 SW MOHAWK ST	TUALATIN	OR	97062
8438 SW MOHAWK ST	TUALATIN	OR	97062
8480 SW MOHAWK ST	TUALATIN	OR	97062
8406 SW MOHAWK ST	TUALATIN	OR	97062
8500 SW MOHAWK ST	TUALATIN	OR	97062
8470 SW MOHAWK ST	TUALATIN	OR	97062
16543 S HARDING RD	OREGON CITY	OR	97045
9235 SW CREE CIR	TUALATIN	OR	97062
PO BOX 2295	EUGENE	OR	97402
23544 SW GAGE RD	WILSONVILLE	OR	97070
9235 SW SAPONI LN	TUALATIN	OR	97062
2727 LBJ FREEWAY STE 806	DALLAS	TX	75234
8458 SW MOHAWK ST	TUALATIN	OR	97062
10685 SW CLAY	SHERWOOD	OR	97140
10685 SW CLAY ST	SHERWOOD	OR	97140
333 W CALLE MONTERO	SAHUARITA	AZ	85629
8850 SW SAGERT ST	TUALATIN	OR	97062
9265 SW APACHE DR	TUALATIN	OR	97062
8910 SW SAGERT ST	TUALATIN	OR	97062
8296 SW MOHAWK ST	TUALATIN	OR	97062
9240 SW CREE CIR	TUALATIN	OR	97062
9040 SW SAGERT ST	TUALATIN	OR	97062
20290 SW COMANCHE TER	TUALATIN	OR	97062
20380 SW 93RD AVE	TUALATIN	OR	97062
4165 IMPERIAL DR	WEST LINN	OR	97068
8418 SW MOHAWK ST	TUALATIN	OR	97062
20310 SW COMANCHE TER	TUALATIN	OR	97062
20155 SW BOONES FERRY RD	TUALATIN	OR	97062
8631 SW LOGAN LN	TUALATIN	OR	97062
9030 SW SAGERT ST	TUALATIN	OR	97062
9204 SW CREE CIR	TUALATIN	OR	97062
9335 SW UMIAT ST	TUALATIN	OR	97062
18264 HOLLY LN	OREGON CITY	OR	97045
9240 SW SAPONI LN	TUALATIN	OR	97062
8466 SW MOHAWK ST	TUALATIN	OR	97062
8340 SW MOHAWK ST	TUALATIN	OR	97062
8614 SW LOGAN LN	TUALATIN	OR	97062

2S126AB04600	CUNNINGTON J MATTHEW & CUNNINGTON KATHLEEN
2S124CC90332	CUELLO DAMIEN C JR
2S126AB09100	CROSBY KEITH
2S126AB06100	CROMIE JOSEPH A & CROMIE JANICE C
2S124CC90312	CRISMON RACHEL
2S126AB08400	CREEK AMANDA & CREEK COLLIN
2S126AB02800	COPELAND SUNDARA & COPELAND ALLEN
2S124CC90801	COOKE GLENNA A
2S126AA09000	COMANCHE TERRACE LLC
2S123DD02701	COLUMBIA SELF-STOR LLC
2S126AA09200	COLLINS WILLIAM HENRY III
2S123DB00500	COIL PROPERTIES LLC
2S126AB00100	COHEN WILLIAM S & COHEN LORELEI L
2S126AA08900	COCHRAN RONALD & CHERYLL REV LIV TRUST
2S126AB02100	CLIFFORD THOMAS C & CLIFFORD DONNA K
2S124CC90492	CHRISTENSEN IAN
2S126AA01701	CHERNOBERSKY NAUM & CHERNOBERSKY DEENA
2S126AA01800	CASTRO TOMMY C & CASTRO KRYSTIN M
2S124CC90131	CASTILE TIGEST
2S123DA01400	CASCADE FUNERAL DIRECTORS INC
2S126AB00200	CARROLL JILL STRADER
2S124CC91191	CARR JANET STEIGER
2S123DC90009	CAMP DREW & CAMP ELISE
2S123DD03400	CAFFALL CURT & LESLIE REV LIV TRUST
2S124CC91302	BUTCHER BOYD
2S123DD04600	BUSSANICH BRIAN & BUSSANICH HOA LE
2S126AB04900	BUJANSKI DEBORAH
2S126AB14000	BRYSON ANDREW & BRYSON VICTORIA
2S123DC90008	BRYAN WILLIAM JR & WALSH ERIN
2S124CC90691	BROWN SHERRI LYNN
2S126AA01900	BROWN ELIZABETH J
2S126AB11900	BROWN ROBERT J & BROWN JOANNE
2S123DC90005	BRIGGS STEVEN P
2S126AB11400	BRICKEL GERALD M & BRICKEL REYNA S
2S126AA01400	BRANDT RACHEL A
2S126AA01500	BRANDT DWAINE C & BRANDT RACHEL A
2S126AB01700	BOWMAN DALE T & DAWSON ROBBIE L
2S126AA09600	BODEN KATIE ELIZABETH
2S126AB08300	BIXLER BRIAN & FINEFROCK SARAH
2S124CC90061	BISON DAVID P
2S124CC90771	BERRY KATHIE A
2S126AB09400	BELL RYAN J & BELL SARA K
2S124CC90301	BEES DANIEL & BEES ROYALETTA
2S126AB03201	BEDIENT DARYL M & BEDIENT NOBUE
2S124CC90581	BAXTER KARA
2S124CC90861	BATES DEBRA M
2S126AB13400	BASTON LIVING TRUST
2S124CC90791	BASSETT JEFFREY E
2S123DB00400	BARON HOLDINGS LLC & OLIVER HOLDINGS LLC
2S124CC90181	BALDUS ANN E
2S126AB06900	BALBOA DANIEL J & BALBOA JUANA
2S124CC90090	BAILEY SUSANNE J
2S123DA01100	B3 MANAGEMENT LLC
2S123DA01200	B3 MANAGEMENT LLC
2S126AB13300	AVERY G WILLIAM
2S126AB11200	AUSLAND HAYDEN & MARSHALL LINDSAY
2S126AB11300	AUSLAND RANDI E & AUSLAND ALICE L
2S124CC90541	AUGUST MICHELLE L & AUGUST JAMES WILLIAM
2S124CC91111	ASHIMINE ELLIOTT SEIJI & ASHIMINE CORINNE
2S124CC90261	ANTHONY WILMA
2S126AB02700	ANDERSON ANTHONY
2S123DD01000	AN IVETH ELIZHBA & GARFIAS MIRNA G MONTIEL

9285 SW APACHE DR	TUALATIN	OR	97062
8508 SW MOHAWK ST	TUALATIN	OR	97062
9393 SW UMIAT ST	TUALATIN	OR	97062
9208 SW CREE CIR	TUALATIN	OR	97062
8504 SW MOHAWK ST	TUALATIN	OR	97062
9098 SW RARITAN CT	TUALATIN	OR	97062
9025 SW APACHE DR	TUALATIN	OR	97062
8378 SW MOHAWK ST	TUALATIN	OR	97062
3545 UPPER DR	LAKE OSWEGO	OR	97035
17480 HOLY NAMES DR #206	LAKE OSWEGO	OR	97034
20335 SW COMANCHE TER	TUALATIN	OR	97062
2495 PALISADES CREST DR	LAKE OSWEGO	OR	97034
9050 SW SAGERT ST	TUALATIN	OR	97062
20395 SW COMANCHE TER	TUALATIN	OR	97062
9070 SW APACHE DR	TUALATIN	OR	97062
14330 SW BELL RD	SHERWOOD	OR	97140
6530 SW 89TH PL	TIGARD	OR	97223
8900 SW SAGERT ST	TUALATIN	OR	97062
8440 SW MOHAWK ST	TUALATIN	OR	97062
PO BOX 3570	TUALATIN	OR	97062
9070 SW SAGERT ST	TUALATIN	OR	97062
8270 SW MOHAWK ST	TUALATIN	OR	97062
9087 SW SAGERT ST	TUALATIN	OR	97062
8685 SW SAGERT ST	TUALATIN	OR	97062
8284 SW MOHAWK ST	TUALATIN	OR	97062
PO BOX 4183	TUALATIN	OR	97062
9252 SW CREE CIR	TUALATIN	OR	97062
9265 SW SAPONI LN	TUALATIN	OR	97062
9085 SW SAGERT ST	TUALATIN	OR	97062
8404 SW MOHAWK ST	TUALATIN	OR	97062
PO BOX 1338	TUALATIN	OR	97062
20238 SW 93RD AVE	TUALATIN	OR	97062
9075 SW SAGERT ST	TUALATIN	OR	97062
9322 SW TONOPAH ST	TUALATIN	OR	97062
20130 SW BOONES FERRY RD	TUALATIN	OR	97062
20100 SW BOONES FERRY RD	TUALATIN	OR	97062
9140 SW APACHE DR	TUALATIN	OR	97062
20245 SW COMANCHE TER	TUALATIN	OR	97062
9142 SW RARITAN CT	TUALATIN	OR	97062
8366 SW MOHAWK ST	TUALATIN	OR	97062
8390 SW MOHAWK ST	TUALATIN	OR	97062
PO BOX 181	TUALATIN	OR	97062
8502 SW MOHAWK ST	TUALATIN	OR	97062
20389 SW BOONES FERRY RD	TUALATIN	OR	97062
8434 SW MOHAWK ST	TUALATIN	OR	97062
8350 SW MOHAWK ST	TUALATIN	OR	97062
9341 SW GERTZ LN	TUALATIN	OR	97062
8394 SW MOHAWK ST	TUALATIN	OR	97062
900 SW 5TH AVE, 17TH FLOOR	PORTLAND	OR	97204
8478 SW MOHAWK ST	TUALATIN	OR	97062
9247 SW CREE CIR	TUALATIN	OR	97062
8424 SW MOHAWK ST	TUALATIN	OR	97062
1726 SE CUTTER LN	VANCOUVER	WA	98661
1726 SE CUTTER LN	VANCOUVER	WA	98661
9327 SW GERTZ LN	TUALATIN	OR	97062
9330 SW TONOPAH ST	TUALATIN	OR	97062
9328 SW TONOPAH ST	TUALATIN	OR	97062
8450 SW MOHAWK ST	TUALATINH	OR	97062
8306 SW MOHAWK ST	TUALATIN	OR	97062
8494 SW MOHAWK	TUALATIN	OR	97062
10850 SW BANNOCH ST	TUALATIN	OR	97062
19790 SW BOONES FERRY RD	TUALATIN	OR	97062

2S124CC90921 AMINI MITRA
2S123DC00600 AMERICAN APARTMENT COMMUNITIES II LP
2S124CC90472 AHREND MINDY L
2S126AB04700 AHRENS REBECCA ELIZABETH & JUREVICIUS PAULIUS
2S123DC00100 AG PROPERTIES LLC
2S124CC91062 ADAMS ERIKKA
2S124CC90201 8482 MOHAWK LLC
2S124CC91262 8292 MOHAWK LLC
2S123CA00200 2010 WA HOLDINGS LLC 2010 WA HOLDINGS LLC
2S123DD00200 19545 & 19605 SW BOONES FERRY RD PROPERTY LLC &

8342 SW MOHAWK ST	TUALATIN	OR	97062
PO BOX 4900	SCOTTSDALE	AZ	85261
8468 SW MOHAWK ST	TUALATIN	OR	97062
9275 SW APACHE DR	TUALATIN	OR	97062
PO BOX 989	EUGENE	OR	97440
8300 SW MOHAWK ST	TUALATIN	OR	97062
18725 SW BOONES FERRY RD	TUALATIN	OR	97062
8324 SW MAXINE LN UNIT #46	WILSONVILLE	OR	97070
700 N SAN VINCENE BLVD STE #G860	WEST HOLLYWOO	CA	90069

CIO Board of Directors List

Updated 11/30/2021

Always copy: tualatincio@gmail.com, mgeorge@tualatin.gov, and bruef@tualatin.gov

	Name	Term	Address	City	State	Zip	Phone	Email
Riverpark								riverparkcio@gmail.com
President	Janine Wilson	Elected 11/2021	18325 SW 135th Terrace	Tualatin	OR	97062	541-761-0705	jasuwi7@gmail.com
Vice President	Chris Tunstall	Elected 11/2021	17400 SW Cheyenne Way	Tualatin	OR	97062	503-789-9143	famtunstall1@frontier.com
Land Use Officer	Dan Hardy	Elected 11/2021	23070 SW Lodgepole Ave	Tualatin	OR	97062	503-332-8905	dan@danhardyproperties.com
Secretary	Kate Pinamonti	Elected 11/2021	10240 SW Fulton Drive	Tualatin	OR	97062	503-709-7466	katepinamonti@hotmail.com
Treasurer	Jeanne Raikoglo	Elected 11/2021	17630 SW Shawnee Trail	Tualatin	OR	97062	503-803-7047	jraikoglo@aol.com
At-Large	Daniel Bachhuber		10205 SW Casteel Ct	Tualatin	OR	97062	971-998-5407	daniel@bachhuber.co
East Tualatin								cio.east.west@gmail.com
President	Doug Ulmer	Interim (08/2021)	7149 SW Sagert St., Unit 105	Tualatin	OR	97062	503-522-0504	doug_ulmer@comcast.net
Vice President								
Land Use Officer	Dana Holland	Interim (11/2021)	7237 SW Delaware Ct.	Tualatin	OR	97062	503-243-1111	dana476@gmail.com
Treasurer								
Secretary	Margarita Crowell	Interim (11/2021)	7237 SW Delaware Ct.	Tualatin	OR	97062	508-243-11143	mcrowell248@comcast.net
Midwest Tualatin								tualatinmidwestcio@gmail.com
President								
Vice President								
Land Use Officer								
Secretary	Tammy Palumbo	Elected 4/2021	9510 SW Siuslaw Ln	Tualatin	OR	97062	503-793-6179	tmpgarden@comcast.net
Treasurer								
Martinazzi Woods								MartinazziWoodsCIO@gmail.com
President	Sallie Olson	Reelected 11/2021	8960 SW Arapaho Rd	Tualatin	OR	97062	503-484-8056	solson.1827@gmail.com
Vice President	Del Moore	Reelected 11/2020	8790 SW Nisqually Ct	Tualatin	OR	97062	503-807-2762	delmoore@frontier.com
Land Use Officer	Jamison Shields	Elected 11/2021	8182 SW Paiute	Tualatin	OR	97062	804-385-2695	jamison.l.shields@gmail.com
Secretary	Claudia Sterling	Elected 11/2021	20600 SW Shoshone Dr	Tualatin	OR	97062	503-701-5793	claudia.sterling@comcast.net
Treasurer	Janet Gilkey	Reelected 11/2020	21132 SW 86th Ct	Tualatin	OR	97062	503-307-6712	janet7531@gmail.com
At-Large	Roy Loop		20190 SW 86th Ct	Tualatin	OR	97062	503-969-2701	roydloop@gmail.com
Ibach								
President	Ed Casey		22255 SW 102nd Pl.	Tualatin	OR	97062	503-692-0513	edkcnw@comcast.net
Vice President								
Land Use Officer								
Secretary	Julie Makarowsky		10775 SW Willow St.	Tualatin	OR	97062	503-351-8344	jmakarowsky@comcast.net
Treasurer								
Byrom								byromcio@gmail.com
President	Alex Thurber		9875 SW Iowa Dr	Tualatin	OR	97062	503-880-2450	pdxalex@icloud.com
Vice President								
Land Use Officer	Mary Lyn Westenhaver	Interim (08/2021)	9845 SW Iowa Dr	Tualatin	OR	97062	503-341-1936	mwestenhaver@hotmail.com
Secretary	Susan Humphrey	Interim (08/2021)	8801 SW Stono Dr.	Tualatin	OR	97063	503-830-2132	humphreysusan10@gmail.com
Treasurer	Deb Fant		22680 SW Eno Pl.	Tualatin	OR	97062	408-391-8582	deb.fant@gmail.com
Commercial								tualatincommercialcio@gmail.com
President	Cathy Holland	2023	10740 SW Lucas Dr.	Tualatin	OR	97062	503-691-1813	tualatincommercialcio@gmail.com
Vice President	Scott Miller	2023	12976 SW Hillside Terrace	Tualatin	OR	97223	971-275-0341	scottm@capacitycommercial.com
Land Use Officer	Scott Miller	2023	12976 SW Hillside Terrace	Tualatin	OR	97223	971-275-0341	scottm@capacitycommercial.com
Secretary								
Treasurer	Chris Tunstall	2023	17400 SW Cheyenne Way	Tualatin	OR	97062	503-789-9143	famtunstall1@frontier.com

Exhibit B.

NOTICE OF PUBLIC HEARING AND OPPORTUNITY TO COMMENT
CITY OF TUALATIN, OREGON

NOTICE IS HEREBY GIVEN that a **continued** public hearing for a Type IV-A Quasi-Judicial Procedure, PMA21-0001, Tualatin Heights Apartments Plan Map Amendment, continued from January 24, 2022, will be heard on:

Monday, February 14, 2022 at 7:00 pm

In Person: Juanita Pohl Center
8513 SW Tualatin Road
Tualatin, OR 97062

or

Via Zoom:
Link will be available 7 days before the hearing at:
https://www.tualatinoregon.gov/citycouncil/city-council-meeting-336

The property is located at: 9301 SW Sagert Street, Tax Lot #2S123DC-00600

Comments and questions can be submitted to:

Planning Division
Attn: Keith Leonard
City of Tualatin
10699 SW Herman Road
Tualatin, OR 97062
kleonard@tualatin.gov or 503-691-3029

- **Project Description:** Request to rezone property located at 9301 SW Sagert Street from Medium-Low Density Residential (RML) zone to Medium-High Density Residential (RMH) zone. If the PMA is approved, the proposal would increase the allowable development density of 10 dwelling units per acre to 15 dwelling units per acre.
- **Criteria**: Applicable Oregon Statewide Planning Goals; Oregon Administrative Rules Chapter 660 Division 9 and 12; Metro Urban Growth Management Functional Plan Chapter 3.07; and Tualatin Development Code Sections 32.240 and 33.070.
- **Print copies of the application**: all documents and evidence relied upon by the applicant and applicable criteria are available for inspection at no cost and copies will be provided at a reasonable cost.
- **Staff report:** A copy of the staff report, and supporting documents will be available for inspection at no cost at least seven days prior to the hearing and will be provided at reasonable cost at the Tualatin Planning Division.

- **Individuals wishing to comment** may do so in writing to the Planning Division prior to the hearing and/or present written and/or verbal testimony to the City Council at the hearing. Hearings begin with a staff presentation, followed by testimony by proponents, testimony by opponents, and rebuttal. The time of individual testimony may be limited. If a participant requests, before the hear-

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City of Tualatin
18880 SW Martinazzi Ave
Tualatin, OR 97062

ing is closed, the record shall remain open for at least 7 days after the hearing.

- Failure of an issue to be raised in the hearing, in person, or by letter, or failure to provide sufficient specificity to afford the decision maker an opportunity to respond to the issue precludes appeal to the State Land Use Board of Appeals (LUBA) based on that issue. The failure of the applicant to raise constitutional or other issues relating to proposed conditions of approval with sufficient specificity to the decision maker to respond to the issue precludes an action for damages in circuit court.

You received this mailing notifying you of this public hearing which will be held on February 14, 2022, which was continued from January 24, 2022, because you own property within 1,000 feet (ft) of the site or within a residential subdivision which is partly within 1,000 ft.

To view the application materials visit www.tualatinoregon.gov/projects.

For additional information contact:
Keith Leonard, Associate Planner - Phone 503-691-3029 or Email kleonard@tualatin.gov

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To view the application materials visit www.tualatinoregon.gov/projects.

For additional information contact:
Keith Leonard, Associate Planner - Phone 503-691-3029 or Email kleonard@tualatin.gov

NOTICE OF HEARING
CITY OF TUALATIN, OREGON

NOTICE IS HEREBY GIVEN that a public hearing will be held before the City of Tualatin City Council at 7:00 p.m., Monday, January 24, 2022, streamed online and additionally accessible at the Juanita Pohl Center (8513 SW Tualatin Road, Tualatin, OR 97062).

You are invited to attend and participate in the public hearing. Under consideration is **File No. PMA 21-0001:** To consider a Plan Map Amendment (PMA) to change the existing zoning of Medium-Low Density Residential (RML) to Medium-High Density Residential (RMH). If the PMA is approved, the proposal would increase the allowable development density of 10 dwelling units per acre to 15 dwelling units per acre. The property owner, Andrew Lavaux of UDR, Inc., is being represented by Frank Angelo of Angelo Planning Group.

The location of this proposed map change is at 9301 SW Sagert Street, including Tax Map 2S123DC, Lots 600.

EXISTING ZONING MAP

PROPOSED ZONING

No specific development or construction proposal is being reviewed as part of this application. Any additional development or redevelopment of the subject property would require submittal, review, and approval of an Architectural Review application.

The public is invited to comment by e-mail, writing, or by testifying at the hearing. Written comments can be made and sent by email to Keith Leonard at kleonard@tualatin.gov or submitted at the hearing. Failure to raise an issue at the hearing or in writing or to provide sufficient specificity to allow the City Council to respond to the issue precludes appeal to the Land Use Board of Appeals (LUBA). Legislative hearings begin with the Mayor opening the hearing, presentation of the staff report, public testimony, questions of staff or anyone who testified by Council, after which the Mayor closes the public hearing, and Council may then deliberate to a decision and a motion would be made to either approve, deny or continue the public hearing. The time of individual testimony may be limited.

For those who would prefer to make a verbal comment at the hearing, there are two options:

- Zoom teleconference. Instructions on how to provide comments will be provided during the meeting itself.
  o Full instructions and a current link are available at: https://www.tualatinoregon.gov/citycouncil/council-meetings
- Attend in person at the Juanita Pohl Center. Masking guidelines will be followed physical distancing measures will be implemented for those attending in person, and City staff will be available to answer any questions.

To view the application materials visit: https://www.tualatinoregon.gov/planning/pma-21-0001-tualatin-heights-apartments (also navigable from www.tualatinoregon.gov/projects)

A staff report will available seven days prior to the public hearing. This meeting and any materials being considered can be made accessible upon request.

If approved, File No. PMA 21-0001 would modify the Zoning and Comprehensive Plan Map designations from Medium-Low Density Residential (RML) to Medium-High Density Residential (RMH).

To grant the amendment, Council must find the proposal meets the applicable criteria of the Oregon Statewide Planning Goals, Oregon Administrative Rules, Metro Code, and the Tualatin Comprehensive Plan and Developenent Code, including Tualatin Development Code Sections 32.240 and 33.070.

CITY OF TUALATIN, OREGON
Publish January 6, 2022 TT227241