



## TUALATIN CITY COUNCIL

Monday, JUNE 10, 2019

JUANITA POHL CENTER

8513 SW Tualatin Road

Tualatin, OR 97062

**WORK SESSION** begins at 5:30 p.m.  
**BUSINESS MEETING** begins at 7:00 p.m.

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**Mayor Frank Bubenik**

**Councilor Robert Kellogg**

**Councilor Paul Morrison**

**Councilor Maria Reyes**

**Councilor Nancy Grimes**

**Councilor Bridget Brooks**

**Welcome!** By your presence in the City Council Chambers, you are participating in the process of representative government. To encourage that participation, the City Council has specified a time for your comments on its agenda, following Announcements, at which time citizens may address the Council concerning any item not on the agenda or to request to have an item removed from the consent agenda. If you wish to speak on a item already on the agenda, comment will be taken during that item. Please fill out a Speaker Request Form and submit it to the Recording Secretary. You will be called forward during the appropriate time; each speaker will be limited to three minutes, unless the time limit is extended by the Mayor with the consent of the Council.

Copies of staff reports or other written documentation relating to each item of business referred to on this agenda are available for review on the City website at [www.tualatinoregon.gov/meetings](http://www.tualatinoregon.gov/meetings) and on file in the Office of the City Manager for public inspection. Any person with a question concerning any agenda item may call Administration at 503.691.3011 to make an inquiry concerning the nature of the item described on the agenda.

In compliance with the Americans With Disabilities Act, if you need special assistance to participate in this meeting, you should contact Administration at 503.691.3011. Notification thirty-six (36) hours prior to the meeting will enable the City to make reasonable arrangements to assure accessibility to this meeting.

Council meetings are televised *live* the day of the meeting through Washington County Cable Access Channel 28. The replay schedule for Council meetings can be found at [www.tvctv.org](http://www.tvctv.org). Council meetings can also be viewed by live *streaming video* on the day of the meeting at [www.tualatinoregon.gov/meetings](http://www.tualatinoregon.gov/meetings).

Your City government welcomes your interest and hopes you will attend the City of Tualatin Council meetings often.

## PROCESS FOR LEGISLATIVE PUBLIC HEARINGS

A **legislative** public hearing is typically held on matters which affect the general welfare of the entire City rather than a specific piece of property.

1. Mayor opens the public hearing and identifies the subject.
2. A staff member presents the staff report.
3. Public testimony is taken.
4. Council then asks questions of staff, the applicant, or any member of the public who testified.
5. When the Council has finished questions, the Mayor closes the public hearing.
6. When the public hearing is closed, Council will then deliberate to a decision and a motion will be made to either *approve*, *deny*, or *continue* the public hearing.

## PROCESS FOR QUASI-JUDICIAL PUBLIC HEARINGS

A **quasi-judicial** public hearing is typically held for annexations, planning district changes, conditional use permits, comprehensive plan changes, and appeals from subdivisions, partitions and architectural review.

1. Mayor opens the public hearing and identifies the case to be considered.
2. A staff member presents the staff report.
3. Public testimony is taken:
  - a) In support of the application
  - b) In opposition or neutral
4. Council then asks questions of staff, the applicant, or any member of the public who testified.
5. When Council has finished its questions, the Mayor closes the public hearing.
6. When the public hearing is closed, Council will then deliberate to a decision and a motion will be made to either *approve*, *approve with conditions*, or *deny the application*, or *continue* the public hearing.

## TIME LIMITS FOR PUBLIC HEARINGS

The purpose of time limits on public hearing testimony is to provide all interested persons with an adequate opportunity to present and respond to testimony. All persons providing testimony **shall be limited to 3 minutes**, subject to the right of the Mayor to amend or waive the time limits.

## EXECUTIVE SESSION INFORMATION

An Executive Session is a meeting of the City Council that is closed to the public to allow the City Council to discuss certain confidential matters. An Executive Session may be conducted as a separate meeting or as a portion of the regular Council meeting. No final decisions or actions may be made in Executive Session. In many, but not all, circumstances, members of the news media may attend an Executive Session.

The City Council may go into Executive Session for certain reasons specified by Oregon law. These reasons include, but are not limited to: ORS 192.660(2)(a) employment of personnel; ORS 192.660(2)(b) dismissal or discipline of personnel; ORS 192.660(2)(d) labor relations; ORS 192.660(2)(e) real property transactions; ORS 192.660(2)(f) information or records exempt by law from public inspection; ORS 192.660(2)(h) current litigation or litigation likely to be filed; and ORS 192.660(2)(i) employee performance of chief executive officer.



## OFFICIAL AGENDA OF THE TUALATIN CITY COUNCIL MEETING FOR JUNE 10, 2019

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### A. CALL TO ORDER

Pledge of Allegiance

### B. ANNOUNCEMENTS

1. Science & Technology Scholarship Winners
2. Update on the Tualatin Youth Advisory Council's activities for June 2019
3. Ibach Ribbon Cutting
4. Proclamation Honoring Tualatin High School Boys Track and Field Championship

### C. PUBLIC COMMENT

*This section of the agenda allows anyone to address the Council regarding any issue not on the agenda, or to request to have an item removed from the consent agenda. The duration for each individual speaking is limited to 3 minutes. Matters requiring further investigation or detailed answers will be referred to City staff for follow-up and report at a future meeting.*

### D. CONSENT AGENDA

*The Consent Agenda will be enacted with one vote. The Mayor will ask Councilors if there is anyone who wishes to remove any item from the Consent Agenda for discussion and consideration. If you wish to request an item to be removed from the consent agenda you should do so during the Citizen Comment section of the agenda. The matters removed from the Consent Agenda will be considered individually at the end of this Agenda under, Items Removed from the Consent Agenda. The entire Consent Agenda, with the exception of items removed from the Consent Agenda to be discussed, is then voted upon by roll call under one motion.*

1. Consideration of Approval of the Minutes for the Work Session and Regular Meeting of May 13, 2019
2. Consideration of **Resolution No. 5441-19** Certifying City of Tualatin Municipal Services
3. Consideration of **Resolution No. 5442-19** Amending Water, Sewer, Surface Water Management, and Road Utility Fee Rates Inside the City of Tualatin and Rescinding Resolutions 5374-18, 5400-18 and 5371-18
4. Consideration of **Resolution No. 5448-19** Endorsing the Annexation into Clean Water Services Service District and any other Special District Necessary for the Provision of Urban Services to the Property Annexed to the City through Ordinance No. 1417-19

### E. SPECIAL REPORTS

1. Update on Summer Programs and Activities Offered by the City of Tualatin and Partners

**F. PUBLIC HEARINGS – Legislative or Other**

1. Consideration of **Resolution No. 5443-19** Declaring the City's Election to Receive State Revenue Sharing Funds During Fiscal Year 2019-20

**G. PUBLIC HEARINGS – Quasi-Judicial**

1. Consideration of **Ordinance No. 1421-19** Annexing Territory Located at 10325 SW Jurgens Lane and 10511 SW Hazelbrook Road into the City of Tualatin and Withdrawing the Territory from the Washington County Enhanced Sheriff Patrol District and the County Urban Road Maintenance District (Tax Map: 2S114BC Lots: 1900, 1901 and Tax Lot: 2S115DA00100) (File No. ANN-19-0001)
2. Consideration of the Tualatin Service Center Plan Text Amendment (PTA 19-0002) and Plan Map Amendment (PMA 19-0002)

**H. GENERAL BUSINESS**

*If you wish to speak on a general business item please fill out a Speaker Request Form and you will be called forward during the appropriate item. The duration for each individual speaking is limited to 3 minutes. Matters requiring further investigation or detailed answers will be referred to City staff for follow-up and report at a future meeting.*

1. Consideration of **Ordinance No. 1423-19** Establishing an Annual Core Area Parking District (CAPD) Tax Rate of \$170.88 for Fiscal Year 2019-20
2. Consideration of **Resolution No. 5449-19, or 5450-19, or 5451-19** Establishing the Parks System Development Charges for the City Of Tualatin

**I. ITEMS REMOVED FROM CONSENT AGENDA**

*Items removed from the Consent Agenda will be discussed individually at this time. The Mayor may impose a time limit on speakers addressing these issues.*

**J. COMMUNICATIONS FROM COUNCILORS**

**K. ADJOURNMENT**



**City Council Meeting**

**Meeting Date:** 06/10/2019

**ANNOUNCEMENTS:** Science & Technology Scholarship Winners

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**ANNOUNCEMENTS**

Science & Technology Scholarship Winners

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**City Council Meeting**

**Meeting Date:** 06/10/2019

**ANNOUNCEMENTS:** Tualatin Youth Advisory Council Update, June 2019

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**ANNOUNCEMENTS**

Update on the Tualatin Youth Advisory Council's activities for June 2019

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A. YAC Update

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June 10, 2019

# *Tualatin Youth Advisory Council*

*Youth Participating in Governance*

# Project FRIENDS 2019



- Friday, May 17
- 350 5<sup>th</sup> graders



# Project FRIENDS 2019





# Blender Dash

- Saturday, June 1
- Tualatin Community Park
- Fun run for kids ages 6-15
- 900+ kids
- 150 volunteers





**July 13**

The Incredibles 2

**July 20**

Jurassic World Fallen Kingdom

**July 27**

Spider Man: Into the Spider-Verse

**August 10**

Dumbo (2019)

**August 17**

Ralph Breaks the Internet

**August 24**

Avengers Infinity War



**City Council Meeting**

**Meeting Date:** 06/10/2019

**ANNOUNCEMENTS:** Ibach Ribbon Cutting

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**ANNOUNCEMENTS**

Ibach Ribbon Cutting

**SUMMARY**

A ribbon cutting for the opening of Ibach Park playground improvements and the new Ibach Street crosswalk into the park is scheduled for June 22 at 11am.

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Presentation

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The City of  
**TUALATIN**

PRESENTS

*Celebrate*  
AT

**IBACH PARK**

10455 SW IBACH ST,  
TUALATIN, OREGON

**PLAYGROUND**

**RENOVATION & NEW**

**CROSSWALK**

**RIBBON CUTTING**



SATURDAY  
JUNE **22** | **11AM**  
FESTIVITIES  
BEGIN

*Free Ice Cream*  
WHILE SUPPLIES LAST



**City Council Meeting**

**Meeting Date:** 06/10/2019

**ANNOUNCEMENTS:** Proclamation Honoring Tualatin High School Boys Track and Field  
Championship

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**ANNOUNCEMENTS**

Proclamation Honoring Tualatin High School Boys Track and Field Championship

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Proclamation

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# Proclamation

## *Recognizing the Tualatin High School Boys Track Team on Winning the OSAA Class 6A Championship*

WHEREAS, the Tualatin High School Boys Track & Field Team won the 2019 Three Rivers League Dual Meet Title with a undefeated record of 6 – 0; and

WHEREAS, the Tualatin High School Boys Track & Field Team won Boys Team Titles at: Chehalem Track and Field Classic, Willamette Falls Invitational, Wilsonville Invitational, and the Nike Twilight Relays; and

WHEREAS, the Tualatin High School Boys Track & Field Team won the 2019 Three Rivers League District Meet with a District Boys Team record of 187 points; and

WHEREAS, the Tualatin High School Boys Track & Field Team had outstanding 2019 OSAA 6A State Final Results in: 100m (Kwabena Lynn – 2<sup>nd</sup>, Dominique Loggins – 4<sup>th</sup>), 200m (Kwabena Lynn – 3<sup>rd</sup>), 800m (Andrew Payton – 4<sup>th</sup>), 1500m (Andrew Payton – 7<sup>th</sup>), 110m High Hurdles (Luke Marion – 2<sup>nd</sup>, Jalen Hale – 4<sup>th</sup>), 4x400 Relay – 4<sup>th</sup> Place (Derek Leneve, Andrew Payton, Andrew McDade, Kwabena Lynn); and

WHEREAS, the Tualatin High School Boys Track & Field Team won Individual 2019 OSAA 6A State Titles in Shot Put (Nano Kis) , Discus (Nano Kis), Team Title in the 4x100 Relay (Dominique Loggins, Andrew McDade, Luke Marion, Kwabena Lynn); and

WHEREAS, the Tualatin High School Boys Track & Field Team had an outstanding season which culminated in winning the 2019 OSAA Class 6A State Championship.

*NOW THEREFORE, BE IT PROCLAIMED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON that:*

The City of Tualatin congratulates the Tualatin High School Boys Track & Field Team on being the 2019 OSAA Class 6A State Champions!

INTRODUCED AND ADOPTED this 10th day of June, 2019.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

ATTEST:

BY \_\_\_\_\_  
City Recorder



# STAFF REPORT

## CITY OF TUALATIN

**TO:** Honorable Mayor and Members of the City Council

**THROUGH:** Sherilyn Lombos, City Manager

**FROM:** Nicole Morris, Deputy City Recorder

**DATE:** 06/10/2019

**SUBJECT:** Consideration of Approval of the Minutes for the Work Session and Regular Meeting of May 13, 2019

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### **ISSUE BEFORE THE COUNCIL:**

The issue before the Council is to approve the minutes for the Work Session and Regular Meeting of May 13, 2019.

### **RECOMMENDATION:**

Staff respectfully recommends that the Council adopt the attached minutes.

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**Attachments:** [City Council Work Session Minutes of May 13, 2019](#)  
[City Council Regular Meeting Minutes of May 13, 2019](#)





Present: Mayor Frank Bubenik; Council President Joelle Davis; Councilor Nancy Grimes; Councilor Paul Morrison; Councilor Robert Kellogg; Councilor Maria Reyes; Councilor Bridget Brooks

Staff Present: City Manager Sherilyn Lombos; City Attorney Sean Brady; Police Chief Bill Steele; Finance Director Don Hudson; Planning Manager Aquilla Hurd-Ravich; Deputy City Recorder Nicole Morris; Assistant to the City Manager Tanya Williams; City Engineer Jeff Fuchs; Planning Manager Steve Koper

## CALL TO ORDER

Mayor Bubenik called the meeting to order at 6:04 p.m.

### 1. ***Grimm's Update: Metro License & DEQ Permit.***

Planning Manager Steve Koper introduced Metro and DEQ staff who provided an update on the status of Grimm's composting and license renewal. Metro Interim Compliance Manager Kyla Ridder presented a brief history on the license renewal for Grimm's. She stated the process started back in early 2017 and since has gone through several rounds of public input before the license was reissued in February of 2019. Manager Ridder reviewed the new provisions of the license renewal as outlined in the submitted handout. She stated a notice of violation of the new provisions was issued on May 8 due to out of compliance pile sizes on their active compost.

Department of Environmental Quality (DEQ) Permit Manager Jeremy Fleming stated in January 2019 DEQ modified Grimm's permit. He spoke to the conditions that were applied as outlined in the submitted handout. Manager Flemings stated staff continues to complete onsite inspections and work with Grimm's on the newly enforced conditions.

Councilor Kellogg stated he is satisfied with the public process that has happened on the license renewal. He believes the regulations that have been put in place reflect the interest of the public.

Councilor Grimes stated Grimm's didn't complete a grant application for Metro's program. She asked if the grant program is too onerous to be completed. Manager Ridder stated Grimm's didn't complete an application due to timeline for submittal and design readiness. She stated they will be able to reapply this year.

Councilor Morrison asked about the condition of the turning of the piles and the dust associated with that process. Manager Flemings stated the new method requires piles to be covered for 15 days initially to help minimize dust.

Councilor Brooks asked if there has been a reduction in citizen complaints associated with Grimm's. Manager Flemings stated there has been a slight decrease in the number of complaints now that the new conditions have been put in place.

Councilor Reyes asked where citizens can go to find more information. Managers Ridder and Flemings stated both Metro and DEQ have dedicated pages on their websites for Grimm's.

Council President Davis stated Green Mountain was Metro's initial consultant for this project and now they are working with Grimm's. She asked what Metro would do now if they needed to reassess since there would be a conflict. Manager Ridder stated Metro would go out for RFP and seek a new consultant.

Council President Davis asked what tools DEQ uses to monitor the compost smell. Manager Flemings stated they use their noses and not any other additional monitoring equipment at this time. He stated full compliance visits happen twice a year. Council President asked if visits would be happening more frequently due to recent compliance violations. Manager Flemings stated the recent violations have been remedied and closed. Manager Ridder spoke to the Metro violations noting they have 90 days to correct them.

Mayor Bubenik asked how often Metro goes out and completes inspections at the site. Manager Ridder stated they visit 7-8 times a year on average but are currently visiting several times a month.

Mayor Bubenik asked when Metro will have standards for composting developed. Manager Ridder stated they are in the research phase of the process.

Mayor Bubenik asked when Grimm's will have to be in full compliance with the new standards. Manager Ridder stated full compliance must be reached by July 2020.

## **2. *Tualatin Moving Forward Update.***

Public Works Director Jeff Fuchs presented an update on the Tualatin Moving Forward project. He spoke to the "Universe of Projects" for the program and how they will be delivered. Director Fuchs shared the project list and the estimated costs. He noted the list totals \$42,825,000. Director Fuchs stated if the list is reduced by \$22 million everything else can be afforded. The removal of the Herman Road and Blake Street projects reduces the list by \$19 million and makes way for the rest of the projects to be completed. He stated the Herman Road project won a RFFA grant that will now pay for the complete design of the project. The city will still need to fund construction of the project either through TDT or grant dollars. Staff is currently working with Metro and Washington County to "de-federalize" the grant funding to make it easier to spend the money and reduce overall cost on the project. Director Fuchs stated staff will be back on May 28 to present information on the Neighborhood Safety Program.

Councilor Morrison requested an information table on this program be made available at the Garden Corner Curves event.

Councilor Kellogg asked if construction on the Herman Road project would be

RFFA eligible. Director Fuchs stated it is and the timing of when to apply is still being looked at.

Councilor Kellogg asked if the Blake Street project is on the CIP list. Director Fuchs stated it is on the CIP and TDT list.

Councilor Grimes would like to see projects prioritized by impacts vs. costs. Director Fuchs stated staff started that process but realized by eliminating the two projects they could complete all the projects on the list regardless of prioritization.

Council President Davis asked if Metro and Washington County have committed to the de-federalization of funds. Director Fuchs stated the paperwork is being finalized on the project and then will go out to RFP.

Councilor Morrison asked for the status of the additions of crosswalks at the high school. Director Fuchs stated the project is being evaluated by the team's engineers and staff will be back with an update soon.

**3. Council Meeting Agenda Review, Communications & Roundtable.**

None.

**ADJOURNMENT**

The work session adjourned at 7:03 p.m.

Sherilyn Lombos, City Manager

\_\_\_\_\_ / Nicole Morris, Recording Secretary

\_\_\_\_\_ / Frank Bubenik, Mayor



## OFFICIAL MINUTES OF THE TUALATIN CITY COUNCIL MEETING FOR MAY 13, 2019

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Present: Mayor Frank Bubenik; Council President Joelle Davis; Councilor Nancy Grimes; Councilor Paul Morrison; Councilor Robert Kellogg; Councilor Maria Reyes; Councilor Bridget Brooks

Staff Present: City Manager Sherilyn Lombos; City Attorney Sean Brady; Police Chief Bill Steele; Finance Director Don Hudson; Planning Manager Aquilla Hurd-Ravich; Deputy City Recorder Nicole Morris; Teen Program Specialist Julie Ludemann; Assistant to the City Manager Tanya Williams; Parks and Recreation Manager Rich Mueller; City Engineer Jeff Fuchs; Management Analyst II Garet Prior; Parks and Recreation Director Ross Hoover; Planning Manager Steve Koper

### A. CALL TO ORDER

Pledge of Allegiance

Mayor Bubenik called the meeting to order at 7:11 p.m.

### B. ANNOUNCEMENTS

#### 1. Recognition of Council President Joelle Davis's Service

Mayor Bubenik read the proclamation thanking Councilor Joelle Davis for her dedication to the City of Tualatin. He presented her with a plaque thanking her for her service.

The Council shared sentiments from her service.

Buck Braden thanked Council President Davis for her service to the City of Tualatin.

Council President Davis thanked the community for allowing her to serve the City.

#### 2. Update on the Tualatin Youth Advisory Council's Activities for May 2019

Members of the Youth Advisory Committee (YAC) presented a PowerPoint on their latest activities and upcoming events. Members are finishing preparations for Projects FRIENDS to be held on May 17. The event will be presented to 300 5th graders from Byrom, Bridgeport, Deer Creek, and Tualatin Elementary Schools. This year's Blender Dash fun run for kids ages 6-15 will be held on June 1 at Tualatin Community Park. The committee will be hosting Movies on the Commons again this summer and will be selling concessions as a fundraiser. A list of movies



is available on the cities website.

3. Proclamation Declaring the Week of May 19-25, 2019 as Emergency Medical Services Week in the City of Tualatin

Councilor Grimes read the proclamation declaring the week of May 19-25, 2019 as Emergency Medical Services Week in the City of Tualatin. Metro West staff accepted the proclamation.

4. New Employee Introduction- Bryan LaVigne, Code Compliance Officer

Community Development Director Aquilla Hurd-Ravich introduced Code Compliance Officer Bryan LaVigne. The Council welcomed him.

5. New Employee Introduction- Lindsay Marshall, Management Analyst II

Maintenance Services Manager Clay Reynolds introduced Management Analyst Lindsay Marshall. The Council welcomed her.

6. Tualatin-Sherwood Road Closure May 17-20, 2019

Washington County Engineer Stacy Schindler announced a road closure along Tualatin Sherwood Road from Avery to Boones Ferry from May 17th at 8pm to May 20th at 5am. They will be replacing the railroad crossing to fix a large dip.

Mayor Bubenik asked what detours would be available. Mr. Schindler shared a map with alternative routes.

**C. PUBLIC COMMENT**

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Dale Potts invited everyone to attend the annual Memorial Day Observance and Community Picnic at Winona Cemetery. The event will be held Monday, May 27, starting at 10:45am.

Mark Gensman presented safety concerns with traffic along SW 95th Street. He presented a DVD and petition requesting stop signs at the SW 95th Street and Sagert Street intersection. City Manager Lombos stated the entire area is being evaluated currently and is on the Tualatin Moving Forward project list.

Anthony Stewart submitted a letter formally requesting an amendment to the Tualatin Development Code regarding marijuana facilities. He is interested in a collaborative community approach on this topic.

Deena Ryerson spoke in support of the current ordinance of marijuana facilities. She asked the Council not bring forward any amendments regarding the locations

of dispensaries.

Mark Began and Josh Harrell spoke to the negative impacts of marijuana accessibility and the impacts it has on student use. They requested the Council maintain the current ordinance and continue to limit access.

Cyndy Hillier of Tualatin Together spoke in support of the current ordinance on marijuana dispensaries. She asked the Council to join with Tualatin Together and help protect the potential of Tualatin's youth.

Kim DeMarchi, Empowered Parenting, spoke in favor of the current marijuana dispensaries code. She urged the Council to not make any amendments.

Tualatin High School Stand Up students spoke in opposition of any amendments to the current code on marijuana dispensaries. They asked for the cities support as they continue to raise awareness on the dangers of marijuana.

#### **D. CONSENT AGENDA**

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MOTION by Council President Joelle Davis, SECONDED by Councilor Nancy Grimes to adopt the consent agenda.

Aye: Mayor Frank Bubenik, Council President Joelle Davis, Councilor Nancy Grimes, Councilor Bridget Brooks, Councilor Maria Reyes, Councilor Paul Morrison, Councilor Robert Kellogg

MOTION CARRIED

1. Consideration of Approval of the Minutes for the Special Work Session of April 15, 2019 and Work Session of April 22, 2019
2. Consideration of **Resolution No. 5434-19** Authorizing an Intergovernmental Agreement with Clean Water Services For the Construction of Sagert Farms Sanitary Sewer Improvements
3. Consideration of **Resolution No. 5436-19** Authorizing the City Manager to Accept Grant Funds from the Tualatin Soil and Water Conservation District for Tualatin Riverbank Restoration and Enhancement
4. Considerations of **Resolution No. 5437-19** Awarding the Contract for Architectural/Design Services for the Tualatin Service Center Project to Scott | Edwards Architecture

#### **E. SPECIAL REPORTS**

## 1. Update from Metro Councilor Craig Dirksen

Metro Councilor Craig Dirksen presented an update from Metro. He stated the Council has three new Councilors this year including a new Council President. Council President Peterson has been working on establishing the Metro agenda for upcoming years. Councilor Dirksen provided an update on the future Chehalem Ridge nature park. Planning for the park is underway and the master plan for the area has been approved. The proposed 2019 Parks and Nature bond would help to build out the area. The bond proposal is a replacement bond for the 1995 and 2006 Metro Natural Areas bonds. Community input on the framework, investment criteria, and project identification for the bond will be forthcoming.

Councilor Dirksen shared an update on food scraps, recycling, and the 2030 Regional Waste Plan. He stated Metro adopted a regional requirement for high volume businesses to separate food scraps from the garbage starting in 2020. They are working with cities and businesses to amend ordinances and provide education. The updates are part of the 2030 Regional Waste Plan.

Councilor Dirksen spoke to transportation throughout the region. The Metro Council is still looking at whether to pursue a transportation bond measure in November 2020. They recognize it as a high priority and have found there is a high willingness to pay for improvements. Councilor Dirksen spoke to the regional affordable housing bond that was passed in November 2018. He stated a committee of 13 people has been appointed to oversee the greater Portland regions program. Their first meeting was on February 6 and updates on the committee will come in the future. Brief updates on the status of the Oregon Convention Center, the Portland Center for Arts, and the Oregon Zoo were shared.

Councilor Morrison requested a copy of the proposed projects and funding for the 2020 Transportation Bond. Councilor Dirksen stated funding sources have not yet been identified at this time but staff is working on them now.

Councilor Brook asked about the timing of both bonds and how they would affect Tualatin's park system. Councilor Dirksen stated both bonds include a local share for local park providers. Each city would receive a portion of those funds based on population in addition to a capital grant program.

Mayor Bubenik asked who the good scraps program would affect. Councilor Dirksen stated the program is for businesses who produce large quantities of food waste.

## 2. Recap and Update from Washington D.C. Advocacy Trip

Management Analyst Garet Prior presented a recap from the JPACT Washington DC advocacy trip. Analyst Prior stated Council President Davis and himself met with Oregon representatives and federal staff and officials. He noted four takeaways from the trip including bi-partisan support for the Community Development Block Grant, representatives seeing the state as one unit in relation to transportation investments, funding for transportation projects will be

determined over the coming months, and the upcoming Census is a major opportunity for Oregon and could add an additional Congressional seat.

Council President Davis stated a broad group of cities need to get together and talk about important upcoming transportation projects and work together on funding. She stressed the importance of a complete count during the upcoming census and would like to see Tualatin get involved in that process.

## F. GENERAL BUSINESS

*If you wish to speak on a general business item please fill out a Speaker Request Form and you will be called forward during the appropriate item. The duration for each individual speaking is limited to 3 minutes. Matters requiring further investigation or detailed answers will be referred to City staff for follow-up and report at a future meeting.*

1. Consideration of **Ordinance No. 1419-19** Relating to Parking; and Amending Tualatin Municipal Code 8-1-252 to Create a Residential Parking Zone on SW Chilkat Terrace

Police Chief Bill Steele and Public Works Director Jeff Fuchs presented a proposed parking zone on SW Chilkat Terrace. Chief Steele stated on April 8 citizens attended a City Council meeting and expressed concerns about parking, access, safety, and congesting caused by student parking on SW Chilkat Terrace. The police department surveyed residences to gauge support. He reported 15 of the 18 residents surveyed were in favor of the parking zone. He presented proposed signage for the area.

### PUBLIC COMMENT

Michael Halsman spoke in opposition to the restricted parking area. He stated he does not feel it is a solution to the parking problems at the high school. He would like to see a long term solution put in place for the parking issues at the high school instead.

Scott Brenton spoke in favor of permit parking along the street.

David Grout spoke in favor of permit parking along the street and would like to see a long term solution for the ongoing parking problem at the high school.

Tualatin High School Principal Michael Dellerba spoke to the significant impacts from the ongoing construction at the high school and the effects it has on parking. He stated since his last visit to Council three agreements with surrounding churches have been put in place that allow students to park in those lots.

### COUNCIL DISCUSSION

Council Kellogg stated he is glad to see the high school making an effort on the parking situation and glad to see the residents come together to find solutions for their neighborhoods. He stated the only way he believes students will start parking in the church lots is to force them there by restricting parking in the surrounding areas.

Councilor Reyes asked if there is a way to encourage walking and biking to school. Principal Dellerba stated geographic location is a problem for this area.

Councilor Morrison asked if the school district has looked into any additional bus services for the Bull Mountain students. Principal Dellerba stated it is not a discussion at this time.

MOTION by Councilor Robert Kellogg, SECONDED by Councilor Paul Morrison for first reading by title only.

Aye: Mayor Frank Bubenik, Council President Joelle Davis, Councilor Nancy Grimes, Councilor Bridget Brooks, Councilor Maria Reyes, Councilor Paul Morrison, Councilor Robert Kellogg

MOTION CARRIED

MOTION by Council President Joelle Davis, SECONDED by Councilor Nancy Grimes for second reading by title only.

Aye: Mayor Frank Bubenik, Council President Joelle Davis, Councilor Nancy Grimes, Councilor Bridget Brooks, Councilor Maria Reyes, Councilor Paul Morrison, Councilor Robert Kellogg

MOTION CARRIED

MOTION by Council President Joelle Davis, SECONDED by Councilor Robert Kellogg to adopt Ordinance No. 1419-19 relating to parking; and amending Tualatin Municipal Code 8-1-252 to create a residential parking zone on SW Chilkat Terrace.

Aye: Mayor Frank Bubenik, Council President Joelle Davis, Councilor Nancy Grimes, Councilor Bridget Brooks, Councilor Maria Reyes, Councilor Paul Morrison, Councilor Robert Kellogg

MOTION CARRIED

2. Consideration of **Resolution No. 5435-19** Establishing the Parks System Development Charges for the City of Tualatin

The Council took a recess from 9:39-9:48 p.m.

Parks and Recreation Director Ross Hoover and Parks Development Manager Rich Mueller presented a rate discussion on Parks System Development Charges (SDC). Director Hoover stated in December the Council voted on SDC framework and staff is back now to set rates in discussion with the budget process. He stated staff presented information at the April 15<sup>th</sup> Budget meeting and looked at potential rates that would go in effect on July 1, 2019. Director Hoover presented current rates comparisons from neighboring cities including Beaverton, McMinnville, Sherwood, Hillsboro, and Tigard. He presented comparison for different non-residential and residential types using both the 60% and 50% of the maximum allowable rate.

Councilor Morrison asked if the value for the residential estimates is based off the assessed value or the real value. City Manager Lombos stated it is an apples to

apples scenario based comparison from the McKenzie Study.

Councilor Grimes asked why the city property tax is not included in the total costs. Director Hoover stated it is included in the chart as a further level of comparison and does not impact the upfront costs of construction.

Councilor Reyes asked if the percentages across both types can be different or if they have to be the same. Director Hoover stated the consultant recommended keeping the types and ratios together for the highest level of justification. Councilor Reyes stated she would like to offer incentives for affordable housing and set the rates high enough to be competitive in the nonresidential category.

#### PUBLIC COMMENT

Chamber of Commerce Director Linda Moholt spoke in opposition of the proposed rates. She stated it is hard to justify a high industrial rate when there are no parks in the industrial manufacturing areas for their employees to utilize.

Parks Advisory Committee Members Valerie Pratt and Denise Wells stated they are in favor of the proposed SDC rates. Member Pratt stated the rates would allow funding to develop parks in industrial areas. Member Wells stated the methodology is based on need and fairness throughout the entire community. He noted they understand the rates will only partially fund what was outlined in the master plan.

#### COUNCIL DISCUSSION

Councilor Morrison stated he doesn't feel the need to begin charging a Parks SDC rate. He stated he would like staff to look at creating a Recreation District that would be able to fund these projects.

Councilor Brooks stated she wants to see the same rate across all types.

Councilor Grimes stated she wants Tualatin to continue to be a business friendly environment. She was glad to see that the city would continue to have the lowest rates with the presented numbers. She added she is not in favor of a Recreational District.

Councilor Kellogg proposed a rate of 43% the maximum allowable rate as that would be a reasonable 20% rate increase for residential properties from the current rate. He proposed 50% the maximum allowable rate for nonresidential as it continues to make us a competitive place to locate a business.

Council President Davis stated business employees don't currently have the opportunity to use parks in industrial areas because SDC were not originally charged. She stated it is important to have parks in those areas that is why it is important that we charge the fee now. She stated she is amenable to the proposal Councilor Kellogg has brought forth.

Mayor Bubenik wants to ensure residential housing is affordable by keeping the rates to a minimum overall increase. He stated he feels the 50% maximum allowable rate is reasonable for nonresidential. Mayor Bubenik stated he is not in favor of a Recreation District as there are lots of bond measures coming down the

pipeline and citizens are going to start getting bond fatigue.

City Manager Lombos suggested staff prepare a resolution with a 43% maximum allowable for residential and 50% maximum allowable for nonresidential for consideration at the next meeting.

Councilor Brooks states she would like to see the same number across the board for all uses.

Council consensus was reached to bring back the item prepared as the City Manager suggested.

## **G. COMMUNICATIONS FROM COUNCILORS**

Councilor Morrison stated he attended the Clackamas County Coordinating Committee where they are looking to endorse a letter for transportation funding for Clackamas County for funds that would be used for the 2040 Transportation Planning process.

Councilor Brooks stated she attended a session on advancing racial equity and the rotary auction over the past weeks.

Councilor Kellogg participated in the SW Corridor Steering Committee meeting where they approved an at grade crossing for the 72nd intersection. In addition, the committee received support from ODOT and Washington County about making sure the train makes its way to Bridgeport Village. He noted the decision on the location of the park and ride will be made in December.

Mayor Bubenik stated he conducted the following activities over the past weeks: met with the Family Justice Center where they provided an update, attended the Mayors Luncheon in Beaverton, attended the Ride Connection Lunch in Motion Fundraiser, attended the Riverpark CIO meeting, and participated in the Policy Advisory Board meeting with the Washington County Housing Authority.

Mayor Bubenik asked if there was Council consensus to address the marijuana facilities issue at a future work session. Council consensus was reached to review the topic at a future meeting not yet determined.

## **H. ADJOURNMENT**

Mayor Bubenik adjourned the meeting at 11:23 p.m.

Sherilyn Lombos, City Manager

\_\_\_\_\_ / Nicole Morris, Recording Secretary

\_\_\_\_\_ / Frank Bubenik, Mayor







# STAFF REPORT

## CITY OF TUALATIN

**TO:** Honorable Mayor and Members of the City Council

**THROUGH:** Sherilyn Lombos, City Manager

**FROM:** Don Hudson, Finance Director

**DATE:** 06/10/2019

**SUBJECT:** Consideration of Resolution No. 5441-19 Certifying City of Tualatin Municipal Services

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### **ISSUE BEFORE THE COUNCIL:**

To be eligible to receive state shared revenues (cigarette, liquor and highway taxes), the City must certify it provides four or more of certain municipal services.

### **RECOMMENDATION:**

Staff recommends that the Council adopt the attached Resolution certifying City of Tualatin municipal services.

### **EXECUTIVE SUMMARY:**

The State of Oregon requires that cities located in a county having more than 100,000 inhabitants according to the most recent decennial census, must provide four or more of certain municipal services in order to receive state shared revenues. Those services are: Police Protection; Fire Protection; Street Construction, Maintenance and Lighting; Sanitary Sewers; Storm Sewers; Planning, Zoning and Subdivision Control; and Water Utility Services. The City provides six of the seven listed municipal services (Fire Protection is provided by Tualatin Valley Fire & Rescue).

### **OUTCOMES OF DECISION:**

If the Council approves the Resolution, the City will be eligible to receive state shared revenues. If the Council does not approve the Resolution, the City will not receive state shared revenues and we will need to reduce expenditures or contingencies.

### **FINANCIAL IMPLICATIONS:**

It is estimated, and budgeted, that the City will receive \$32,195 in Cigarette Taxes and \$502,140 in Liquor Taxes in the General Fund, and \$2,016,680 in State Gas Taxes in the Road Operating Fund.

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**Attachments:** Reso 5441-19 Certify Muni Serv



RESOLUTION NO. 5441-19

A RESOLUTION CERTIFYING CITY OF TUALATIN MUNICIPAL SERVICES

WHEREAS, ORS 221.760 provides that the officer responsible for disbursing funds to cities under ORS 323.455, 366.785 to 366.820 and 471.805 shall, in the case of a city located within a county having more than 100,000 inhabitants, disburse such funds only if the city provides four or more of the following services:

1. Police Protection
2. Fire Protection
3. Street Construction, Maintenance, and Lighting
4. Sanitary Sewers
5. Storm Sewers
6. Planning, Zoning, and Subdivision Control
7. Water Utility Services; and

WHEREAS, the Council desires to comply with ORS 221.760 by certifying the provision of municipal services.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

**Section 1.** The City of Tualatin certifies that it provides the following four or more municipal services, as provided in ORS 221.760:

1. Police Protection
2. Street Construction, Maintenance, and Lighting
3. Sanitary Sewers
4. Storm Sewers
5. Planning, Zoning, and Subdivision Control
6. Water Utility Services

**Section 2.** This resolution is effective upon adoption.

Adopted by the City Council this 10<sup>th</sup> day of June, 2019.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

APPROVED AS TO FORM

ATTEST:

BY \_\_\_\_\_  
City Attorney

BY \_\_\_\_\_  
City Recorder



# STAFF REPORT

## CITY OF TUALATIN

**TO:** Honorable Mayor and Members of the City Council

**THROUGH:** Sherilyn Lombos, City Manager

**FROM:** Don Hudson, Finance Director

**DATE:** 06/10/2019

**SUBJECT:** Consideration of **Resolution No. 5442-19** Amending Water, Sewer, Surface Water Management, and Road Utility Fee Rates Inside the City of Tualatin and Rescinding Resolutions 5374-18, 5400-18 and 5371-18

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### **ISSUE BEFORE THE COUNCIL:**

The City Council will consider setting water, sewer, surface water management, and road utility fee rates for service performed after June 30, 2019. The Fiscal Year 19/20 Budget was prepared assuming the rates for service would be set as proposed, including the split between a Regional Rate, set by Clean Water Services (CWS), and a Local Rate, set by the City of Tualatin for sewer and surface water rates.

### **RECOMMENDATION:**

Staff recommends adopting the attached Resolution.

### **EXECUTIVE SUMMARY:**

Water rates are increasing as determined in the adopted Water Master Plan, with the consumption rate increasing from \$2.96 per 100 cubic ft. (CCF) to \$3.07 per CCF, the service charge increasing from \$4.18 per month to \$4.36 per month, and the facilities charge increasing per the schedule in Section 5 of the attached resolution.

The monthly regional base sewer rate would increase from \$24.38 per Dwelling Unit (DU) to \$25.11/DU and the monthly regional use charge would increase from \$1.61 per Hundred Cubic Feet (CCF) to \$1.66/CCF. The local base rate and use charge would increase from \$5.68/DU to \$6.53/DU and from \$0.3860/CCF to \$0.4440/CCF, respectively. The Sewer System Development Charge would increase from \$5,650 per Dwelling Unit (DU) or Equivalent Dwelling Unit (EDU) to \$5,800/DU or EDU.

The monthly regional surface water management rate would increase from \$2.19 per Equivalent Service Unit (ESU) to \$2.31/ESU and the local rate would increase from \$6.96/ESU to \$7.93/ESU. The Surface Water Management System Development Charge would increase from \$545 per Equivalent Service Unit (ESU) to \$560/ESU.

The Road Utility Fee was created for the purpose of maintenance of City streets, which includes

repairing sidewalks under a sidewalk maintenance program, landscape enhancements along the rights-of-way, street tree replacement, and for paying the operating cost of street lights. The pavement maintenance and street light portion of the fee was created in April 1990, with the sidewalk/street tree portion added in July 1991. New rates were established in July 2017, and an indexing of the rate was updated using a formula utilized by Washington County for the Transportation Development Tax each year. The three-pronged index was recently approved by the Washington County Board of Commissioners at 3.005%. The attached resolution increases the Road Utility and Sidewalk/Street Tree Fees by this index.

**OUTCOMES OF DECISION:**

Adoption of the attached resolution sets new rates effective July 1, 2019.

**FINANCIAL IMPLICATIONS:**

With the new rates, the average monthly Tualatin residential water, sewer, surface water management, and road utility fee bill will increase from \$92.48 to \$97.53, an increase of \$5.05/month.

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**Attachments:**    [Reso 5422-19 FY19-20 Rates](#)

RESOLUTION NO. 5442-19

A RESOLUTION AMENDING WATER, SEWER, STORMWATER, AND ROAD UTILITY FEE RATES INSIDE THE CITY OF TUALATIN AND RESCINDING RESOLUTIONS 5374-18, 5400-18 AND 5371-18

WHEREAS, under TMC 2-6, the City established System Development Charges; and

WHEREAS, under TMC 3-2, 3-3 and 3-4, the Council established rates for water, sewer, stormwater (also known as “surface water” and “storm sewer”), and road utility fees;

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

**Section 1. Water, Sewer, and Stormwater System Development Charges.**

(a) The schedule for the Water System Development Charges as of July 1, 2019 is as follows:

<b>Meter Size</b>	<b>Meter Unit Equivalent</b>	<b>Water System Development Charge*</b>
5/8 inch	1	\$ 4,645
3/4 inch	1.5	\$ 6,966
1 inch	2.5	\$ 11,611
1½ inch	5	\$ 23,223
2 inch	8	\$ 37,157
3 inch	15	\$ 74,312
4 inch	25	\$ 116,114
6 inch	50	\$ 232,227
8 inch	80	\$ 371,563
10 inch	115	\$ 534,122
* The SDC payment for a single-family residence will be based on the meter size required for domestic water service and irrigation service. If a larger meter is required only for residential fire sprinkler service, the higher fee will not be charged.		

(b) On February 1st of each year, the Water SDC fees shall automatically increase. The amount of increase shall be the change in Engineering News Record (ENR) Construction Cost Index (CCI) for Seattle, WA. This increase will not require further action by the City Council.

(c) The schedule for the Sewer System Development Charges, per Equivalent Dwelling Unit (EDU), as of July 1, 2019 is as follows:

<b>Sewer System Development Charge</b>	
Regional Rate	\$ 5,569.00
Local Rate	\$ 231.00

(d) The Stormwater Management System Development Charge will be increased to \$560 per Equivalent Service Unit (ESU).

**Section 2. In Lieu Tax Payments.** Where the City provides water service to properties outside of the City, which are not subject to bond taxes levied by the City for water system improvements, properties served by the City shall pay in lieu tax payment to the City as follows:

Annually within ninety (90) days after the true cash values are fixed by the tax assessing authority for those properties located outside of the City that are served by City water, the City will compute the "In Lieu Tax Payment" applying the City's tax rate for water system improvements for that year to the taxable value furnished to the City. Payment of the obligation of the "In Lieu Tax Payment" will be made to the City within thirty (30) days of the bill being presented from the City to the property receiving City water service.

**Section 3. Service Line Installation Charges.**

(a) Prior to installation of the requested service line, the customer will make a deposit to the City based on an estimate of the actual costs plus 15%.

(b) When the installation is completed, the customer will pay the balance or be refunded the amount of the deposit not used.

**Section 4. Meter Installation Charges.**

(a) Deposits for installation of new water meters are as follows:

<b>METER METHOD</b>	
<b>Meter Size (in inches)</b>	<b>Installation Charge</b>
5/8 x 3/4, Drop-in meter	\$140
1, Drop-in meter	\$300
1½, Drop-in meter	\$540
2, Drop-in meter	\$790
3, drop-in meter	Cost plus 15%
4, drop-in meter	Cost plus 15%
6, drop-in meter	Cost plus 15%
8, drop-in meter	Cost plus 15%
10, drop-in meter	Cost plus 15%
12, drop-in meter	Cost plus 15%

(b) Prior to the installation of the requested meter, the customer will make a deposit to the City based on an estimate of the actual cost. When the installation is completed the customer will pay the balance, or be given a refund of the amount of deposit not used.

(c) For Meters requiring a new or larger service line, please reference Section 3. (Service Line Installation) above.

**Section 5. Monthly Rates for Water, Sewer, Stormwater, and Road Utility.**

(a) The schedule of monthly Water rates is amended as follows:

METER SIZE	FACILITIES CHARGE		SERVICE CHARGE	WATER CHARGE PER 100 CUBIC FEET
	CLASS 1	CLASS 2		
5/8 inch x 3/4 inch	\$ 4.31	\$ 4.31	\$ 4.36	\$3.07
1 inch	\$ 10.82	\$ 10.82	\$ 4.36	\$3.07
1½ inch	\$ 21.58	\$ 21.58	\$ 4.36	\$3.07
2 inch	\$ 34.50	\$ 34.50	\$ 4.36	\$3.07
3 inch	---	\$ 47.25	\$ 4.36	\$3.07
4 inch	---	\$ 80.89	\$ 4.36	\$3.07
6 inch	---	\$ 175.27	\$ 4.36	\$3.07
8 inch	---	\$ 337.12	\$ 4.36	\$3.07

The customer classes are:

Class 1: All single-residential dwellings, duplexes and triplexes; and

Class 2: All other services not included in Class 1.

(b) The schedule of monthly Sewer rates is amended as follows:

	BASE CHARGE (per Dwelling Unit, or EDU)	USE CHARGE Per CCF (hundred cubic feet), winter average
Regional Rate	\$ 25.11	\$ 1.6600
Local Rate	\$ 6.53	\$ 0.4440

(c) The schedule of monthly Stormwater rates is amended as follows, per ESU:

	BASE CHARGE
Regional Rate	\$ 2.31
Local Rate	\$ 7.93

(d) The schedule of monthly Road Utility Fees rates for Residential Customer Groups are as follows:

Customer Group	Per Unit
Single Family Residential	\$ 5.58
Multi-Family Residential	\$ 5.05



(e) The schedule of monthly Road Utility Fee rates for Non-Residential Customer Groups are as follows:

<b>Customer Group</b>	<b>Per Thousand Square Feet</b>	<b>Flat Fee</b>
Non-Residential Group 1	\$ 1.38	\$ 3.45
Non-Residential Group 2	\$ 2.39	\$ 3.45
Non-Residential Group 3	\$ 5.93	\$ 3.45
Non-Residential Group 4	\$ 13.36	\$ 3.45
Non-Residential Group 5	\$ 38.17	\$ 3.45
Non-Residential Group 6	\$ 91.19	\$ 3.45
Non-Residential Group 7	\$ 10.60	\$ 3.45

**Section 6. Water Wheeling Agreements.** The Council may enter into water wheeling agreements with other jurisdictions. These agreements will contain specific water rates and charges for each individual agreement.

**Section 7. Charges for Fire Protection Service.** The monthly charges for standby fire protection service are as follows:

<b>Service Size</b>	<b>Rate</b>
4 inch	\$ 15.32
6 inch	\$ 33.15
8 inch	\$ 64.17
10 inch	\$ 102.00

**Section 8. Miscellaneous Charges.** The following charges are imposed for service restoration, service termination and for account delinquencies:

(a) **Restoration Charge.**

(1) Where service has been terminated for delinquent bills or other violations, the charge for restoration of service shall be \$30.00.

(2) Water shall only be restored between 7:00 a.m. and 4:00 p.m., Monday through Friday, excluding holidays.

(b) **Shut-Off or Turn-On.** When requested by a customer, the City will perform shut-off or turn-on service for the following fee:

<b>REQUEST</b>	<b>CHARGE</b>
During office hours	\$50.00
After office hours	Cost of labor and materials incurred by the city to preform service.
Office Hours are 7:00 a.m. – 4:00 p.m., Monday-Friday, excluding holidays.	

(c) **Delinquency Notification Charge.** Whenever a utility account remains delinquent ten (10) days after the date of the mailed delinquent notice, a charge of \$10.00 may be assessed to the account to cover the costs of handling the delinquent account.

**(d) Restore Meter Removed by City Due to Violation of TMC 3-3-200 Charge.**

When the City finds that one or more provisions of TMC 3-3-200 have been violated, the City may remove the meter and assess to the account a restoration charge of \$50.

**Section 9. Hydrant and Bulk Water Usage Charges.**

(a) The charge for the temporary use of hydrant meters, hydrant wrenches and valves, and temporary or bulk water is as follows:

ITEM	CHARGE
3 inch hydrant meter, wrench and valve deposit	\$1,750.00
¾ inch hydrant meter, wrench and valve deposit	\$1,000.00
Hydrant wrench and valve deposit (no meter)	\$275.00
Hydrant flow test	\$250.00
Backflow device deposit	\$150.00
Bulk water permit fee	\$50.00 + water usage
Daily rental fee 3 inch hydrant meter	\$5.00
Daily rental fee ¾ inch hydrant meter	\$2.00
Water used (water charge per 100 cubic feet)	Current rate

(b) Bulk water obtained from city hydrants and with city equipment shall only be used within the city limits of Tualatin.

(c) The bulk water permits expire after six months. At that time the permit holder is required to return the usage card to the City of Tualatin and will be billed at the current water rate at the time the card is received.

**Section 10. Prior Resolutions Rescinded.** Resolution Nos. 5374-18, 5400-18, and 5371-18 are rescinded effective July 1, 2019.

**Section 11. Effective Date.** The effective date of this resolution is July 1, 2019, for service after June 30, 2019.

INTRODUCED AND ADOPTED this 10th day of June 2019.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

APPROVED AS TO FORM

ATTEST:

BY \_\_\_\_\_  
City Attorney

BY \_\_\_\_\_  
City Recorder

**City Council Meeting**

**Meeting Date:** 06/10/2019

**CONSENT**     Consideration of Resolution 5448-19

**AGENDA:**

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**CONSENT AGENDA**

Consideration of **Resolution No. 5448-19** Endorsing the Annexation into Clean Water Services Service District and any other Special District Necessary for the Provision of Urban Services to the Property Annexed to the City through Ordinance No. 1417-19

**SUMMARY**

On January 28, 2019, the Council adopted Ordinance No. 1417-19 annexing territory located at the SE corner of 124th Avenue and Tualatin Sherwood Road. Under ORS 199.510(2)(c), when a city receives services from a district and is part of that district, any territory thereafter annexed to the city shall be included in the boundaries of the district. Under ORS 198.720(1), Clean Water Services is requiring a resolution of the City supporting the annexation of the Property into the Clean Water Services district.

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Resolution 5448-19

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RESOLUTION NO. 5448-19

A RESOLUTION ENDORSING THE ANNEXATION INTO THE CLEAN WATER SERVICES SERVICE DISTRICT AND ANY OTHER SPECIAL DISTRICTS NECESSARY FOR THE PROVISION OF URBAN SERVICES TO THE PROPERTY ANNEXED TO THE CITY THROUGH ORDINANCE NO. 1417-19

WHEREAS, the Council held a public hearing on January 28, 2019 to consider the annexation of property located at 12150 SW Tualatin-Sherwood Road (Tax Lots 2S127C0701,2S 127C0500), hereafter "Property," into the City of Tualatin;

WHEREAS, after hearing and considering the evidence and testimony, the Council voted to approve Annexation Ordinance No. 1417-19 to annex the Property;

WHEREAS, Clean Water Services is a district under ORS 199.510(2)(c) and provides urban services to properties within the corporate boundary of the City;

WHEREAS, under ORS 199.510(2)(c), when a city receives services from a district and is part of that district, any territory thereafter annexed to the city shall be included in the boundaries of the district and shall be subject to all liabilities of the district in the same manner and to the same extent as other territory included in the district; and

WHEREAS, under ORS 198.720(1), Clean Water Services is requiring a resolution of the City supporting the annexation of the Property into the Clean Water Services district.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

**Section 1.** Under ORS 199.510(2)(c), the Property is included in the boundary of Clean Water Services. Further, under ORS 198.720(1), the City supports the annexation into the CWS service district for the provision of urban services to the Property annexed into the City through Ordinance No. 1417-19.

**Section 2.** The City supports the future annexation into any other special districts as necessary for the provision of urban services to the Property annexed into the City through Ordinance No. 1417-19.

**Section 3.** The resolution is effective upon adoption.

INTRODUCED AND ADOPTED by the City Council this 10<sup>th</sup> day of June, 2019.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

APPROVED AS TO FORM

ATTEST:

BY \_\_\_\_\_  
City Attorney

BY \_\_\_\_\_  
City Recorder

**City Council Meeting**

**Meeting Date:** 06/10/2019

**SPECIAL** Summer Programs Preview  
**REPORTS:**

**Submitted For:** Sherilyn Lombos, City Manager

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**SPECIAL REPORTS**

Update on Summer Programs and Activities Offered by the City of Tualatin and Partners

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A. Summer Programs Preview

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*City of Tualatin*

Summer Programs 2019



# Tualatin Public Library



## Summer Reading

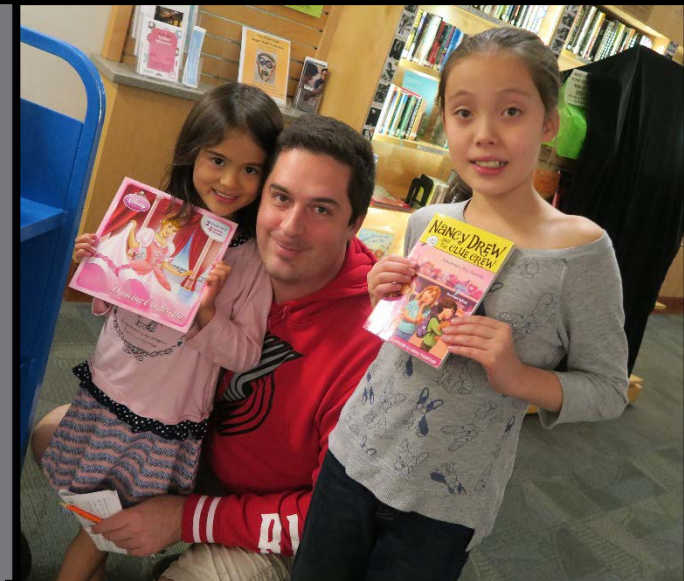
Online options and an app to track your reading!

Free books for kids and teens

Summer lunch site for July and August



Weekly outreach visits to Atfalati Park including hands-on science fun





# Summer Reading at the Commons

Summer Reading fosters human development through promoting literacy & education, increases cultural unity, and creates a sense of place.



Tuesdays, June - July



Washington County  
Cooperative Library Services





# Summer Camp 2019



Seven 1-week sessions  
284 kids registered  
Ages 4 yrs-5<sup>th</sup> grade





# Teen Adventure Camp

9 weeks  
18 sessions  
24 teens per day, 648 total  
100% of spots filled, with waitlists







# CONCERTS ON THE COMMONS

Friday nights in July and August  
6:30-8:30pm







# MOVIES ON THE COMMONS



Free family-friendly movies  
Saturdays in July & August





# Teen Volunteers



**TEAM Tualatin** 70 youth, 7 weeks

**Library** 40 summer Teen volunteers

**Tualatin Youth Advisory Council** 20 youth, meet weekly, help out with summer events



# Police

## National Night Out

Tuesday, August 6th

## GREAT Camp

Gang Resistance  
Education and Training

6<sup>th</sup>-8<sup>th</sup> grade students, four  
Sessions

## First Responder Friday

June 14

## Child Passenger Seat Safety Checks

July 13





# Juanita Pohl Center

## Summer Programs for Active Older Adults



Hikes, day trips, and regional excursions  
Enrichment classes  
Health and fitness programs





# Recreation Partners

## **Tualatin Crawfish Festival August 2,3**

Music, food, contests, and activities

## **Tualatin Heritage Center**

Ongoing programs and events

## **Browns Ferry Park**

Kayak & canoe rentals

## **Willowbrook Arts Camp**

38<sup>th</sup> summer

## **Tigard-Tualatin Summer Lunch Program**

Community Park, Atfalati Park, Tualatin Public Library

## **YMCA, Skyhawks, Code to the Future Camps**





# STAFF REPORT

## CITY OF TUALATIN

**TO:** Honorable Mayor and Members of the City Council

**THROUGH:** Sherilyn Lombos, City Manager

**FROM:** Don Hudson, Finance Director

**DATE:** 06/10/2019

**SUBJECT:** Consideration of **Resolution No. 5443-19** Declaring the City's Election to Receive State Revenue Sharing Funds During Fiscal Year 2019-20

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### **ISSUE BEFORE THE COUNCIL:**

The Council will consider whether or not to receive State Revenue Sharing Funds.

### **RECOMMENDATION:**

Staff recommends adopting the attached Resolution after conducting the required public hearing.

### **EXECUTIVE SUMMARY:**

In order for the City to receive state shared revenues, the City must have levied property taxes in the prior fiscal year, pass a resolution approving participation in the program, and hold two public hearings on the use of state revenue sharing funds. The first public hearing, before the budget committee, is to discuss possible uses of the funds. That public hearing was held on May 20, 2019. The second public hearing, before the City Council this evening, is to discuss the proposed uses of the funds.

The City is set to receive \$380,040 in State Revenue Sharing Funds in 2019-20. This amount is a portion of the Liquor Tax and is apportioned to cities based upon a calculation defined in Oregon Revised Statutes (ORS) 221.770 using factors such as adjusted population and state per capita income.

The City also receives allocations for another portion of Liquor Tax funds, as well as Cigarette and Gas Taxes, based upon a per capita distribution. These funds are governed under ORS 221.760. The law provides that cities located within a county having more than 100,000 inhabitants, must provide four or more municipal services (out of a list of seven types of services) to be eligible to receive these revenues. Council must pass a resolution stating that these services are provided (on this evening's Council Agenda), and are therefore not part of tonight's public hearing.

These revenues are not restricted by the State and are therefore used as a General Fund revenue source.

**OUTCOMES OF DECISION:**

If the Council approves the Resolution, the City will be eligible to receive state shared revenues. If the Council does not approve the Resolution, the City will not receive state shared revenues and will need to reduce its expenditures or contingencies.

**FINANCIAL IMPLICATIONS:**

The City has budgeted \$380,040 of state shared revenues in the General Fund for general city operations in Fiscal Year 2019-2020.

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**Attachments:**    [Resolution No. 5443-19](#)

RESOLUTION NO. 5443-19

A RESOLUTION ELECTING TO RECEIVE STATE REVENUE SHARING FUNDS FOR THE 2019-20 FISCAL YEAR

WHEREAS, ORS 221.770 requires the City Council adopt a resolution declaring the City's election to receive State Revenue Sharing Funds; and

WHEREAS, the 2019-20 budget for the City of Tualatin contains State Revenue Sharing Funds as a resource in the budget year beginning July 1, 2019; and

WHEREAS, the Budget Advisory Committee held a public hearing to discuss the possible uses of State Revenue Sharing Funds on May 20, 2019 and the City Council held a public hearing on June 10, 2019 to discuss the proposed use of the funds for Fiscal Year 2019-20, giving citizens an opportunity to comment on use of State Revenue Sharing, and

WHEREAS, the City levied a property tax for the preceding fiscal year, beginning July 1, 2018.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

**Section 1.** Pursuant to ORS 221.770, the City of Tualatin elects to receive State Revenue Sharing Funds for Fiscal Year 2019-20.

**Section 2.** This resolution is effective upon adoption.

Adopted by the City Council this 10<sup>th</sup> day of June, 2019.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

APPROVED AS TO FORM

ATTEST:

BY \_\_\_\_\_  
City Attorney

BY \_\_\_\_\_  
City Recorder



# STAFF REPORT

## CITY OF TUALATIN

**TO:** Honorable Mayor and Members of the City Council

**THROUGH:** Sherilyn Lombos, City Manager

**FROM:** Tabitha Boschetti, Assistant Planner  
Steve Koper, Planning Manager

**DATE:** 06/10/2019

**SUBJECT:** Consideration of **Ordinance No. 1421-19** Annexing Territory Located at 10325 SW Jurgens Lane and 10511 SW Hazelbrook Road into the City of Tualatin and Withdrawing the Territory from the Washington County Enhanced Sheriff Patrol District and the County Urban Road Maintenance District (Tax Map: 2S114BC Lots: 1900, 1901 and Tax Lot: 2S115DA00100) (File No. ANN-19-0001)

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### **ISSUE BEFORE THE COUNCIL:**

Consideration of **Ordinance No. 1421-19** Annexing Territory Located at 10325 SW Jurgens Lane and 10511 SW Hazelbrook Road into the City of Tualatin and Withdrawing the Territory from the Washington County Enhanced Sheriff Patrol District and the County Urban Road Maintenance District.

### **RECOMMENDATION:**

Staff recommends Council adopt **Ordinance No. 1421-19**.

### **EXECUTIVE SUMMARY:**

This matter is a quasi-judicial public hearing.

The applicant is the City of Tualatin, represented by Rich Mueller, Parks Planning and Development Manager, owner of Tax Map: 2S114BC Lots: 1900, 1901 addressed as 10325 SW Jurgens Lane, and Tax Lot: 2S115DA00100 addressed as 10511 SW Hazelbrook Road.

The property to the west of Jurgens Park, described as 10511 SW Hazelbrook Road, is approximately 3.44 acres large and is a flag lot reaching north of SW Hazelbrook Road to the Tualatin River. This property is undeveloped with no existing structures. To the west and southwest of the lot are single-dwelling properties in unincorporated Washington County. To the east of the southernmost portion of the lot's flagpole is a single lot also in unincorporated Washington County.

The property to the east of Jurgens Park, described as 10325 SW Jurgens Lane, comprises 5.15 acres, primarily on the west side of SW Jurgens Avenue, and a small area (about 1,700

square feet) on the east side of SW Jurgens Avenue, south of the Tualatin River. This property contains one vacant house and one storage structure.

Both properties are currently located in unincorporated Washington County in the FD-10 Planning District (Future Development 10-Acre Section 309). The application materials are included as Attachment B to this staff report. The site is already in the Low Density Residential (RL) Planning District as shown on the City's Community Plan Map (Attachment B).

Before granting the proposed annexation, the City Council must find that the annexations conform to the applicable criteria of ORS 222, Metro Code Section 3.09 and TDC Section 31.010. The Analysis and Findings (Attachment A) examines the application in respect to the requirements for granting an annexation. Staff finds that the annexation meets the applicable criteria.

### **OUTCOMES OF DECISION:**

Granting the Annexation petition will result in the following:

1. The property is annexed to the City of Tualatin and designated in the Low Density Residential (RL) Planning District.
2. The territory is concurrently withdrawn from the Washington County Enhanced Sheriff Patrol District and the Urban Road Maintenance District.

Denial of the Annexation petition will result in the following:

The property remains outside the city limits and within unincorporated Washington County.

### **ALTERNATIVES TO RECOMMENDATION:**

The alternatives to the staff recommendation for the Council are:

To continue the discussion of the annexation and return to the matter at a later date.

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**Attachments:**    [Ord 1421-19 - Annex Jurgens Park](#)  
                          [Attachment B: Exhibits to Analysis and Findings](#)  
                          [Attachment C: Council Presentation](#)  
                          [Attachment D: Map Handout](#)

ORDINANCE NO. 1421-19

AN ORDINANCE ANNEXING TERRITORY LOCATED AT 10325 SW JURGENS LANE AND 10511 SW HAZELBROOK ROAD (TAX MAP: 2S114BC LOTS: 1900, 1901 AND TAX LOT: 2S115DA00100) INTO THE CITY OF TUALATIN; WITHDRAWING THE TERRITORY FROM THE WASHINGTON COUNTY ENHANCED SHERIFF PATROL DISTRICT AND THE COUNTY URBAN ROAD MAINTENANCE DISTRICT; AND ANNEXING TERRITORY INTO THE BOUNDARY OF CLEAN WATER SERVICES (FILE NO. ANN-19-0001)

WHEREAS, City staff submitted a petition for annexation of approximately 9 acres of property located at 10325 SW Jurgens Lane and 10511 SW Hazelbrook Road (Tax Map: 2S114BC Lots: 1900, 1901 and Tax Lot: 2S115DA00100), hereafter called the "Property," into the City of Tualatin;

WHEREAS, the City of Tualatin is authorized to annex territory under ORS Chapter 222 and Metro Code Chapter 3.09;

WHEREAS, the annexation of the Property has been requested by 100 percent of the property owners, 100 percent of the electors, and qualifies for annexation under ORS 222.125;

WHEREAS, Washington County has not opposed the annexation in accordance with the Urban Growth Management Agreement between the County and the City;

WHEREAS, Metro does not oppose the annexation;

WHEREAS, under ORS 199.510(2)(c), when a city receives services from a district and is part of that district, any territory annexed to the city is to be included in the boundaries of the district and subject to all liabilities of the district in the same manner and to the same extent as other territory included in the district;

WHEREAS, the City receives sewer, storm, and surface water management services from Clean Water Services and is part of the Clean Water Services district, as referenced ORS 199.510(2)(c);

WHEREAS, the Property is in the Washington County Enhanced Sheriff Patrol District and the County Urban Road Maintenance District;

WHEREAS, ORS 222.520(1) authorizes cities to withdraw territory from districts concurrent with the annexation decision;

WHEREAS, notice of public hearing on the annexation petition was given as required by Tualatin Development Code 32.260;

WHEREAS, the Council conducted a public hearing relating to the annexation on June 10, 2019, where Council heard and considered the testimony and evidence presented by the City staff, the applicant, and those appearing at the public hearing; and



WHEREAS, after the conclusion of the public hearing Council determined the annexation is consistent with all applicable legal requirements of state law, Metro code, and City ordinances related to annexing property and voted to approve the annexation.

THE CITY OF TUALATIN ORDAINS AS FOLLOWS:

**Section 1.** The Council approves and endorses the annexation application for the Property.

**Section 2.** The Property identified in the legal description attached as Exhibit A-1 and A-2, as more fully depicted in the map in Exhibit B-1 and B-2, which are incorporated herein by reference, is hereby annexed to and made a part of the City of Tualatin.

**Section 3.** The findings attached as Exhibit C, which are incorporated herein by reference, are hereby adopted.

**Section 4.** The City Recorder is directed to forward copies of this Ordinance to the Oregon Department of Revenue.

**Section 5.** Within five days of receipt of the required information from the Oregon State Department of Revenue, the City Recorder is directed to send copies of this Ordinance and the approval from the Oregon Department of Revenue to Metro for filing with the Oregon Secretary of State.

**Section 6.** The annexation of the Property is effective from the date the annexation is filed with the Oregon Secretary of State, as provided in ORS 222.180.

**Section 7.** On the effective date of the annexation, the Property is withdrawn from the Washington County Enhanced Sheriff Patrol District and County Urban Road Maintenance District.

**Section 8.** On the effective date of the annexation, under ORS 199.510(2)(c), the property is also being annexed into the boundaries of Clean Water Services for the provision of sanitary sewer, storm, and surface water management.

**Section 9.** The City Recorder is directed to forward copies of this Ordinance and all other required materials to all public utilities and telecommunications utilities operating within the City in accordance with ORS 222.005.

Adopted by the City Council this 10<sup>th</sup> day of June, 2019.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

ATTEST:

BY \_\_\_\_\_  
City Recorder

APPROVED AS TO FORM

BY \_\_\_\_\_  
City Attorney

**Exhibit A-1 to  
Ordinance No. 1421-19**

**Legal description for annexation**

A portion of Lot 26 "Hazelbrook Farm" in Section 15, Township 2 South, Range 1 West, Willamette Meridian in Washington County, Oregon; described in Washington County Recorder's document number 2009-112817 and more particularly described as follows:

Beginning at the East quarter corner of said Section 15, being a point on the East line of said document 2009-112817, thence North  $00^{\circ}16'40''$  East along said line 565 feet more or less to the center of the Tualatin River, also being the Northeast corner of said document and the boundary of the City of Tigard; Thence along the North line of said document South  $73^{\circ}47'26''$  West 240 feet more or less to the Northwest corner thereof; thence along the West line of said document South  $00^{\circ}09'00''$  West 536 feet more or less to an angle point; thence South  $87^{\circ}09'56''$  East 179.79 feet to an angle point; thence South  $00^{\circ}11'55''$  West 809.54 feet to the North line of SW Hazelbrook Road; thence along said line North  $88^{\circ}07'31''$  East 50.03 feet to the East line of said document; thence along said line North  $00^{\circ}11'04''$  East 855.27 feet to the point of beginning.

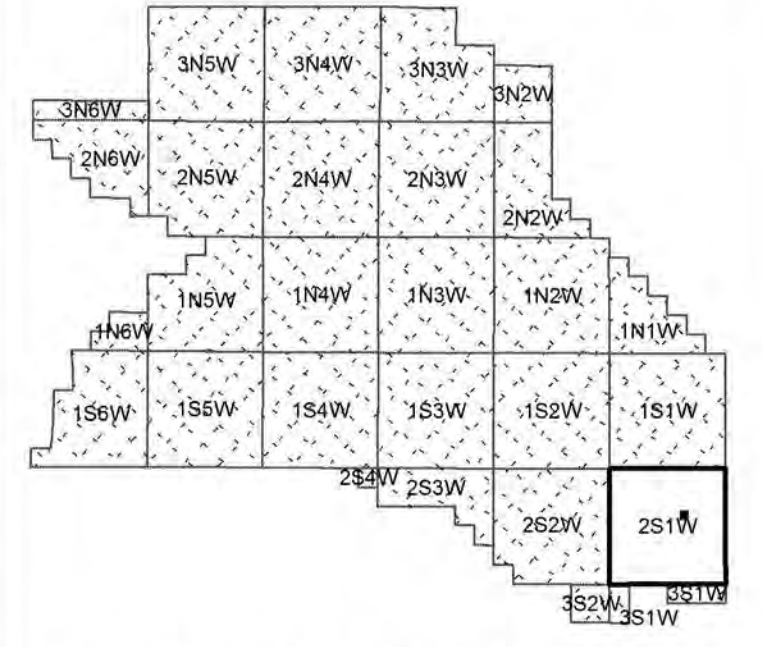
**ANNEXATION CERTIFIED**

BY VF

**MAY 29 2018**

**WASHINGTON COUNTY A & T  
CARTOGRAPHY**

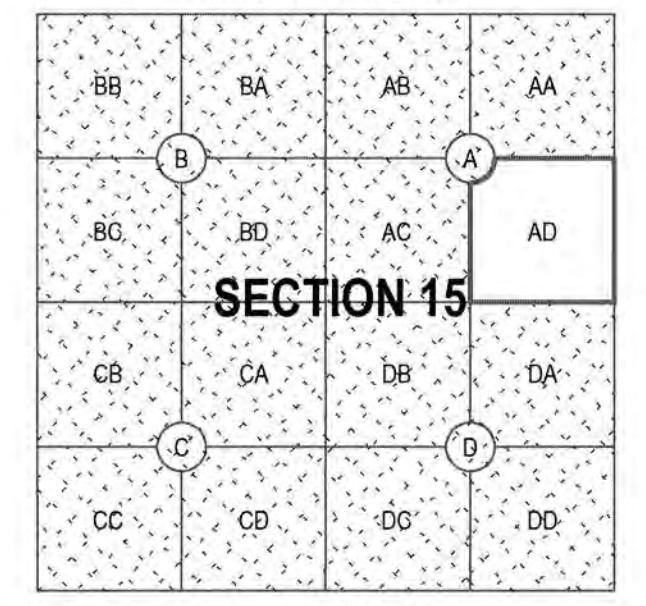




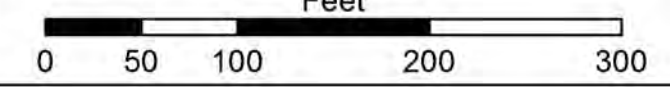
WASHINGTON COUNTY OREGON  
SE 1/4 NE 1/4 SECTION 15 T2S R1W W.M.  
SCALE 1" = 100'

36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6
12	7	8	9	10	11	12	7
13	18	17	16	15	14	13	18
24	19	20	21	22	23	24	19
25	30	29	28	27	26	25	30
36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6

FOR ADDITIONAL MAPS VISIT OUR WEBSITE AT  
[www.co.washington.or.us](http://www.co.washington.or.us)



Cancelled Taxlots For: 2S115AD  
7800,6800,4700,3800,200,300,400,700.  
**ANNEXATION CERTIFIED BY  
WASHINGTON COUNTY  
CARTOGRAPHY  
5/29/2018**



PLOT DATE: 3/7/2018  
FOR ASSESSMENT PURPOSES  
ONLY - DO NOT RELY ON  
FOR OTHER USE

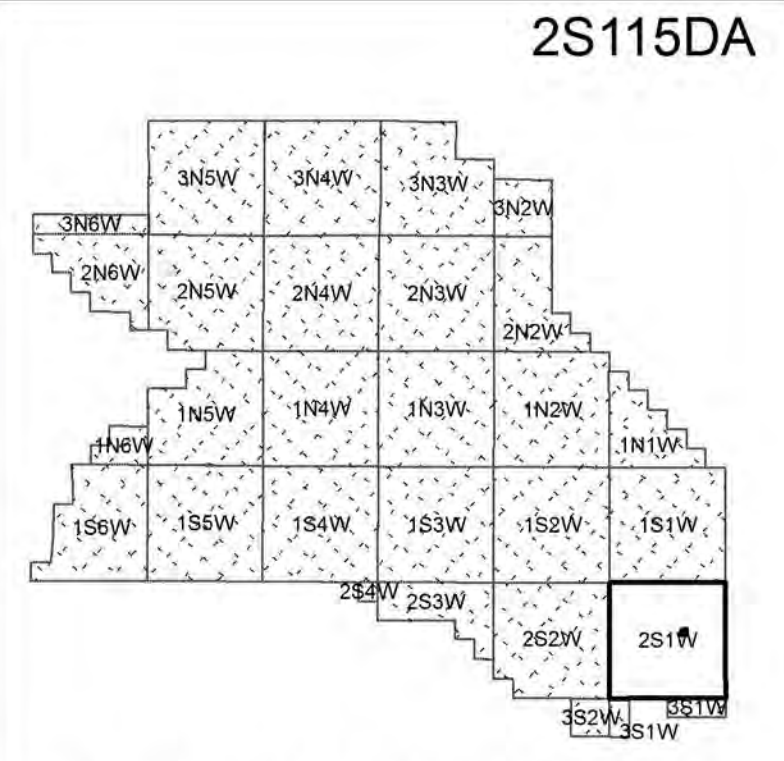
Map areas delineated by either gray shading or a cross-hatched pattern are for reference only and may not indicate the most current property boundaries. Please consult the appropriate map for the most current information.

Exhibit B-1 to  
Ordinance No.1421-19  
(Pg. 1 of 2)





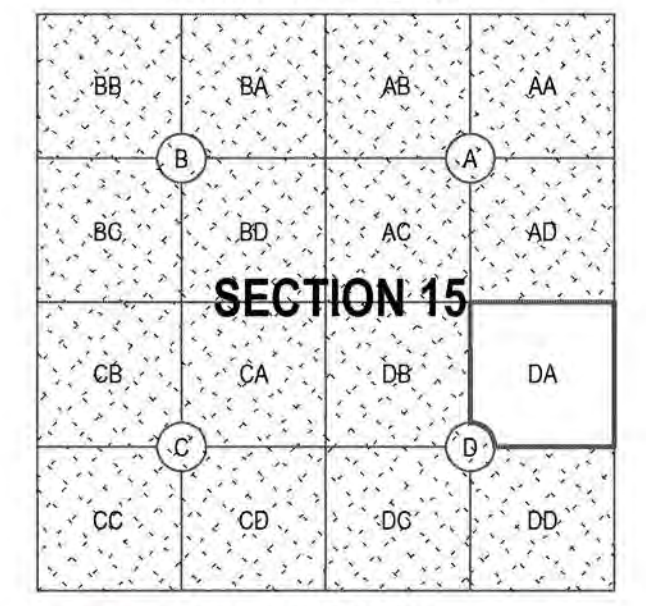
**Exhibit B-1 to Ordinance No. 1421-19 (Pg. 2 of 2)**



**WASHINGTON COUNTY OREGON**  
**NE 1/4 SE 1/4 SECTION 15 T2S R1W W.M.**  
**SCALE 1" = 100'**

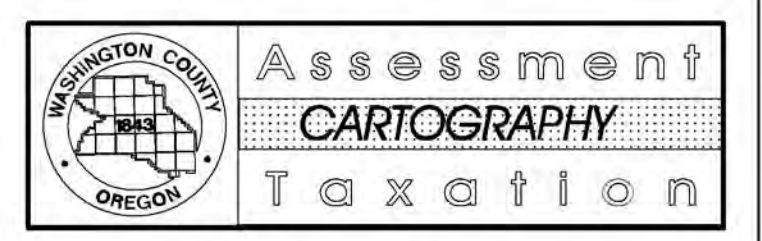
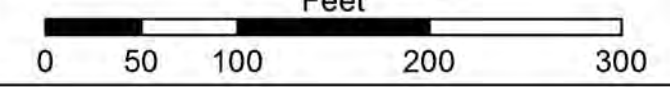
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25	30	29	28	27	26	25	30
36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6

FOR ADDITIONAL MAPS VISIT OUR WEBSITE AT  
[www.co.washington.or.us](http://www.co.washington.or.us)



Cancelled Taxlots For: 2S115DA  
 1301,1300,1000,1200,500,

**ANNEXATION CERTIFIED BY WASHINGTON COUNTY CARTOGRAPHY**  
**5/29/2018**



PLOT DATE: 3/9/2018  
 FOR ASSESSMENT PURPOSES ONLY - DO NOT RELY ON FOR OTHER USE

Map areas delineated by either gray shading or a cross-hatched pattern are for reference only and may not indicate the most current property boundaries. Please consult the appropriate map for the most current information.

TUALATIN  
 2S115DA



**EXHIBIT A - 2**  
**to Ordinance No. 1421-19**

**LEGAL DESCRIPTION FOR ANNEXATION**

A tract of land in Section 14, Township 2 South, Range 1 West of the Willamette Meridian, in the County of Washington and State of Oregon, more particularly described as follows:

BEGINNING at an iron pipe which bears South 88°00' East 251.0 feet from the quarter section corner common to Sections 14 and 15, Township 2 South, Range 1 West of the Willamette Meridian, in the County of Washington and State of Oregon, running thence North 0°09' West 395.0 feet to an iron pipe; thence North 84°02' East 107.56 feet to an iron pipe; thence North 0°09' West 190 feet, more or less, to the centerline of the Tualatin River, also being the boundary of the city of Tigard; thence Northeasterly following the said centerline of the Tualatin River, a distance of 405 feet, more or less, to a point; thence South 6°55' West 605 feet, more or less, to an iron pipe; thence West 199.0 feet to the Northeast corner of Lot 25, HAZELBROOK FARM; thence North 88°00' West 238.0 feet to the point of beginning.

ANNEXATION CERTIFIED

BY VF

JAN 14 2019

WASHINGTON COUNTY A & T  
CARTOGRAPHY

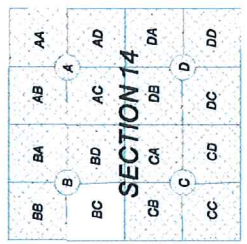
2S 1 14BC



WASHINGTON COUNTY OREGON  
 SW 1/4 NW 1/4 SECTION 14 T2S R1W W.M.  
 SCALE 1" = 100'

36	31	32	33	34	35	36	37
1	6	5	4	3	2	1	6
12	7	8	9	10	11	12	7
13	18	17	16	15	14	13	18
24	19	20	21	22	23	24	19
25	30	29	28	27	26	25	30
36	31	32	33	34	35	36	37
1	6	5	4	3	2	1	6

FOR ADDITIONAL MAPS VISIT OUR WEBSITE AT  
[www.co.washington.or.us](http://www.co.washington.or.us)



SECTION 14

Cancelled Taxlots For: 2S114BC  
 1500, 600,3501,3601,3701,3801,4001,4001,4071,  
 4801,1,600.

ANNEXATION CERTIFIED BY  
 WASHINGTON COUNTY  
 CARTOGRAPHY  
 1/14/19



PLOT DATE: August 16, 2004  
 FOR ASSESSMENT PURPOSES  
 ONLY. NOT TO BE USED FOR  
 ANY OTHER PURPOSE

Map users should be aware that this map is not intended to be used as a substitute for a current property ownership. Please consult the appropriate map for the most current information.

TIGARD  
 TUALATIN  
 2S 1 14BC

2S 1 14BC

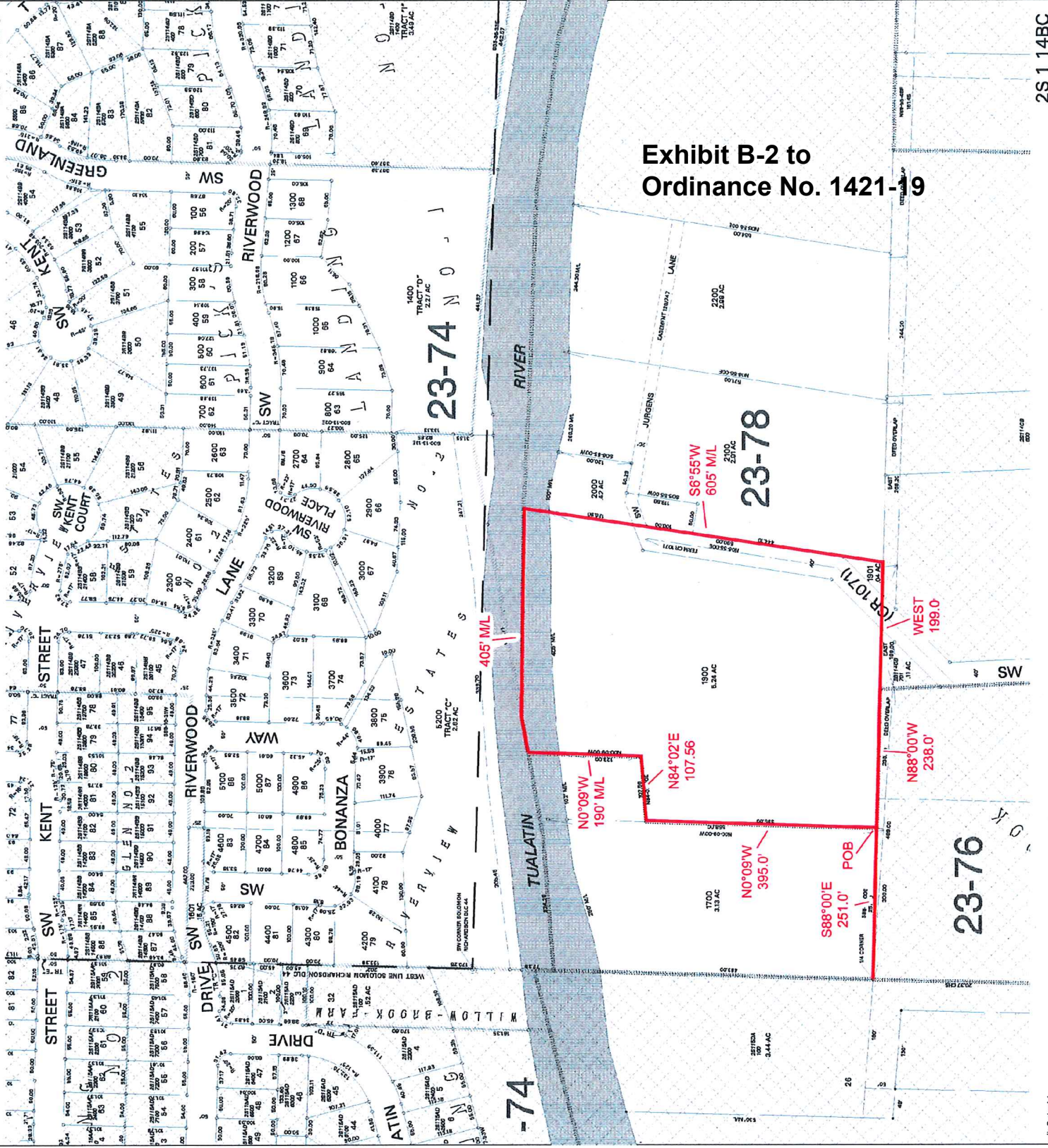


Exhibit B-2 to  
 Ordinance No. 1421-19

2S 1 14BC



# Exhibit C to Ordinance No. 1421-19

ANN19-0001

## Annexation Analysis and Findings

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Case #:	ANN 19-0001
Project:	Jurgens Parkland Annexation
Location:	10325 SW Jurgens Lane; Tax Map: 2S114BC Lots: 1900, 1901 and 10511 SW Hazelbrook Road; Tax Lot: 2S115DA00100
Owner/Applicant:	City of Tualatin, represented by Rich Mueller, Parks Planning and Development Manager

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### Introduction

#### A. Applicable Criteria

Annexations are reviewed under Tualatin Development Code (TDC) Chapter 33.010, *Annexations*. This code refers to Metro Code 3.09, *Local Government Boundary Changes*, and the applicable provisions of ORS Chapter 222, which also govern annexations.

#### B. Project Description

The applicant, City of Tualatin, owns the subject sites as part of its parkland holdings. Currently, these properties are outside of the City of Tualatin boundary. This annexation is proposed so that the City-owned property may be part of the City of Tualatin. No development or other modifications to the property is proposed at this time.

The annexation would include the portion of SW Jurgens Avenue between the south property line of Tax Lot 2S114BC 1900 and 2S114BC 1901, and line coinciding with the east property line of Lot 1900, as shown in Exhibit A.

In conjunction with approval of the proposed annexation, the subject properties are withdrawn from the Washington County Enhanced Sheriff Patrol District (ESPD) and Washington County Urban Road Maintenance District.

#### C. Site Description

The subject properties are located east and west of the existing Jurgens Park site.

The property to the west of Jurgens Park, described as 10511 SW Hazelbrook Road, is approximately 3.44 acres large and is a flag lot reaching north of SW Hazelbrook Road to the Tualatin River. This property is undeveloped with no existing structures.

The property to the east of Jurgens Park, described as 10325 SW Jurgens Lane, comprises 5.15 acres, primarily on the west side of SW Jurgens Avenue, and a small area (about 1,700 square feet) on the east side of SW Jurgens Avenue, south of the Tualatin River. This property contains

one vacant house and one storage structure. The area of SW Jurgens Lane between these parcels is to be included in the annexation.

Both properties are currently within unincorporated Washington County, within the City of Tualatin Urban Planning Area. As shown on Exhibit B, the properties have received the land use designation of Low-Density Residential (RL) in the Community Plan Map that is part of Tualatin's Comprehensive Plan; this RL zoning would be in effect upon annexation. The existing City of Tualatin boundary runs directly to the west of the property, and south within the SW Hazelbrook Road right-of-way.

More recently, the sites have seen public facilities development as part of the Clean Water Services Tualatin Interceptor and Siphon Improvement project. This work is not related to the proposed annexation.

#### **D. Attachments**

- A. Application
- B. Community Plan Map 9-1
- C. Exhibit C District Overlay Map

### **TDC Chapter 33, Applications and Approval Criteria**

#### **Section 33.010 Annexations**

To grant an annexation application, the Council must find:

**(a) The territory to be annexed is within the Metro Urban Growth Boundary;**

**Finding:**

*As shown in Exhibit B, the subject property is within the Metro Urban Growth Boundary and within Tualatin's Urban Planning Area. This standard is met.*

**(b) The owners of the territory to be annexed have petitioned to be annexed;**

**Finding:**

*As shown in the applicant's submission, the City of Tualatin, as represented by Rich Mueller, is the only subject property owner. As owner, the City has petitioned to be annexed. This standard is met.*

**(c) The application conforms to the applicable criteria in Metro Code 3.09; and**

#### **Chapter 3.09 Local Government Boundary Changes**

**Chapter 3.09.050 Hearing and Decision Requirements for Decisions Other Than Expedited Decisions**

[...]

**B. Not later than 15 days prior to the date set for a hearing the reviewing entity shall make available to the public a report that addresses the criteria identified in subsection (D) and includes the following information:**

- 1. The extent to which urban services are available to serve the affected territory, including any extra territorial extensions of service;**

**Finding:**

*Sanitary sewer, municipal water, and other utility services are available in SW Hazelbrook Road. This standard is met.*

- 2. Whether the proposed boundary change will result in the withdrawal of the affected territory from the legal boundary of any necessary party; and**

**Finding:**

*The proposed boundary change will withdraw the property from the Washington County Enhanced Sheriff Patrol District and the Washington County Urban Road Maintenance District. This standard is met.*

- 3. The proposed effective date of the boundary change.**

[...]

**Finding:**

*The annexation of the subject property is effective from the date the annexation is filed with the Oregon Secretary of State, as provided in ORS 222.180. This standard is met.*

- D. To approve a boundary change, the reviewing entity shall apply the criteria and consider the factors set forth in subsections (D) and (E) of section 3.09.045.**

**Finding:**

*These standards are addressed below.*

**3.09.045 Expedited Decisions**

- D. To approve a boundary change through an expedited process, the city shall:**

- 1. Find that the change is consistent with expressly applicable provisions in:**
  - a. Any applicable urban service agreement adopted pursuant to ORS 195.065;**

**Finding:**

*The Urban Planning Area Agreement between Washington County and the City of Tualatin acknowledges this property as part of the City of Tualatin's Urban Planning Area. As such, this agreement stipulates that urban services will generally be provided by the City upon annexation, except where the City holds intergovernmental agreements (IGAs) with other service providers.*

*The subject properties are already within, and would remain within, the Clean Water Services district, Tualatin Valley Fire and Rescue, TriMet, the Tigard-Tualatin School District, and the Tigard-Tualatin Aquatic District. The annexation would prompt withdrawal from the Washington County Enhanced Sheriff Patrol District and the Washington County Urban Road Maintenance District. The annexation would not create any inconsistencies with any urban service agreements. This standard is met.*

**b. Any applicable annexation plan adopted pursuant to ORS 195.205;****Finding:**

*No applicable annexation plan exists for this area. This standard is not applicable.*

**c. Any applicable cooperative planning agreement adopted pursuant to ORS 195.020(2) between the affected entity and a necessary party;****Finding:**

*No applicable cooperative planning agreement exists for this area. This standard is not applicable.*

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

*The City's Transportation System Plan (2014) and public facilities plans contained within Tualatin's Comprehensive Plan reflect the Urban Planning Area that contains this property and plans for eventual annexation as initiated by property owners. This standard is met.*

**e. Any applicable comprehensive plan;****Finding:**

*The City of Tualatin's Comprehensive Plan contains the Community Plan Map 9-1,*

*(Exhibit B) showing this property as part of the Urban Planning Area. The provisions of the Comprehensive Plan that relate to annexations, found in TDC Chapter 4, Community Growth, are fully reflected in the criteria presented in the implementing sections of the TDC Chapter 33.010, Annexations, and Chapter 32.260, Annexation Procedures. This standard is met.*

**f. Any applicable concept plan; and**

**Finding:**

*There is no applicable concept plan for this particular area. This standard is not applicable.*

**2. Consider whether the boundary change would:**

- a. Promote the timely, orderly and economic provision of public facilities and services;**
- b. Affect the quality and quantity of urban services; and**
- c. Eliminate or avoid unnecessary duplication of facilities or services.**

**Finding:**

*Since the property is adjacent to existing urban services, including utilities and transportation access from SW Hazelbrook Road and SW Jurgens Avenue, and also considering that provision of services is typically minimal for park land, this annexation would not interfere with the timely, orderly, and economic provision of public facilities and services, nor would it necessitate the duplication of services.*

*By incorporating future park land into the City of Tualatin, this annexation may promote the quality and quantity of urban park services, while drawing minimally from other services such as utilities and transportation infrastructure. Standards A through C are met.*

**E. A city may not annex territory that lies outside the UGB, except it may annex a lot or parcel that lies partially within and partially outside the UGB.**

**Finding:**

*The subject property is wholly within the UGB. This standard is met.*

**(d) The application is consistent with applicable provisions of ORS Chapter 222.**

**ORS 222.111(1) When a proposal containing the terms of annexation is approved in the manner provided by the charter of the annexing city or by ORS 222.111 to 222.180**

**or 222.840 to 222.915, the boundaries of any city may be extended by the annexation of territory that is not within a city and that is contiguous to the city or separated from it only by a public right of way or a stream, bay, lake or other body of water. Such territory may lie either wholly or partially within or without the same county in which the city lies.”**

**Finding:**

*As shown on the Community Plan Map 9-1 (Exhibit B), the subject property is not within a city and is contiguous to the City of Tualatin. This standard is met.*

**ORS 222.520(1) Whenever a part less than the entire area of a district named in ORS 222.510 becomes incorporated as or annexed to a city in accordance with law, the city may cause that part to be withdrawn from the district in the manner set forth in ORS 222.120 or at any time after such incorporation or annexation in the manner set forth in ORS 222.524. Until so withdrawn, the part of such a district incorporated or annexed into a city shall continue to be a part of the district.**

**Finding:**

*The subject properties are in the Washington County Enhanced Sheriff Patrol District and the Washington County Urban Road Maintenance District. As part of this annexation, the subject properties will be withdrawn from the Enhanced Sheriff Patrol District and the Urban Road Maintenance District. Police services will be provided by the City of Tualatin. Because the proposed boundary change is consistent with state and local law, this standard is met.*

**Conclusion and Recommendation:**

*Based on the application and the above analysis and findings, the proposed annexation complies with applicable Oregon Revised Statutes, Metro Code, and TDC. Accordingly, staff recommends City Council approval of File No. ANN-19-0001.*



CITY OF TUALATIN RECEIVED

APR 19 2019

COMMUNITY DEVELOPMENT PLANNING DIVISION



CITY OF TUALATIN
Community Development Department-Planning Division
Land Use Application—Type IV

PROPOSAL NAME Jurgens Parkland Annexations

PROPOSAL SUMMARY (Brief description)
Proposal to annex 10511 SW Hazelbrook Road and 10325 SW Jurgens lane into the City of Tualatin from Washington County

PROPERTY INFORMATION
Location (address if available): 10325 SW Jurgens lane + 10511 SW Hazelbrook Road
Tax Map & Lot #(s): 25115 DA 00100 25114 BC 01900 + 01901 Planning District: RL
Total site size: 8.59 acres [ ] Developed [X] Undeveloped

APPLICANT/CONTACT INFORMATION
Applicant or Primary Contact Name: Rich Mueller, Parks + Recreation Department
Mailing Address: 18880 SW Martinazzi Avenue
City/State: Tualatin, OR Zip: 97062
Phone: 503 691-3064 Email: rmueller@tualatin.gov
Applicant's Signature: [Signature] Date: 4/17/19

I hereby acknowledge that I have read this application and understand the requirements for approving and denying the application, that the information provided is correct, that I am the owner or authorized agent of the owner, and that plans submitted are in compliance with the City of Tualatin Development (TDC) and Municipal (TMC) Codes.

PROPERTY OWNER/DEED HOLDER INFORMATION
Name: City of Tualatin
Mailing Address: 18880 SW Martinazzi Avenue
City/State: Tualatin, OR Zip: 97062
Phone: 503 691-3064 Email: rmueller@tualatin.gov
Property Owner Signature: [Signature] Date: 4/17/19

Power of attorney or letter of authorization required if application not signed by the property owner/deed holder.

LAND USE APPLICATION TYPE

- [X] Annexation (ANN) [ ] Plan Map Amendment (PMA)
[ ] Conditional Use Permit (CUP) [ ] Plan Text Amendment (PTA)
[ ] Central Urban Renewal Master [ ] Other
[ ] Historic Landmark Designation or Removal of Designation (HIST)

FOR STAFF USE ONLY

Case No.: Ann 19-0001
Date Received: 4-19-19
By: [Signature]
Fee Amount \$:
Received by:

### ANNEXATION PROPERTY INFORMATION SHEET

**EXISTING CONDITIONS IN AREA TO BE ANNEXED:**

Land area, in acres: 8.59 (3 tax lots)

General description of territory (Include topographic features such as slopes, vegetation, drainage basins, and floodplain areas which are pertinent to this proposal): The sites are generally flat with slopes greater than 25% at northend (riverbank), adjacent to Tualatin River with some large trees. There is one house and storage structure scheduled for demolition.

Describe land uses on surrounding parcels (Use tax lots as reference points)

North: Tualatin River

South: SW Hazelbrook Road and/or Jurgens Park

East: Jurgens Park and/or vacant land

West: Rauch and/or Jurgens Park

**EXISTING LAND USE:**

Number of existing units/structures:

Single-family: 1 Multi-family: \_\_\_\_\_ Commercial: \_\_\_\_\_ Industrial: \_\_\_\_\_

Describe existing units/structures: One house and 1 storage structure in poor condition and scheduled to be demolished.

What is the current use(s) of the land proposed to be annexed: Vacant land that was acquired as future City parkland.

Public facilities or other uses: N/A

Total current year assessed valuation – Land \$: 827,380 Structures \$: 29,150

Total existing population: 0

Is the territory contiguous to the City limits: Yes

Is the subject territory inside or outside of the Metro Regional Urban Growth Boundary: Inside

**URBAN SERVICE PROVIDERS:**

If the territory described in the proposal is presently included within the boundaries of any of the following types of governmental units, please indicate so by stating the name or names of the governmental units involved.

County: Washington County

Highway Lighting District: N/A

Fire District: Tualatin Valley Fire + Rescue

Sanitary District: Clean Water Services

Water District: City of Tualatin

Grade School District: Tigard - Tualatin School District

High School District: Tigard - Tualatin School District

Library District: City of Tualatin

Drainage District: Clean Water Services

Parks & Recreation District: City of Tualatin

Other: \_\_\_\_\_

Is the territory served by any of the providers listed above (describe existing connections to public services): None

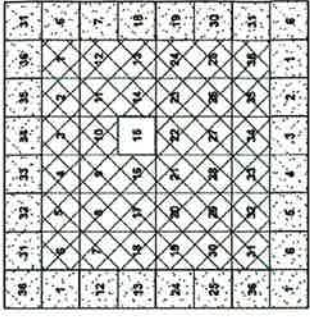
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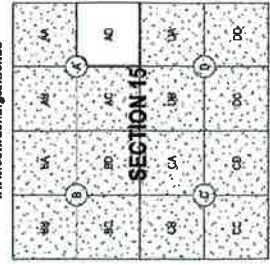
2S115AD



WASHINGTON COUNTY OREGON  
 SE 1/4 NE 1/4 SECTION 15 T2S R1W W.M.  
 SCALE 1" = 100'



FOR ADDITIONAL MAPS VISIT OUR WEBSITE AT  
[www.co.washington.or.us](http://www.co.washington.or.us)

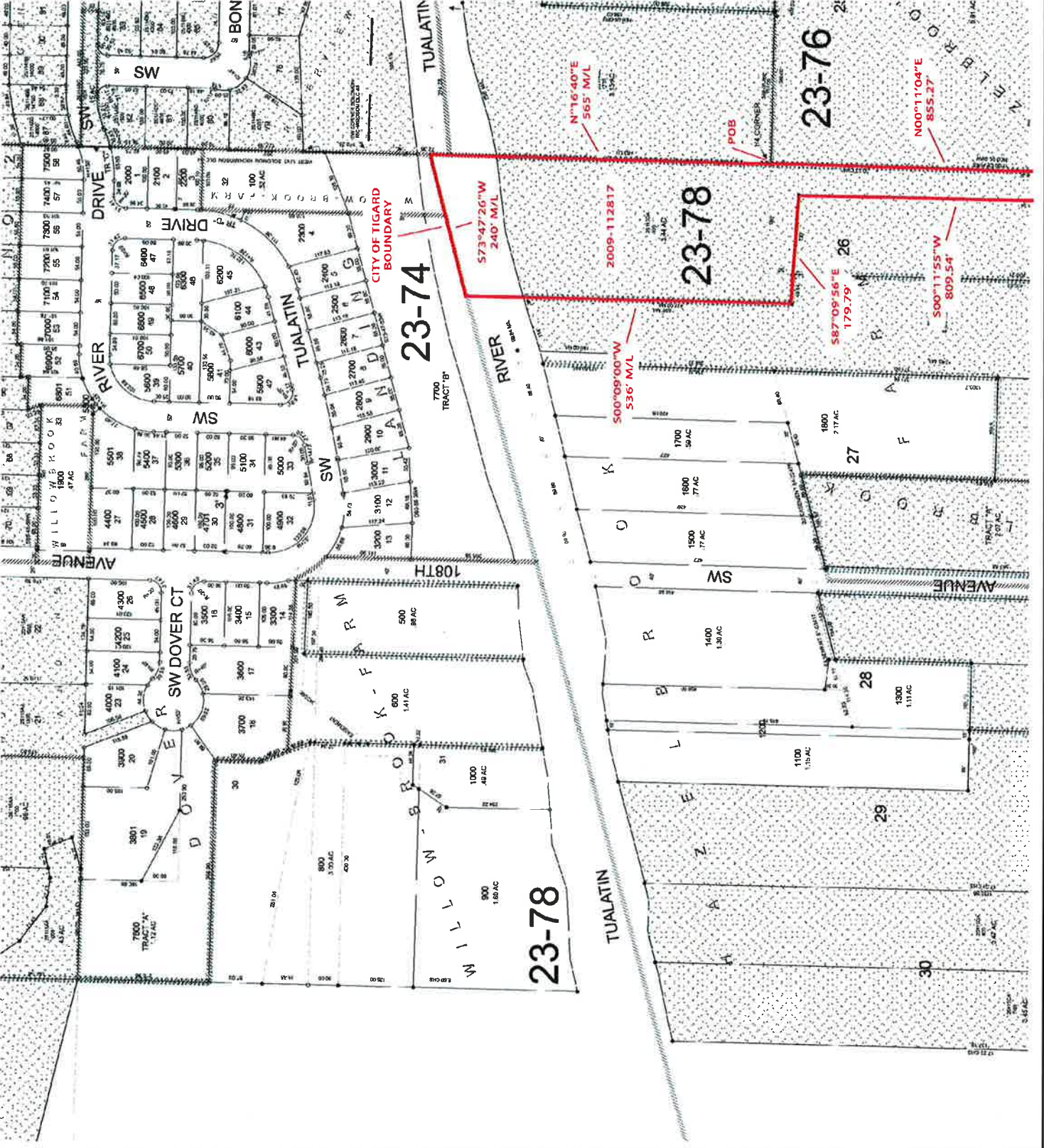


Cancelled Taxation For: 2S115AD  
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**ANNEXATION CERTIFIED BY**  
**WASHINGTON COUNTY**  
**CARTOGRAPHY**  
 5/29/2018



PLOT DATE: 3/7/2018  
 FOR ASSESSMENT PURPOSES  
 ONLY - DO NOT RELY ON  
 FOR OTHER USE

2S115AD  
 TIGARD



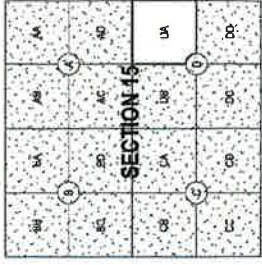




WASHINGTON COUNTY OREGON  
 NE 1/4 SE 1/4 SECTION 16 T2S R1W W.M.  
 SCALE 1" = 100'

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81	82	83	84	85	86	87	88
89	90	91	92	93	94	95	96
97	98	99	100	101	102	103	104

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[www.co.washington.or.us](http://www.co.washington.or.us)



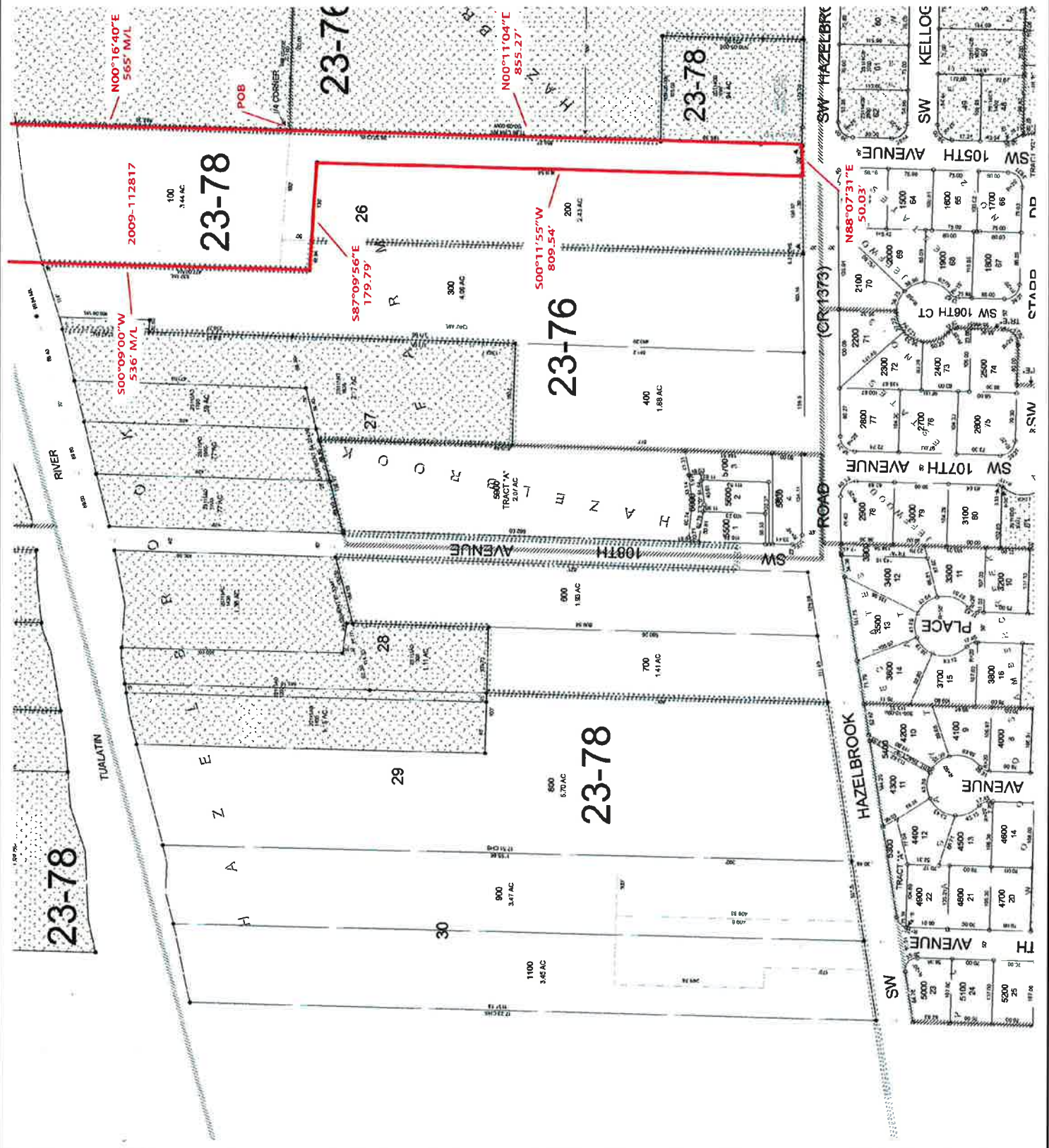
Cancelled Taxlots For: 2S115DA  
 191,100,000 1000,530

ANNEXATION CERTIFIED BY  
 WASHINGTON COUNTY  
 CARTOGRAPHY  
 5/29/2018



PLOT DATE: 3/20/18  
 FOR ASSESSMENT PURPOSES  
 ONLY - DO NOT REUSE  
 FOR OTHER USE

Map errors shown by other than the assessor or a designated partner  
 are not the responsibility of the assessor. Please contact the assessor for more information.



## PETITION TO ANNEX

To the Council and City of Tualatin:

We, the undersigned owner(s) of the property described below and/or elector(s) residing at the referenced location, hereby petition for, and give consent to, annexation of said property to the City of Tualatin. We understand that the City will review this request in accordance with ORS Chapter 222 and applicable regional and local policies prior to approving or denying the request for annexation.

Signature	Printed Name	Date	I am a *			Address	Property Description			
			PO	RV	OV		QTR	TWN	RANGE	LOT
<i>RM</i>	Rich Mueller	5/23/18	<input checked="" type="checkbox"/>			10511 SW Hazelbrook Rd.	15DA	2S	1W	0100

\* Please check one of the following: PO: Property Owner; RV: Registered Voter; OV: Property Owner & Registered Voter



### PROPERTY OWNER INFORMATION

*(This form is NOT the petition)*

Metro Code 3.09.040 requires the names and address of all property owners and/or registered voters of the property, regardless of support shown on petition to annex. This is not for notification purposes. A signature on this form does not indicate support or opposition to the request.

**NAME OF OWNER/VOTER (V)**

**PROPERTY DESIGNATION**

*(Indicate Section, Township, Range and Lot No.)*

**MAILING ADDRESS**

**PROPERTY ADDRESS (If different)**

(1) City of Tualatin  
25115DA0100

18880 SW Martinazz Ave.  
Tualatin, OR 97062

(2) \_\_\_\_\_

(3) \_\_\_\_\_

(4) \_\_\_\_\_

(5) \_\_\_\_\_

(6) \_\_\_\_\_

(7) \_\_\_\_\_

(8) \_\_\_\_\_

(9) \_\_\_\_\_

(10) \_\_\_\_\_



# City of Tualatin

www.tualatinoregon.gov

## CERTIFICATION OF PROPERTY OWNERSHIP

I certify that the attached petition for annexation of the described territory to the City of Tualatin contains the names of the owners\* of a majority of the land area of the territory to be annexed, as shown on the last available complete assessment roll.

NAME TD FOSTER ANNEXATION CERTIFIED  
 TITLE GIS TECH BY TF  
 DEPARTMENT CARTOGRAPHY MAY 29 2018  
 COUNTY OF WASHINGTON WASHINGTON COUNTY A & T  
 DATE 5/29/18 CARTOGRAPHY

\*Owner means the owner of the title to real property or the contract purchaser of the real property.

## CERTIFICATION OF REGISTERED VOTERS

I certify that the attached petition for annexation of described territory to the City of Tualatin contains the names of at least a majority of the electors registered in the territory to be annexed.

NAME \_\_\_\_\_  
 TITLE \_\_\_\_\_  
 DEPARTMENT \_\_\_\_\_  
 COUNTY OF \_\_\_\_\_  
 DATE \_\_\_\_\_

## Legal description for annexation

A portion of Lot 26 "Hazelbrook Farm" in Section 15, Township 2 South, Range 1 West, Willamette Meridian in Washington County, Oregon; described in Washington County Recorder's document number 2009-112817 and more particularly described as follows:

Beginning at the East quarter corner of said Section 15, being a point on the East line of said document 2009-112817, thence North  $00^{\circ}16'40''$  East along said line 565 feet more or less to the center of the Tualatin River, also being the Northeast corner of said document and the boundary of the City of Tigard; Thence along the North line of said document South  $73^{\circ}47'26''$  West 240 feet more or less to the Northwest corner thereof; thence along the West line of said document South  $00^{\circ}09'00''$  West 536 feet more or less to an angle point; thence South  $87^{\circ}09'56''$  East 179.79 feet to an angle point; thence South  $00^{\circ}11'55''$  West 809.54 feet to the North line of SW Hazelbrook Road; thence along said line North  $88^{\circ}07'31''$  East 50.03 feet to the East line of said document; thence along said line North  $00^{\circ}11'04''$  East 855.27 feet to the point of beginning.

ANNEXATION CERTIFIED

BY VF

MAY 29 2018

WASHINGTON COUNTY A & T  
CARTOGRAPHY



# City of Tualatin

www.tualatinoregon.gov

## CERTIFICATION OF LEGAL DESCRIPTION AND MAP

I certify that the description of the property included within the attached petition (located on Assessor's Map 2S 1 15 DA) has been checked by me and it is a true and exact description of the property under consideration, and the description corresponds to the attached map indicating the property under consideration.

NAME TED FOSTER

TITLE GIS TECH

DEPARTMENT CARTOGRAPHY

COUNTY OF WASHINGTON

DATE 5/29/18

ANNEXATION CERTIFIED

BY TF

MAY 29 2018

WASHINGTON COUNTY A & T  
CARTOGRAPHY



2S 1 14BC



WASHINGTON COUNTY OREGON  
 SW 1/4 NW 1/4 SECTION 14 T2S R1W W.M.  
 SCALE 1" = 100'

36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6
12	7	6	9	10	11	12	7
13	18	17	16	16	14	13	18
24	19	20	21	22	23	24	19
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1	6	5	4	3	2	1	6

FOR ADDITIONAL MAPS VISIT OUR WEBSITE AT  
[www.co.washington.or.us](http://www.co.washington.or.us)



Cancelled Taxlots For: 2S114BC  
 1500, 1800, 3501, 3501, 3501, 3501, 3501, 4801, 4801, 4971,  
 4971, 1800.

ANNEXATION CERTIFIED BY  
 WASHINGTON COUNTY  
 CARTOGRAPHY  
 1/14/19

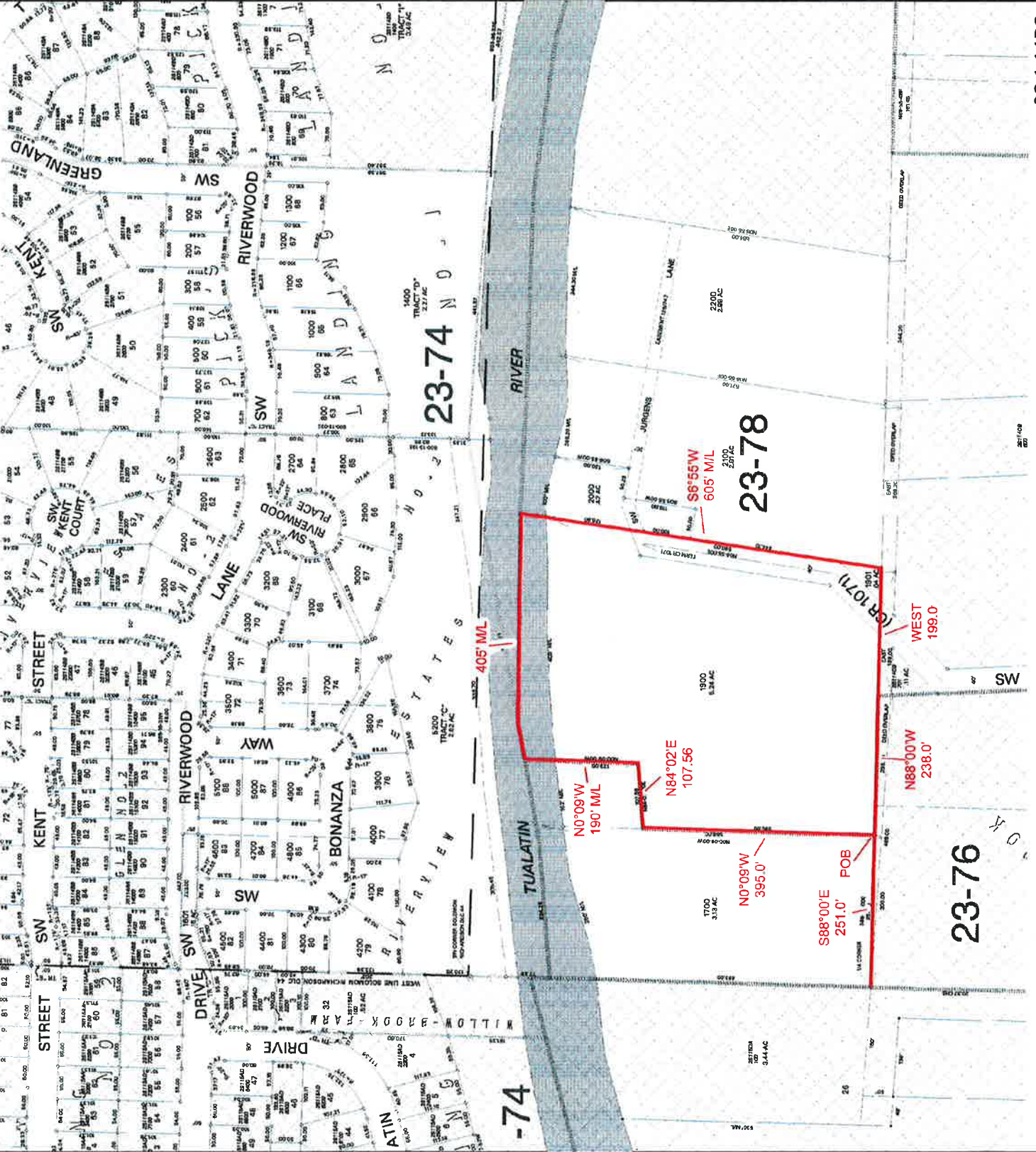


PLOT DATE: August 16, 2004.  
 FOR ASSESSMENT PURPOSES  
 ONLY - DO NOT RELY ON  
 FOR OTHER USE

Map created/digitized by Axiom. Gray shading or a cross-hatched pattern are for reference only and may not indicate the most current property boundaries. Please consult the appropriate map for the most current information.

TIGARD  
 TUALATIN  
 2S 1 14BC

2S 1 14BC



2S 1 14BC

d:\2511414

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Signature	Printed Name	Date	I am a *			Address	Property Description			
			PO	RV	OV		QTR	TWN	RANGE	LOT
<i>Rich Mueller</i>	Rich Mueller	1/15/19	<input checked="" type="checkbox"/>			100325 SW Jurgens Ln	148C	2S	1W	1900
<i>Rich Mueller</i>	Rich Mueller for City of Tualatin	1/15/19	<input checked="" type="checkbox"/>				148C	2S	1W	1901

\* Please check one of the following: PO: Property Owner; RV: Registered Voter; OV: Property Owner & Registered Voter

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**NAME OF OWNER/VOTER (V)**

**PROPERTY DESIGNATION**

(Indicate Section, Township, Range and Lot No.)

**MAILING ADDRESS**

**PROPERTY ADDRESS (if different)**

- |      |                                 |  |
|------|---------------------------------|--|
| (1)  | City of Tualatin<br>2S114BC1900 | 18880 SW Martinazzi Ave.<br>Tualatin, OR 97062 |
| (2)  | City of Tualatin<br>2S114BC1901 | 18880 SW Martinazzi Ave.<br>Tualatin, OR 97062 |
| (3)  |                                 |  |
| (4)  |                                 |  |
| (5)  |                                 |  |
| (6)  |                                 |  |
| (7)  |                                 |  |
| (8)  |                                 |  |
| (9)  |                                 |  |
| (10) |                                 |  |



### CERTIFICATION OF PROPERTY OWNERSHIP

I certify that the attached petition for annexation of the described territory to the City of Tualatin contains the names of the owners\* of a majority of the land area of the territory to be annexed, as shown on the last available complete assessment roll.

<u>TED FOSTER</u>	<u>GIS TECH</u>	_____
Printed Name	Title	
<u>[Signature]</u>	<u>1/14/19</u>	_____
Signature	Date	
<u>CARTOGRAPHY</u>	<u>WASHINGTON</u>	_____
Department	County of	

ANNEXATION CERTIFIED  
JAN 14 2019  
WASHINGTON COUNTY A & T  
CARTOGRAPHY

\*Owner means the owner of the title to real property or the contract purchaser of the real property. TF

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_____	_____	_____
Printed Name	Title	
_____	_____	_____
Signature	Date	
_____	_____	_____
Department	County of	

**EXHIBIT A**

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**ANNEXATION CERTIFIED**

BY VF

**JAN 14 2019**

**WASHINGTON COUNTY A & T  
CARTOGRAPHY**

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TED FOSTER

Printed Name

GIS TECH

Title

[Signature]

Signature

1/14/19

Date

CARTOGRAPHY

Department

WASHINGTON

County of

**ANNEXATION CERTIFIED**

BY TF

**JAN 14 2019**

**WASHINGTON COUNTY A & T  
CARTOGRAPHY**



CERTIFICATION OF SIGN POSTING



The applicant shall provide and post a sign pursuant to Tualatin Development Code ([TDC 31.064\(2\)](#)). Additionally, the 18" x 24" sign must contain the application number, and the block around the word "NOTICE" must remain **medium purple** composed of the **RGB color values Red 112, Green 48, and Blue 160**. Staff has a Microsoft PowerPoint 2007 template of this sign design available through the Planning Division homepage at: <https://www.tualatinoregon.gov/planning/land-use-application-sign-templates>

As the applicant for the Jurgens Parkland Annexations project, I hereby certify that on this day, 4/29/19 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: Rich Mueller  
(Please Print)

Applicant's Signature: Rich Mueller

Date: 4/29/19





 **NOTICE**   
**ANNEXATION  
ANN-19-0001**  
For more information call  
503-691-3026 or visit  
[www.tualatinoregon.gov](http://www.tualatinoregon.gov)

TCID # 28115 DA00100



**NOTICE**

**ANNEXATION  
ANN-19-0001**

For more information call  
503-691-3026 or visit  
[www.tualatinoregon.gov](http://www.tualatinoregon.gov)

PLID# 2514360100



TLID #  
25114DC01901



**NOTICE**



**ANNEXATION  
ANN-19-0001**

For more information call  
503-691-3026 or visit  
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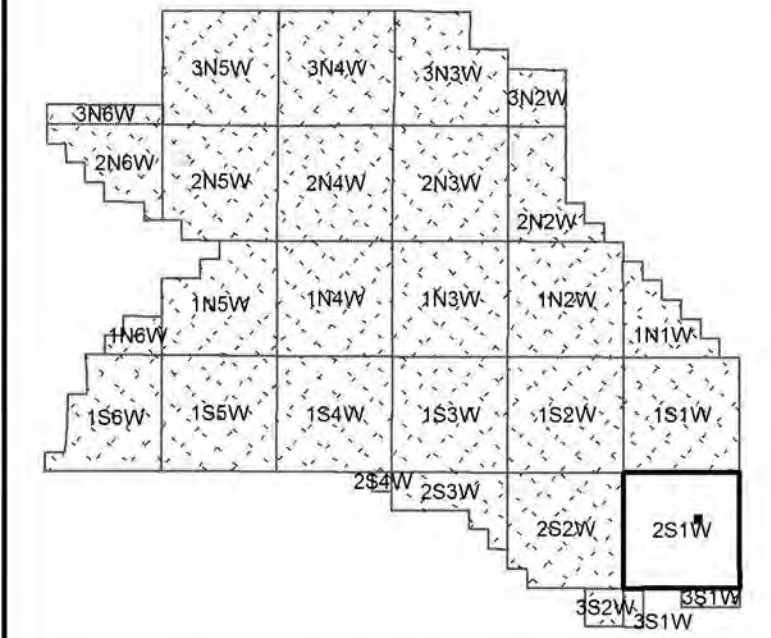
**ANNEXATION CERTIFIED**

BY VF

**MAY 29 2018**

**WASHINGTON COUNTY A & T  
CARTOGRAPHY**

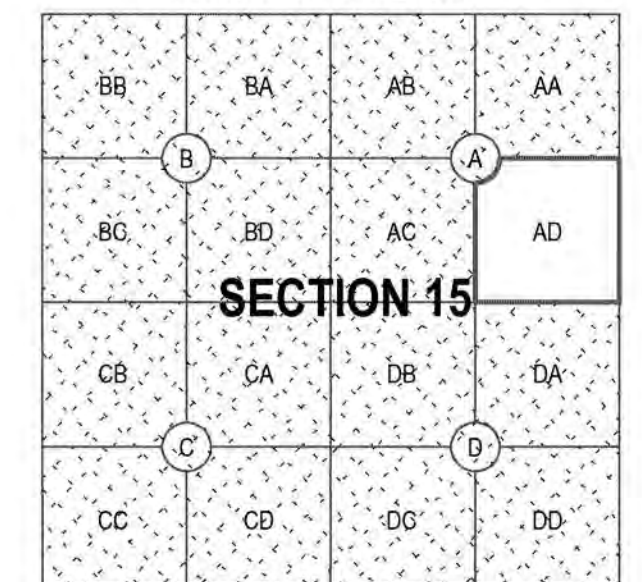




**WASHINGTON COUNTY OREGON**  
**SE 1/4 NE 1/4 SECTION 15 T2S R1W W.M.**  
**SCALE 1" = 100'**

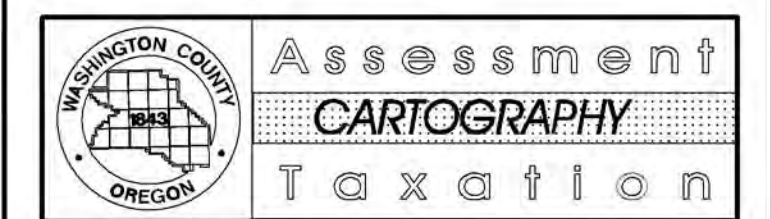
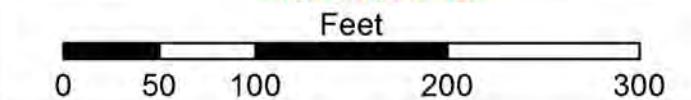
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25	30	29	28	27	26	25	30
36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6

FOR ADDITIONAL MAPS VISIT OUR WEBSITE AT  
[www.co.washington.or.us](http://www.co.washington.or.us)



Cancelled Taxlots For: 2S115AD  
 7800, 6800, 4700, 3800, 200, 300, 400, 700.

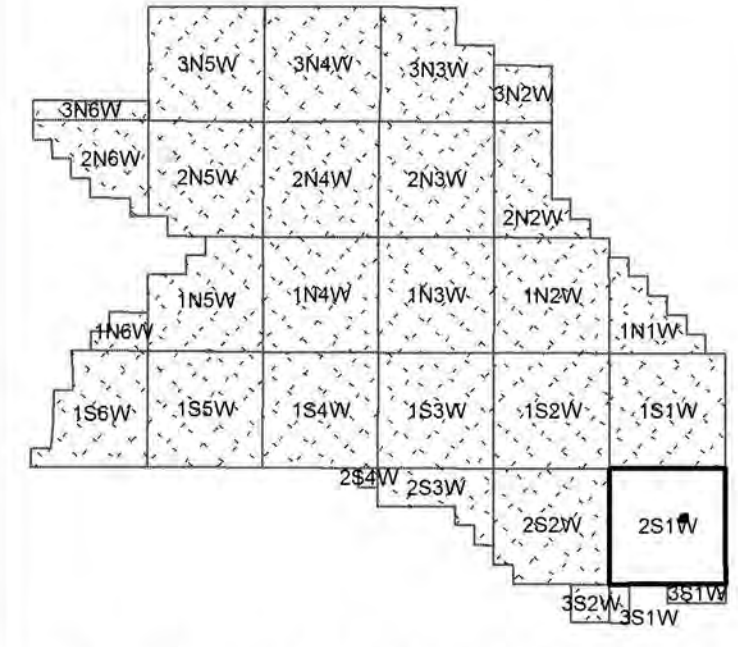
**ANNEXATION CERTIFIED BY**  
**WASHINGTON COUNTY**  
**CARTOGRAPHY**  
**5/29/2018**



PLOT DATE: 3/7/2018  
 FOR ASSESSMENT PURPOSES  
 ONLY - DO NOT RELY ON  
 FOR OTHER USE

Map areas delineated by either gray shading or a cross-hatched pattern are for reference only and may not indicate the most current property boundaries. Please consult the appropriate map for the most current information.

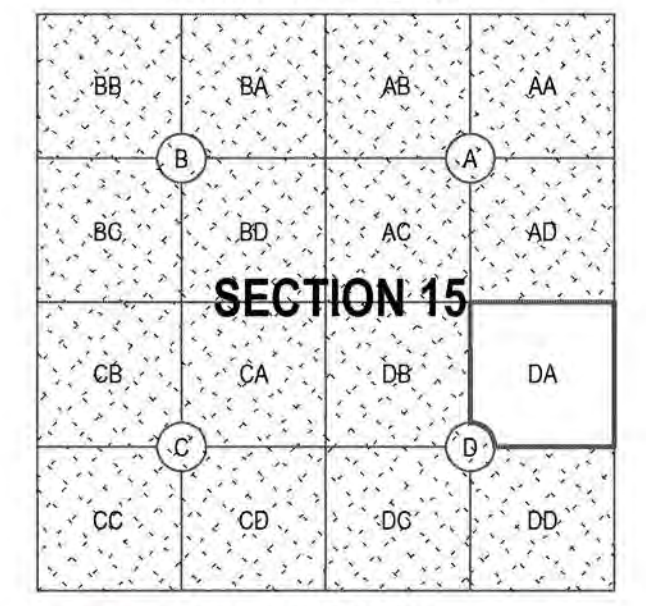




WASHINGTON COUNTY OREGON  
 NE 1/4 SE 1/4 SECTION 15 T2S R1W W.M.  
 SCALE 1" = 100'

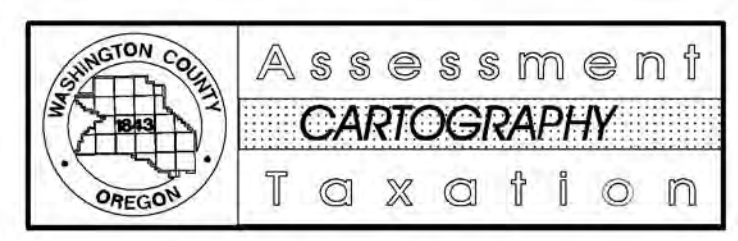
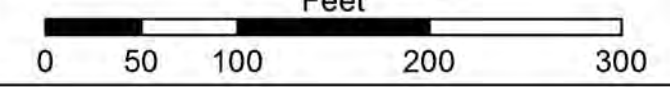
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[www.co.washington.or.us](http://www.co.washington.or.us)



Cancelled Taxlots For: 2S115DA  
 1301,1300,1000,1200,500,

ANNEXATION CERTIFIED BY  
 WASHINGTON COUNTY  
 CARTOGRAPHY  
 5/29/2018



PLOT DATE: 3/9/2018  
 FOR ASSESSMENT PURPOSES  
 ONLY - DO NOT RELY ON  
 FOR OTHER USE

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ANNEXATION CERTIFIED

BY VF

JAN 14 2019

WASHINGTON COUNTY A & T  
CARTOGRAPHY

2S 1 14BC



WASHINGTON COUNTY OREGON  
SW 1/4 NW 1/4 SECTION 14 T2S R1W W.M.  
SCALE 1" = 100'

36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6
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13	18	17	16	15	14	13	18
24	19	20	21	22	23	24	19
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1	6	5	4	3	2	1	6

FOR ADDITIONAL MAPS VISIT OUR WEBSITE AT  
[www.co.washington.or.us](http://www.co.washington.or.us)



SECTION 14

Cancelled Taxlots For: 2S114BC  
1500, 600, 2501, 3601, 3701, 3801, 4001, 4091, 4811, 5801.

ANNEXATION CERTIFIED BY  
WASHINGTON COUNTY  
CARTOGRAPHY  
1/14/19

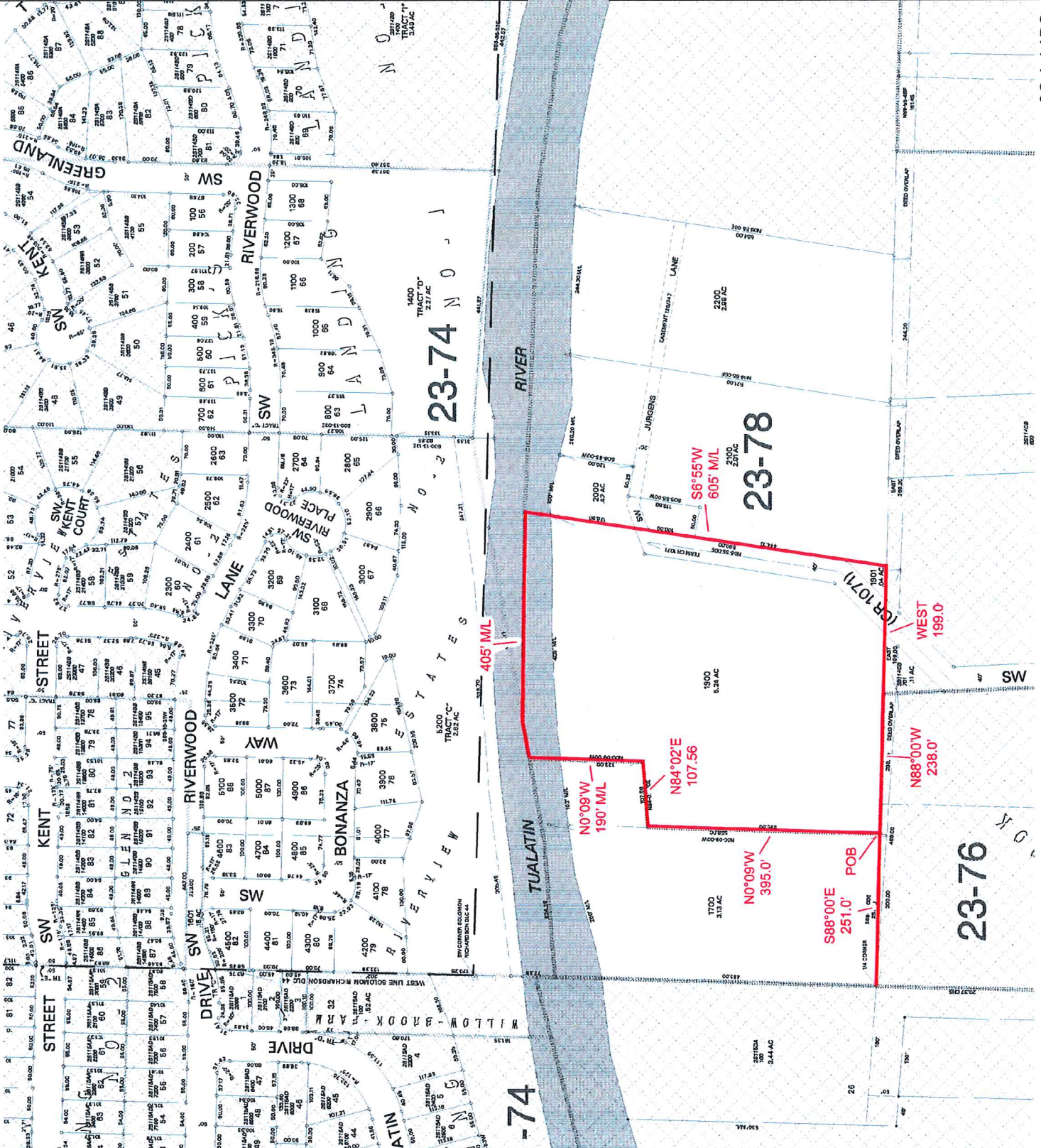


PLOT DATE: August 16, 2004  
FOR ASSESSMENT PURPOSES  
ONLY FOR THIS FILE  
NOT FOR OTHER USE

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TIGARD  
TUALATIN  
2S 1 14BC

2S 1 14BC



2S 1 14BC

d1923 1W14



CITY OF TUALATIN  
RECEIVED

APR 19 2019

COMMUNITY DEVELOPMENT  
PLANNING DIVISION



# CITY OF TUALATIN

## Community Development Department-Planning Division

### Land Use Application—Type IV

**PROPOSAL NAME** Jurgens Parkland Annexations

**PROPOSAL SUMMARY** *(Brief description)*  
Proposal to annex 10511 SW Hazelbrook Road and 10325 SW Jurgens lane into the City of Tualatin from Washington County

**PROPERTY INFORMATION**  
Location *(address if available)*: 10325 SW Jurgens lane + 10511 SW Hazelbrook Road  
Tax Map & Lot #(s): 25115DA00100 Planning District: RL  
Total site size: 8.59 acres  Developed  Undeveloped

**APPLICANT/CONTACT INFORMATION**  
Applicant or Primary Contact Name: Rich Mueller, Parks + Recreation Department  
Mailing Address: 18880 SW Martinazzi Avenue  
City/State: Tualatin, OR Zip: 97062  
Phone: 503 691-3064 Email: rmueller@tualatin.gov  
Applicant's Signature: Rich Mueller Date: 4/17/19

*I hereby acknowledge that I have read this application and understand the requirements for approving and denying the application, that the information provided is correct, that I am the owner or authorized agent of the owner, and that plans submitted are in compliance with the City of Tualatin Development (TDC) and Municipal (TMC) Codes.*

**PROPERTY OWNER/DEED HOLDER INFORMATION**  
Name: City of Tualatin  
Mailing Address: 18880 SW Martinazzi Avenue  
City/State: Tualatin, OR Zip: 97062  
Phone: 503 691-3064 Email: rmueller@tualatin.gov  
Property Owner Signature: Rich Mueller Date: 4/17/19

*Power of attorney or letter of authorization required if application not signed by the property owner/deed holder.*

- LAND USE APPLICATION TYPE**
- Annexation (ANN)  Plan Map Amendment (PMA)
  - Conditional Use Permit (CUP)  Plan Text Amendment (PTA)
  - Central Urban Renewal Master  Other \_\_\_\_\_
  - Historic Landmark Designation or Removal of Designation (HIST)

FOR STAFF USE ONLY	
Case No.:	<u>Ann 19-0001</u>
Date Received:	<u>4-19-19</u>
By:	<u>[Signature]</u>
Fee Amount \$:	_____
Received by:	_____

### ANNEXATION PROPERTY INFORMATION SHEET

**EXISTING CONDITIONS IN AREA TO BE ANNEXED:**

Land area, in acres: 8.59 (3 tax lots)

General description of territory (Include topographic features such as slopes, vegetation, drainage basins, and floodplain areas which are pertinent to this proposal): The sites are generally flat with slopes greater than 25% at northend (riverbank), adjacent to Tualatin River with some large trees. There is one house and storage structure scheduled for demolition.

Describe land uses on surrounding parcels (Use tax lots as reference points)

North: Tualatin River

South: SW Hazelbrook Road and/or Jurgens Park

East: Jurgens Park and/or vacant land

West: Rauch and/or Jurgens Park

**EXISTING LAND USE:**

Number of existing units/structures:

Single-family: 1 Multi-family: \_\_\_\_\_ Commercial: \_\_\_\_\_ Industrial: \_\_\_\_\_

Describe existing units/structures: One house and 1 storage structure in poor condition and scheduled to be demolished.

What is the current use(s) of the land proposed to be annexed: Vacant land that was acquired as future City parkland.



Public facilities or other uses: N/A

Total current year assessed valuation – Land \$: 827,380 Structures \$: 29,150

Total existing population: 0

Is the territory contiguous to the City limits: Yes

Is the subject territory inside or outside of the Metro Regional Urban Growth Boundary: Inside

**URBAN SERVICE PROVIDERS:**

If the territory described in the proposal is presently included within the boundaries of any of the following types of governmental units, please indicate so by stating the name or names of the governmental units involved.

County: Washington County

Highway Lighting District: N/A

Fire District: Tualatin Valley Fire + Rescue

Sanitary District: Clean Water Services

Water District: City of Tualatin

Grade School District: Tigard - Tualatin School District

High School District: Tigard - Tualatin School District

Library District: City of Tualatin

Drainage District: Clean Water Services

Parks & Recreation District: City of Tualatin

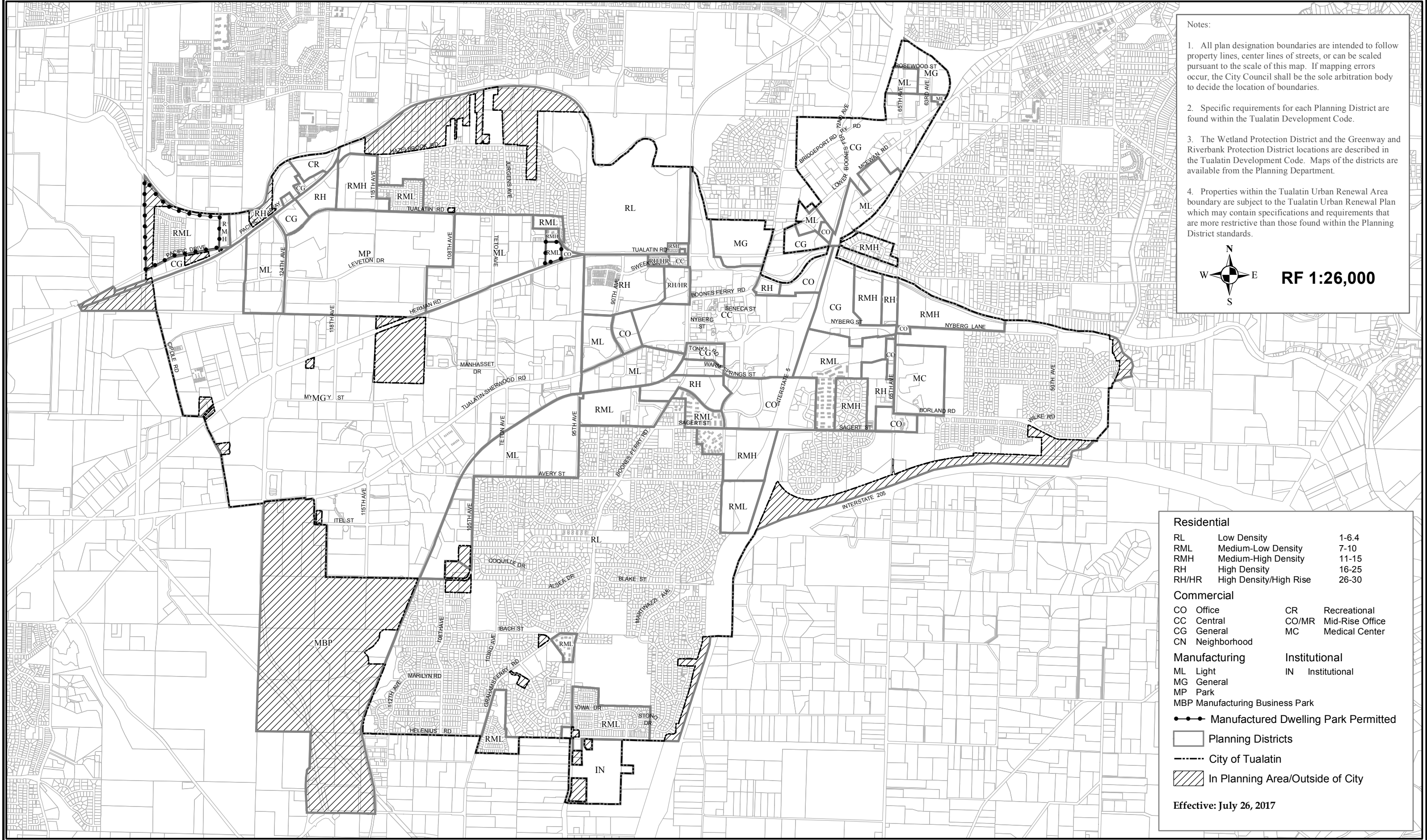
Other: \_\_\_\_\_

Is the territory served by any of the providers listed above (describe existing connections to public services): None

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Map 9-1 Community Plan Map

Exhibit B



Notes:

1. All plan designation boundaries are intended to follow property lines, center lines of streets, or can be scaled pursuant to the scale of this map. If mapping errors occur, the City Council shall be the sole arbitration body to decide the location of boundaries.
2. Specific requirements for each Planning District are found within the Tualatin Development Code.
3. The Wetland Protection District and the Greenway and Riverbank Protection District locations are described in the Tualatin Development Code. Maps of the districts are available from the Planning Department.
4. Properties within the Tualatin Urban Renewal Area boundary are subject to the Tualatin Urban Renewal Plan which may contain specifications and requirements that are more restrictive than those found within the Planning District standards.

RF 1:26,000

Residential		
RL	Low Density	1-6.4
RML	Medium-Low Density	7-10
RMH	Medium-High Density	11-15
RH	High Density	16-25
RH/HR	High Density/High Rise	26-30

Commercial		Institutional	
CO	Office	CR	Recreational
CC	Central	CO/MR	Mid-Rise Office
CG	General	MC	Medical Center
CN	Neighborhood		
ML	Light	IN	Institutional
MG	General		
MP	Park		
MBP	Manufacturing Business Park		

- Manufactured Dwelling Park Permitted
- Planning Districts
- City of Tualatin
- ▨ In Planning Area/Outside of City

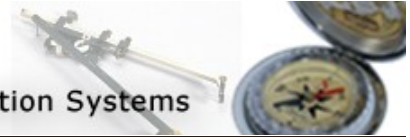
Effective: July 26, 2017



Exhibit C



Geographic Information Systems



Navigation: [Washington County](#) » [GIS](#) » Reports: [GeoSearch District Overlay 2S114BC01900](#) |

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**Survey Search**

**Land Services**

**Building Services**

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**Overlay Information 2S114BC01900**

Jurisdiction:	Urban Unincorporated Washington Co
Plan Designation: <i>(Zoning)</i>	<a href="#">FD-10 (click to open CDC) - Land Use District Summary</a>
General Setbacks for the Land Use District (May differ depending upon location):	Front: 30 / Side: 10 / Rear: 25 / Street Side: 30 / Alley Loaded Garage:
Within Urban Growth Boundary:	Yes
Within Metro's Urban Service Area (*Updated July 31st each calendar year):	Yes
In Urban Road Maintenance District (*Updated July 31st each calendar year):	Yes
In ESPD (*Updated July 31st each calendar year):	Yes
Ground Water Resouce Area:	COOPER MTN-BULL MTN
Service District for Lighting Assessment Area/zone:	Not in an Assessment Area.
Sanitation District (*Updated July 31st each calendar year):	CWS
Fire District (*Updated July 31st each calendar year):	TVFR
Fire Management Zone:	6289
Park District:	Not In Park District
North Bethany Plan Area:	Not in North Bethany Sub Area
School District (*Updated July 31st each calendar year):	<a href="#">TIGARD-TUALATIN</a>
Election Precinct:	437
Commissioner District:	<a href="#">3- Roy Rogers</a>
Assessor Area:	0
Citizen Participation Org:	<a href="#">CPO5</a>
Historic & Cultural Resource Inventory:	Not located within a Historic and Cultural Resource Inventory Area
Airport Overlay:	Not located within an Airport Overlay
POD Date Zoned:	POD:3-4/19/61
ODOT District:	2B
Plat:	Property is not part of a subdivision
Census Tract:	032001
Census Block:	2004
Census Blockgroup:	2
Census Geoid:	410670320012004
Zipcode:	97062
Garbage Hauler:	Republic Services (503) 981-1278
Garbage Dropbox:	Republic Services (503) 981-1278
Thomas Brothers Guide:	Page: 685 - Grid: D1
<p><b>* The data layers used to derive items in the report are assembled from multiple sources. Report items flagged with an asterisk (*) are derived from the taxcode layer maintained by Washington County's Department of Assessment and Taxation Cartography Division. The taxcode layer is updated once a year on July 31st and may not reflect final/proposed annexations or boundary adjustments. All information should be verified with individual service districts.</b></p>	

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**Land Services**

**Building Services**

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**Overlay Information 2S114CB00751**

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Plan Designation: <i>(Zoning)</i>	<a href="#">FD-10 (click to open CDC) - Land Use District Summary</a>
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Within Metro's Urban Service Area (*Updated July 31st each calendar year):	Yes
In Urban Road Maintenance District (*Updated July 31st each calendar year):	Yes
In ESPD (*Updated July 31st each calendar year):	Yes
Ground Water Resouce Area:	COOPER MTN-BULL MTN
Service District for Lighting Assessment Area/zone:	Not in an Assessment Area.
Sanitation District (*Updated July 31st each calendar year):	CWS
Fire District (*Updated July 31st each calendar year):	TVFR
Fire Management Zone:	6289
Park District:	Not In Park District
North Bethany Plan Area:	Not in North Bethany Sub Area
School District (*Updated July 31st each calendar year):	<a href="#">TIGARD-TUALATIN</a>
Election Precinct:	437
Commissioner District:	<a href="#">3- Roy Rogers</a>
Assessor Area:	0
Citizen Participation Org:	<a href="#">CPO5</a>
Historic & Cultural Resource Inventory:	Not located within a Historic and Cultural Resource Inventory Area
Airport Overlay:	Not located within an Airport Overlay
POD Date Zoned:	POD:3-4/19/61
ODOT District:	2B
Plat:	Property is not part of a subdivision
Census Tract:	032001
Census Block:	2004
Census Blockgroup:	2
Census Geoid:	410670320012004
Zipcode:	97062
Garbage Hauler:	Republic Services (503) 981-1278
Garbage Dropbox:	Republic Services (503) 981-1278
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Park District:	Not In Park District
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ODOT District:	2B
Plat:	<a href="#">HAZELBROOK FARM</a>
Census Tract:	032001
Census Block:	2005
Census Blockgroup:	2
Census Geoid:	410670320012005
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ANN 19-0001  
Jurgens Parkland Annexation

**Tualatin City Council**  
**June 10, 2019**

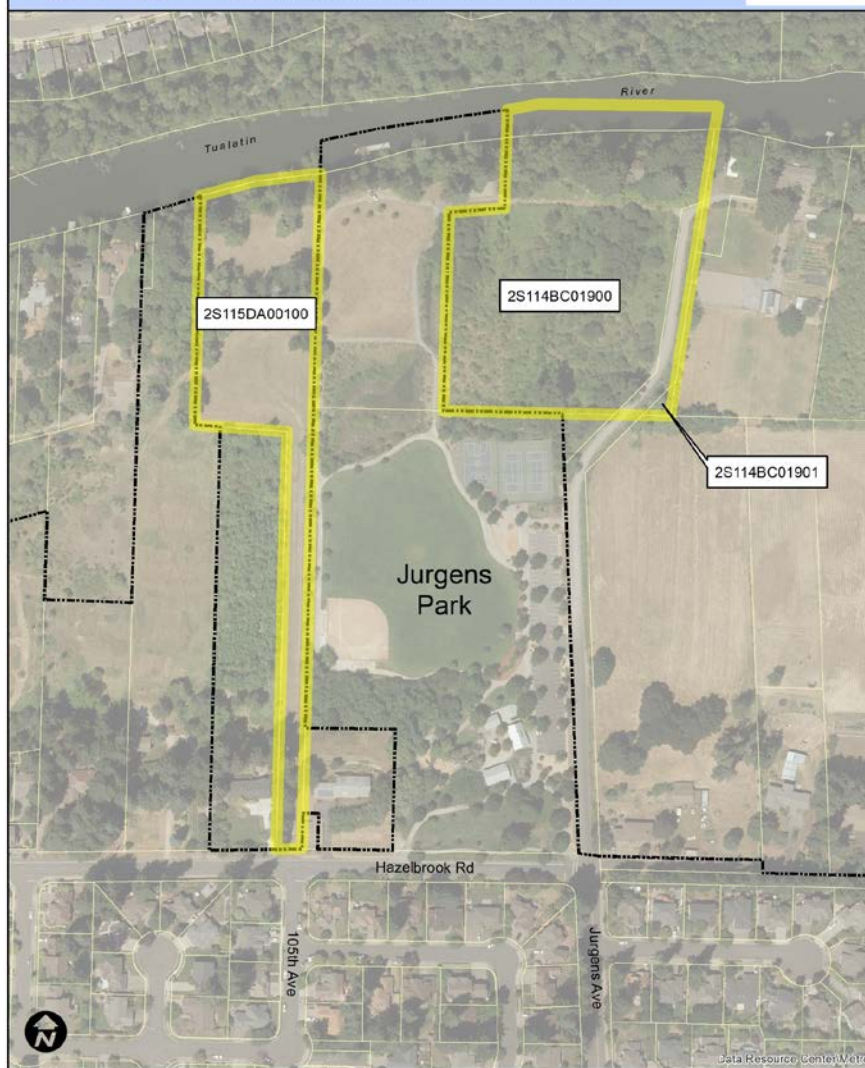




# Proposal

- Annex three tax lots adjacent to Jurgens Park
- Owned by City of Tualatin
- Designated Low-Density Residential (RL)
- Annexation area to include portions of SW Jurgens Avenue







# Criteria

- TDC 33.010 Annexations
  - Within Urban Growth Boundary
  - Owner has petitioned to be annexed
  - Meets Metro Code 3.09
  - Meets ORS Chapter 222
- No development proposed



# Staff Recommendation

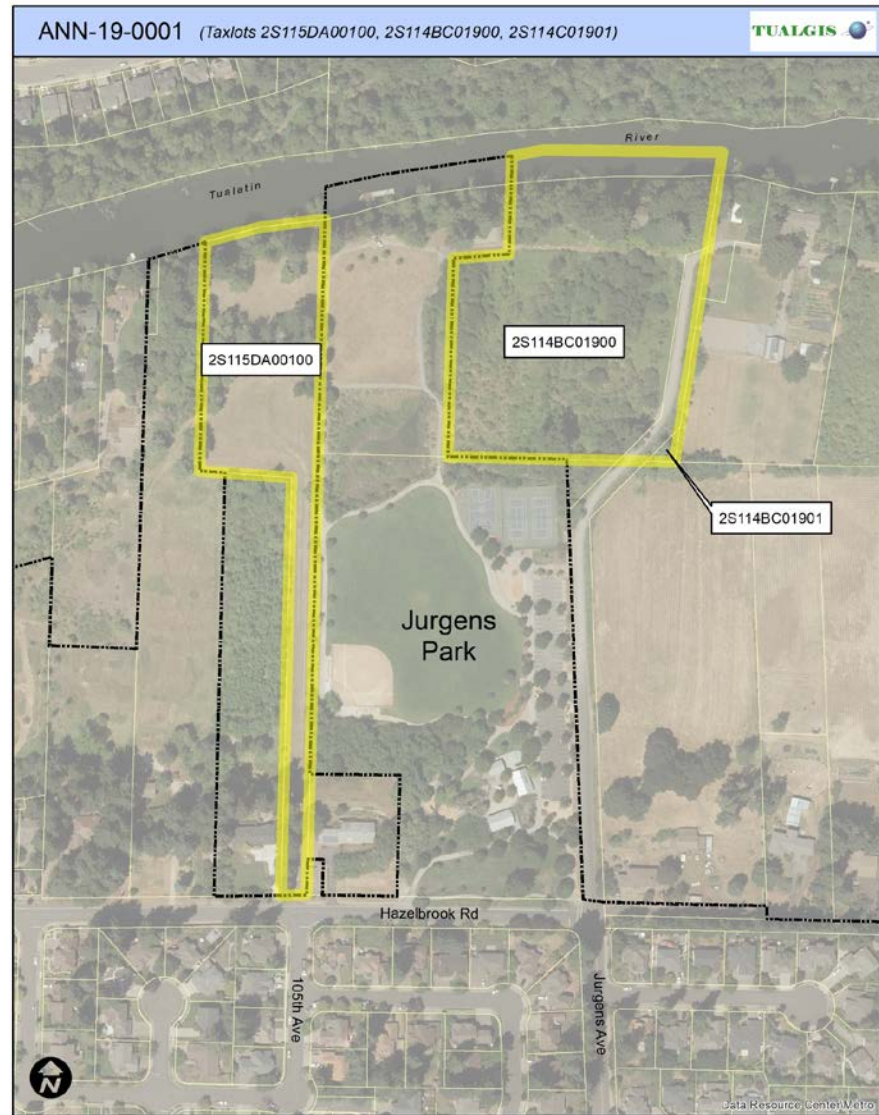
*The proposed annexation complies with applicable Oregon Revised Statutes, Metro Code, and TDC.*

*Staff recommends City Council approval of the File No. ANN-19-0001*

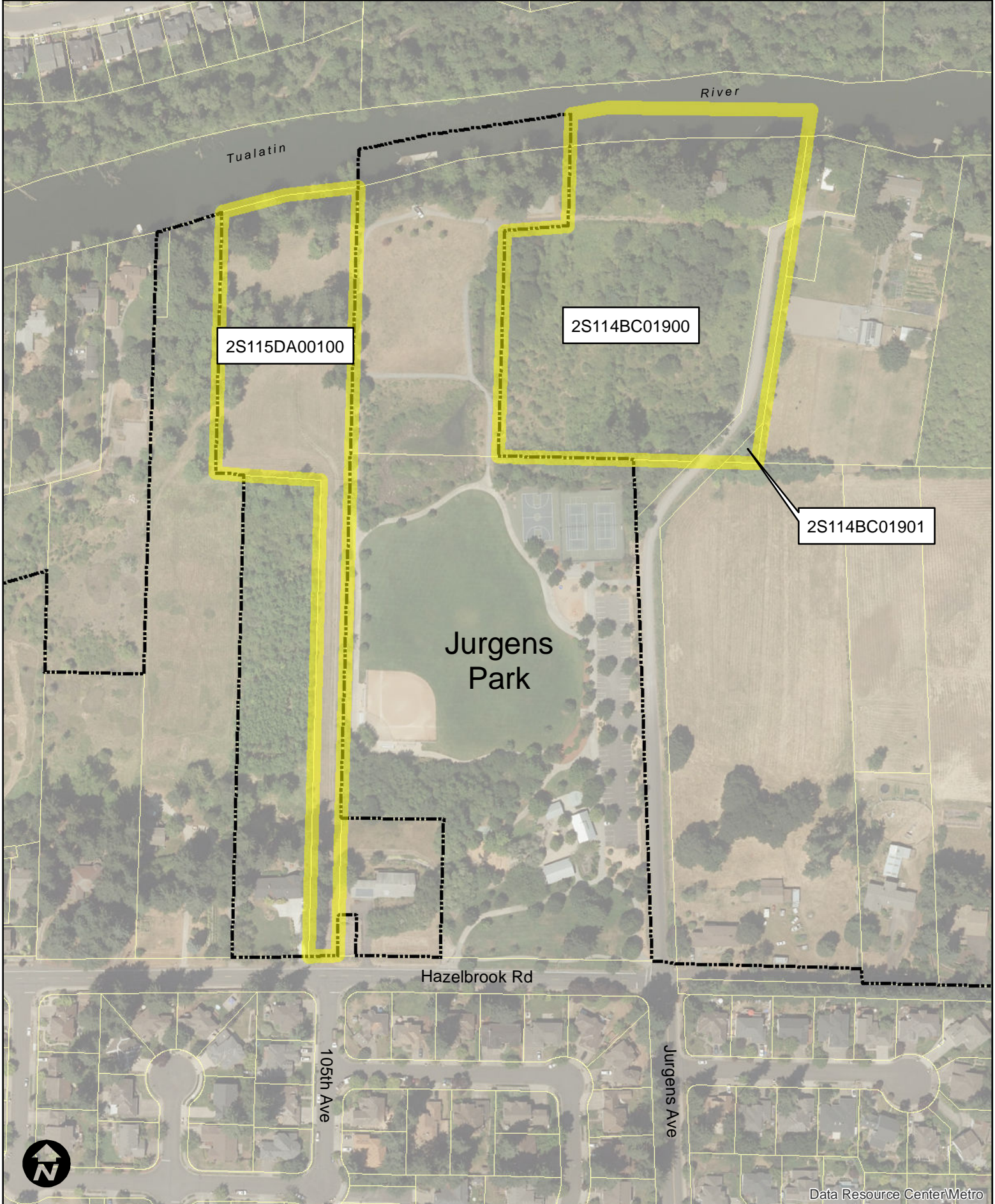




# Questions and Discussion











# STAFF REPORT

## CITY OF TUALATIN

**TO:** Honorable Mayor and Members of the City Council

**THROUGH:** Sherilyn Lombos, City Manager

**FROM:** Erin Engman, Associate Planner  
Steve Koper, Planning Manager

**DATE:** 06/10/2019

**SUBJECT:** Consideration of the Tualatin Service Center Plan Text Amendment (PTA 19-0002) and Plan Map Amendment (PMA 19-0002)

---

### **ISSUE BEFORE THE COUNCIL:**

Consideration of the Tualatin Service Center Plan Text and Plan Map Amendment applications. The subject amendment applications were presented to the Tualatin Planning Commission at a public meeting held on May 16, 2019, where the Commission voted unanimously to recommend approval of the proposal to the City Council.

### **RECOMMENDATION:**

The Tualatin Planning Commission has forwarded a recommendation of approval of the Tualatin Service Center Plan Text Amendment (PTA 19-0002) and Plan Map Amendment (PMA 19-0002).

### **EXECUTIVE SUMMARY:**

#### **Proposal**

- The subject proposal is a Plan Text Amendment (PTA 19-0002) and Plan Map Amendment (PMA 19-0002), which are quasi-judicial amendments. The City of Tualatin is the applicant.
- Approval of the proposal would amend Chapters 49 and 73F of the Tualatin Development Code and Map 9-1 of the Tualatin Comprehensive Plan.
- The text amendment to Chapter 49 of the Tualatin Development Code would add "Government Offices" and "Public Works Storage Yard and Shop" as permitted uses, revise the Wireless Telecommunication Facilities locational standards, and revise the minimum setback standards. Presently, there is only one other property with the Institutional (IN) zone and that is where Horizon High School is located on SW Boones Ferry Road. The purpose of the IN zone is to support lands and facilities that are owned and operated by governmental or nonprofit entities and that benefit the community.
- The text amendment to Chapter 73F of the Tualatin Development Code would revise the maximum height standard for wireless communication facilities in the Institutional Zone (IN).

- The amendment to Map 9-1 of the Tualatin Comprehensive Plan would change the zoning of the subject site from Light Manufacturing (ML) to Institutional (IN).
- The subject site is an approximately 8.73 acre site that is located on the northeast corner of Herman Road and 108th Avenue (10699 SW Herman Road). The site is presently developed with approximately four buildings, surface parking areas, and landscaping. Access is provided via one driveway located on Herman Road and two gated access points on 108th Avenue. The site is presently the home of the City's Public Works Department, and also supports the Street/Sewer/Storm, Water, Maintenance and Fleet, and portions of the Engineering Division and Information Services .
- The proposed amendments would allow City offices and the public works yard to co-exist in a unified permitting and development services center. Future site development would be reviewed under a subsequent Architectural Review application. A conceptual building could house approximately 65 staff members including the City's Community Development Department (Planning and Building Divisions) and Engineering Division.

### **Transportation Planning Rule (TPR) Compliance**

- An amendment to the Tualatin Comprehensive Plan is required to analyze whether the proposed change would result in a "significant" impact as defined by Oregon Administrative Rules Chapter 660 Division 12 Section 0060, also known as the "Transportation Planning Rule" or TPR. The applicant proposes the addition of a "trip cap" which would limit future site development to not more than 80 additional PM "peak hour" trips, thereby satisfying the TPR by providing a mitigating measure that would result in the proposed amendments not having a "significant" impact. This trip cap provides more than enough trip generation for the site to accommodate the proposed service center addition.

### **Compliance with Applicable Criteria**

- As demonstrated within the attached Findings and Analysis, the proposed amendments comply with the applicable criteria of: the Oregon Statewide Planning Goals; Oregon Administrative Rules; Metro Code; the Tualatin Comprehensive Plan; and the Tualatin Development Code.

### **Public Notice**

- Notice of the proposed amendments was provided to the Oregon Department of Land Conservation and Development (DLCD), the required 35 days prior to the City Council public hearing. Notification of the City Council hearing was made consistent with Tualatin Development Code Section 32.240, which included: mailed notices to adjacent property owners, and published and posted notices.

### **OUTCOMES OF DECISION:**

Approval of PTA-19-0002 and PMA-19-0002 would support:

- An amendment to Chapter 49 (Institutional Zone (IN)) of the Tualatin Development Code to add "Government Offices" and "Public Works Storage Yard and Shop" as permitted uses, revise Wireless Telecommunication Facilities locational standards, and revise minimum setback standards.
- An amendment to Chapter 73F (Wireless Communications Facilities) of the Tualatin Development Code to revise maximum height standards in the Institutional Zone (IN).
- An amendment to Map 9-1 of the Tualatin Comprehensive Plan to apply the Institutional Zone (IN) designation to the subject site.
- Future development of a unified permitting and development services center on



City-owned property.

**ALTERNATIVES TO RECOMMENDATION:**

The Council may alternatively:

- Approve PTA 19-0002 and/or PMA 19-0002 with further amendments;
- Deny PTA 19-0002 and/or PMA 19-0002; or
- Continue consideration of PTA 19-0002 and/or PMA 19-0002 to a future Council meeting.

---

**Attachments:**    Attachment 1 - Findings and Analysis  
                          Attachment 2 - PTA and PMA 19-0002 Presentation  
                          Exhibit A - TDC Chapters 49 and 73F Amendment  
                          Exhibit B - Map 9-1 Amendment  
                          Exhibit C - Transportation Impact Analysis  
                          Exhibit D - Transportation Planning Rule Analysis  
                          Exhibit E - Metro Title 4 Map  
                          Exhibit F - Metro Regional Freight Network Map



# City of Tualatin

[www.tualatinoregon.gov](http://www.tualatinoregon.gov)

May 16, 2019

## Analysis and Findings for PTA 19-0002 and PMA 19-0002

---

Case #:	PTA 19-0002 and PMA 19-0002
Project:	Tualatin Services Center
Location:	10699 SW Herman Road; Tax lots: 2S1 22AD 200 and 300
Applicant:	Clayton Reynolds, Maintenance Services Manager
Owner:	City of Tualatin

---

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## I. INTRODUCTION

### A. Applicable Criteria

Applicable Statewide Planning Goals; Divisions 9 and 12 of the Oregon Administrative Rules; Title 4 of Metro Chapter 3.07 (Urban Growth Management Functional Plan); applicable Goals and Policies from the City of Tualatin Comprehensive Plan; applicable Sections of the City of Tualatin Development Code, including Section 33.070 (Plan Amendments).

### B. Project Description

The applicant also requests approval of a Comprehensive Plan Text Amendment (PTA 19-0002) that would add government offices and public works storage yard and shop as Permitted uses in the Institutional Zone (IN). The applicant also requests approval of a Plan Map Amendment (PMA 19-0002) to change the zoning on an approximately 8.73 acre site is located on the northeast corner of Herman Road and 108<sup>th</sup> Avenue (10699 SW Herman Road) from Light Manufacturing (ML) to Institutional (IN).

The subject site is presently developed with approximately four buildings, surface parking areas, and landscaping. Access is provided via one driveway located on Herman Road and two gated access points on 108<sup>th</sup> Avenue. The site is presently the home of the City's Public Works Department, and also supports the Street/Sewer/Storm, Water, and portions of the Engineering Division.

The proposed amendments would facilitate future development of a government office building which would allow for the siting of a unified permitting and development services center on City-owned property. The building would house approximately 65 staff members and would also be the future home of the City's Community Development Department (Planning and Building Divisions). Future structural and site development would be reviewed under a subsequent Architectural Review application.

### C. Site Description and Surrounding Uses

Surrounding uses include a variety of industrial uses:

North: Light Manufacturing (ML)

- Storage Facility
- Machine Shop

South: General Manufacturing (MG)

- Herman Road
- Outdoor Storage

West: Light Manufacturing (ML)

- 108<sup>th</sup> Avenue
- Metal Fabrication

East: Light Manufacturing (ML)

- Warehousing

Figure 1: Aerial view of subject site (highlighted)



**D. Exhibit List**

- A: Draft amended Chapter 49 (Institutional Zone (IN)) text
- B: Draft amended Community Plan (Map 9-1)
- C: Transportation Impact Analysis (TIA)
- D: Transportation Planning Rule (TPR) Analysis
- E: Metro Title 4 – Industrial and Other Employment Areas Map
- F: Metro Regional Freight Map

## **II. FINDINGS**

### **A. The following Oregon Statewide Planning Goals are applicable to the proposed amendments:**

#### **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:**

Notice of the proposed amendments has been provided pursuant to Sections 32.240 and 33.070. The Tualatin Planning Commission will hold a public meeting on May 16, 2019, and the City Council will hold a public hearing on the proposed amendments on June 10, 2019. 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 proposed amendments has been reviewed pursuant to the City's established land use planning process and procedures. The proposed amendments conform to Goal 2.

#### **Goal 5 – Open Spaces, Scenic and Historic Area, and Natural Resource**

**Finding:**

Applicability of Goal 5 to post-acknowledgment plan amendments is governed by OAR 660- 023-0250. The proposed map amendments do not modify the acknowledged Goal 5 resource list, or a policy that addresses specific requirements of Goal 5. The proposed amendments do not allow uses that would conflict with a particular Goal 5 resource site on an acknowledged resource list. The proposed amendments conform to Goal 5.

#### **Goal 6 – Air, Water and Land Resources Quality**

**Finding:**

The proposal does not affect policies associated with Goal 6 established by the Comprehensive Plan. As reported in the previous findings for Goal 5, the proposed Comprehensive Plan/Zoning Map Amendment will continue to preserve environmentally sensitive lands. 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 (SWC) 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. The proposed amendments conform to Goal 6.

### **Goal 7 – Areas Subject to Natural Disasters and Hazards**

#### **Finding:**

The proposed amendments do not affect policies associated with Goal 7 established by the Comprehensive Plan. Approval of the proposed amendments will not eliminate the requirement for future development to meet the requirements of the Chapters 70 and 72 of the Tualatin Development Code. The proposed amendments conform to Goal 7.

### **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 amendments would facilitate future development of government offices employing approximately 65 people, which will increase economic opportunities relative to the existing site development. The proposed amendments conform to Goal 9.

### **Goal 11 – Public Facilities and Services**

#### **Finding:**

The subject site is adequately served by public facilities and services. The development that would be facilitated by the proposed amendments is not anticipated to result in a “significant” impact to the transportation system. No amendments to the public facilities plans are necessary in order to accommodate the proposed map amendment. The proposed amendments conform to Goal 12.

### **Goal 12 – Transportation**

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

[...]

Goal 12 requires the provision and encouragement of a safe, convenient, multimodal and economic transportation system. The proposed amendments are consistent with the City’s acknowledged policies and strategies for the provision of transportation facilities and services as required by Goal 12 the Transportation Planning Rule (TPR), the findings for which are found under Oregon Administrative Rules Chapter 660, Division 12. The proposed amendments conform to Goal 12.

**B. The following Oregon Administrative Rules (OAR) are applicable to the proposed amendments:**

**OAR Chapter 660, Division 9 (Economic Development)**

**660-009-0010**

**Application**

[...]

**(4) For a post-acknowledgement plan amendment under OAR chapter 660, division 18, that changes the plan designation of land in excess of two acres within an existing urban growth boundary from an industrial use designation to a non-industrial use designation, or another employment use designation to any other use designation, a city or county must address all applicable planning requirements, and:**

**(a) Demonstrate that the proposed amendment is consistent with its most recent economic opportunities analysis and the parts of its acknowledged comprehensive plan which address the requirements of this division; or**

**(b) Amend its comprehensive plan to incorporate the proposed amendment, consistent with the requirements of this division; or**

**(c) Adopt a combination of the above, consistent with the requirements of this division.**

**(5) The effort necessary to comply with OAR 660-009-0015 through 660-009-0030 will vary depending upon the size of the jurisdiction, the detail of previous economic development planning efforts, and the extent of new information on national, state, regional, county, and local economic trends. A jurisdiction's planning effort is adequate if it uses the best available or readily collectable information to respond to the requirements of this division.**

**(6) The amendments to this division are effective January 1, 2007. A city or county may voluntarily follow adopted amendments to this division prior to the effective date of the adopted amendments.**

[...]

**Finding:**

Although the proposed amendment would change the plan designation of land in excess of two acres within an existing urban growth boundary from an industrial use designation (Light Manufacturing Zone (ML)) to a non-industrial use designation (Institutional Zone (IN)), the proposed amendments are otherwise consistent with the City's acknowledged comprehensive plan and would facilitate future development of government offices employing approximately 65 people, which will increase economic opportunities relative to the existing site development. The proposed amendments are consistent with these requirements.

**OAR Chapter 660, Division 12 (Transportation Planning)**

[...]

**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.**

**(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;**

**(c) The amendment does not involve property located in an interchange area as defined in paragraph (4)(d)(C); and**

**(d) For affected state highways, ODOT provides a written statement that the proposed funding and timing for the identified mitigation improvements or measures are, at a minimum, sufficient to avoid further degradation to the performance of the affected state highway. However, if a local government provides the appropriate ODOT regional office with written notice of a proposed amendment in a manner that provides ODOT reasonable opportunity to submit a written statement into the record of the local government proceeding, and ODOT does not provide a written statement, then the local government may proceed with applying subsections (a) through (c) of this section.**

**(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).**

**(5) The presence of a transportation facility or improvement shall not be a basis for an exception to allow residential, commercial, institutional or industrial development on rural lands under this division or OAR 660-004-0022 and 660-004-0028.**

**(6) In determining whether proposed land uses would affect or be consistent with planned transportation facilities as provided in sections (1) and (2), local governments shall give full credit for potential reduction in vehicle trips for uses located in mixed-use, pedestrian-friendly centers, and neighborhoods as provided in subsections (a)–(d) below;**

**(a) Absent adopted local standards or detailed information about the vehicle trip reduction benefits of mixed-use, pedestrian-friendly development, local governments shall assume that uses located within a mixed-use, pedestrian-friendly center, or neighborhood, will generate 10% fewer daily and peak hour trips than are specified in available published estimates, such as those provided by the Institute of Transportation Engineers (ITE) Trip Generation Manual that do not specifically account for the effects of mixed-use, pedestrian-friendly development. The 10% reduction allowed for by this section shall be available only if uses which rely solely on auto trips, such as gas stations, car washes, storage facilities, and motels are prohibited;**

**(b) Local governments shall use detailed or local information about the trip reduction benefits of mixed-use, pedestrian-friendly development where such information is available and presented to the local government. Local governments may, based on such information, allow reductions greater than the 10% reduction required in subsection (a) above;**

**(c) Where a local government assumes or estimates lower vehicle trip generation as provided in subsection (a) or (b) above, it shall assure through conditions of approval, site plans, or approval standards that subsequent development approvals support the development of a mixed-use, pedestrian-friendly center or neighborhood and provide for on-site bike and pedestrian connectivity and access to transit as provided for in OAR 660-012-0045(3) and (4). The provision of on-site bike and pedestrian connectivity and access to transit may be accomplished through application of acknowledged ordinance provisions which comply with 660-012-0045(3) and (4) or through conditions of approval or findings adopted with the plan amendment that assure compliance with these rule requirements at the time of development approval; and**

**(d) The purpose of this section is to provide an incentive for the designation and implementation of pedestrian-friendly, mixed-use centers and neighborhoods by lowering the regulatory barriers to plan amendments which accomplish this type of development. The actual trip reduction benefits of mixed-use, pedestrian-friendly development will vary from case to case and may be somewhat higher or lower than presumed pursuant to subsection (a) above. The Commission concludes that this assumption is warranted given general information about the expected effects of mixed-use, pedestrian-friendly development and its intent to encourage changes to plans and development**



patterns. Nothing in this section is intended to affect the application of provisions in local plans or ordinances which provide for the calculation or assessment of systems development charges or in preparing conformity determinations required under the federal Clean Air Act.

**(7) Amendments to acknowledged comprehensive plans and land use regulations which meet all of the criteria listed in subsections (a)–(c) below shall include an amendment to the comprehensive plan, transportation system plan the adoption of a local street plan, access management plan, future street plan or other binding local transportation plan to provide for on-site alignment of streets or accessways with existing and planned arterial, collector, and local streets surrounding the site as necessary to implement the requirements in OAR 660-012-0020(2)(b) and 660-012-0045(3):**

**(a) The plan or land use regulation amendment results in designation of two or more acres of land for commercial use;**

**(b) The local government has not adopted a TSP or local street plan which complies with OAR 660-012-0020(2)(b) or, in the Portland Metropolitan Area, has not complied with Metro's requirement for street connectivity as contained in Title 6, Section 3 of the Urban Growth Management Functional Plan; and**

**(c) The proposed amendment would significantly affect a transportation facility as provided in section (1).**

**(8) A "mixed-use, pedestrian-friendly center or neighborhood" for the purposes of this rule, means:**

**(a) Any one of the following:**

**(A) An existing central business district or downtown;**

**(B) An area designated as a central city, regional center, town center or main street in the Portland Metro 2040 Regional Growth Concept;**

**(C) An area designated in an acknowledged comprehensive plan as a transit oriented development or a pedestrian district; or**

**(D) An area designated as a special transportation area as provided for in the Oregon Highway Plan.**

**(b) An area other than those listed in subsection (a) above which includes or is planned to include the following characteristics:**

**(A) A concentration of a variety of land uses in a well-defined area, including the following:**

**(i) Medium to high density residential development (12 or more units per acre);**

**(ii) Offices or office buildings;**

**(iii) Retail stores and services;**

**(iv) Restaurants; and**

**(v) Public open space or private open space which is available for public use, such as a park or plaza.**

**(B) Generally include civic or cultural uses;**

**(C) A core commercial area where multi-story buildings are permitted;**

**(D) Buildings and building entrances oriented to streets;**

**(E) Street connections and crossings that make the center safe and conveniently accessible from adjacent areas;**

**(F) A network of streets and, where appropriate, accessways and major driveways that make it attractive and highly convenient for people to walk between uses within the center or neighborhood, including streets and major driveways within the center with wide sidewalks and other features, including pedestrian-oriented street crossings, street trees, pedestrian-scale lighting and on-street parking;**

**(G) One or more transit stops (in urban areas with fixed route transit service); and**

**(H) Limit or do not allow low-intensity or land extensive uses, such as most industrial uses, automobile sales and services, and drive-through services.**

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

**(a) The proposed zoning is consistent with the existing comprehensive plan map designation and the amendment does not change the comprehensive plan map;**

**(b) The local government has an acknowledged TSP and the proposed zoning is consistent with the TSP; and**

**(c) The area subject to the zoning map amendment was not exempted from this rule at the time of an urban growth boundary amendment as permitted in OAR 660-024-0020(1)(d), or the area was exempted from this rule but the local government has a subsequently acknowledged TSP amendment that accounted for urbanization of the area.**

**(10) Notwithstanding sections (1) and (2) of this rule, a local government may amend a functional plan, a comprehensive plan or a land use regulation without applying performance standards related to motor vehicle traffic congestion (e.g. volume to capacity ratio or V/C), delay or travel time if the amendment meets the requirements of subsection (a) of this section. This section does not exempt a proposed amendment from other transportation performance standards or policies that may apply including, but not limited to, safety for all modes, network connectivity for all modes (e.g. sidewalks, bicycle lanes) and accessibility for freight vehicles of a size and frequency required by the development.**

**(a) A proposed amendment qualifies for this section if it:**

**(A) Is a map or text amendment affecting only land entirely within a multimodal mixed-use area (MMA); and**

**(B) Is consistent with the definition of an MMA and consistent with the function of the MMA as described in the findings designating the MMA.**

**(b) For the purpose of this rule, “multimodal mixed-use area” or “MMA” means an area:**

**(A) With a boundary adopted by a local government as provided in subsection (d) or (e) of this section and that has been acknowledged;**

**(B) Entirely within an urban growth boundary;**

**(C) With adopted plans and development regulations that allow the uses listed in paragraphs (8)(b)(A) through (C) of this rule and that require new development to be consistent with the characteristics listed in paragraphs (8)(b)(D) through (H) of this rule;**

**(D) With land use regulations that do not require the provision of off-street parking, or regulations that require lower levels of off-street parking than required in other areas and allow flexibility to meet the parking requirements (e.g. count on-street parking, allow long-term leases, allow shared parking); and**

**(E) Located in one or more of the categories below:**

**(i) At least one-quarter mile from any ramp terminal intersection of existing or planned interchanges;**

**(ii) Within the area of an adopted Interchange Area Management Plan (IAMP) and consistent with the IAMP; or**

**(iii) Within one-quarter mile of a ramp terminal intersection of an existing or planned interchange if the mainline facility provider has provided written concurrence with the MMA designation as provided in subsection (c) of this section.**

**(c) When a mainline facility provider reviews an MMA designation as provided in subparagraph (b)(E)(iii) of this section, the provider must consider the factors listed in paragraph (A) of this subsection.**

**(A) The potential for operational or safety effects to the interchange area and the mainline highway, specifically considering:**

**(i) Whether the interchange area has a crash rate that is higher than the statewide crash rate for similar facilities;**

**(ii) Whether the interchange area is in the top ten percent of locations identified by the safety priority index system (SPIS) developed by ODOT; and**

**(iii) Whether existing or potential future traffic queues on the interchange exit ramps extend onto the mainline highway or the portion of the ramp needed to safely accommodate deceleration.**

**(B) If there are operational or safety effects as described in paragraph (A) of this subsection, the effects may be addressed by an agreement between the local government and the facility provider regarding traffic management plans favoring traffic movements away from the interchange, particularly those facilitating clearing traffic queues on the interchange exit ramps.**

**(d) A local government may designate an MMA by adopting an amendment to the comprehensive plan or land use regulations to delineate the boundary following an existing zone, multiple existing zones, an urban renewal area, other existing boundary, or establishing a new boundary. The designation must be accompanied by findings showing how the area meets the definition of an MMA. Designation of an MMA is not subject to the requirements in sections (1) and (2) of this rule.**

**(e) A local government may designate an MMA on an area where comprehensive plan map designations or land use regulations do not meet the definition, if all of the other elements meet the definition, by concurrently adopting comprehensive plan or land use regulation amendments necessary to meet the definition. Such amendments are not subject to performance standards related to motor vehicle traffic congestion, delay or travel time.**



**(11) A local government may approve an amendment with partial mitigation as provided in section (2) of this rule if the amendment complies with subsection (a) of this section, the amendment meets the balancing test in subsection (b) of this section, and the local government coordinates as provided in subsection (c) of this section.**

**(a) The amendment must meet paragraphs (A) and (B) of this subsection or meet paragraph (D) of this subsection.**

**(A) Create direct benefits in terms of industrial or traded-sector jobs created or retained by limiting uses to industrial or traded-sector industries.**

**(B) Not allow retail uses, except limited retail incidental to industrial or traded sector development, not to exceed five percent of the net developable area.**

**(C) For the purpose of this section:**

**(i) "Industrial" means employment activities generating income from the production, handling or distribution of goods including, but not limited to, manufacturing, assembly, fabrication, processing, storage, logistics, warehousing, importation, distribution and transshipment and research and development.**

**(ii) "Traded-sector" means industries in which member firms sell their goods or services into markets for which national or international competition exists.**

**(D) Notwithstanding paragraphs (A) and (B) of this subsection, an amendment complies with subsection (a) if all of the following conditions are met:**

**(i) The amendment is within a city with a population less than 10,000 and outside of a Metropolitan Planning Organization.**

**(ii) The amendment would provide land for "Other Employment Use" or "Prime Industrial Land" as those terms are defined in OAR 660-009-0005.**

**(iii) The amendment is located outside of the Willamette Valley as defined in ORS 215.010.**

**(E) The provisions of paragraph (D) of this subsection are repealed on January 1, 2017.**

**(b) A local government may accept partial mitigation only if the local government determines that the benefits outweigh the negative effects on local transportation facilities and the local government receives from the provider of any transportation facility that would be significantly affected written concurrence that the benefits outweigh the negative effects on their transportation facilities. If the amendment significantly affects a state highway, then ODOT must coordinate with the Oregon Business Development Department regarding the economic and job creation benefits of the proposed amendment as defined in subsection (a) of this section. The requirement to obtain concurrence from a provider is satisfied if the local government provides notice as required by subsection (c) of this section and the provider does not respond in writing (either concurring or non-concurring) within forty-five days.**

**(c) A local government that proposes to use this section must coordinate with Oregon Business Development Department, Department of Land Conservation and Development, area commission on transportation, metropolitan planning organization, and transportation providers and local governments directly impacted by the proposal to allow opportunities for comments on whether the**

**proposed amendment meets the definition of economic development, how it would affect transportation facilities and the adequacy of proposed mitigation. Informal consultation is encouraged throughout the process starting with pre-application meetings. Coordination has the meaning given in ORS 197.015 and Goal 2 and must include notice at least 45 days before the first evidentiary hearing. Notice must include the following:**

**(A) Proposed amendment.**

**(B) Proposed mitigating actions from section (2) of this rule.**

**(C) Analysis and projections of the extent to which the proposed amendment in combination with proposed mitigating actions would fall short of being consistent with the function, capacity, and performance standards of transportation facilities.**

**(D) Findings showing how the proposed amendment meets the requirements of subsection (a) of this section.**

**(E) Findings showing that the benefits of the proposed amendment outweigh the negative effects on transportation facilities.**

[...]

**Finding:**

As identified in the provided Transportation Planning Rule (TPR) analysis, the trip generation potential for the existing zoning (ML) and proposed zoning (IN) was calculated using site redevelopment assumptions for a reasonable worst-case use and ITE trip generation rates. Applying the reasonable worst case scenario to the subject site, the proposed Plan Map Amendment (from ML to IN) would have the potential to add an increase of approximately 155 (219-64) p.m. peak hour vehicle trips, which would potentially create a significant effect on the transportation system.

In order to mitigate for this potential effect, the applicant proposes a trip cap with the amendments that would limit site trips and not further degrade the transportation system. The provided TPR analysis indicates that a trip cap of 80 p.m. peak hour trips would result in the proposed amendment not having a significant effect on the transportation system. Subject to imposition of the aforementioned trip cap, these criteria are met.

**C. The following Chapter and Titles of Metro Code are applicable to the proposed amendments:**

**Chapter 3.07, Urban Growth Management Functional Plan**

[...]

**Title 4: Industrial and Other Employment Areas**

[...]

**3.07.450 Employment and Industrial Areas Map**

**(a) The Employment and Industrial Areas Map is the official depiction of the boundaries of Regionally Significant Industrial Areas, Industrial Areas and Employment Areas.**

[...]

**(c) A city or county may amend its comprehensive plan or zoning regulations to change its designation of land on the Employment and Industrial Areas Map in order to allow uses not allowed by this title upon a demonstration that:**

**(1) The property is not surrounded by land designated on the map as Industrial Area, Regionally Significant Industrial Area or a combination of the two;**

**Finding:**

The subject site is adjacent to Herman Road to the south, south of which is railroad right-of-way, and 108<sup>th</sup> Avenue to the west and is therefore not “surrounding” by properties designated as Industrial or Regionally Significant Industrial Area. This criterion is met.

**(2) The amendment will not reduce the employment capacity of the city or county;**

**Finding:**

The proposed amendments would facilitate future development of government offices employing approximately 65 people, which will increase the employment capacity of the subject site and the City overall. This criterion is met.

**(3) If the map designates the property as Regionally Significant Industrial Area, the subject property does not have access to specialized services, such as redundant electrical power or industrial gases, and is not proximate to freight loading and unloading facilities, such as trans-shipment facilities;**

**Finding:**

The site is designated as Industrial not Regionally Significant Industrial Area. This criterion is not applicable.

**(4) The amendment would not allow uses that would reduce off-peak performance on Main Roadway Routes and Roadway Connectors shown on the Regional Freight Network Map in the RTP below volume-to capacity standards in the plan, unless mitigating action is taken that will restore performance to RTP standards within two years after approval of uses;**

[...]

**Finding:**

Herman Road and 108<sup>th</sup> Avenue are not designated as Main Roadway Routes or Roadway Connectors on the Regional Freight Network Map. This criterion is not applicable.

**(6) If the map designates the property as Regionally Significant Industrial Area, the property subject to the amendment is ten acres or less; if designated Industrial Area, the property subject to the amendment is 20 acres or less; if designated Employment Area, the property subject to the amendment is 40 acres or less.**

[...]

**Finding:**

The subject site is a less than 20 acre site, designated as Industrial on the Employment and Industrial Areas Map. This criterion is met.



**D. The following Chapters of the Tualatin Comprehensive Plan are applicable to the proposed amendments:**

**Chapter 9. Plan Map**

**Finding:**

The proposed amendments would apply the IN designation to the subject site and amend Community Plan Map 9-1. This objective is met.

**Chapter 11. Transportation**

**Section 11.610. Transportation Goals and Objectives**

**(2) Goal 1: Mobility and access**

**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.**

**Finding:**

The proposed amendments have been determined to be in compliance with OAR Chapter 660 Division 12 and therefore, comply with the above goal. This objective is met.

**(3) Goal 2: Safety, improve safety for all users, all modes, all ages, and all abilities within the City of Tualatin.**

**Finding:**

The proposed amendments would not impact safety relative to the transportation system. The provided transportation analysis demonstrates that the government office use would not negatively impact road users in the vicinity of the subject site. This objective is met.

**(4) Goal 3: Vibrant Community. Allow for a variety of alternative transportation choices for citizens of and visitors to Tualatin to support a high quality of life and community livability.**

**Finding:**

The proposed amendments would facilitate development of a government office on the subject site, which would support alternative transportation options by providing bicycle parking areas and spaces for vanpools. This objective is met.

**(5) Goal 4: Equity. Consider the distribution of benefits and impacts from potential transportation options, and work towards fair access to transportation facilities for all users, all ages, and all abilities.**

**Finding:**

The proposed amendments do not reflect a significant change to the existing transportation system and rather have been determined to be in compliance with the City's existing TSP, which is reflective of this

goal. Further, all transportation and pedestrian facilities will comply with accessibility requirements upon construction. This objective is met.

**(6) Goal 5: Economy. Support local employment, local businesses, and a prosperous community while recognizing Tualatin's role in the regional economy.**

**Finding:**

The proposed amendments would facilitate future development of government offices employing approximately 65 people, which will increase the employment capacity of the subject site and the City overall. These employees will support local businesses as well as provide permitting services to local businesses helping to support the overall prosperity of the community. This objective is met.

**(7) Goal 6: Health/Environment. Provide active transportation options to improve the health of citizens in Tualatin. Ensure that transportation does not adversely affect public health or the environment.**

**Finding:**

The proposed amendments identify a transportation system, including streets, pedestrian and bicycle facilities. Herman Road and 108<sup>th</sup> Avenue both have both sidewalks and bike lanes. This objective is met.

**(8) Goal 7: Ability to Be Implemented. Promote potential options that are able to be implemented because they have community and political support and are likely to be funded.**

**Finding:**

The proposed amendments would facilitate future development of government offices employing approximately 65 people, for which a plan and budget have been developed. This objective is met.

**E. The following Chapters of the Tualatin Development Code are applicable to the proposed amendments:**

**Chapter 33: Applications and Approval Criteria**

**Section 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.**

**Finding:**

A Plan Text Amendment and Plan Text Amendment are proposed. This proposal is quasi-judicial in nature and therefore has been processed consistent with the Type IV-A procedures in Chapter 32. This criterion is met.

[...]

**(5) Approval Criteria.**

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

**Finding:**

The Tualatin Comprehensive Plan and Development Code implement the Oregon Statewide Planning Goals. Statewide Planning Goal 2 requires all parcels in each city and county to be designated with a planning district. The proposed amendment would rezone the subject site from Light Manufacturing (ML) to Institutional (IN) and government offices and public works yard and storage area as Permitted uses in the IN district.

The site is currently functions as the City's Public Works and Operations center. An objective of the Institutional Planning District is to accommodate campus-style development, owned and operated by governmental entities consisting of multiple structures or facilities, which may serve multiple purposes and provide multiple services to the community, per TDC 8.100.

Approval of the proposed amendments would facilitate the development government offices employing approximately 65 people, which will increase economic opportunities relative to the existing site development and provide permitting and development services in one location for the community. The proposed Plan Map Amendment to rezone the property from ML to IN and the proposed Plan Text Amendment to add government offices as a Permitted use in the Institutional District is therefore consistent with the public interest. This criterion is met.

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

**Finding:**

The Operations center anticipates future expansion to provide community development operations in addition to the existing public works operations. Chapter 8 addresses these semi-public and miscellaneous uses as not neatly fitting into traditional use categories, such as Industrial. The proposed Plan Map Amendment to IN provides clarity that the site provides community services. Chapter 8 of the Community Plan recognizes government offices as a use that is compatible with the Institutional Planning District objectives. This criterion is met.

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

**Finding:**

The City's Operations Center is recognized as a government service, in Chapter 8: Public Land Use, Section 8.020 of the Tualatin Community Plan. Additionally, the Institutional Planning District objectives of 8.100 state that, "The district may be applied to land that is able to accommodate large-scale campus-style development and operation of related uses, as follows: (a) Contiguous land one and one-half acre in size or greater; (b) Access to a collector or arterial street; and (c) Adequate public facilities are available to the property. The operations center is (a) approximately 8.73 acres in size, (b) served by two major arterial streets: Herman Road and 108<sup>th</sup> Avenue, and (c) is served by public utilities. This criterion is met.

**(d) The following factors were consciously considered:**

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



**Finding:**

The site is bordered by Light Manufacturing uses to the west, north, and east; and General Manufacturing uses to the south. The existing public works functions and operations are compatible with surrounding industrial uses. The proposed amendments would facilitate development of a government office building on the site which would be the future home to permitting and development review services for the City, which is a use that is compatible with the uses presently on the subject site as well as those on neighboring properties. This criterion is met.

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

**Finding:**

The subject site is located in Neighborhood Planning Area 7 as shown on Map 9-2. This area comprises the majority of the City's industrial land. The site is located in area designated light industrial to buffer residential uses to the north. Rezoning the land from ML to IN will preserve the campus-style development needs of the Operations Center while remaining harmonious with surround land uses. This criterion is met.

**(iii) Trends in land improvement and development;**

**Finding:**

The subject site is located in an area designated as Industrial Area by Metro's Urban Growth Management Functional Plan (TDC Map 9-4). The proposed zone change will comply with Metro's Title 4. The IN zone does not permit retail or professional services uses. This criterion is met.

**(iv) Property values;**

**Finding:**

The subject site is a City-owned property. The proposed amendments would accommodate future development of government offices on the subject site, a proposal which would be reviewed through further Architectural Review for a demonstration of compliance with applicable development standards. Overall, the nature of the existing and proposed site development are harmonious with the subject site as well as surrounding properties. 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:**

Rezoning the land to IN will benefit the City in capturing a more accurate Industrial land inventory. Impacts to the transportation system are addressed in (f) and (h). This criterion is met.

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

**Finding:**

Natural resources are identified and protected through applicable regulations of the TDC, and protection and conservation of said resources is implemented by Clean Water Services. No amendments are proposed that would affect the protection and conservation of natural resources. This criterion is not applicable.

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

**Finding:**

No development of natural resources is proposed as part of the proposed amendments. This criterion is not applicable.

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

**Finding:**

The proposed amendments satisfy the public need for healthful, safe, esthetic surroundings and conditions by applying a land use designation that ensures compatibility with adjoining industrial lands, implement transportation improvements, prescribe required infrastructure to serve the area and address environmental protection requirements. Further, Oregon Statewide Planning Goal 2 requires all parcels in each city and county to be designated with a planning district. Therefore, the public need for healthful, safe, aesthetic surroundings and conditions will best be served by granting the amendments at this time. This 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.**

**Finding:**

The proposed Plan Map amendment to IN provides clarity that the City Operations site provides community services. The proposed Plan Text amendment would correct a Scribner's error, in which public buildings, facilities, and operations were unintentionally omitted from the permitted use categories in the IN zone- Chapter 49, Table 49-1. Chapter 8 of the Community Plan recognizes government offices as a use that is compatible with the Institutional Planning District objectives. 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:**

The amendment does not involve residential uses. This criterion is not applicable.

**(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:**

Findings addressing the applicable Oregon Statewide Planning Goals and TPR have been addressed above. This criterion is met.

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

**Finding:**

Findings addressing the applicable Titles of the Metro Urban Growth Management Functional Plan have been addressed above. 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 subject site is outside of the Town Center 2040 Design Type area. As identified Table 7 of the Transportation Impact Analysis (Exhibit C), the proposed amendment would facilitate future development of a government office building on the site. The additional trip generation from this use would result in a LOS of D or greater for the weekday PM peak hour, at the nearby study intersections. 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 subject site is presently served with utilities such as potable water, sanitary sewer, and stormwater management. Future structure development on the site will require approval of an Architectural Review land use application, at which time these issues will be addressed in greater detail. This criterion is met.





**Tualatin Services Center  
PTA 19-0002 / PMA 19-0002**

**CITY COUNCIL HEARING  
JUNE 10, 2019**



# PRESENTATION

- Background
- Why Rezone?
- Proposal
  - Text Amendment
  - Zone Change
- Criteria
- Conclusion





# BACKGROUND







# WHY REZONE?

## **Why the Light Manufacturing (ML) Zone can't Accommodate Government Offices:**

- Purpose of ML zone is to allow industrial uses with a limited amount of commercial uses and services.
- Government offices are explicitly listed as a Prohibited Use.
- All office uses limited to 25% of the gross floor area of all buildings on the site (Metro Code).
- Government offices do not support industrial uses and the square footage limitation is likely problematic for this site.



# WHY REZONE? (CONTINUED)

## **Why the Institutional (IN) District can Accommodate Government Offices:**

- Purpose of IN zone is to support lands/facilities that are owned/operated by governmental/nonprofit entities and that benefit the community.
- Government offices are consistent with the purpose statement.
- A square footage limitation on government offices is not required to comply with Metro Code.
- The proposed amendment and rezone recognizes that the site and uses are not industrial.



# PROPOSAL

## **Plan Text Amendment:**

- Add “Government Offices” and “Public Works Storage Yard and Shop” as permitted uses in the Institutional Zone (IN); minor revisions to Wireless Facility locational standards and height standards; and revisions to minimum setback standards.

## **Plan Map Amendment:**

- Rezone the subject site from Light Industrial (ML) to Institutional (IN).





# TEXT AMENDMENT

## TDC 49: Institutional Zone (IN)

### Development Code:

Chapter 49: Institutional Zone (IN)

### Details

**Section 49.100 – Purpose.** The purpose of the Institutional (IN) Zone is to provide areas of the City that are suitable for **public**, educational, religious, recreational, and incidental support facilities to serve the community. The Zone is intended to:

- (1) Be consistent with the Institutional land use designation in the Tualatin Community Plan;
- (2) Support lands and facilities that are owned and operated by governmental or nonprofit entities and that serve and benefit the community; and
- (3) Provide for location and development of permitted and conditionally permitted uses in a manner that is harmonious with adjacent and nearby residential, commercial, or manufacturing planning zones and uses; and protects the health, safety, and general welfare of adjacent residential, commercial, and manufacturing uses.

### Section 49.200 – Use Categories.

(1) **Use Categories.** Table 49-1 lists use categories Permitted Outright (P) or Conditionally Permitted (C) in the IN zone. Use categories may also be designated as Limited (L) and subject to the limitations listed in Table 49-1 and restrictions identified in TDC 49.210. Limitations may restrict the specific type of use, location, size, or other characteristics of the use category. Use categories which are not listed are prohibited within the zone, except for uses which are found by the City Manager or appointee to be of a similar character and to meet the purpose of this zone, as provided in TDC 31.070.

(2) **Overlay Zones.** Additional uses may be allowed in a particular overlay zone. See the overlay zone Chapters for additional uses.

Table 49-1  
Use Categories in the IN Zone

USE CATEGORY	STATUS	LIMITATIONS AND CODE REFERENCES
<b>INSTITUTIONAL USE CATEGORIES</b>		
Assembly Facilities	P (L)	Permitted uses limited to places of religious worship.
Community Services	P/C (L)	Permitted uses limited to public recreation buildings and facilities: <ul style="list-style-type: none"> <li>o Community recreation building;</li> <li>o <u>Indoor</u> community aquatic centers.</li> </ul> Conditional uses limited to outdoor public community aquatic centers

USE CATEGORY	STATUS	LIMITATIONS AND CODE REFERENCES
Schools	P	--
<b>Offices</b>	<b>P (L)</b>	<b>Permitted uses limited to government offices.</b>
<b>INFRASTRUCTURE AND UTILITIES USE CATEGORIES</b>		
<b>Public Safety and Utility Facilities</b>	<b>P (L)</b>	<b>Permitted uses limited to public works storage yard and shop.</b>
Basic Utilities	P/C (L)	Permitted uses limited to water or sewage pump stations and pressure reading stations. Conditional uses limited to: <ul style="list-style-type: none"> <li>o Water reservoirs;</li> <li>o Electrical substation; and</li> <li>o <u>Natural</u> gas pumping station.</li> </ul>
Greenways and Natural Areas	P	--
Parks and Open Space	P (L)	Permitted uses limited to: <ul style="list-style-type: none"> <li>o Government-owned parks; and</li> <li>o <u>Sports</u> fields and tennis courts.</li> </ul>
Transportation Facilities	P	--
Wireless Communication Facility	P (L)	<b>Must be located within 300 feet of the centerline of Interstate 5 and <u>subject to maximum height and minimum setback standards defined by</u> TDC Chapter 73F.</b>

### Section 49.210 – Additional Limitations on Uses.

(1) **Accessory Uses Conditionally Permitted.** The following uses may be permitted as a conditional use when incidental and subordinate to a permitted or conditionally permitted primary use:

- (a) Child day care center;
- (b) Exterior lighting, if the height of the fixture or standard is greater than the tallest permitted building on the site; **and**
- (c) Outdoor public address or audio amplification system, **and**
- (d) ~~Wireless Communication Facility.~~



# TEXT AMENDMENT (CONTINUED)

Section 49.300 – Development Standards. Development standards in the IN zone are listed in Table 49-2. Additional standards may apply to some uses and situations, see TDC 49.310.

Table 49-2  
Development Standards in the IN Zone

STANDARD	REQUIREMENT	LIMITATIONS AND CODE REFERENCES
<b>MINIMUM LOT SIZE</b>		
All Uses	1.5 acres	
<b>MINIMUM LOT WIDTH</b>		
Minimum Average Lot Width	100 feet	When lot has frontage on public street, minimum lot width is 40 feet.
Infrastructure and Utilities Uses	--	As determined through the Subdivision, Partition, or Lot Line Adjustment process
Flag Lots	--	Must be sufficient to comply with minimum access requirements of TDC 73C.
<b>MINIMUM SETBACKS</b>		
Front	25 feet	No fence is to be constructed within 5 feet of a public right-of-way.
Side	<b>0-25 feet</b>	<b>Determined through the Architectural Review process. No fence is to be constructed within 5 feet of a public right-of-way.</b>
Rear	25 feet	
Corner Lots	--	On corner lots, the setback is the same as the front yard setback on any side facing a street other than an alley.
Parking and Vehicle Circulation Areas	<b>10 feet</b>	
e. From any property line	40 feet	
e. From public right-of-way	30 feet	
Conditional Uses	--	As determined through Conditional Use Permit and Architectural Review process. No minimum setback must be greater than 50 feet.
<b>MAXIMUM STRUCTURE HEIGHT</b>		
All Uses	50 feet	

[...]



# TEXT AMENDMENT

## Chapter 73F - Wireless Communications Facilities

### Development Code:

Chapter 73F: Wireless Communications Facilities

### Details

[...]

**Section 73F.020 - Maximum Height.** The maximum height for a wireless communication facilities, support structures, and antennas is as follows:

PLANNING DISTRICT	MAXIMUM STRUCTURE HEIGHT
(6) Institutional (IN)	<ul style="list-style-type: none"><li>• 50 feet <b>100 feet</b></li><li>• 120 feet ( including antennas) if structure is within 300 feet of the centerline of I-5</li></ul>

[...]





# MAP AMENDMENT





# CRITERIA

## **Amendments Comply with Applicable Criteria:**

- Oregon Statewide Planning Goals
- Oregon Administrative Rules, Divisions 9 and 12
- Metro's Title 4
- Tualatin Comprehensive Plan, including Development Code Section 33.070



## CRITERIA (CONTINUED)

### **Transportation Planning Rule (TPR) Compliance**

*Oregon Administrative Rules, Chapter 660, Division 12*

- Ensures that change of allowable land uses does not adversely impact transportation system.
- The use with the most adverse impact for the IN zone is a Recreation Center.
- A “trip cap” is proposed to limit future site development to proposed and anticipated uses, which do not have adverse or “significant” transportation impact.





# CONCLUSION

## **Approval of the Proposal Supports:**

- Amendment to Chapter 49 (Institutional) Zone to add “Government Offices” and “Public Works Storage Yard and Shop” as permitted uses and minor revisions to minimum setback standards;
- Amendment to Chapter 73F (Wireless Facilities) to revise the maximum height standard of wireless facilities in the Institutional Zone;
- Amendment to Map 9-1 to apply Institutional (IN) designation to the subject site; and
- Future development of a unified permitting and development services center on City-owned property.



**QUESTIONS ?**

# TDC 49: Institutional Zone (IN)

## Development Code:

Chapter 49: Institutional Zone (IN)

### Details

**Section 49.100 – Purpose.** The purpose of the Institutional (IN) Zone is to provide areas of the City that are suitable for **public**, educational, religious, recreational, and incidental support facilities to serve the community. The Zone is intended to:

- (1) Be consistent with the Institutional land use designation in the Tualatin Community Plan;
- (2) Support lands and facilities that are owned and operated by governmental or nonprofit entities and that serve and benefit the community; and
- (3) Provide for location and development of permitted and conditionally permitted uses in a manner that is harmonious with adjacent and nearby residential, commercial, or manufacturing planning zones and uses; and protects the health, safety, and general welfare of adjacent residential, commercial, and manufacturing uses.

**Section 49.200 – Use Categories.**

(1) **Use Categories.** Table 49-1 lists use categories Permitted Outright (P) or Conditionally Permitted (C) in the IN zone. Use categories may also be designated as Limited (L) and subject to the limitations listed in Table 49-1 and restrictions identified in TDC 49.210. Limitations may restrict the specific type of use, location, size, or other characteristics of the use category. Use categories which are not listed are prohibited within the zone, except for uses which are found by the City Manager or appointee to be of a similar character and to meet the purpose of this zone, as provided in TDC 31.070.

(2) **Overlay Zones.** Additional uses may be allowed in a particular overlay zone. See the overlay zone Chapters for additional uses.

**Table 49-1  
Use Categories in the IN Zone**

USE CATEGORY	STATUS	LIMITATIONS AND CODE REFERENCES
<b>INSTITUTIONAL USE CATEGORIES</b>		
Assembly Facilities	P (L)	Permitted uses limited to places of religious worship.
Community Services	P/C (L)	Permitted uses limited to public recreation buildings and facilities: <ul style="list-style-type: none"> <li>o Community recreation building;</li> <li>o Indoor community aquatic centers.</li> </ul> Conditional uses limited to outdoor public community aquatic centers



USE CATEGORY	STATUS	LIMITATIONS AND CODE REFERENCES
Schools	P	--
<b><u>Offices</u></b>	<b><u>P (L)</u></b>	<b><u>Permitted uses limited to government offices.</u></b>
<b>INFRASTRUCTURE AND UTILITIES USE CATEGORIES</b>		
<b><u>Public Safety and Utility Facilities</u></b>	<b><u>P (L)</u></b>	<b><u>Permitted uses limited to public works storage yard and shop.</u></b>
Basic Utilities	P/C (L)	Permitted uses limited to water or sewage pump stations and pressure reading stations. Conditional uses limited to: <ul style="list-style-type: none"> <li>○ Water reservoirs;</li> <li>○ Electrical substation; and</li> <li>○ Natural gas pumping station.</li> </ul>
Greenways and Natural Areas	P	--
Parks and Open Space	P (L)	Permitted uses limited to: <ul style="list-style-type: none"> <li>○ Government-owned parks; and</li> <li>○ Sports fields and tennis courts.</li> </ul>
Transportation Facilities	P	--
Wireless Communication Facility	P (L)	<del>Must be located within 300 feet of the centerline of Interstate 5 and</del> <b><u>subject to maximum height and minimum setback standards defined by</u></b> TDC Chapter 73F.

**Section 49.210 – Additional Limitations on Uses.**

(1) **Accessory Uses Conditionally Permitted.** The following uses may be permitted as a conditional use when incidental and subordinate to a permitted or conditionally permitted primary use:

- (a) Child day care center;
- (b) Exterior lighting, if the height of the fixture or standard is greater than the tallest permitted building on the site; **and**
- (c) Outdoor public address or audio amplification system, ~~and~~
- (d) ~~Wireless Communication Facility.~~

**Section 49.300 – Development Standards.** Development standards in the IN zone are listed in Table 49-2. Additional standards may apply to some uses and situations, see TDC 49.310.

**Table 49-2  
Development Standards in the IN Zone**

<b>STANDARD</b>	<b>REQUIREMENT</b>	<b>LIMITATIONS AND CODE REFERENCES</b>
<b>MINIMUM LOT SIZE</b>		
All Uses	1.5 acres	
<b>MINIMUM LOT WIDTH</b>		
Minimum Average Lot Width	100 feet	When lot has frontage on public street, minimum lot width is 40 feet.
Infrastructure and Utilities Uses	--	As determined through the Subdivision, Partition, or Lot Line Adjustment process
Flag Lots	--	Must be sufficient to comply with minimum access requirements of TDC 73C.
<b>MINIMUM SETBACKS</b>		
Front	25 feet	No fence is to be constructed within 5 feet of a public right-of-way.
Side	<b><u>0-25 feet</u></b>	<b><u>Determined through the Architectural Review process. No fence is to be constructed within 5 feet of a public right-of-way.</u></b>
Rear	25 feet	
Corner Lots	--	<del>On corner lots, the setback is the same as the front yard setback on any side facing a street other than an alley.</del>
Parking and Vehicle Circulation Areas	<b><u>10 feet</u></b>	
<del>○ From any property</del>	10 feet	
<del>○ From public right-of-way</del>	30 feet	
Conditional Uses	--	As determined through Conditional Use Permit and Architectural Review process. No minimum setback must be greater than 50 feet.
<b>MAXIMUM STRUCTURE HEIGHT</b>		
All Uses	50 feet	

[...]

# Chapter 73F - Wireless Communications Facilities

**Development Code:**

Chapter 73F: Wireless Communications Facilities

**Details**

[...]

**Section 73F.020 - Maximum Height.** The maximum height for a wireless communication facilities, support structures, and antennas is as follows:

PLANNING DISTRICT	MAXIMUM STRUCTURE HEIGHT
(1) Low Density Residential (RL)	<ul style="list-style-type: none"> <li>• 35 feet</li> </ul>
(2) Medium-Low Density Residential (RML)	<ul style="list-style-type: none"> <li>• 35 feet</li> <li>• 120 feet ( including antennas) if structure is within 300 feet of the centerline of I-5</li> </ul>
(3) Medium-High Density Residential (RMH)	<ul style="list-style-type: none"> <li>• 35 feet</li> <li>• 120 feet ( including antennas) if structure is within 300 feet of the centerline of I-5</li> </ul>
(4) High Density Residential (RH)	<ul style="list-style-type: none"> <li>• 35 feet</li> <li>• 120 feet ( including antennas) if structure is within 300 feet of the centerline of I-5</li> </ul>
(5) High Density/High-Rise Residential (RH/HR)	<ul style="list-style-type: none"> <li>• 64 feet</li> <li>• 120 feet ( including antennas) if structure is within 300 feet of the centerline of I-5</li> </ul>
(6) Institutional (IN)	<ul style="list-style-type: none"> <li>• <del>50 feet</del> <b><u>100 feet</u></b></li> <li>• 120 feet ( including antennas) if structure is within 300 feet of the centerline of I-5</li> </ul>
(7) Office Commercial (CO)	<ul style="list-style-type: none"> <li>• 45 feet</li> </ul>



	<ul style="list-style-type: none"> <li>• 120 feet ( including antennas) if structure is within 300 feet of the centerline of I-5</li> </ul>
(8) Neighborhood Commercial (CN)	N/A
(9) Recreational Commercial (CR)	<ul style="list-style-type: none"> <li>• 35 feet</li> </ul>
(10) Central Commercial (CC)	<ul style="list-style-type: none"> <li>• 45 feet</li> <li>• 120 feet ( including antennas) if structure is within 300 feet of the centerline of I-5</li> <li>• 125 feet maximum height if approved under TDC 53.310(1).</li> </ul>
(11) General Commercial (CG)	<ul style="list-style-type: none"> <li>• 45 feet</li> <li>• 60 feet if in the Leveton Tax Increment District</li> <li>• 120 feet ( including antennas) if structure is within 300 feet of the centerline of I-5</li> <li>• Maximum structure height for specified portions of the Central Urban Renewal Plan area is: <ul style="list-style-type: none"> <li>○ 35 feet between the Tualatin Commons central water feature and the primary pedestrian corridor around the central water feature</li> <li>○ 75 feet in Block 13, unless between the Tualatin Commons central water feature and the primary pedestrian corridor around the central water feature then 35 feet</li> <li>○ 60 feet in Blocks 1, 2, 3, 5, 14, 15, 16, 17, 18, 19, 20 and 22, unless between the Tualatin Commons central water feature and the primary pedestrian corridor around the central water feature then 35 feet</li> </ul> </li> </ul>
(12) Mid-Rise/Office Commercial (CO/MR)	<ul style="list-style-type: none"> <li>• 75 feet</li> <li>• 120 feet ( including antennas) if structure is within 300 feet</li> </ul>

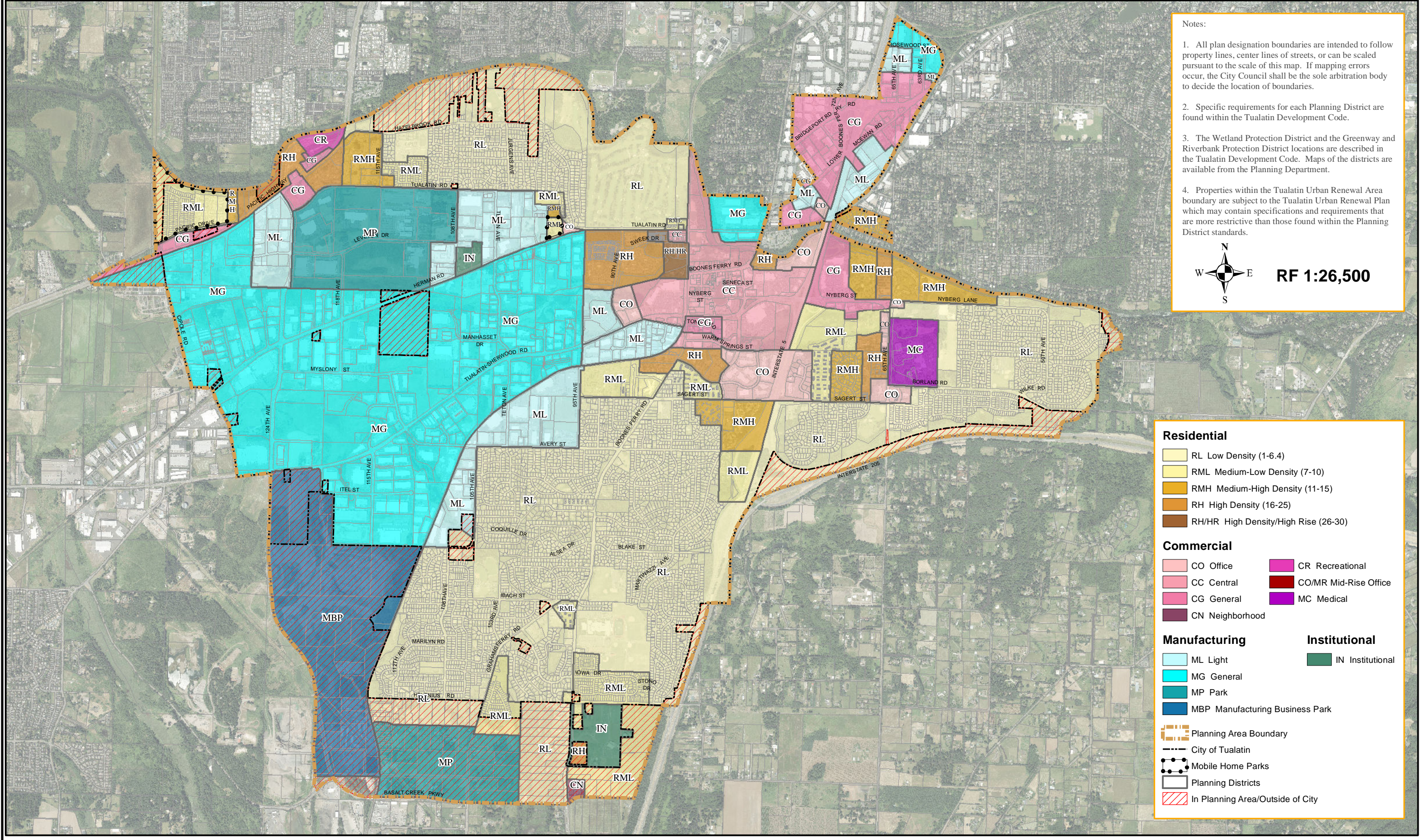
	of the centerline of I-5
(13) Medical Center (MC)	<ul style="list-style-type: none"> <li>• 100 feet</li> <li>• Attached WCFs based on building height regulations in TDC 56.300</li> </ul>
(14) Mixed Use Commercial Overlay (MUCOD)	<ul style="list-style-type: none"> <li>• 50 feet if within the Durham Quarry Area</li> <li>• 50 feet if within 100 feet of the Durham Quarry Site Boundary, except that portion of the Boundary contiguous with the City of Tigard</li> <li>• 70 feet if contiguous to the boundary with the City of Tigard</li> <li>• 70 feet if greater than 100 feet from the Durham Quarry Site Boundary</li> </ul>
(15) Light Manufacturing (ML)	<ul style="list-style-type: none"> <li>• 100 feet</li> <li>• 120 feet ( including antennas) if structure is within 300 feet of the centerline of I-5</li> </ul>
(16) General Manufacturing (MG)	<ul style="list-style-type: none"> <li>• 100 feet</li> <li>• 120 feet ( including antennas) if structure is within 300 feet of the centerline of I-5</li> </ul>
(17) Manufacturing Park (MP)	<ul style="list-style-type: none"> <li>• 100 feet</li> </ul>
(18) Manufacturing Business Park (MBP)	<ul style="list-style-type: none"> <li>• 65 feet</li> <li>• 85 feet if all yards adjacent to the structure are not less than a distance equal to one and one-half times the height of the structure</li> <li>• 28 feet if a property line, street, or alley separates MBP land from land in a residential district</li> </ul>
(19) Industrial Business Park Overlay (IBP)	<ul style="list-style-type: none"> <li>• 70 feet</li> <li>• 100 feet if approved as a conditional use</li> </ul>

	<p>and all yards adjacent to the structure are not less than a distance equal to the height of the structure</p> <ul style="list-style-type: none"><li>• 28 feet if a property line, street, or alley separates IBP land from land in a residential district except as provided in TDC Chapter 32, in which case the maximum permitted structure height may be increased to 100 feet,</li></ul>
--	---

[...]



# Map 9-1 Community Plan Map



Notes:

1. All plan designation boundaries are intended to follow property lines, center lines of streets, or can be scaled pursuant to the scale of this map. If mapping errors occur, the City Council shall be the sole arbitration body to decide the location of boundaries.
2. Specific requirements for each Planning District are found within the Tualatin Development Code.
3. The Wetland Protection District and the Greenway and Riverbank Protection District locations are described in the Tualatin Development Code. Maps of the districts are available from the Planning Department.
4. Properties within the Tualatin Urban Renewal Area boundary are subject to the Tualatin Urban Renewal Plan which may contain specifications and requirements that are more restrictive than those found within the Planning District standards.



**Residential**

- RL Low Density (1-6.4)
- RML Medium-Low Density (7-10)
- RMH Medium-High Density (11-15)
- RH High Density (16-25)
- RH/HR High Density/High Rise (26-30)

**Commercial**

- CO Office
- CC Central
- CG General
- CN Neighborhood
- CR Recreational
- CO/MR Mid-Rise Office
- MC Medical

**Manufacturing**

- ML Light
- MG General
- MP Park
- MBP Manufacturing Business Park

**Institutional**

- IN Institutional

**Map Symbols**

- Planning Area Boundary
- City of Tualatin
- Mobile Home Parks
- Planning Districts
- In Planning Area/Outside of City



# Tualatin City Operations Site Traffic Impact Analysis

Prepared for:

SRG Partnership, Inc.

Prepared by:

DKS Associates

December 2018



EXPIRES: 12/31/19



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## Introduction

The purpose of this study is to identify potential transportation system impacts and mitigations needed to support a proposed city operations site for the City of Tualatin. The proposed site is located at the northeast corner of Herman Road and 108th Avenue in Tualatin, Oregon. The current zoning of the site is Light Manufacturing (ML)<sup>1</sup>, and the proposed land use is a government office building, which is similar to the existing use of the site but may vary in operational function with inclusion of visits from individuals that are not employed at the site.

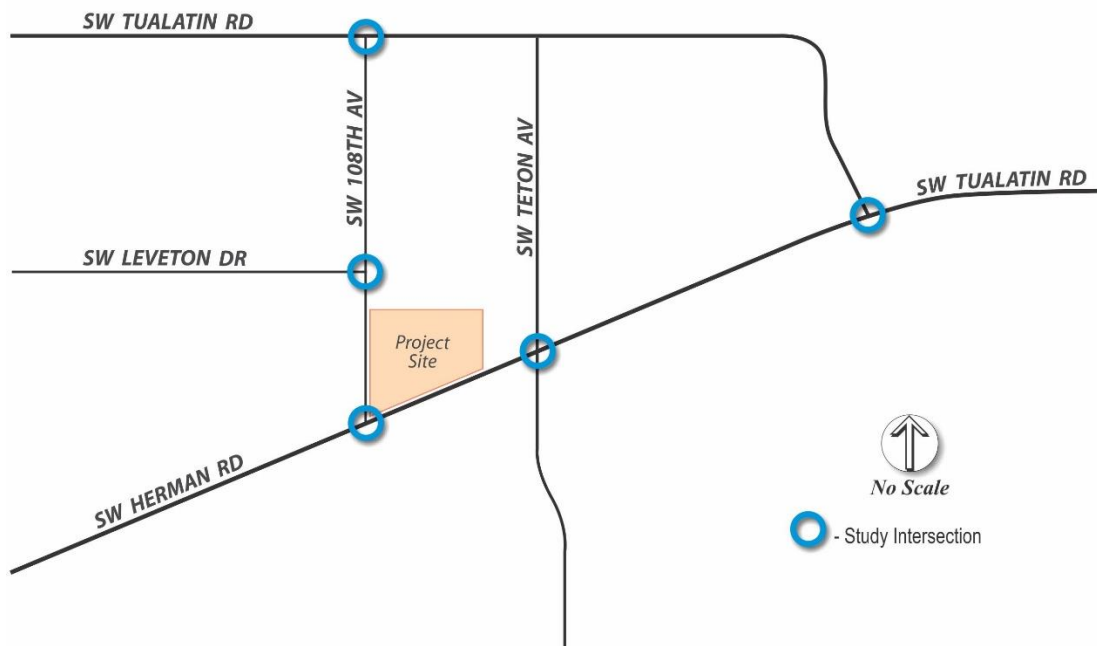
While general office buildings is allowed under the existing zoning, a government office building is not directly allowed and would ultimately require findings to address Transportation Planning Rule (TPR) requirements. The specific analysis required to address TPR requirements would vary based on the proposed action (minor modification to zoning, significant map change, or significant text change) and is not included in this analysis. The traffic analysis summarized in this TIA focuses on the direct impacts to the transportation system related to the proposed site development.

Assumptions related to the proposed site (relative to conservative vehicle trip generation assumptions) include:

- The building will have up to 20,000 square feet of gross floor area.
- The building will accommodate up to 60 employees in addition to the current employees.

## Study Area

FIGURE 1: STUDY AREA



<sup>1</sup> Tualatin Development Code, City of Tualatin.

The study area (Figure 1) for traffic analysis was defined by reviewing the City of Tualatin Traffic Study Requirements<sup>2</sup>, coordination with City staff, and identifying intersections that may be significantly impacted by the development of the proposed site. These intersections include:

1. SW Tualatin Road/SW 108<sup>th</sup> Avenue
2. SW Leveton Drive/SW 108<sup>th</sup> Avenue
3. SW Herman Road/SW 108<sup>th</sup> Avenue
4. SW Herman Road/SW Teton Avenue
5. SW Herman Road/SW Tualatin Road

## Existing Conditions

This section summarizes current (year 2018) transportation conditions in the study area, including an inventory of the existing roadway network, identification of transit, pedestrian, and bicycle facilities, an analysis of recent study area collision history, and an operational analysis of study intersections.

### Roadway Network

Table 1 summarizes the characteristics of the study area streets including functional classification, cross-section, posted speed, and presence of parking, sidewalks, and bike lanes.

TABLE 1: EXISTING ROADWAY NETWORK CHARACTERISTICS

Roadway	Functional Classification	Travel Lanes	Posted Speed (mph)	On-Street Parking	Sidewalks	Bike Lanes
<b>SW Tualatin Road</b>	Major Collector	3 Lanes	35	No	Yes	Yes
<b>SW 108<sup>th</sup> Avenue<sup>1</sup></b>	Major/Minor Collector	2 Lanes	35	No	Yes	Yes
<b>SW Leveton Drive<sup>2</sup></b>	Major Arterial	2 Lanes	40	No	Yes	Yes
<b>SW Herman Road<sup>3</sup></b>	Major Arterial/ Major Collector	3 Lanes	45	No	Partial	Yes
<b>SW Teton Avenue</b>	Major Collector	2 Lanes	35	No	Partial	Yes

<sup>1</sup>SW 108<sup>th</sup> Avenue is classified as a minor collector between Tualatin Road and Leveton Drive, and a major collector between Leveton Drive and Herman Road.

<sup>2</sup>SW Leveton Drive is classified as a major arterial between 108<sup>th</sup> Avenue and 118<sup>th</sup> Avenues.

<sup>3</sup>SW Herman Road is classified as a major arterial between Teton Avenue and 108<sup>th</sup> Avenue, and a major collector elsewhere.

### Public Transit

Currently there is one public transit line that operates in the study area. Tualatin Shuttle Blue Line provides fixed-route service linking WES Station to employment destinations along SW 124<sup>th</sup> Avenue, SW Leveton Drive, SW 108<sup>th</sup> Avenue, SW Herman Road, SW Teton Avenue, and SW Boones Ferry Road. Tualatin WES station provides commuter connections to Wilsonville Transit Center, Tigard Transit Center, and Beaverton Transit Center which provides regional connections to TriMet and SMART’s transit systems in the Portland Metropolitan Area.

<sup>2</sup> City of Tualatin Traffic Study Requirements, 2016.

## Pedestrian Environment

Sidewalks are generally available on both sides of the streets within the study area and provide connectivity for pedestrians. One larger gap in sidewalk availability exists along the south side of SW Herman Road due to the proximity to the railroad tracks. In addition, there is a lack of sidewalk for approximately 440 feet on the west side of SW Teton Avenue south of Herman Road. Sidewalks are available elsewhere within the study area.

Pedestrian crosswalks exist on all legs at the unsignalized intersections within the study area. All signalized intersections have striped pedestrian crosswalks with push button controls and pedestrian signal heads to indicate “Walk” and “Don’t Walk” periods of time, with the exceptions at the following locations where crosswalks are closed with the indication of “Crosswalk Closed” signs:

- The west and east legs of SW Herman Road/SW 108th Avenue (no sidewalk present on south side of SW Herman Road due to rail proximity)
- The west and east legs of SW Herman Road/SW Tualatin Road (no sidewalk present on south side of SW Herman Road due to rail proximity)

Pedestrian activity counts for each of the legs of the study area intersections were collected during the weekday AM and PM peak hour. The heaviest utilized intersection (in aggregated pedestrian activity) was at Teton Avenue/Herman Road (4 total pedestrians during the AM peak hour).

## Bicycle Environment

There are dedicated on-street bicycle facilities within most of the study area. Bicycle activity counts for each approach at study area intersections were collected during the weekday AM and PM peak hour. The heaviest utilized intersection (in aggregated bicycle activity) was at Tualatin Road/Herman Road (11 total bikes during the weekday PM peak hour), with the heaviest approach activity on the west leg (5 bikes).

## Safety Analysis

Crash rates at study intersections were analyzed to identify potential safety issues. Collision history at study area intersections was obtained from ODOT spanning the most recent five-year period from October 2012 to September 2017. Table 2 summarizes the crash history at study intersections. There was a total of 17 crashes in the study area over the five years.

Crash rates at study intersections were also calculated to identify problem areas in need of further investigation. The total number of crashes experienced at an intersection is often proportional to the number of vehicles entering it. Therefore, a crash rate describing the frequency of crashes per million entering vehicles (MEV) is used to evaluate the intersection.

The observed crash rate at each site is compared to the critical crash rate, which is unique to each intersection and based on the critical crash rate procedure in the Highway Safety Manual (HSM)<sup>3</sup>. However, due to the small study area, there is an insufficient reference population of comparison

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<sup>3</sup>2010 Highway Safety Manual (HSM), Chapter 4, Page 4-11: The critical crash rate is a threshold value that allows for relative comparison among sites with similar characteristics. The critical crash rate depends on the average crash rate at similar sites, traffic volume, and a statistical constant that represents a desired level of significance.



intersections from which to calculate a critical crash rate. Therefore, to broaden the field of comparison, study area crash rates were compared to 90<sup>th</sup> percentile crash rates for similar intersections in a statewide database provided in ODOT’s Analysis Procedures Manual (Table 4-1). An observed crash rate greater than the 90<sup>th</sup> percentile crash rate is an indication that further investigation may be warranted. As listed in Table 2, all the study intersections have an observed crash rate less than the 90<sup>th</sup> percentile crash rates, indicating that the number of crashes experienced would be no more than expected.

**TABLE 2: STUDY AREA INTERSECTION COLLISIONS (OCTOBER 2012 – SEPTEMBER 2017)**

Intersection	Total Collisions	Collision Severity			Observed Crash Rate (per MEV)	90 <sup>th</sup> Percentile Crash Rate (per MEV)
		Fatal	Injury	Property Damage Only		
SW Tualatin Road/ SW 108 <sup>th</sup> Avenue	5	0	4	1	0.20	0.293
SW Leveton Drive/ SW 108 <sup>th</sup> Avenue	1	0	0	1	0.14	0.293
SW Herman Road/ SW 108 <sup>th</sup> Avenue	2	0	1	1	0.09	0.509
SW Herman Road/ SW Teton Avenue	1	0	1	0	0.03	0.860
SW Herman Road/ SW Tualatin Road	8	0	7	1	0.23	0.509

SOURCE: Oregon Department of Transportation

## Intersection Operations

This section describes the existing intersection operating conditions in the study area.

### Intersection Performance Measures

All the study intersections fall under the jurisdiction of the City of Tualatin. Level of service (LOS) and volume-to-capacity (V/C) ratio are the two performance measures utilized in this analysis for determining intersection operations. A description of each is outlined below.

#### Level of Service

An intersection's level of service is similar to a "report card" rating (A through F), based on average vehicle delay. LOS A, B, and C indicate conditions where vehicles can move freely. LOS D and E are progressively worse. LOS F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity. This condition is typically evident in long queues and delays.

#### V/C Ratio

A volume-to-capacity (v/c) ratio is a measure of effectiveness that takes into account the total volume entering an intersection and compares it to the overall capacity at that intersection to determine a ratio on a scale of 0.0 to 1.0 for the intersection. As an intersection’s v/c ratio becomes closer to 1.0, the intersection becomes more congested and performance is reduced. If the ratio is greater than 1.00, this indicates that demand is greater than the available capacity and the turn movement, approach leg, or intersection is oversaturated and typically experiences excessive queues and long delays.

### Jurisdictional Operational Standards

The City of Tualatin has adopted a level-of-service (LOS) standard that is based on the average delay calculated at intersections. The operating standard is LOS D for signalized intersections and LOS E for unsignalized intersections<sup>4</sup>.

### Existing Traffic Volumes

Intersection turn movement counts were collected in August and September of 2018 during the weekday morning peak period (7:00 to 9:00 AM) and evening peak period (4:00 to 6:00 PM). Morning counts were collected when schools were in session. Figure 2 shows the balanced existing AM and PM hour traffic volumes.

### Existing Operating Conditions

The existing traffic operating conditions at the study intersections were determined for the weekday AM and PM peak hour based on the 2000 Highway Capacity Manual (HCM) methodology for all signalized intersections and based on the 2010 HCM methodologies for intersections that are unsignalized. As listed in Table 3, all study intersections are currently operating in LOS D or better. However, the intersection of SW Herman Road/SW Teton Avenue is currently approaching LOS E (achieved at 55 seconds delay) during the AM peak hour.

**TABLE 3: 2018 EXISTING WEEKDAY AM AND PM PEAK HOUR INTERSECTION PERFORMANCE**

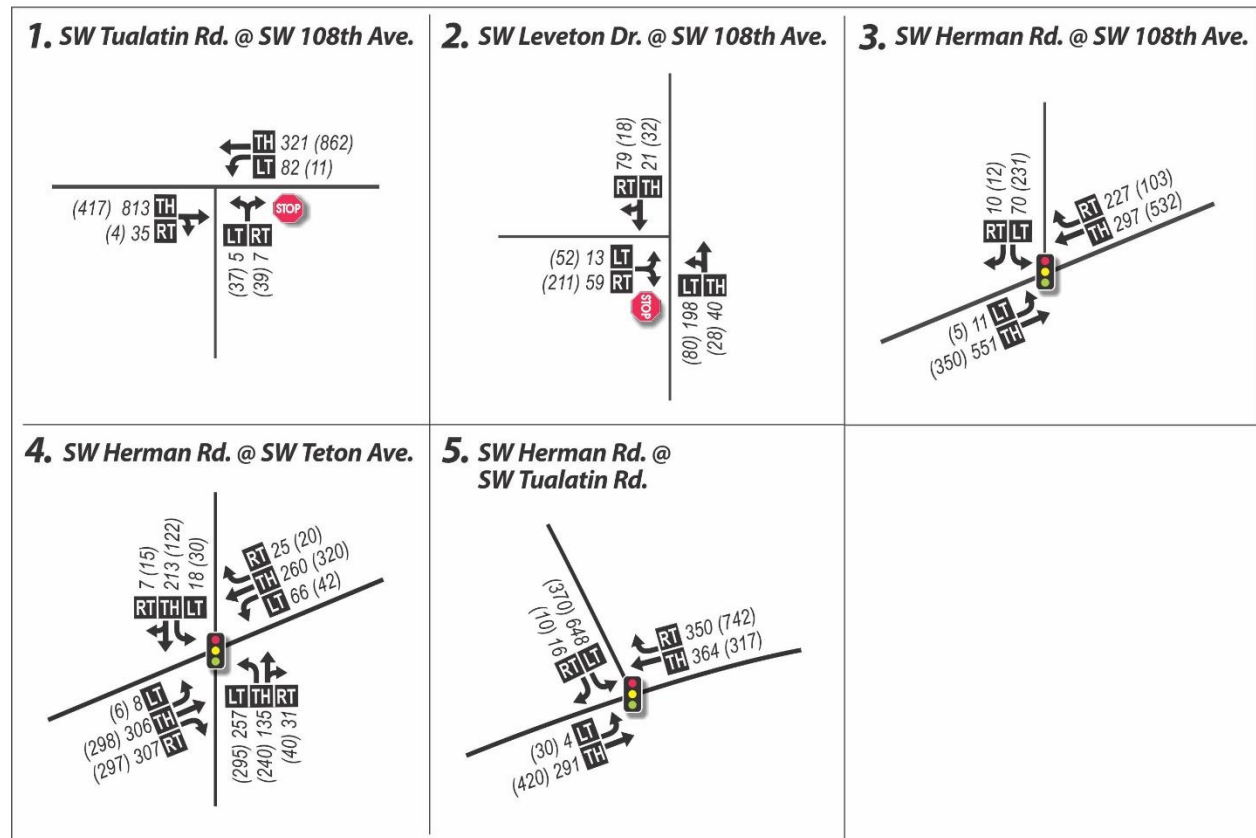
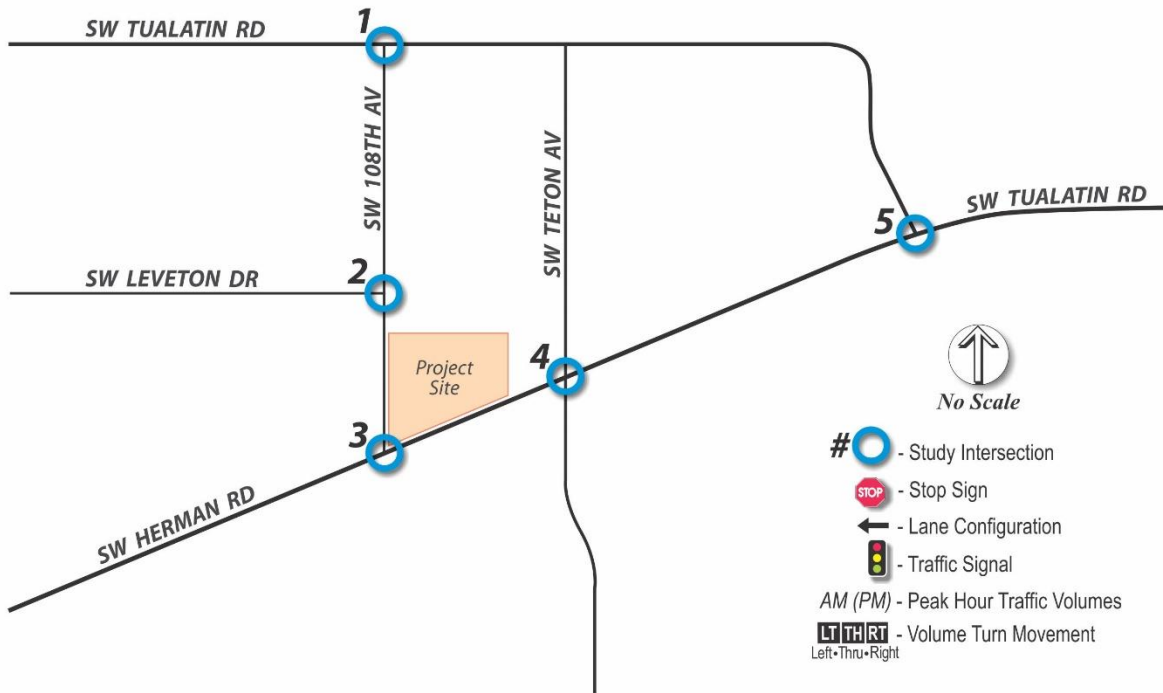
Intersection	Control Type	Intersection Performance					
		AM Peak			PM Peak		
		Delay (sec)	v/c	LOS	Delay (sec)	v/c	LOS
<b>SW Tualatin Road/ SW 108<sup>th</sup> Avenue</b>	Two-way stop control	30.7	0.14	D	25.6	0.32	D
<b>SW 108<sup>th</sup> Avenue/ SW Leveton Drive</b>	Two-way stop control	10.2	0.15	B	10.5	0.31	B
<b>SW Herman Road/ SW 108<sup>th</sup> Avenue</b>	Signal	8.6	0.62	A	18.4	0.79	B
<b>SW Herman Road/ SW Teton Avenue</b>	Signal	53.8	0.93	D	33.4	0.84	C
<b>SW Herman/ SW Tualatin Road</b>	Signal	25.8	0.87	C	15.1	0.66	B
<b>Site driveway on SW Herman Road</b>	Two-way stop control	17.7	0.05	C	24.8	0.19	C

Delay and volume-to-capacity ratio for two-way stop intersections reported for the worst movement.

LOS for two-way stop control intersection reported for the worst major street/worst minor street movements.

<sup>4</sup> Tualatin Development Code 74.420 (17)

FIGURE 2: 2018 EXISTING WEEKDAY AM AND PM PEAK HOUR TRAFFIC VOLUMES





The HCM methodologies used to estimate intersection delay do not account for the interaction between adjacent intersections and the potential impact of queue spillbacks. Therefore, it is necessary to evaluate how the traffic moves between intersections. Queuing analysis was conducted for the study area to provide further information regarding transportation operations. SimTraffic microsimulation analysis was used to estimate the 95<sup>th</sup> percentile vehicle queues for each of the study area intersection approach movements under the existing conditions scenario. Table 4 indicates that queues in the study area during both the weekday AM and PM peak hours generally do not spill back into adjacent intersections or through travel lanes, with single exception of the southbound approach of SW Herman Road/SW 108<sup>th</sup> Avenue. Detailed queuing reports are included in the Appendix.

**TABLE 4: 2018 EXISTING WEEKDAY AM AND PM PEAK HOUR MOTOR VEHICLE 95TH PERCENTILE QUEUEING**

Intersection	Movement	Available Storage Length (ft.)	95th Percentile Queue (ft)*	
			AM Peak	PM Peak
SW Tualatin Road/ SW 108 <sup>th</sup> Avenue	Westbound L	350	75	25
	Northbound L/R	>1000	50	75
SW Leveton Drive/ SW 108 <sup>th</sup> Avenue	Eastbound L/R	>1000	75	100
	Northbound L/T	800	75	50
SW Herman Road/ SW 108 <sup>th</sup> Avenue	Eastbound L	660	50	25
	Southbound L	170	75	<b>175</b>
SW Herman Road/ SW Teton Avenue	Westbound L	150	150	100
	Southbound L	140	50	75
SW Herman Road/ SW Tualatin Road	Eastbound L	140	50	100
	Westbound R	250	200	100
	Southbound L	>700	400	225

Note: This table only contains the movements in the study area that have potential queuing issues.

\*The 95<sup>th</sup> percentile queue lengths are rounded up to the closest multiples of 25 feet.

## Growth and Development Assumptions

The following section documents assumptions describing background traffic growth in future years and trip growth related to the proposed redevelopment.

### Background Traffic

The amount of local and regional traffic growth independent of the project site is referred to as background traffic growth. Based on the historical traffic counts used in City of Tualatin’s Transportation System Plan, the annual growth rates on the streets within the study area are in the range of 1 percent to 2 percent. The higher end of the range, a 2 percent annual growth rate, was applied to all intersection volumes within the study area to determine background traffic conditions for the 2021 future year scenarios.

There are no “in-process” trips assumed in the vicinity of the proposed site (related to approved but not yet built developments) that may impact the traffic conditions within the study area<sup>5</sup>. The background traffic growth was added to the 2018 existing traffic volumes to create 2021 “No Build” scenarios representing conditions that would exist if the project area did not develop as proposed. The 2021 No Build traffic volumes used in the traffic analysis are provided in Figure 3.

### Trip Generation

The following section describes motor vehicle trip generations estimates for the proposed site. The trip estimate assumes the addition of a government office building with up to 20,000 square feet of gross floor area. The two access driveways to the site are assumed to be located on SW Herman Road and SW 108<sup>th</sup> Avenue.

The number of vehicle trips generated by a proposed land use is typically estimated using trip rates published in Institute of Transportation Engineers (ITE) *Trip Generation*. The ITE trip rates for Government Office (ITE land use code 730) were used to calculate the expected number of daily vehicle trips and AM peak hour vehicle trips generated with full buildout of the proposed site. The daily trip generation for the project is 452 vehicle trips. The AM peak hour trip generation is 67 vehicle trips.

In addition, a custom vehicle trip generation rate was also used to estimate the vehicle trips to and from the proposed City office during the PM peak hour. After consultation with the City of Tualatin staff, it was determined that applying the ITE trip rate alone may result in underestimating the motor vehicle trip generation potential of the site. The ITE trip rate for Government Office Building was used to calculate the baseline for expected number of vehicle trips generated with full buildout of 20,000 square feet of office space. On-site visitor (customer) arrival data was previously collected by City staff and used to supplement the ITE trip generation estimate. The custom rate adds additional ‘customer’ trips (based on the site survey) to ‘employee’ trips (based on the published ITE rate). The result is a higher vehicle trip generation estimate for the PM peak hour due to potential for “double counting” (customer trips included in the base ITE rate), which provides a conservative estimate for the potential traffic impacts at the proposed site. The estimated daily and peak hour trip generation is listed in Table 5.

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<sup>5</sup> Per email communications with Tony Doran, Engineering Associate at City of Tualatin on August 24<sup>th</sup>, 2018.

**TABLE 5: DAILY AND PEAK HOUR TRIP GENERATION ESTIMATES**

Description	Land Use	Quantity	Units	Average Trips									
				Daily		AM Peak Hour				PM Peak Hour			
				Rate	Total	Rate	Enter	Exit	Total	Rate	Enter	Exit	Total
<b>City of Tualatin Operations Site Custom Trip Generation Estimates</b>	ITE Code 730 (Government Office Building)	20	KSF	22.59	452	3.34	50	17	67	1.71	9	26	35
	Customer Trips (based on site survey; 12 customer trips for 30 employees)	60	# of Added Employees	-	-	-	-	-	-	0.4	12	12	24
<b>Total Trips</b>				-	<b>452</b>	-	<b>50</b>	<b>17</b>	<b>67</b>	-	<b>21</b>	<b>38</b>	<b>59</b>

Source: ITE Trip Generations Manual, 10th Edition

### Trip Distribution

Trip distribution reflects how site generated traffic will arrive and leave the proposed site and what roads those trips will use. The trip distribution for the proposed project was estimated based on a review of the regional travel demand model, existing traffic flows, and consideration for potential employees and customers. Rounding adjustments (within 5%) were applied based on existing travel patterns and likely travel paths of expected users. The site traffic was assigned to the street network using the trip distribution patterns shown in Figure 4. These trips, also illustrated in Figure 4, were added to the base “No Build” traffic volumes to develop the “Build” scenarios for the year of 2021. The Build scenario represents conditions that would exist with the proposed development in place. The Build scenario traffic volumes are shown in Figures 5.



FIGURE 3: 2021 NO BUILD WEEKDAY AM AND PM PEAK HOUR TRAFFIC VOLUMES

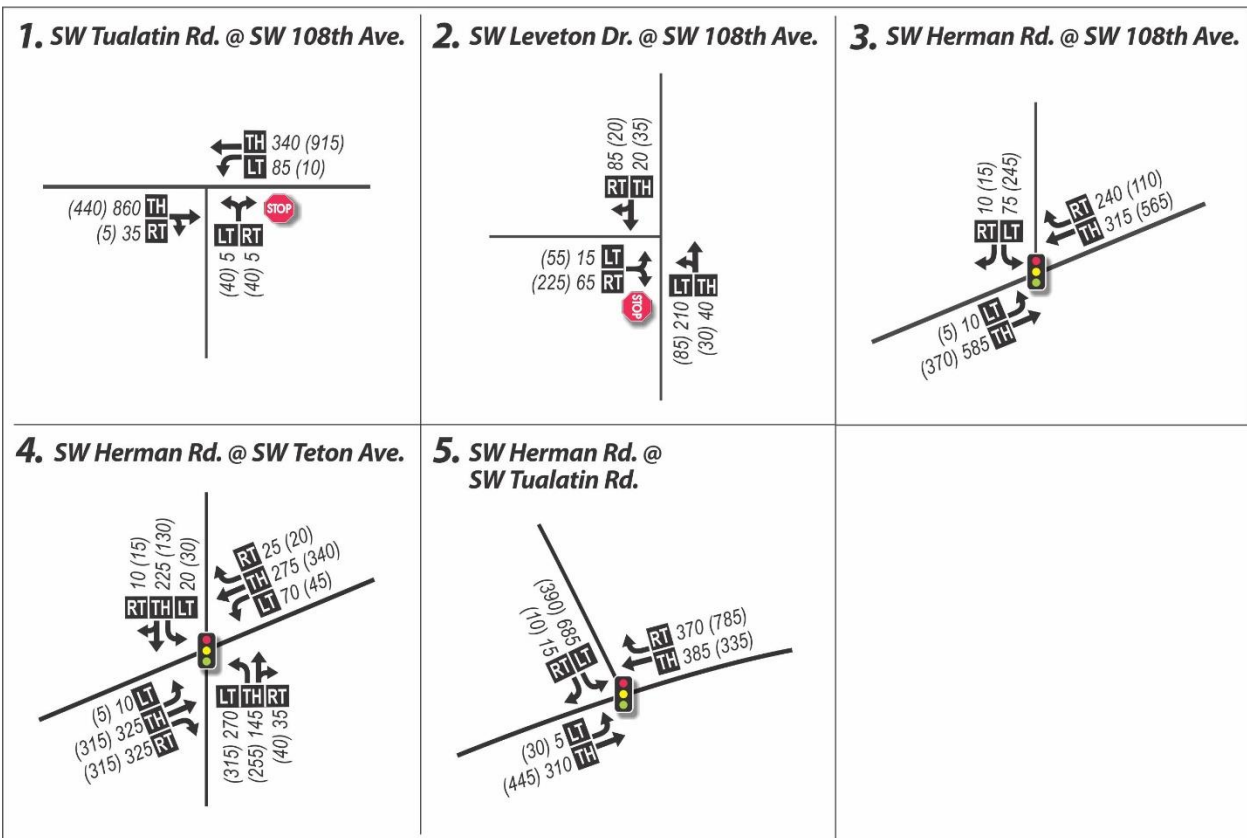
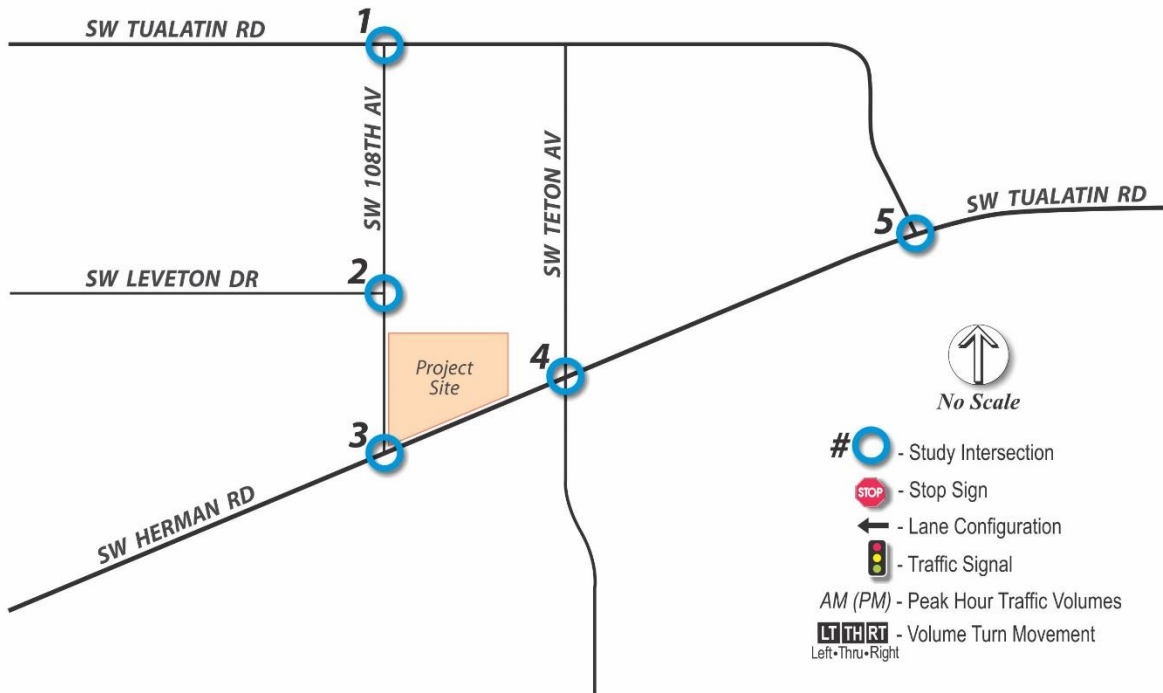


FIGURE 4: WEEKDAY AM AND PM PEAK HOUR TRIP DISTRIBUTION AND PROJECT ADDED TRIPS

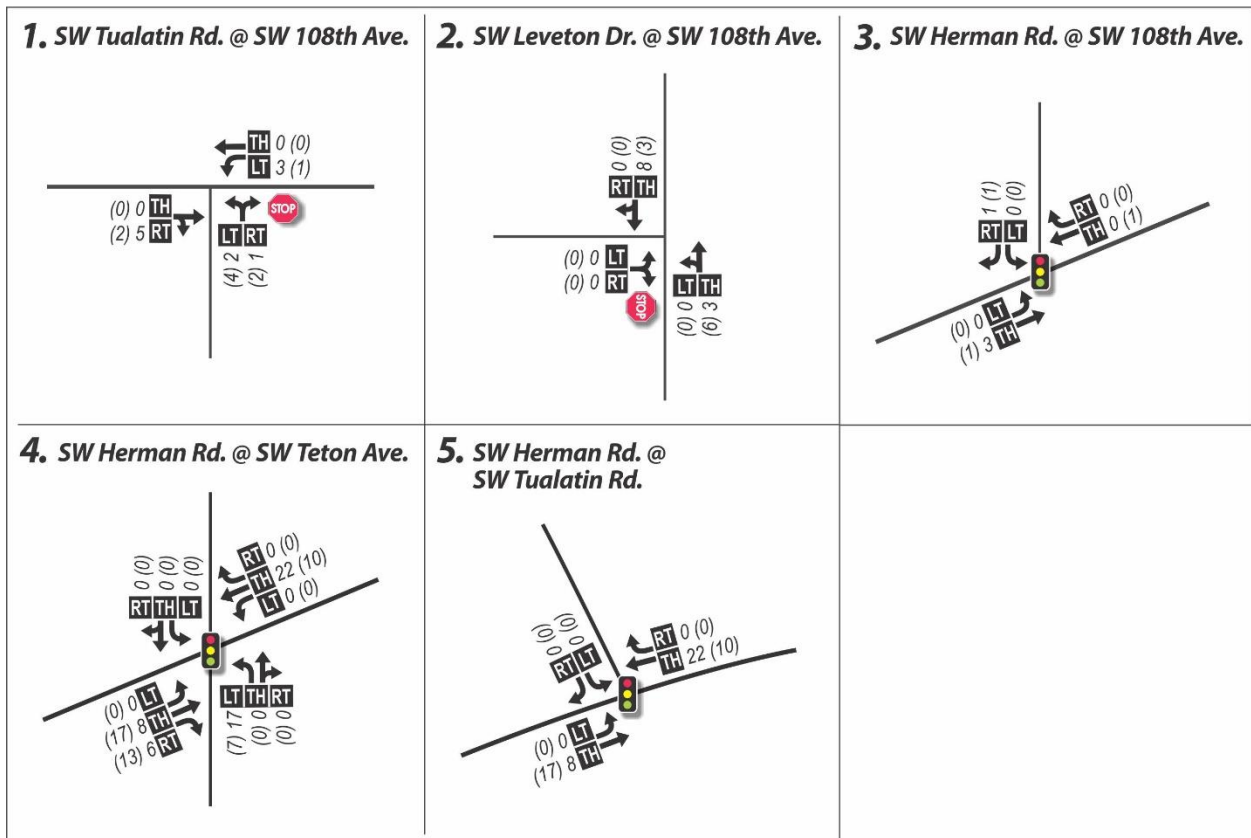
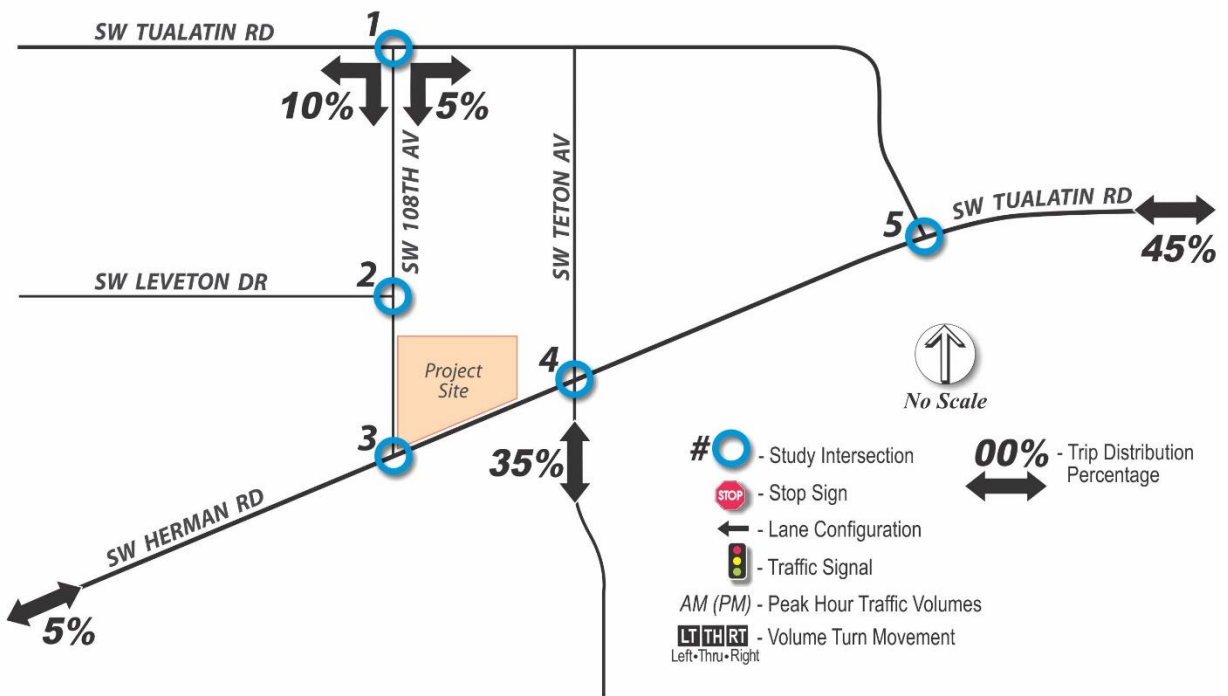
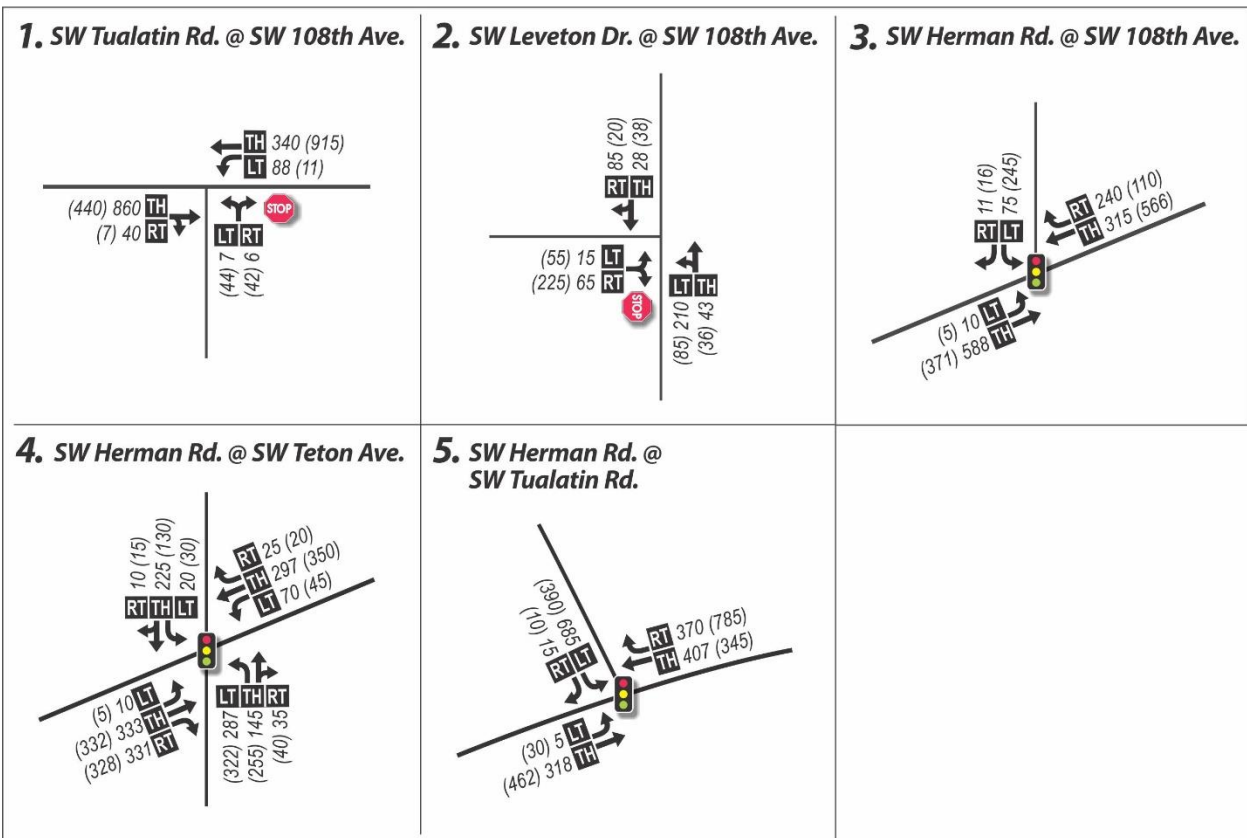
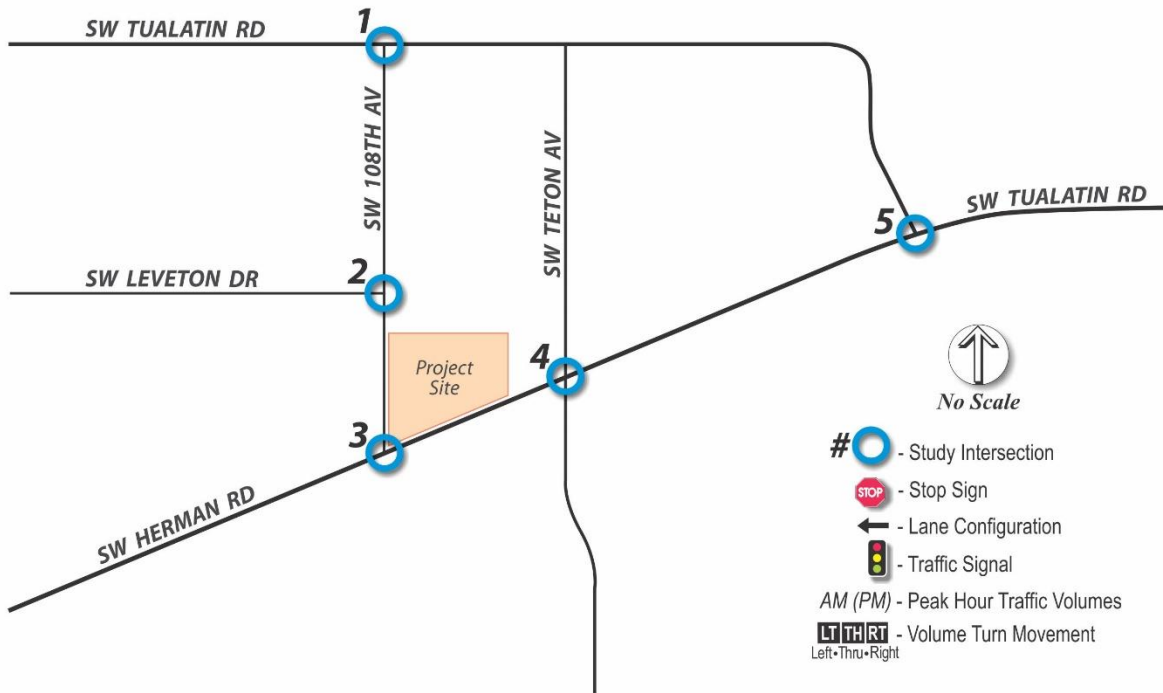


FIGURE 5: 2021 BUILD WEEKDAY AM AND PM PEAK HOUR TRAFFIC VOLUMES





## Future Conditions

The following section summarizes the future weekday AM and PM peak hour traffic operating conditions for the expected year of opening (2021). Future traffic operating conditions were analyzed at the study intersections, as well as the site driveways, to determine if the transportation network can support traffic generated by the proposed development. The study area intersection operations were evaluated for both No Build and Build scenarios to determine if the proposed redevelopment would cause any intersections to not meet jurisdictional standards.

### Intersection Operations

Table 6 and Table 7 list the future 2021 No Build and Build intersection performance, for the AM and PM peak hour, respectively. As listed, all intersections would operate within the acceptable mobility standards of City of Tualatin, except for the intersection of Herman Road/Teton Avenue. Under both 2021 No Build and Build scenarios, the intersection would operate at LOS E during AM peak hour and exceed the LOS D standard with existing signal timing parameters.

The intersection of Herman Road/Teton Avenue was analyzed to determine potential improvements to address performance standards. The intersection is currently approaching the performance standard<sup>6</sup> and would be exceeded in the 2021 No Build condition without project traffic. Based on projected traffic flows and the intersection configuration, adding an eastbound right turn lane would directly address the capacity needs at the intersection. However, this improvement would require significant cost and impact to adjacent properties to achieve given the proximity to the rail and reconfiguration required to construct the right turn lane. Therefore, this turn lane is not a recommended solution. A review of the current signal timing parameters indicated that minor adjustments to the signal timing (extending maximum duration of the eastbound phase) will help this intersection continue to meet performance standards with or without the proposed project. Given that the intersection is currently approaching the performance threshold, it is recommended that the performance continue to be monitored and signal timing adjustments made, regardless of project development.

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<sup>6</sup> Table 4 indicates that the current intersection delay is 53.8 seconds during the AM peak hour, narrowly under the threshold of 55 seconds to maintain LOS D.

**TABLE 6: 2021 WEEKDAY AM PEAK HOUR INTERSECTION PERFORMANCE**

Intersection	Intersection Control	2021 No Build (AM)			2021 Build (AM)		
		Delay (sec)	v/c	LOS	Delay (sec)	v/c	LOS
SW Tualatin Road/ SW 108 <sup>th</sup> Avenue	Two-way stop control	36.4	0.15	E	39.5	0.15	E
SW Leveton Drive/ SW 108 <sup>th</sup> Avenue	Two-way stop control	10.4	0.16	B	10.5	0.16	B
SW Herman Road/ SW 108 <sup>th</sup> Avenue	Signal	8.9	0.65	A	9.0	0.65	A
SW Herman Road/ SW Teton Avenue*	Signal	59.1 (51.6)	0.96 (0.95)	E (D)	57.3 (51.4)	0.97 (0.96)	E (D)
SW Herman Road/ SW Tualatin Road	Signal	28.7	0.91	C	30.1	0.92	C
Site driveway on SW Herman Road	Two-way stop control	20.6	0.09	C	26.2	0.18	D
Site driveway on SW 108 <sup>th</sup> Avenue	Two-way stop control	-	-	-	10.0	0.01	B

Delay and volume-to-capacity ratio for two-way stop intersections reported for the worst movement.

LOS for two-way stop control intersection reported for the worst major street/worst minor street movements.

\*The performance measures in parenthesis are under mitigated conditions with adjusted east/west max green.

**TABLE 7: 2021 WEEKDAY PM PEAK HOUR INTERSECTION PERFORMANCE**

Intersection	Intersection Control	2021 No Build (PM)			2021 Build (PM)		
		Delay (sec)	v/c	LOS	Delay (sec)	v/c	LOS
SW Tualatin Road/ SW 108 <sup>th</sup> Avenue	Two-way stop control	30.1	0.37	D	31.8	0.41	D
SW Leveton Drive/ SW 108 <sup>th</sup> Avenue	Two-way stop control	10.8	0.33	B	10.9	0.33	B
SW Herman Road/ SW 108 <sup>th</sup> Avenue	Signal	19.8	0.81	B	19.8	0.81	B
SW Herman Road/ SW Teton Avenue	Signal	39.5	0.90	D	45.0	0.93	D
SW Herman Road/ SW Tualatin Road	Signal	16.0	0.69	B	16.1	0.70	B
Site driveway on SW Herman Road	Two-way stop control	27.4	0.21	D	39.9	0.43	E
Site driveway on SW 108 <sup>th</sup> Avenue	Two-way stop control	-	-	-	9.2	0.01	A

Delay and volume-to-capacity ratio for two-way stop intersections reported for the worst movement.

LOS for two-way stop control intersection reported for the worst major street/worst minor street movements.

Queuing analysis was also conducted for the study area, with detailed reports included in the Appendix.

Table 8 lists the 95<sup>th</sup>-percentile vehicle queue lengths for the study intersections. Vehicle queuing at

most locations under the No Build scenario is not substantially different than existing conditions. Build conditions also do not change significantly compared to No Build conditions, with the queue lengths generally increasing by less than two-car length (approximately 50 feet). The only location with a queue that is projected to exceed storage (by approximately one vehicle length) is the southbound left turn at the Herman Road/108<sup>th</sup> Avenue intersection. This location would experience the same 95<sup>th</sup>-percentile queue for both the No Build and Build condition and the project would not add any trips to this movement. This indicates that the proposed site does not have significant impact on the traffic conditions within the study area.

**TABLE 8: 2021 WEEKDAY AM AND PM PEAK HOUR MOTOR VEHICLE 95TH PERCENTILE QUEUEING**

Intersection	Movement	Available Storage (ft.)	95th Percentile Queue (ft)*			
			2021 AM Peak		2021 PM Peak	
			No Build	Build	No Build	Build
<b>SW Tualatin Road/ SW 108<sup>th</sup> Avenue</b>	Westbound L	350	75	100	25	25
	Northbound L/R	>1000	50	50	125	100
<b>SW Leveton Drive/ SW 108<sup>th</sup> Avenue</b>	Eastbound L/R	>1000	75	75	100	100
	Northbound L/T	800	75	75	50	50
<b>SW Herman Road/ SW 108<sup>th</sup> Avenue</b>	Eastbound L	660	100	75	50	50
	Southbound L	170	100	125	<b>200</b>	<b>200</b>
<b>SW Herman Road/ SW Teton Avenue</b>	Westbound L	150	150	150	125	100
	Southbound L	140	50	75	75	75
<b>SW Herman Road/ SW Tualatin Road</b>	Eastbound L	140	75	50	100	100
	Westbound R	250	200	250	100	125
	Southbound L	>700	400	425	250	250

Note: \*The 95<sup>th</sup> percentile queue lengths are rounded up to the closest multiples of 25 feet.

### Driveway Interaction

The site is assumed to continue using the existing driveways on both Herman Road and 108<sup>th</sup> Avenue. The southern site driveway located on the east side of SW 108<sup>th</sup> Avenue is within 100 feet of the closest opposing driveway on the west side of 108<sup>th</sup> Avenue. The proximity and configuration of these driveways have the potential to create vehicle interaction between the opposing driveways if there are left turning vehicles exiting from each driveway simultaneously. However, the existing site driveways on 108<sup>th</sup> Avenue are gated and during the data collection on weekday AM and PM peak hours, no driveway use was observed. Assuming the driveways on 108<sup>th</sup> Avenue remain gated and the access remain unchanged after the proposed city operations building is completed, the potential interaction with opposing driveways on 108<sup>th</sup> Avenue will remain minimal. Further, if the gate is removed from the driveway on 108<sup>th</sup>, the vehicle activity (and potential for conflicts) is anticipated to remain minimal due to the distribution of site trips and minimal use of the driveway (primarily entry/exit to/from the north on 108<sup>th</sup> Avenue).

### Findings and Recommendations

Based on the analysis of existing transportation conditions and potential site traffic, no improvements were identified to mitigate the site development impacts. However, one traffic mobility need was noted



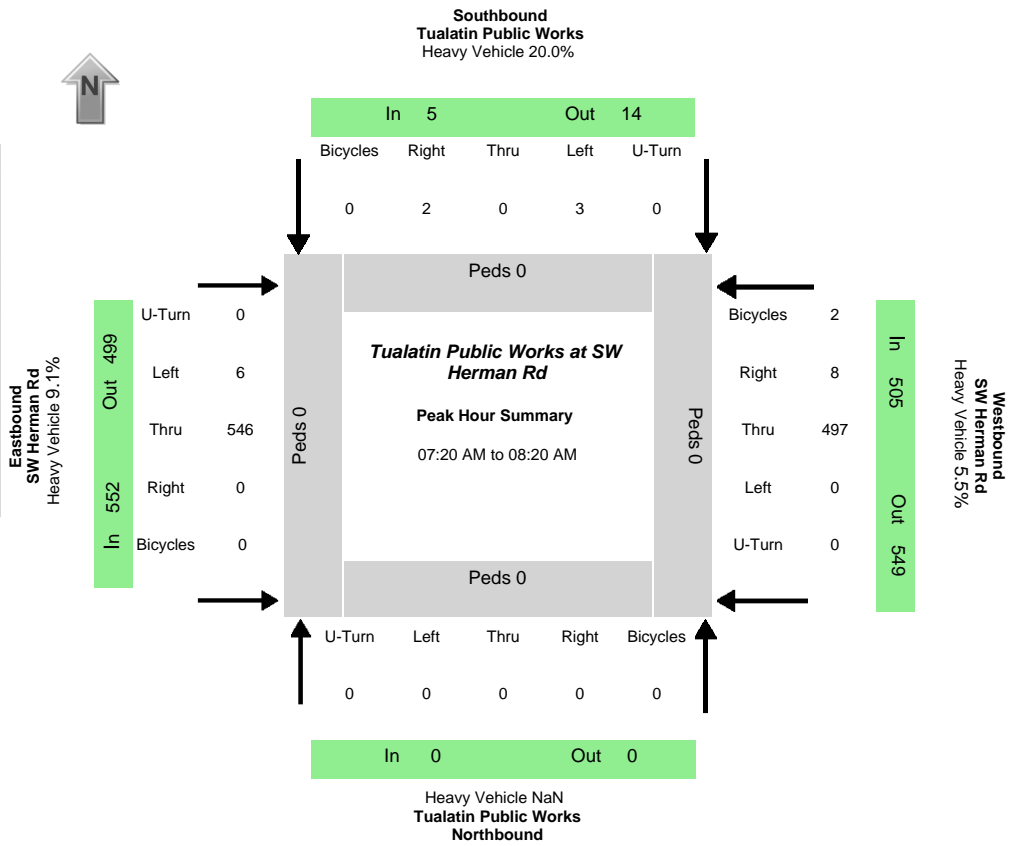
at the intersection of SW Herman Road/SW Teton Avenue. This traffic mobility item is not related to site development and should be monitored/addressed separately (regardless) of the proposed development. The intersection of SW 108<sup>th</sup> Avenue/SW Teton Avenue is currently approaching intersection performance standards during the AM peak hour and is projected to exceed standards by the 2021 No Build condition with minimal added growth. Continue to monitor the operations of the intersection and consider optimizing the existing signal timing parameters to reduce delay for the eastbound approach. Increasing the maximum green duration for these approaches would likely address performance needs at this intersection.

## Appendix

The following items are included in the Appendix:

- Traffic Counts
- Intersection Operations Worksheets
- Intersection Queuing Worksheets

Data Provided by K-D-N.com 503-594-4224	
N/S street	<b>Tualatin Public Works</b>
E/W street	<b>SW Herman Rd</b>
City, State	Tualatin OR
Site Notes	
Location	45.384202 - -122.786072
Start Date	Wednesday, October 10, 2018
Start Time	07:00:00 AM
Weather	
Study ID #	
<b>Peak Hour Start</b>	<b>07:20:00 AM</b>
<b>Peak 15 Min Start</b>	<b>07:45:00 AM</b>
<b>PHF (15-Min Int)</b>	<b>0.89</b>



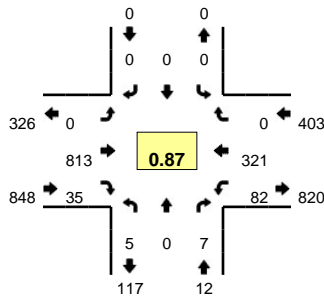
Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	0	0	0	3	0	2	0	6	546	0	0	0	497	8	0	0	5	552	505	0	14	499	549
Percent Heavy Vehicles																							
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	9.2%	0.0%	0.0%	0.0%	5.6%	0.0%	0.0%	NaN	20.0%	9.1%	5.5%	NaN	0.0%	5.8%	9.1%

PHV - Bicycles												PHV - Pedestrians									
Northbound				Southbound				Eastbound				Westbound				Sum	in Crosswalk				Sum
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		NB	SB	EB	WB	
0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0

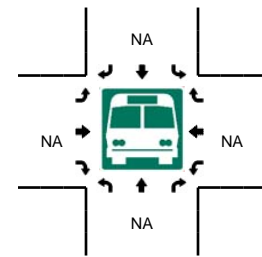
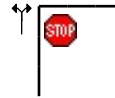
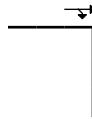
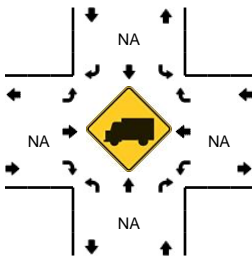
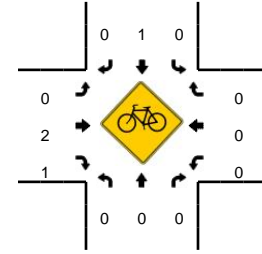
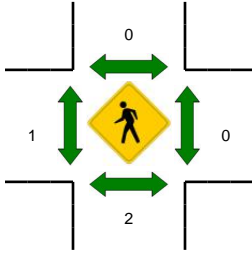
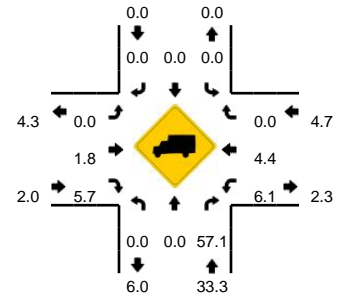
All Vehicle Volumes																		
Time	Northbound Tualatin Public Works				Southbound Tualatin Public Works				Eastbound SW Herman Rd				Westbound SW Herman Rd				15 Min Sum	1 HR Sum
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		
07:00:00 AM	0	0	0	0	0	0	0	0	0	32	0	0	0	49	0	0		
07:05:00 AM	0	0	0	0	2	0	0	0	1	42	0	0	0	46	2	0		
07:10:00 AM	0	0	0	0	0	0	0	0	1	20	0	0	0	23	1	0	219	
07:15:00 AM	0	0	0	0	0	0	0	0	1	44	0	0	0	35	3	0	221	
07:20:00 AM	0	0	0	0	1	0	0	0	1	52	0	0	0	32	1	0	215	
07:25:00 AM	0	0	0	0	0	0	0	0	2	40	0	0	0	44	1	0	257	
07:30:00 AM	0	0	0	0	0	0	0	0	1	66	0	0	0	38	0	0	279	
07:35:00 AM	0	0	0	0	0	0	0	0	1	56	0	0	0	39	0	0	288	
07:40:00 AM	0	0	0	0	0	0	0	0	0	46	0	0	0	36	0	0	283	
07:45:00 AM	0	0	0	0	0	0	0	0	0	55	0	0	0	43	0	0	276	
07:50:00 AM	0	0	0	0	0	0	0	0	0	44	0	0	0	56	0	0	280	
07:55:00 AM	0	0	0	0	0	0	0	0	0	47	0	0	0	52	1	0	298	1057
08:00:00 AM	0	0	0	0	0	0	0	0	1	29	0	0	0	26	1	0	257	1033
08:05:00 AM	0	0	0	0	0	0	1	0	0	43	0	0	0	50	4	0	255	1038
08:10:00 AM	0	0	0	0	0	0	1	0	0	24	0	0	0	38	0	0	218	1056
08:15:00 AM	0	0	0	0	2	0	0	0	0	44	0	0	0	43	0	0	250	1062
08:20:00 AM	0	0	0	0	0	0	0	0	0	24	0	0	0	32	2	0	210	1033
08:25:00 AM	0	0	0	0	4	0	0	0	0	37	0	0	0	47	0	0	235	1034
08:30:00 AM	0	0	0	0	2	0	0	0	0	21	0	0	0	17	0	0	186	969
08:35:00 AM	0	0	0	0	4	0	0	0	1	26	0	0	0	35	1	0	195	940
08:40:00 AM	0	0	0	0	1	0	0	0	1	35	0	0	0	35	0	0	179	930
08:45:00 AM	0	0	0	0	1	0	0	0	0	19	0	0	0	26	0	0	185	878
08:50:00 AM	0	0	0	0	0	0	0	0	0	14	0	0	0	42	0	0	174	834
08:55:00 AM	0	0	0	0	2	0	0	0	0	18	0	0	0	28	0	0	150	782

**LOCATION:** SW 108th Ave -- SW Tualatin Rd  
**CITY/STATE:** Tualatin, OR

**QC JOB #:** 14768943  
**DATE:** Tue, Sep 11 2018



**Peak-Hour: 7:25 AM -- 8:25 AM**  
**Peak 15-Min: 7:45 AM -- 8:00 AM**



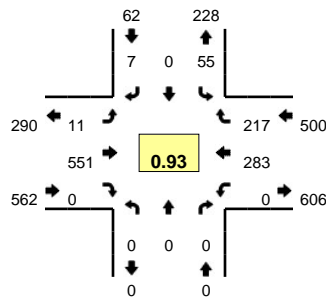
5-Min Count Period Beginning At	SW 108th Ave (Northbound)				SW 108th Ave (Southbound)				SW Tualatin Rd (Eastbound)				SW Tualatin Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	2	0	0	0	0	0	0	49	4	0	4	13	0	0	72	
7:05 AM	1	0	1	0	0	0	0	0	0	57	1	0	2	12	0	0	74	
7:10 AM	0	0	0	0	0	0	0	0	0	50	3	0	4	17	0	0	74	
7:15 AM	1	0	0	0	0	0	0	0	0	59	2	0	1	14	0	0	77	
7:20 AM	1	0	1	0	0	0	0	0	0	50	3	0	5	22	0	0	82	
7:25 AM	0	0	1	0	0	0	0	0	0	61	2	0	7	26	0	0	97	
7:30 AM	1	0	1	0	0	0	0	0	0	78	4	0	1	21	0	0	106	
7:35 AM	0	0	1	0	0	0	0	0	0	74	1	0	6	28	0	0	110	
7:40 AM	0	0	0	0	0	0	0	0	0	78	1	0	6	19	0	0	104	
7:45 AM	0	0	0	0	0	0	0	0	0	94	2	0	10	20	0	0	126	
7:50 AM	2	0	1	0	0	0	0	0	0	73	4	0	10	35	0	0	125	
7:55 AM	1	0	0	0	0	0	0	0	0	75	2	0	10	26	0	0	114	1161
8:00 AM	0	0	0	0	0	0	0	0	0	58	3	0	7	37	0	0	105	1194
8:05 AM	0	0	1	0	0	0	0	0	0	63	7	0	9	30	0	0	110	1230
8:10 AM	0	0	1	0	0	0	0	0	0	52	4	0	4	28	0	0	89	1245
8:15 AM	1	0	0	0	0	0	0	0	0	55	2	0	5	19	0	0	82	1250
8:20 AM	0	0	1	0	0	0	0	0	0	52	3	0	7	32	0	0	95	1263
8:25 AM	0	0	2	0	0	0	0	0	0	50	3	0	5	19	0	0	79	1245
8:30 AM	0	0	1	0	0	0	0	0	0	48	1	0	4	17	0	0	71	1210
8:35 AM	2	0	0	0	0	0	0	0	0	38	3	0	13	30	0	0	86	1186
8:40 AM	3	0	1	0	0	0	0	0	0	30	3	0	6	29	0	0	72	1154
8:45 AM	0	0	1	0	0	0	0	0	0	42	2	0	4	26	0	0	75	1103
8:50 AM	1	0	0	0	0	0	0	0	0	40	1	0	5	36	0	0	83	1061
8:55 AM	0	0	2	0	0	0	0	0	0	23	0	0	5	29	0	0	59	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	12	0	4	0	0	0	0	0	0	968	32	0	120	324	0	0	1460	
Heavy Trucks	0	0	0	0	0	0	0	0	0	20	0	0	4	8	0	0	32	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
Railroad																		
Stopped Buses																		

Comments:

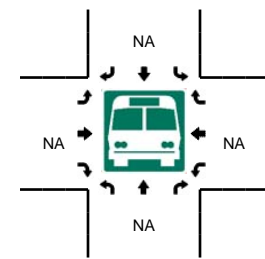
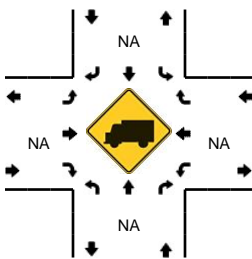
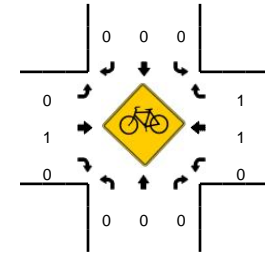
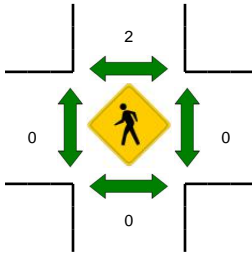
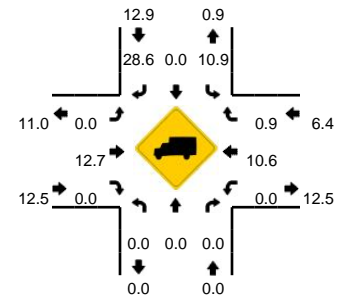


**LOCATION:** SW 108th Ave -- SW Herman Rd  
**CITY/STATE:** Tualatin, OR

**QC JOB #:** 14768944  
**DATE:** Tue, Sep 11 2018



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

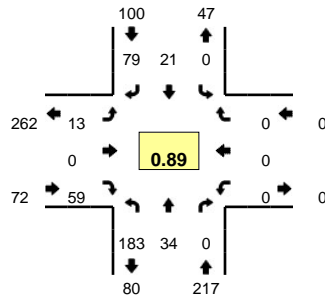


5-Min Count Period Beginning At	SW 108th Ave (Northbound)				SW 108th Ave (Southbound)				SW Herman Rd (Eastbound)				SW Herman Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	3	0	0	0	1	37	0	0	0	29	6	0	76	
7:05 AM	0	0	0	0	4	0	1	0	0	38	0	0	0	32	18	0	93	
7:10 AM	0	0	0	0	6	0	1	0	1	29	0	0	0	22	12	0	71	
7:15 AM	0	0	0	0	2	0	0	0	0	34	0	0	0	21	13	0	70	
7:20 AM	0	0	0	0	7	0	1	0	0	44	0	0	0	20	14	0	86	
7:25 AM	0	0	0	0	6	0	1	0	0	50	0	0	0	34	17	0	108	
7:30 AM	0	0	0	0	8	0	0	0	1	39	0	0	0	18	14	0	80	
7:35 AM	0	0	0	0	5	0	0	0	1	62	0	0	0	20	20	0	108	
7:40 AM	0	0	0	0	3	0	1	0	0	37	0	0	0	19	24	0	84	
7:45 AM	0	0	0	0	7	0	0	0	3	55	0	0	0	18	16	0	99	
7:50 AM	0	0	0	0	6	0	1	0	3	59	0	0	0	27	15	0	111	
7:55 AM	0	0	0	0	3	0	0	0	0	35	0	0	0	32	17	0	87	1073
8:00 AM	0	0	0	0	3	0	0	0	0	50	0	0	0	25	25	0	103	1100
8:05 AM	0	0	0	0	1	0	0	0	3	41	0	0	0	27	24	0	96	1103
8:10 AM	0	0	0	0	4	0	3	0	0	45	0	0	0	22	18	0	92	1124
8:15 AM	0	0	0	0	4	0	0	0	0	19	0	0	0	27	9	0	59	1113
8:20 AM	0	0	0	0	6	0	1	0	1	37	0	0	0	16	22	0	83	1110
8:25 AM	0	0	0	0	4	0	0	0	1	30	0	0	0	13	22	0	70	1072
8:30 AM	0	0	0	0	6	0	0	0	0	26	0	0	0	17	24	0	73	1065
8:35 AM	0	0	0	0	2	0	0	0	0	17	0	0	0	14	22	0	55	1012
8:40 AM	0	0	0	0	2	0	1	0	3	16	0	0	0	21	20	0	63	991
8:45 AM	0	0	0	0	2	0	1	0	1	18	0	0	0	20	19	0	61	953
8:50 AM	0	0	0	0	0	0	0	0	5	12	0	0	0	22	17	0	56	898
8:55 AM	0	0	0	0	0	0	0	0	1	23	0	0	0	20	21	0	65	876
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	48	0	4	0	12	576	0	0	0	336	228	0	1204	
Heavy Trucks	0	0	0	0	8	0	0	0	0	60	0	0	0	28	4	0	100	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

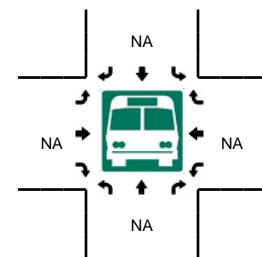
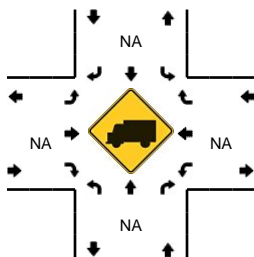
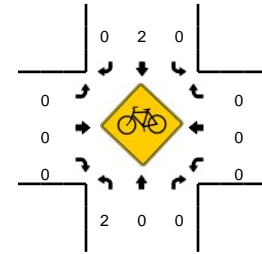
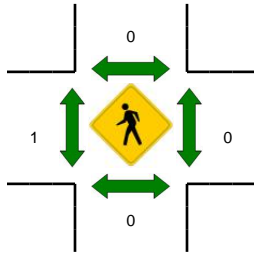
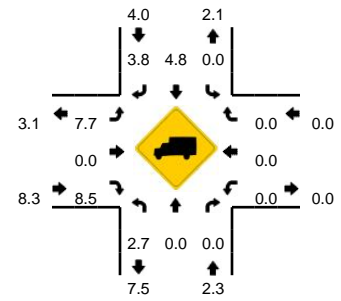
Comments:

**LOCATION:** SW 108th Ave -- Leveton Dr  
**CITY/STATE:** Tualatin, OR

**QC JOB #:** 14768945  
**DATE:** Tue, Sep 11 2018



**Peak-Hour: 7:40 AM -- 8:40 AM**  
**Peak 15-Min: 8:25 AM -- 8:40 AM**

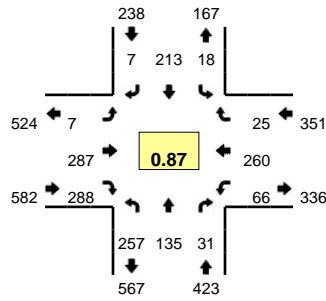


5-Min Count Period Beginning At	SW 108th Ave (Northbound)				SW 108th Ave (Southbound)				Leveton Dr (Eastbound)				Leveton Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	2	0	0	0	1	2	0	4	0	3	0	0	0	0	0	16	
7:05 AM	11	5	0	0	0	1	2	0	1	0	3	0	0	0	0	0	23	
7:10 AM	7	5	0	0	0	2	2	0	0	0	4	0	0	0	0	0	20	
7:15 AM	10	3	0	0	0	1	2	0	1	0	3	0	0	0	0	0	20	
7:20 AM	7	0	0	0	0	2	6	0	3	0	6	0	0	0	0	0	24	
7:25 AM	10	6	0	0	0	2	4	0	0	0	9	0	0	0	0	0	31	
7:30 AM	8	0	0	0	0	1	2	0	2	0	7	0	0	0	0	0	20	
7:35 AM	16	1	0	0	0	3	2	0	2	0	4	0	0	0	0	0	28	
7:40 AM	19	3	0	0	0	1	3	0	0	0	8	0	0	0	0	0	34	
7:45 AM	11	3	0	0	0	2	7	0	1	0	7	0	0	0	0	0	31	
7:50 AM	8	4	0	0	0	0	10	0	1	0	13	0	0	0	0	0	36	
7:55 AM	13	2	0	0	0	2	10	0	6	0	3	0	0	0	0	0	36	319
8:00 AM	12	7	0	0	0	1	7	0	2	0	6	0	0	0	0	0	35	338
8:05 AM	20	3	0	0	0	2	5	0	0	0	1	0	0	0	0	0	31	346
8:10 AM	13	1	0	0	0	1	4	0	1	0	6	0	0	0	0	0	26	352
8:15 AM	12	1	0	0	0	0	6	0	0	0	4	0	0	0	0	0	23	355
8:20 AM	15	1	0	0	0	2	6	0	0	0	4	0	0	0	0	0	28	359
8:25 AM	22	2	0	0	0	7	6	0	2	0	2	0	0	0	0	0	41	369
8:30 AM	20	4	0	0	0	2	2	0	0	0	3	0	0	0	0	0	31	380
8:35 AM	18	3	0	0	0	1	13	0	0	0	2	0	0	0	0	0	37	389
8:40 AM	10	4	0	0	0	1	8	0	1	0	2	0	0	0	0	0	26	381
8:45 AM	17	5	0	0	0	2	6	0	1	0	1	0	0	0	0	0	32	382
8:50 AM	15	1	0	0	0	0	4	0	1	0	4	0	0	0	0	0	25	371
8:55 AM	15	2	0	0	0	0	4	0	0	0	1	0	0	0	0	0	22	357
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	240	36	0	0	0	40	84	0	8	0	28	0	0	0	0	0	436	
Heavy Trucks	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Railroad																		
Stopped Buses																		

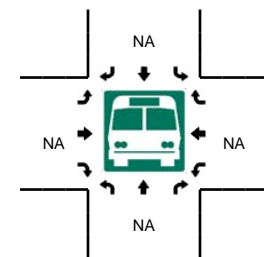
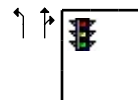
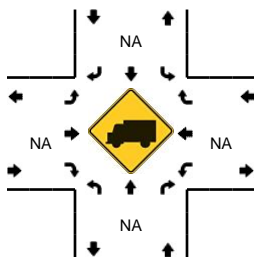
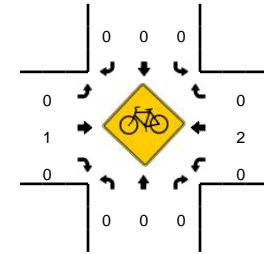
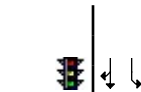
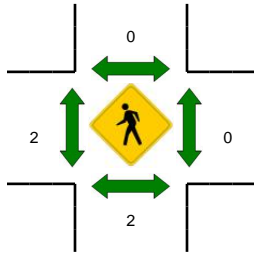
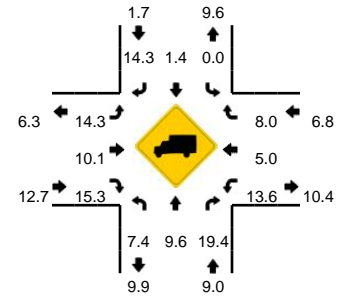
Comments:

**LOCATION:** SW Teton Ave -- SW Herman Rd  
**CITY/STATE:** Tualatin, OR

**QC JOB #:** 14768946  
**DATE:** Tue, Sep 11 2018



**Peak-Hour: 7:20 AM -- 8:20 AM**  
**Peak 15-Min: 7:50 AM -- 8:05 AM**



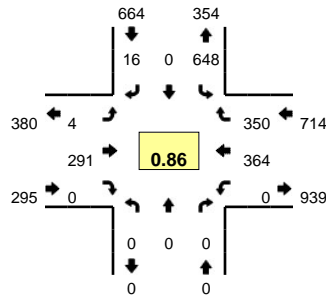
5-Min Count Period Beginning At	SW Teton Ave (Northbound)				SW Teton Ave (Southbound)				SW Herman Rd (Eastbound)				SW Herman Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	23	6	0	0	2	8	0	0	0	19	21	0	1	17	1	0	98	
7:05 AM	29	5	3	0	0	13	0	0	0	25	20	0	1	24	0	0	120	
7:10 AM	20	5	1	0	1	17	0	0	1	11	12	0	2	17	0	0	87	
7:15 AM	18	9	2	0	1	16	0	0	2	20	22	0	0	18	0	0	108	
7:20 AM	15	9	1	0	0	9	0	0	0	21	23	0	5	26	1	0	110	
7:25 AM	21	11	3	0	3	13	0	0	0	27	26	0	3	27	2	0	136	
7:30 AM	14	6	1	0	1	26	0	0	0	27	22	0	2	17	0	0	116	
7:35 AM	20	12	4	0	3	18	0	0	2	21	33	0	5	27	1	0	146	
7:40 AM	27	7	5	0	1	24	0	0	0	27	20	0	2	18	1	0	132	
7:45 AM	15	10	3	0	0	23	3	0	2	20	26	0	6	16	2	0	126	
7:50 AM	21	16	0	0	1	21	0	0	0	37	35	0	7	21	7	0	166	
7:55 AM	29	12	5	0	4	23	0	0	0	16	19	0	10	25	1	0	144	1489
8:00 AM	26	13	4	0	1	17	0	0	0	23	27	0	10	25	4	0	150	1541
8:05 AM	26	11	3	0	0	18	2	0	1	22	22	0	6	23	3	0	137	1558
8:10 AM	22	11	1	0	3	13	1	0	1	26	20	0	4	17	1	0	120	1591
8:15 AM	21	17	1	0	1	8	1	0	1	20	15	0	6	18	2	0	111	1594
8:20 AM	15	11	0	0	0	13	0	0	1	20	23	0	2	20	2	0	107	1591
8:25 AM	20	17	2	0	0	13	1	0	0	26	16	0	2	15	1	0	113	1568
8:30 AM	24	12	2	0	0	10	0	0	0	25	7	0	3	16	1	0	100	1552
8:35 AM	22	23	5	0	2	7	1	0	0	16	6	0	0	24	0	0	106	1512
8:40 AM	19	31	6	0	0	13	1	0	0	10	4	0	2	17	0	0	103	1483
8:45 AM	16	15	3	0	2	19	0	0	1	13	8	0	4	19	0	0	100	1457
8:50 AM	22	21	2	0	5	15	0	0	0	18	7	0	3	18	0	0	111	1402
8:55 AM	21	6	4	0	1	7	0	0	1	16	8	0	3	22	3	0	92	1350
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	304	164	36	0	24	244	0	0	0	304	324	0	108	284	48	0	1840	
Heavy Trucks	16	4	8		0	4	0		0	24	52		12	20	4		144	
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

Comments:

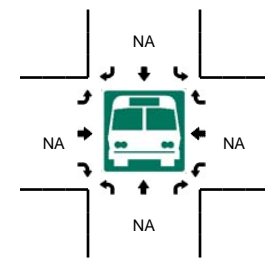
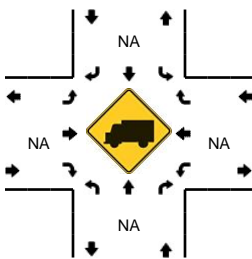
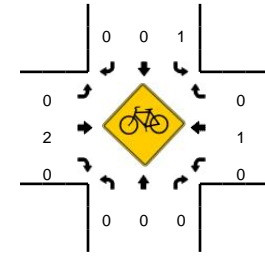
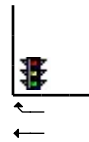
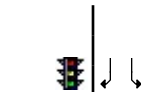
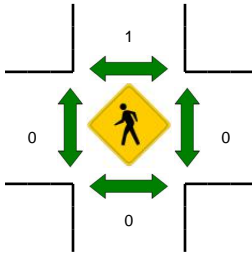
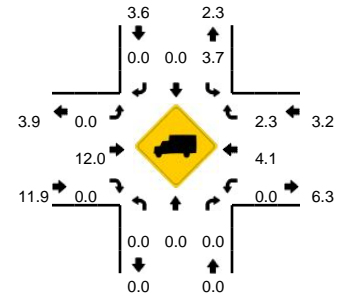


**LOCATION:** SW Tualatin Rd -- SW Herman Rd  
**CITY/STATE:** Washington, OR

**QC JOB #:** 14768947  
**DATE:** Tue, Sep 11 2018



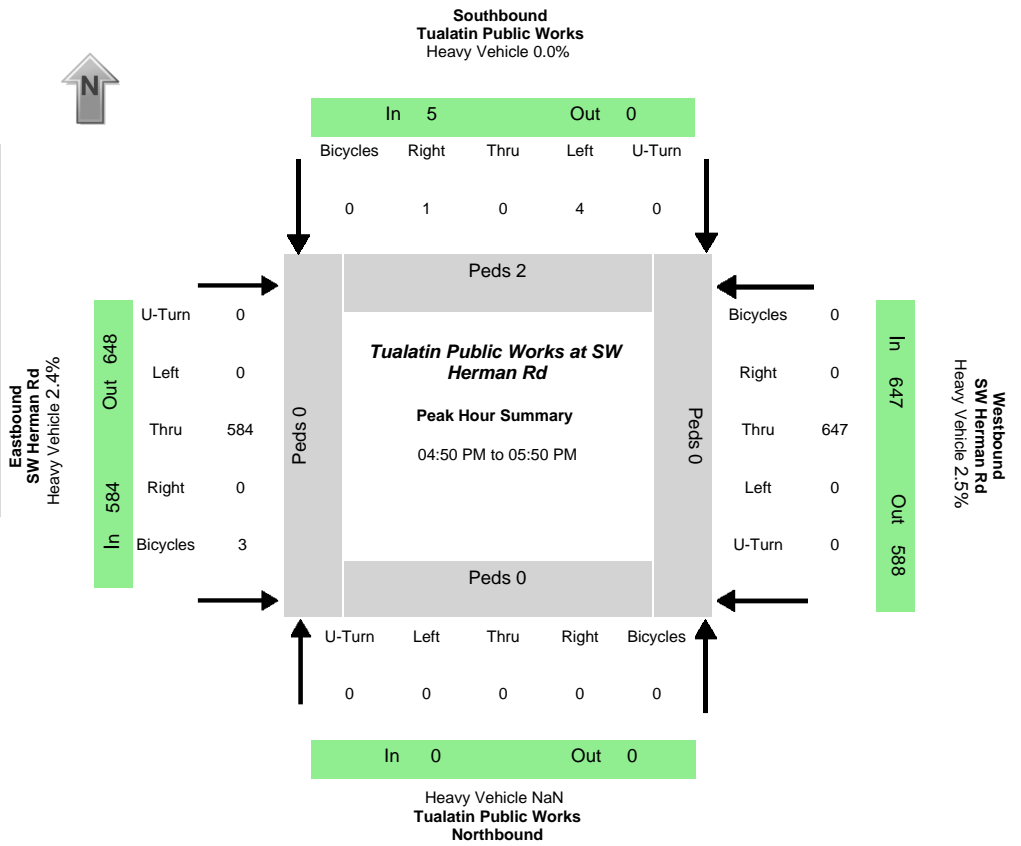
**Peak-Hour: 7:25 AM -- 8:25 AM**  
**Peak 15-Min: 7:55 AM -- 8:10 AM**



5-Min Count Period Beginning At	SW Tualatin Rd (Northbound)				SW Tualatin Rd (Southbound)				SW Herman Rd (Eastbound)				SW Herman Rd (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	28	0	0	0	0	15	0	0	0	0	22	18	0	83	
7:05 AM	0	0	0	0	47	0	1	0	0	29	0	0	0	0	33	9	0	119	
7:10 AM	0	0	0	0	52	0	0	0	1	18	0	0	0	0	21	16	0	108	
7:15 AM	0	0	0	0	45	0	2	0	1	21	0	0	0	0	18	14	0	101	
7:20 AM	0	0	0	0	37	0	3	0	0	19	0	0	0	0	41	27	0	127	
7:25 AM	0	0	0	0	52	0	0	0	0	23	0	0	0	0	34	19	0	128	
7:30 AM	0	0	0	0	61	0	3	0	2	24	0	0	0	0	19	20	0	129	
7:35 AM	0	0	0	0	65	0	1	0	0	24	0	0	0	0	33	26	0	149	
7:40 AM	0	0	0	0	47	0	1	0	0	19	0	0	0	0	29	16	0	112	
7:45 AM	0	0	0	0	54	0	2	0	1	29	0	0	0	0	29	33	0	148	
7:50 AM	0	0	0	0	61	0	1	0	0	21	0	0	0	0	35	33	0	151	
7:55 AM	0	0	0	0	61	0	3	0	0	23	0	0	0	0	43	39	0	169	1524
8:00 AM	0	0	0	0	55	0	2	0	0	33	0	0	0	0	37	40	0	167	1608
8:05 AM	0	0	0	0	54	0	0	0	0	37	0	0	0	0	26	35	0	152	1641
8:10 AM	0	0	0	0	41	0	3	0	0	24	0	0	0	0	28	32	0	128	1661
8:15 AM	0	0	0	0	47	0	0	0	0	17	0	0	0	0	23	16	0	103	1663
8:20 AM	0	0	0	0	50	0	0	0	1	17	0	0	0	0	28	41	0	137	1673
8:25 AM	0	0	0	0	40	0	0	0	0	34	0	0	0	0	24	23	0	121	1666
8:30 AM	0	0	0	0	58	0	3	0	0	22	0	0	0	0	22	27	0	132	1669
8:35 AM	0	0	0	0	53	0	0	0	0	32	0	0	0	0	28	35	0	148	1668
8:40 AM	0	0	0	0	35	0	0	0	0	20	0	0	0	0	22	36	0	113	1669
8:45 AM	0	0	0	0	48	0	1	0	0	18	0	0	0	0	19	34	0	120	1641
8:50 AM	0	0	0	0	52	0	0	0	0	21	0	0	0	0	19	30	0	122	1612
8:55 AM	0	0	0	0	29	0	2	0	0	18	0	0	0	0	29	28	0	106	1549
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	680	0	20	0	0	372	0	0	0	0	424	456	0	1952	
Heavy Trucks	0	0	0	0	24	0	0	0	0	44	0	0	0	0	16	12	0	96	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
Railroad																			
Stopped Buses																			

Comments:

Data Provided by K-D-N.com 503-594-4224	
N/S street	<b>Tualatin Public Works</b>
E/W street	<b>SW Herman Rd</b>
City, State	Tualatin OR
Site Notes	
Location	45.384202 - -122.786072
Start Date	Wednesday, October 10, 2018
Start Time	04:00:00 PM
Weather	
Study ID #	
<b>Peak Hour Start</b>	<b>04:50:00 PM</b>
<b>Peak 15 Min Start</b>	<b>05:05:00 PM</b>
<b>PHF (15-Min Int)</b>	<b>0.85</b>



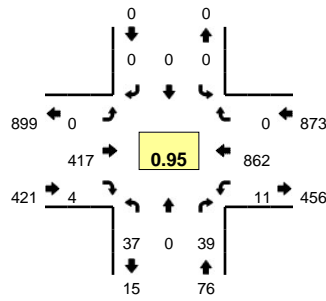
Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	0	0	0	4	0	1	0	0	584	0	0	0	647	0	0	0	5	584	647	0	0	648	588
Percent Heavy Vehicles																							
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%	0.0%	0.0%	0.0%	2.5%	0.0%	0.0%	NaN	0.0%	2.4%	2.5%	NaN	0.0%	2.5%	2.4%

PHV - Bicycles												PHV - Pedestrians									
Northbound				Southbound				Eastbound				Westbound				in Crosswalk					
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum
0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	0	2	0	0	2

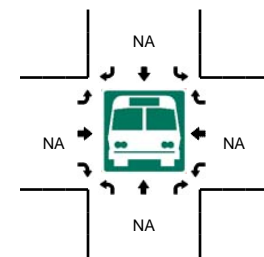
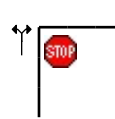
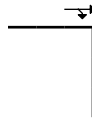
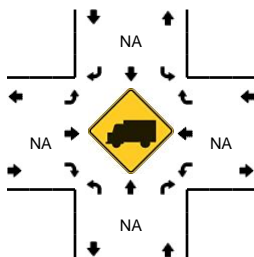
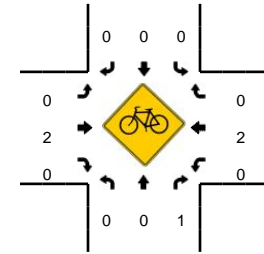
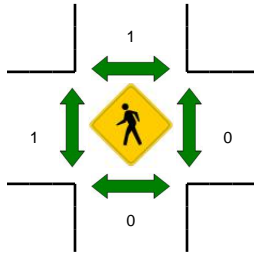
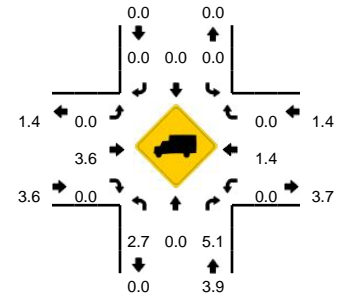
Time	Northbound Tualatin Public Works				Southbound Tualatin Public Works				Eastbound SW Herman Rd				Westbound SW Herman Rd				15 Min Sum	1 HR Sum
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		
04:00:00 PM	0	0	0	0	18	0	10	0	1	38	0	0	0	40	1	0		
04:05:00 PM	0	0	0	0	5	0	3	0	0	32	0	0	0	45	1	0		
04:10:00 PM	0	0	0	0	0	0	0	0	0	29	0	0	0	41	1	0	265	
04:15:00 PM	0	0	0	0	0	0	0	0	0	31	0	0	0	38	0	0	226	
04:20:00 PM	0	0	0	0	0	0	1	0	0	48	0	0	0	60	1	0	250	
04:25:00 PM	0	0	0	0	1	0	1	0	0	32	0	0	0	29	0	0	242	
04:30:00 PM	0	0	0	0	0	0	0	0	0	35	0	0	0	37	0	0	245	
04:35:00 PM	0	0	0	0	0	0	0	0	0	53	0	0	0	57	0	0	245	
04:40:00 PM	0	0	0	0	0	0	0	0	0	29	0	0	0	31	0	0	242	
04:45:00 PM	0	0	0	0	0	0	0	0	0	49	0	0	0	40	0	0	259	
04:50:00 PM	0	0	0	0	3	0	0	0	0	45	0	0	0	46	0	0	243	
04:55:00 PM	0	0	0	0	0	0	0	0	0	44	0	0	0	50	0	0	277	1026
05:00:00 PM	0	0	0	0	1	0	0	0	0	50	0	0	0	60	0	0	299	1029
05:05:00 PM	0	0	0	0	0	0	1	0	0	71	0	0	0	55	0	0	332	1070
05:10:00 PM	0	0	0	0	0	0	0	0	0	65	0	0	0	56	0	0	359	1120
05:15:00 PM	0	0	0	0	0	0	0	0	0	52	0	0	0	64	0	0	364	1167
05:20:00 PM	0	0	0	0	0	0	0	0	0	49	0	0	0	55	0	0	341	1161
05:25:00 PM	0	0	0	0	0	0	0	0	0	36	0	0	0	57	0	0	313	1191
05:30:00 PM	0	0	0	0	0	0	0	0	0	41	0	0	0	49	0	0	287	1209
05:35:00 PM	0	0	0	0	0	0	0	0	0	41	0	0	0	56	0	0	280	1196
05:40:00 PM	0	0	0	0	0	0	0	0	0	51	0	0	0	43	0	0	281	1230
05:45:00 PM	0	0	0	0	0	0	0	0	0	39	0	0	0	56	0	0	286	1236
05:50:00 PM	0	0	0	0	0	0	0	0	0	37	0	0	0	35	0	0	261	1214
05:55:00 PM	0	0	0	0	0	0	0	0	0	33	0	0	0	32	0	0	232	1185

**LOCATION:** SW 108th Ave -- SW Tualatin Rd  
**CITY/STATE:** Tualatin, OR

**QC JOB #:** 14768914  
**DATE:** Thu, Aug 16 2018



**Peak-Hour: 4:20 PM -- 5:20 PM**  
**Peak 15-Min: 4:50 PM -- 5:05 PM**



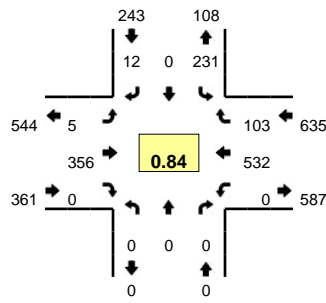
5-Min Count Period Beginning At	SW 108th Ave (Northbound)				SW 108th Ave (Southbound)				SW Tualatin Rd (Eastbound)				SW Tualatin Rd (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	8	0	2	0	0	0	0	0	0	0	33	0	0	0	62	0	0	105	
4:05 PM	6	0	4	0	0	0	0	0	0	0	45	0	0	2	60	0	0	117	
4:10 PM	2	0	1	0	0	0	0	0	0	0	24	0	0	0	73	0	0	100	
4:15 PM	0	0	1	0	0	0	0	0	0	0	19	1	0	1	57	0	0	79	
4:20 PM	1	0	3	0	0	0	0	0	0	0	32	1	0	0	67	0	0	104	
4:25 PM	0	0	3	0	0	0	0	0	0	0	35	0	0	0	71	0	0	109	
4:30 PM	3	0	2	0	0	0	0	0	0	0	36	1	0	1	72	0	0	115	
4:35 PM	3	0	3	0	0	0	0	0	0	0	29	0	0	0	77	0	0	112	
4:40 PM	5	0	4	0	0	0	0	0	0	0	32	0	0	2	77	0	0	120	
4:45 PM	3	0	0	0	0	0	0	0	0	0	40	0	0	1	70	0	0	114	
4:50 PM	1	0	6	0	0	0	0	0	0	0	40	0	0	1	68	0	0	116	
4:55 PM	2	0	3	0	0	0	0	0	0	0	42	0	0	2	70	0	0	119	1310
5:00 PM	6	0	4	0	0	0	0	0	0	0	36	0	0	2	77	0	0	125	1330
5:05 PM	6	0	5	0	0	0	0	0	0	0	25	1	0	1	63	0	0	101	1314
5:10 PM	2	0	1	0	0	0	0	0	0	0	38	0	0	0	76	0	0	117	1331
5:15 PM	5	0	5	0	0	0	0	0	0	0	32	1	0	1	74	0	0	118	1370
5:20 PM	3	0	8	0	0	0	0	0	0	0	20	0	0	0	61	0	0	92	1358
5:25 PM	1	0	4	0	0	0	0	0	0	0	24	0	0	1	69	0	0	99	1348
5:30 PM	2	0	4	0	0	0	0	0	0	0	29	0	0	0	61	0	0	96	1329
5:35 PM	2	0	3	0	0	0	0	0	0	0	21	1	0	0	70	0	0	97	1314
5:40 PM	1	0	5	1	0	0	0	0	0	0	34	0	0	0	53	0	0	94	1288
5:45 PM	1	0	3	0	0	0	0	0	0	0	31	1	0	1	44	0	0	81	1255
5:50 PM	4	0	3	0	0	0	0	0	0	0	28	3	0	0	50	0	0	88	1227
5:55 PM	1	0	4	0	0	0	0	0	0	0	28	1	0	1	62	0	0	97	1205
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	36	0	52	0	0	0	0	0	0	472	0	0	20	860	0	0	1440		
Heavy Trucks	4	0	4	0	0	0	0	0	0	8	0	0	0	8	0	0	24		
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Railroad																			
Stopped Buses																			

Comments:

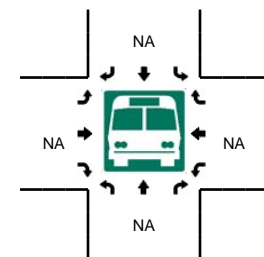
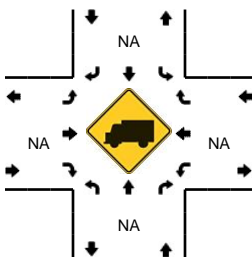
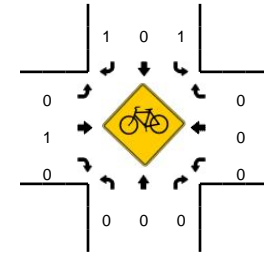
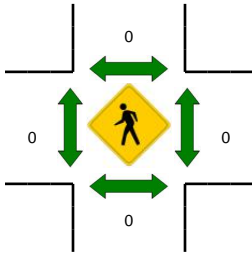
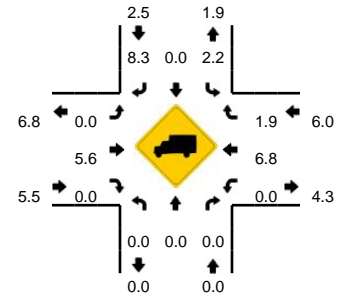


**LOCATION:** SW 108th Ave -- SW Herman Rd  
**CITY/STATE:** Tualatin, OR

**QC JOB #:** 14768926  
**DATE:** Thu, Aug 16 2018



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

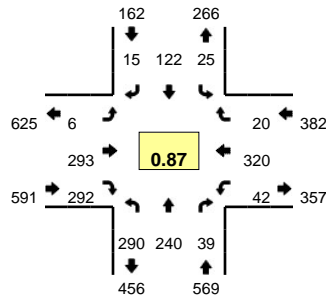


5-Min Count Period Beginning At	SW 108th Ave (Northbound)				SW 108th Ave (Southbound)				SW Herman Rd (Eastbound)				SW Herman Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	9	0	2	0	0	38	0	0	0	32	8	0	89	
4:05 PM	0	0	0	0	12	0	0	0	1	37	0	0	0	35	10	0	95	
4:10 PM	0	0	0	0	15	0	2	0	0	32	0	0	0	53	6	0	108	
4:15 PM	0	0	0	0	10	0	4	0	0	29	0	0	0	37	8	0	88	
4:20 PM	0	0	0	0	5	0	1	0	1	23	0	0	0	42	9	0	81	
4:25 PM	0	0	0	0	21	0	0	0	0	30	0	0	0	31	5	0	87	
4:30 PM	0	0	0	0	19	0	1	0	1	39	0	0	0	54	10	0	124	
4:35 PM	0	0	0	0	19	0	2	0	0	30	0	0	0	58	12	0	121	
4:40 PM	0	0	0	0	34	0	1	0	1	28	0	0	0	51	8	0	123	
4:45 PM	0	0	0	0	13	0	0	0	1	25	0	0	0	24	9	0	72	
4:50 PM	0	0	0	0	8	0	1	0	0	19	0	0	0	52	14	0	94	
4:55 PM	0	0	0	0	15	0	1	0	0	32	0	0	0	47	8	0	103	1185
5:00 PM	0	0	0	0	21	0	1	0	1	26	0	0	0	44	11	0	104	1200
5:05 PM	0	0	0	0	18	0	0	0	0	37	0	0	0	48	8	0	111	1216
5:10 PM	0	0	0	0	14	0	0	0	0	28	0	0	0	46	5	0	93	1201
5:15 PM	0	0	0	0	20	0	3	0	0	35	0	0	0	47	9	0	114	1227
5:20 PM	0	0	0	0	29	0	2	0	1	27	0	0	0	30	4	0	93	1239
5:25 PM	0	0	0	0	19	0	3	0	0	16	0	0	0	38	3	0	79	1231
5:30 PM	0	0	0	0	31	0	2	0	0	17	0	0	0	39	1	0	90	1197
5:35 PM	0	0	0	0	20	0	0	0	0	18	0	0	0	34	1	0	73	1149
5:40 PM	0	0	0	0	23	0	2	0	0	20	0	0	0	32	4	0	81	1107
5:45 PM	0	0	0	0	24	0	2	0	0	18	0	0	0	22	2	0	68	1103
5:50 PM	0	0	0	0	16	0	1	0	0	19	0	0	0	22	5	0	63	1072
5:55 PM	0	0	0	0	17	0	2	0	0	16	0	0	0	29	8	0	72	1041
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	288	0	16	0	8	388	0	0	0	652	120	0	1472	
Heavy Trucks	0	0	0	0	0	0	4	0	0	16	0	0	0	44	0	0	64	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

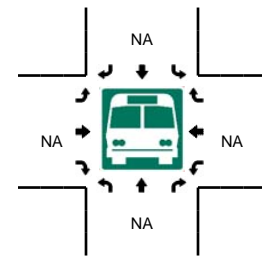
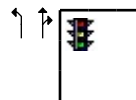
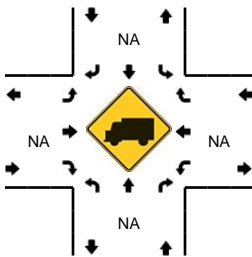
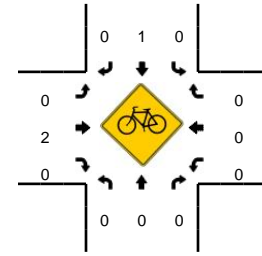
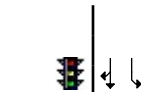
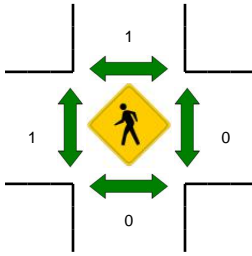
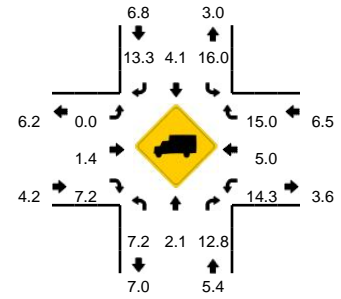
Comments:

**LOCATION:** SW Teton Ave -- SW Herman Rd  
**CITY/STATE:** Tualatin, OR

**QC JOB #:** 14768932  
**DATE:** Thu, Aug 16 2018



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

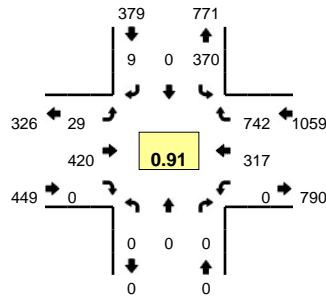


5-Min Count Period Beginning At	SW Teton Ave (Northbound)				SW Teton Ave (Southbound)				SW Herman Rd (Eastbound)				SW Herman Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	18	16	3	0	3	7	2	0	0	28	19	0	1	16	1	0	114	
4:05 PM	17	15	1	0	1	16	1	0	2	30	21	0	3	19	0	0	126	
4:10 PM	35	25	3	0	3	9	0	0	1	29	23	0	1	29	6	0	164	
4:15 PM	23	16	3	0	1	2	0	0	0	22	19	0	2	20	0	0	108	
4:20 PM	17	12	5	0	0	4	2	0	1	16	13	0	5	23	1	0	99	
4:25 PM	19	13	5	0	0	7	0	0	0	14	28	0	2	28	0	0	116	
4:30 PM	19	13	2	0	2	6	1	0	0	36	23	0	2	40	2	0	146	
4:35 PM	37	31	8	0	0	17	2	0	1	24	24	0	6	24	6	0	180	
4:40 PM	22	12	3	0	1	9	2	0	2	35	30	0	8	37	1	0	162	
4:45 PM	17	24	1	0	6	15	2	0	0	12	23	0	5	14	1	0	120	
4:50 PM	33	19	6	0	1	10	2	0	1	17	15	0	3	31	1	0	139	
4:55 PM	18	19	5	0	1	13	0	0	1	24	20	0	2	38	0	0	141	1615
5:00 PM	31	22	2	0	5	10	1	0	0	16	23	0	0	23	2	0	135	1636
5:05 PM	31	18	2	0	3	12	4	0	0	30	25	0	5	15	1	0	146	1656
5:10 PM	26	24	2	0	1	6	0	0	0	31	25	0	5	25	1	0	146	1638
5:15 PM	19	23	2	0	3	10	0	0	1	22	27	0	2	32	2	0	143	1673
5:20 PM	18	22	1	0	2	7	1	0	0	32	29	0	2	13	3	0	130	1704
5:25 PM	12	8	2	0	2	4	0	0	0	14	23	0	2	23	0	0	90	1678
5:30 PM	15	20	1	0	1	7	3	0	0	25	22	0	4	20	0	0	118	1650
5:35 PM	14	14	3	0	1	5	3	0	1	23	15	0	0	23	0	0	102	1572
5:40 PM	15	7	5	0	2	9	0	0	1	20	17	0	4	16	0	0	96	1506
5:45 PM	9	13	2	0	2	12	0	0	0	19	23	0	6	19	1	0	106	1492
5:50 PM	9	16	3	0	0	10	0	0	0	17	23	0	2	15	3	0	98	1451
5:55 PM	12	16	1	0	0	3	1	0	0	15	16	0	1	20	1	0	86	1396
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	312	224	52	0	12	128	20	0	12	380	308	0	64	404	36	0	1952	
Heavy Trucks	24	12	12		8	8	4		0	4	8		8	20	4		112	
Pedestrians		0				4				4				0			8	
Bicycles		0	0			0	0			0	0			0	0		0	
Railroad																		
Stopped Buses																		

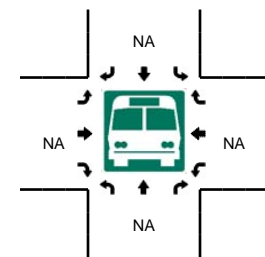
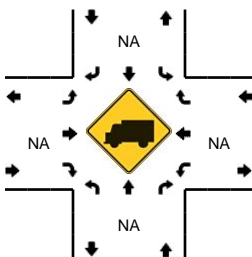
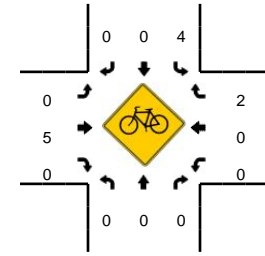
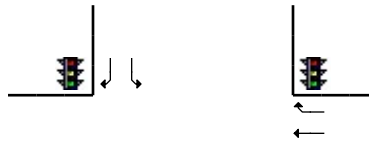
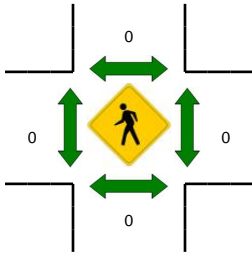
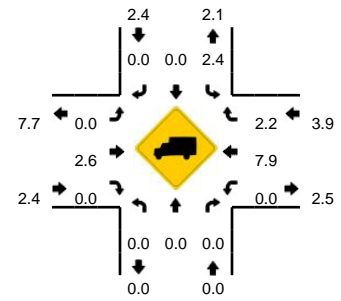
Comments:

**LOCATION:** SW Tualatin Rd -- SW Herman Rd  
**CITY/STATE:** Tualatin, OR

**QC JOB #:** 14768938  
**DATE:** Thu, Aug 16 2018



**Peak-Hour: 4:20 PM -- 5:20 PM**  
**Peak 15-Min: 4:30 PM -- 4:45 PM**



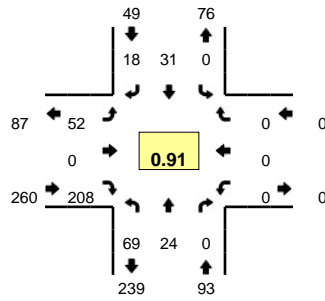
5-Min Count Period Beginning At	SW Tualatin Rd (Northbound)				SW Tualatin Rd (Southbound)				SW Herman Rd (Eastbound)				SW Herman Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	26	0	0	0	2	42	0	0	0	22	60	0	152	
4:05 PM	0	0	0	0	44	0	0	0	0	32	0	0	0	18	39	0	133	
4:10 PM	0	0	0	0	21	0	0	0	2	39	0	0	0	33	57	0	152	
4:15 PM	0	0	0	0	24	0	1	0	2	29	0	0	0	20	43	0	119	
4:20 PM	0	0	0	0	30	0	1	0	1	27	0	0	0	19	64	0	142	
4:25 PM	0	0	0	0	31	0	1	0	2	22	0	0	0	32	63	0	151	
4:30 PM	0	0	0	0	29	0	1	0	4	53	0	0	0	33	63	0	183	
4:35 PM	0	0	0	0	24	0	0	0	6	54	0	0	0	30	56	0	170	
4:40 PM	0	0	0	0	24	0	3	0	3	43	0	0	0	25	68	0	166	
4:45 PM	0	0	0	0	31	0	1	0	4	32	0	0	0	17	59	0	144	
4:50 PM	0	0	0	0	29	0	0	0	2	33	0	0	0	31	58	0	153	
4:55 PM	0	0	0	0	37	0	0	0	1	33	0	0	0	38	58	0	167	1832
5:00 PM	0	0	0	0	39	0	0	0	1	22	0	0	0	19	66	0	147	1827
5:05 PM	0	0	0	0	36	0	0	0	3	40	0	0	0	21	58	0	158	1852
5:10 PM	0	0	0	0	24	0	1	0	2	29	0	0	0	27	73	0	156	1856
5:15 PM	0	0	0	0	36	0	1	0	0	32	0	0	0	25	56	0	150	1887
5:20 PM	0	0	0	0	24	0	0	0	2	37	0	0	0	20	54	0	137	1882
5:25 PM	0	0	0	0	29	0	0	0	0	21	0	0	0	19	61	0	130	1861
5:30 PM	0	0	0	0	30	0	0	0	0	26	0	0	0	24	62	0	142	1820
5:35 PM	0	0	0	0	33	0	0	0	1	28	0	0	0	22	66	0	150	1800
5:40 PM	0	0	0	0	20	0	1	0	0	25	0	0	0	18	50	0	114	1748
5:45 PM	0	0	0	0	35	0	0	0	0	26	0	0	0	23	50	0	134	1738
5:50 PM	0	0	0	0	24	0	0	0	0	20	0	0	0	18	44	0	106	1691
5:55 PM	0	0	0	0	28	0	1	0	0	19	0	0	0	22	52	0	122	1646
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	308	0	16	0	52	600	0	0	0	352	748	0	2076	
Heavy Trucks	0	0	0	0	4	0	0	0	0	12	0	0	0	32	28	0	76	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	
Railroad																		
Stopped Buses																		

Comments:

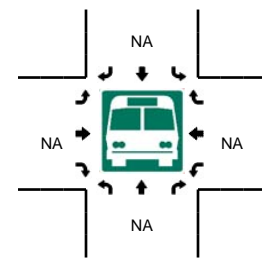
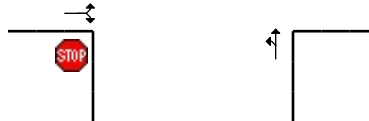
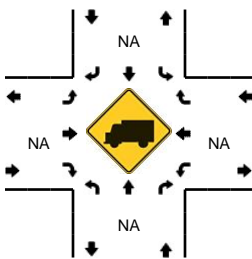
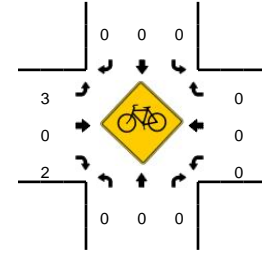
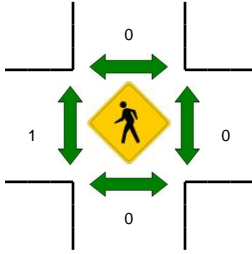
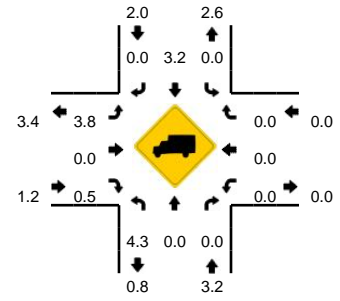


**LOCATION:** SW 108th Ave -- Leveton Dr  
**CITY/STATE:** Tualatin, OR

**QC JOB #:** 14768948  
**DATE:** Tue, Sep 11 2018



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



5-Min Count Period Beginning At	SW 108th Ave (Northbound)				SW 108th Ave (Southbound)				Leveton Dr (Eastbound)				Leveton Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	10	3	0	0	0	2	1	0	8	0	14	0	0	0	0	0	38	
4:05 PM	6	3	0	0	0	4	0	0	3	0	10	0	0	0	0	0	26	
4:10 PM	3	1	0	0	0	4	0	0	3	0	8	0	0	0	0	0	19	
4:15 PM	4	3	0	0	0	1	0	0	0	0	9	0	0	0	0	0	17	
4:20 PM	8	2	0	0	0	3	0	0	5	0	8	0	0	0	0	0	26	
4:25 PM	10	2	0	0	0	3	1	0	2	0	5	0	0	0	0	0	23	
4:30 PM	8	4	0	0	0	4	1	0	1	0	12	0	0	0	0	0	30	
4:35 PM	9	2	0	0	0	5	2	0	3	0	12	0	0	0	0	0	33	
4:40 PM	9	5	0	0	0	4	4	0	7	0	11	0	0	0	0	0	40	
4:45 PM	8	1	0	0	0	6	0	0	2	0	8	0	0	0	0	0	25	
4:50 PM	13	1	0	0	0	0	0	0	3	0	8	0	0	0	0	0	25	
4:55 PM	7	1	0	0	0	3	0	0	4	0	17	0	0	0	0	0	32	334
5:00 PM	13	0	0	0	0	3	2	0	3	0	15	0	0	0	0	0	36	332
5:05 PM	3	2	0	0	0	2	2	0	4	0	19	0	0	0	0	0	32	338
5:10 PM	4	2	0	0	0	2	3	0	3	0	18	0	0	0	0	0	32	351
5:15 PM	2	6	0	0	0	4	3	0	7	0	19	0	0	0	0	0	41	375
5:20 PM	5	1	0	0	0	4	0	0	2	0	16	0	0	0	0	0	28	377
5:25 PM	1	1	0	0	0	0	1	0	8	0	21	0	0	0	0	0	32	386
5:30 PM	2	4	0	0	0	2	0	0	3	0	31	0	0	0	0	0	42	398
5:35 PM	2	0	0	0	0	1	3	0	6	0	25	0	0	0	0	0	37	402
5:40 PM	2	0	0	0	0	1	0	0	3	0	18	0	0	0	0	0	24	386
5:45 PM	4	3	0	0	0	1	2	0	3	0	15	0	0	0	0	0	28	389
5:50 PM	4	1	0	0	0	2	1	0	3	0	15	0	0	0	0	0	26	390
5:55 PM	1	0	0	0	0	2	1	0	5	0	15	0	0	0	0	0	24	382
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	20	20	0	0	0	12	16	0	68	0	308	0	0	0	0	0	444	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	3	
Railroad																		
Stopped Buses																		

Comments:

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	813	35	82	321	5	7
Future Vol, veh/h	813	35	82	321	5	7
Conflicting Peds, #/hr	0	2	2	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	300	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	5	5	33	33
Mvmt Flow	934	40	94	369	6	8

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	976	0	1514 956
Stage 1	-	-	-	-	956 -
Stage 2	-	-	-	-	558 -
Critical Hdwy	-	-	4.15	-	6.73 6.53
Critical Hdwy Stg 1	-	-	-	-	5.73 -
Critical Hdwy Stg 2	-	-	-	-	5.73 -
Follow-up Hdwy	-	-	2.245	-	3.797 3.597
Pot Cap-1 Maneuver	-	-	695	-	112 274
Stage 1	-	-	-	-	329 -
Stage 2	-	-	-	-	516 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	693	-	96 273
Mov Cap-2 Maneuver	-	-	-	-	96 -
Stage 1	-	-	-	-	328 -
Stage 2	-	-	-	-	445 -

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	30.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	154	-	-	693	-
HCM Lane V/C Ratio	0.09	-	-	0.136	-
HCM Control Delay (s)	30.7	-	-	11	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.3	-	-	0.5	-

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	13	59	198	40	21	79
Future Vol, veh/h	13	59	198	40	21	79
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	8	8	2	2	4	4
Mvmt Flow	15	66	222	45	24	89

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	559	70	114	0	0
Stage 1	70	-	-	-	-
Stage 2	489	-	-	-	-
Critical Hdwy	6.48	6.28	4.12	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.218	-	-
Pot Cap-1 Maneuver	480	976	1475	-	-
Stage 1	938	-	-	-	-
Stage 2	604	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	405	975	1474	-	-
Mov Cap-2 Maneuver	405	-	-	-	-
Stage 1	793	-	-	-	-
Stage 2	603	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	6.6	0
HCM LOS	B		

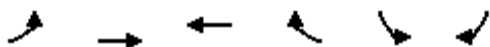
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1474	-	777	-	-
HCM Lane V/C Ratio	0.151	-	0.104	-	-
HCM Control Delay (s)	7.9	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.5	-	0.3	-	-



# HCM Signalized Intersection Capacity Analysis

## 3: SW Herman Rd & SW 108th Ave

10/19/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	11	551	297	227	70	10
Future Volume (vph)	11	551	297	227	70	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	5.4		6.5	6.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1702	1792	1566		1597	1429
Flt Permitted	0.38	1.00	1.00		0.95	1.00
Satd. Flow (perm)	675	1792	1566		1597	1429
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	12	592	319	244	75	11
RTOR Reduction (vph)	0	0	22	0	0	10
Lane Group Flow (vph)	12	592	541	0	75	1
Confl. Peds. (#/hr)	2			2		
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	6%	6%	13%	13%	13%	13%
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	35.1	35.1	29.0		6.6	6.6
Effective Green, g (s)	35.1	35.1	29.0		6.6	6.6
Actuated g/C Ratio	0.65	0.65	0.54		0.12	0.12
Clearance Time (s)	5.4	5.4	5.4		6.5	6.5
Vehicle Extension (s)	2.0	3.1	3.1		2.6	2.6
Lane Grp Cap (vph)	455	1173	847		196	175
v/s Ratio Prot	0.00	c0.33	c0.35		c0.05	
v/s Ratio Perm	0.02					0.00
v/c Ratio	0.03	0.50	0.64		0.38	0.01
Uniform Delay, d1	5.6	4.8	8.6		21.6	20.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.4	1.6		1.0	0.0
Delay (s)	5.6	5.1	10.2		22.6	20.6
Level of Service	A	A	B		C	C
Approach Delay (s)		5.1	10.2		22.4	
Approach LOS		A	B		C	

### Intersection Summary

HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	53.6	Sum of lost time (s)	17.3
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 4: SW Teton Ave & SW Herman Rd

10/19/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	306	307	66	260	25	257	135	31	18	213	7
Future Volume (vph)	8	306	307	66	260	25	257	135	31	18	213	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.99		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1533		1687	1749		1655	1694		1770	1852	
Flt Permitted	0.53	1.00		0.08	1.00		0.30	1.00		0.64	1.00	
Satd. Flow (perm)	887	1533		151	1749		531	1694		1187	1852	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	9	352	353	76	299	29	295	155	36	21	245	8
RTOR Reduction (vph)	0	22	0	0	2	0	0	5	0	0	1	0
Lane Group Flow (vph)	9	683	0	76	326	0	295	186	0	21	252	0
Confl. Peds. (#/hr)			2	2			2					2
Confl. Bikes (#/hr)			1			2						
Heavy Vehicles (%)	13%	13%	13%	7%	7%	7%	9%	9%	9%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.2	43.1		52.9	47.8		42.1	36.0		23.8	21.7	
Effective Green, g (s)	44.2	43.1		52.9	47.8		42.1	36.0		23.8	21.7	
Actuated g/C Ratio	0.42	0.41		0.50	0.45		0.40	0.34		0.23	0.21	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.2		2.0	3.2		2.0	3.2		2.0	3.2	
Lane Grp Cap (vph)	379	626		160	792		386	578		279	380	
v/s Ratio Prot	0.00	c0.45		c0.03	0.19		c0.12	0.11		0.00	0.14	
v/s Ratio Perm	0.01			0.21			c0.19			0.02		
v/c Ratio	0.02	1.09		0.47	0.41		0.76	0.32		0.08	0.66	
Uniform Delay, d1	17.9	31.2		21.5	19.4		24.2	25.7		32.0	38.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	63.3		0.8	0.4		7.9	0.3		0.0	4.4	
Delay (s)	18.0	94.5		22.3	19.8		32.1	26.1		32.1	42.9	
Level of Service	B	F		C	B		C	C		C	D	
Approach Delay (s)		93.6			20.3			29.7			42.1	
Approach LOS		F			C			C			D	

### Intersection Summary

HCM 2000 Control Delay	53.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	105.5	Sum of lost time (s)	18.5
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 5: SW Herman Rd & SW Tualatin Rd

10/19/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	4	291	364	350	648	16
Future Volume (vph)	4	291	364	350	648	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1612	1696	1845	1532	1736	1553
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1612	1696	1845	1532	1736	1553
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	5	338	423	407	753	19
RTOR Reduction (vph)	0	0	0	285	0	10
Lane Group Flow (vph)	5	338	423	122	753	9
Confl. Peds. (#/hr)	1			1		
Confl. Bikes (#/hr)				1		1
Heavy Vehicles (%)	12%	12%	3%	3%	4%	4%
Turn Type	Prot	NA	NA	Perm	Prot	Prot
Protected Phases	5	2	6		4	4
Permitted Phases				6		
Actuated Green, G (s)	1.1	28.1	22.0	22.0	35.2	35.2
Effective Green, g (s)	1.1	28.1	22.0	22.0	35.2	35.2
Actuated g/C Ratio	0.02	0.38	0.30	0.30	0.48	0.48
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	24	650	553	459	833	745
v/s Ratio Prot	0.00	c0.20	c0.23		c0.43	0.01
v/s Ratio Perm				0.08		
v/c Ratio	0.21	0.52	0.76	0.27	0.90	0.01
Uniform Delay, d1	35.7	17.4	23.3	19.5	17.5	10.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	0.8	6.2	0.3	13.1	0.0
Delay (s)	40.0	18.2	29.5	19.8	30.6	10.0
Level of Service	D	B	C	B	C	A
Approach Delay (s)		18.5	24.8		30.1	
Approach LOS		B	C		C	

### Intersection Summary

HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	73.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



**Intersection**

Int Delay, s/veh 0.3

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	6	615	516	8	6	8
Future Vol, veh/h	6	615	516	8	6	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	668	561	9	7	9

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	570	0	-	0	1248	566
Stage 1	-	-	-	-	566	-
Stage 2	-	-	-	-	682	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1002	-	-	-	191	524
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	502	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1002	-	-	-	190	524
Mov Cap-2 Maneuver	-	-	-	-	190	-
Stage 1	-	-	-	-	564	-
Stage 2	-	-	-	-	502	-

**Approach** EB WB SB

HCM Control Delay, s	0.1	0	17.7
HCM LOS			C

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1002	-	-	-	299
HCM Lane V/C Ratio	0.007	-	-	-	0.051
HCM Control Delay (s)	8.6	-	-	-	17.7
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	417	4	11	862	37	39
Future Vol, veh/h	417	4	11	862	37	39
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	300	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	4	1	1	4	4
Mvmt Flow	439	4	12	907	39	41

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	443	0	1373
Stage 1	-	-	-	-	441
Stage 2	-	-	-	-	932
Critical Hdwy	-	-	4.11	-	6.44
Critical Hdwy Stg 1	-	-	-	-	5.44
Critical Hdwy Stg 2	-	-	-	-	5.44
Follow-up Hdwy	-	-	2.209	-	3.536
Pot Cap-1 Maneuver	-	-	1122	-	159
Stage 1	-	-	-	-	644
Stage 2	-	-	-	-	380
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1122	-	157
Mov Cap-2 Maneuver	-	-	-	-	157
Stage 1	-	-	-	-	644
Stage 2	-	-	-	-	375

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	25.6
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	254	-	-	1122	-
HCM Lane V/C Ratio	0.315	-	-	0.01	-
HCM Control Delay (s)	25.6	-	-	8.2	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	1.3	-	-	0	-

Intersection						
Int Delay, s/veh	8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	52	211	80	28	32	18
Future Vol, veh/h	52	211	80	28	32	18
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	3	3	2	2
Mvmt Flow	57	232	88	31	35	20

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	253	46	56	0	0
Stage 1	46	-	-	-	-
Stage 2	207	-	-	-	-
Critical Hdwy	6.41	6.21	4.13	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.227	-	-
Pot Cap-1 Maneuver	738	1026	1542	-	-
Stage 1	979	-	-	-	-
Stage 2	830	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	694	1025	1541	-	-
Mov Cap-2 Maneuver	694	-	-	-	-
Stage 1	921	-	-	-	-
Stage 2	829	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	5.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1541	-	937	-	-
HCM Lane V/C Ratio	0.057	-	0.308	-	-
HCM Control Delay (s)	7.5	0	10.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1.3	-	-

# HCM Signalized Intersection Capacity Analysis

## 3: SW Herman Rd & SW 108th Ave

10/19/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	350	532	103	231	12
Future Volume (vph)	5	350	532	103	231	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	5.4		6.5	6.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1703	1792	1753		1752	1534
Flt Permitted	0.21	1.00	1.00		0.95	1.00
Satd. Flow (perm)	376	1792	1753		1752	1534
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	6	417	633	123	275	14
RTOR Reduction (vph)	0	0	6	0	0	11
Lane Group Flow (vph)	6	417	750	0	275	3
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	6%	6%	6%	6%	3%	3%
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	44.7	44.7	38.6		16.6	16.6
Effective Green, g (s)	44.7	44.7	38.6		16.6	16.6
Actuated g/C Ratio	0.61	0.61	0.53		0.23	0.23
Clearance Time (s)	5.4	5.4	5.4		6.5	6.5
Vehicle Extension (s)	2.0	3.1	3.1		2.6	2.6
Lane Grp Cap (vph)	242	1094	924		397	347
v/s Ratio Prot	0.00	c0.23	c0.43		c0.16	
v/s Ratio Perm	0.01					0.00
v/c Ratio	0.02	0.38	0.81		0.69	0.01
Uniform Delay, d1	16.0	7.2	14.3		26.0	21.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.2	5.5		4.8	0.0
Delay (s)	16.0	7.5	19.8		30.8	21.9
Level of Service	B	A	B		C	C
Approach Delay (s)		7.6	19.8		30.4	
Approach LOS		A	B		C	

### Intersection Summary

HCM 2000 Control Delay	18.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	73.2	Sum of lost time (s)	17.3
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



# HCM Signalized Intersection Capacity Analysis

## 4: SW Teton Ave & SW Herman Rd

10/19/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	298	297	42	320	20	295	240	40	30	122	15
Future Volume (vph)	6	298	297	42	320	20	295	240	40	30	122	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1672		1687	1758		1719	1771		1687	1742	
Flt Permitted	0.46	1.00		0.12	1.00		0.43	1.00		0.57	1.00	
Satd. Flow (perm)	847	1672		212	1758		772	1771		1004	1742	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	7	343	341	48	368	23	339	276	46	34	140	17
RTOR Reduction (vph)	0	20	0	0	1	0	0	4	0	0	3	0
Lane Group Flow (vph)	7	664	0	48	390	0	339	318	0	34	154	0
Confl. Peds. (#/hr)						1						1
Confl. Bikes (#/hr)			2									1
Heavy Vehicles (%)	4%	4%	4%	7%	7%	7%	5%	5%	5%	7%	7%	7%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.0	42.9		51.4	46.6		37.2	29.6		19.5	15.9	
Effective Green, g (s)	44.0	42.9		51.4	46.6		37.2	29.6		19.5	15.9	
Actuated g/C Ratio	0.44	0.43		0.52	0.47		0.37	0.30		0.20	0.16	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.2		2.0	3.2		2.0	3.2		2.0	3.2	
Lane Grp Cap (vph)	384	721		180	824		453	527		221	278	
v/s Ratio Prot	0.00	c0.40		c0.01	0.22		c0.13	0.18		0.01	0.09	
v/s Ratio Perm	0.01			0.12			c0.15			0.02		
v/c Ratio	0.02	0.92		0.27	0.47		0.75	0.60		0.15	0.55	
Uniform Delay, d1	15.7	26.6		17.7	18.0		24.6	29.9		32.8	38.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	17.1		0.3	0.5		5.8	2.0		0.1	2.5	
Delay (s)	15.7	43.8		18.0	18.5		30.4	31.9		32.9	40.9	
Level of Service	B	D		B	B		C	C		C	D	
Approach Delay (s)		43.5			18.4			31.1			39.5	
Approach LOS		D			B			C			D	

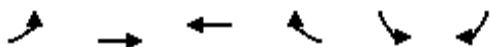
### Intersection Summary

HCM 2000 Control Delay	33.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	99.4	Sum of lost time (s)	18.5
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 5: SW Herman Rd & SW Tualatin Rd

10/19/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	420	317	742	370	10
Future Volume (vph)	30	420	317	742	370	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1827	1553	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	1827	1553	1770	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.92
Adj. Flow (vph)	33	462	348	815	407	11
RTOR Reduction (vph)	0	0	0	530	0	7
Lane Group Flow (vph)	33	462	348	285	407	4
Heavy Vehicles (%)	2%	2%	4%	4%	2%	2%
Turn Type	Prot	NA	NA	Perm	Prot	Prot
Protected Phases	5	2	6		4	4
Permitted Phases				6		
Actuated Green, G (s)	2.4	26.7	19.3	19.3	18.5	18.5
Effective Green, g (s)	2.4	26.7	19.3	19.3	18.5	18.5
Actuated g/C Ratio	0.04	0.48	0.35	0.35	0.34	0.34
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	76	901	638	542	593	530
v/s Ratio Prot	0.02	c0.25	0.19		c0.23	0.00
v/s Ratio Perm				0.18		
v/c Ratio	0.43	0.51	0.55	0.53	0.69	0.01
Uniform Delay, d1	25.7	9.8	14.4	14.3	15.8	12.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.9	0.5	1.0	0.9	3.3	0.0
Delay (s)	29.7	10.3	15.4	15.2	19.1	12.2
Level of Service	C	B	B	B	B	B
Approach Delay (s)		11.6	15.3		19.0	
Approach LOS		B	B		B	

### Intersection Summary

HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	55.2	Sum of lost time (s)	15.0
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

**Intersection**

Int Delay, s/veh 0.8

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations	↘	↑	↗		↘	
Traffic Vol, veh/h	5	576	620	10	25	15
Future Vol, veh/h	5	576	620	10	25	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	626	674	11	27	16

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	685	0	-	0	1316	680
Stage 1	-	-	-	-	680	-
Stage 2	-	-	-	-	636	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	908	-	-	-	174	451
Stage 1	-	-	-	-	503	-
Stage 2	-	-	-	-	527	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	908	-	-	-	173	451
Mov Cap-2 Maneuver	-	-	-	-	173	-
Stage 1	-	-	-	-	500	-
Stage 2	-	-	-	-	527	-

**Approach** EB WB SB

HCM Control Delay, s	0.1	0	24.8
HCM LOS			C

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

Capacity (veh/h)	908	-	-	-	225
HCM Lane V/C Ratio	0.006	-	-	-	0.193
HCM Control Delay (s)	9	-	-	-	24.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.7

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	860	35	85	340	5	5
Future Vol, veh/h	860	35	85	340	5	5
Conflicting Peds, #/hr	0	2	2	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	300	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	5	5	33	33
Mvmt Flow	989	40	98	391	6	6

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	1031	0	1599
Stage 1	-	-	-	-	1011
Stage 2	-	-	-	-	588
Critical Hdwy	-	-	4.15	-	6.73
Critical Hdwy Stg 1	-	-	-	-	5.73
Critical Hdwy Stg 2	-	-	-	-	5.73
Follow-up Hdwy	-	-	2.245	-	3.797
Pot Cap-1 Maneuver	-	-	662	-	99
Stage 1	-	-	-	-	308
Stage 2	-	-	-	-	499
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	660	-	84
Mov Cap-2 Maneuver	-	-	-	-	84
Stage 1	-	-	-	-	307
Stage 2	-	-	-	-	425

Approach	EB	WB	NB
HCM Control Delay, s	0	2.3	36.4
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	126	-	-	660	-
HCM Lane V/C Ratio	0.091	-	-	0.148	-
HCM Control Delay (s)	36.4	-	-	11.4	-
HCM Lane LOS	E	-	-	B	-
HCM 95th %tile Q(veh)	0.3	-	-	0.5	-



Intersection						
Int Delay, s/veh	5.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	15	65	210	40	20	85
Future Vol, veh/h	15	65	210	40	20	85
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	8	8	2	2	4	4
Mvmt Flow	17	73	236	45	22	96

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	588	71	119	0	0
Stage 1	71	-	-	-	-
Stage 2	517	-	-	-	-
Critical Hdwy	6.48	6.28	4.12	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.218	-	-
Pot Cap-1 Maneuver	462	975	1469	-	-
Stage 1	937	-	-	-	-
Stage 2	586	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	385	974	1468	-	-
Mov Cap-2 Maneuver	385	-	-	-	-
Stage 1	781	-	-	-	-
Stage 2	585	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	6.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1468	-	757	-	-
HCM Lane V/C Ratio	0.161	-	0.119	-	-
HCM Control Delay (s)	7.9	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.4	-	-

# HCM Signalized Intersection Capacity Analysis

## 3: SW Herman Rd & SW 108th Ave

10/19/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↷		↶	↷
Traffic Volume (vph)	10	585	315	240	75	10
Future Volume (vph)	10	585	315	240	75	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	5.4		6.5	6.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1702	1792	1567		1597	1429
Flt Permitted	0.36	1.00	1.00		0.95	1.00
Satd. Flow (perm)	638	1792	1567		1597	1429
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	11	629	339	258	81	11
RTOR Reduction (vph)	0	0	21	0	0	10
Lane Group Flow (vph)	11	629	576	0	81	1
Confl. Peds. (#/hr)	2			2		
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	6%	6%	13%	13%	13%	13%
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	37.2	37.2	31.1		6.8	6.8
Effective Green, g (s)	37.2	37.2	31.1		6.8	6.8
Actuated g/C Ratio	0.67	0.67	0.56		0.12	0.12
Clearance Time (s)	5.4	5.4	5.4		6.5	6.5
Vehicle Extension (s)	2.0	3.1	3.1		2.6	2.6
Lane Grp Cap (vph)	437	1192	871		194	173
v/s Ratio Prot	0.00	c0.35	c0.37		c0.05	
v/s Ratio Perm	0.02					0.00
v/c Ratio	0.03	0.53	0.66		0.42	0.01
Uniform Delay, d1	5.9	4.8	8.7		22.7	21.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.4	1.9		1.1	0.0
Delay (s)	6.0	5.3	10.6		23.9	21.6
Level of Service	A	A	B		C	C
Approach Delay (s)		5.3	10.6		23.6	
Approach LOS		A	B		C	

### Intersection Summary

HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	55.9	Sum of lost time (s)	17.3
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 4: SW Teton Ave & SW Herman Rd

10/19/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	325	325	70	275	25	270	145	35	20	225	10
Future Volume (vph)	10	325	325	70	275	25	270	145	35	20	225	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1533		1687	1750		1655	1693		1770	1849	
Flt Permitted	0.50	1.00		0.08	1.00		0.29	1.00		0.63	1.00	
Satd. Flow (perm)	848	1533		151	1750		503	1693		1170	1849	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	11	374	374	80	316	29	310	167	40	23	259	11
RTOR Reduction (vph)	0	60	0	0	2	0	0	6	0	0	2	0
Lane Group Flow (vph)	11	688	0	80	343	0	310	201	0	23	268	0
Confl. Peds. (#/hr)			2	2			2					2
Confl. Bikes (#/hr)			1			2						
Heavy Vehicles (%)	13%	13%	13%	7%	7%	7%	9%	9%	9%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.3	43.1		53.1	47.9		44.0	37.8		25.3	23.1	
Effective Green, g (s)	44.3	43.1		53.1	47.9		44.0	37.8		25.3	23.1	
Actuated g/C Ratio	0.41	0.40		0.49	0.45		0.41	0.35		0.24	0.21	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.2		2.0	3.2		2.0	3.2		2.0	3.2	
Lane Grp Cap (vph)	357	614		160	779		386	594		287	396	
v/s Ratio Prot	0.00	c0.45		c0.03	0.20		c0.13	0.12		0.00	0.15	
v/s Ratio Perm	0.01			0.22			c0.20			0.02		
v/c Ratio	0.03	1.12		0.50	0.44		0.80	0.34		0.08	0.68	
Uniform Delay, d1	18.8	32.2		23.5	20.6		24.4	25.7		31.9	38.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	74.2		0.9	0.4		10.8	0.4		0.0	4.6	
Delay (s)	18.9	106.4		24.4	21.0		35.3	26.1		31.9	43.5	
Level of Service	B	F		C	C		D	C		C	D	
Approach Delay (s)		105.2			21.7			31.6			42.6	
Approach LOS		F			C			C			D	

### Intersection Summary

HCM 2000 Control Delay	59.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	107.6	Sum of lost time (s)	18.5
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 5: SW Herman Rd & SW Tualatin Rd

10/19/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	310	385	370	685	15
Future Volume (vph)	5	310	385	370	685	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1612	1696	1845	1532	1736	1553
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1612	1696	1845	1532	1736	1553
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	6	360	448	430	797	17
RTOR Reduction (vph)	0	0	0	307	0	8
Lane Group Flow (vph)	6	360	448	123	797	9
Confl. Peds. (#/hr)	1			1		
Confl. Bikes (#/hr)				1		1
Heavy Vehicles (%)	12%	12%	3%	3%	4%	4%
Turn Type	Prot	NA	NA	Perm	Prot	Prot
Protected Phases	5	2	6		4	4
Permitted Phases				6		
Actuated Green, G (s)	1.1	28.2	22.1	22.1	38.9	38.9
Effective Green, g (s)	1.1	28.2	22.1	22.1	38.9	38.9
Actuated g/C Ratio	0.01	0.37	0.29	0.29	0.50	0.50
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	22	620	528	439	875	783
v/s Ratio Prot	0.00	c0.21	c0.24		c0.46	0.01
v/s Ratio Perm				0.08		
v/c Ratio	0.27	0.58	0.85	0.28	0.91	0.01
Uniform Delay, d1	37.6	19.7	25.9	21.3	17.5	9.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.6	1.4	12.1	0.4	13.5	0.0
Delay (s)	44.2	21.1	38.0	21.7	31.0	9.5
Level of Service	D	C	D	C	C	A
Approach Delay (s)		21.5	30.0		30.5	
Approach LOS		C	C		C	

### Intersection Summary

HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	77.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	650	545	10	10	10
Future Vol, veh/h	10	650	545	10	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	707	592	11	11	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	603	0	-	0	1327 598
Stage 1	-	-	-	-	598 -
Stage 2	-	-	-	-	729 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	975	-	-	-	171 502
Stage 1	-	-	-	-	549 -
Stage 2	-	-	-	-	477 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	975	-	-	-	169 502
Mov Cap-2 Maneuver	-	-	-	-	169 -
Stage 1	-	-	-	-	543 -
Stage 2	-	-	-	-	477 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	20.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	975	-	-	-	253
HCM Lane V/C Ratio	0.011	-	-	-	0.086
HCM Control Delay (s)	8.7	-	-	-	20.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

# HCM Signalized Intersection Capacity Analysis

## 4: SW Teton Ave & SW Herman Rd

11/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	325	325	70	275	25	270	145	35	20	225	10
Future Volume (vph)	10	325	325	70	275	25	270	145	35	20	225	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1532		1687	1750		1656	1693		1770	1849	
Flt Permitted	0.51	1.00		0.07	1.00		0.25	1.00		0.63	1.00	
Satd. Flow (perm)	852	1532		123	1750		437	1693		1170	1849	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	11	374	374	80	316	29	310	167	40	23	259	11
RTOR Reduction (vph)	0	56	0	0	2	0	0	5	0	0	1	0
Lane Group Flow (vph)	11	692	0	80	343	0	310	202	0	23	269	0
Confl. Peds. (#/hr)			2	2			2					2
Confl. Bikes (#/hr)			1			2						
Heavy Vehicles (%)	13%	13%	13%	7%	7%	7%	9%	9%	9%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	54.8	53.6		63.8	58.6		47.8	40.4		27.6	24.2	
Effective Green, g (s)	54.8	53.6		63.8	58.6		47.8	40.4		27.6	24.2	
Actuated g/C Ratio	0.45	0.44		0.52	0.48		0.39	0.33		0.23	0.20	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.2		2.0	3.2		2.0	3.2		2.0	3.2	
Lane Grp Cap (vph)	389	672		143	839		366	560		281	366	
v/s Ratio Prot	0.00	c0.45		c0.03	0.20		c0.14	0.12		0.00	0.15	
v/s Ratio Perm	0.01			0.26			c0.20			0.02		
v/c Ratio	0.03	1.03		0.56	0.41		0.85	0.36		0.08	0.74	
Uniform Delay, d1	18.8	34.2		24.9	20.5		29.4	31.0		37.1	45.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	42.5		2.7	0.3		15.8	0.4		0.0	7.6	
Delay (s)	18.8	76.8		27.6	20.9		45.1	31.5		37.1	53.5	
Level of Service	B	E		C	C		D	C		D	D	
Approach Delay (s)		75.9			22.2			39.7			52.2	
Approach LOS		E			C			D			D	

### Intersection Summary

HCM 2000 Control Delay	51.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	122.1	Sum of lost time (s)	18.5
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

**Intersection**

Int Delay, s/veh 1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	440	5	10	915	40	40
Future Vol, veh/h	440	5	10	915	40	40
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	300	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	4	1	1	4	4
Mvmt Flow	463	5	11	963	42	42

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	468	0	1452
Stage 1	-	-	-	-	466
Stage 2	-	-	-	-	986
Critical Hdwy	-	-	4.11	-	6.44
Critical Hdwy Stg 1	-	-	-	-	5.44
Critical Hdwy Stg 2	-	-	-	-	5.44
Follow-up Hdwy	-	-	2.209	-	3.536
Pot Cap-1 Maneuver	-	-	1099	-	142
Stage 1	-	-	-	-	627
Stage 2	-	-	-	-	358
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1099	-	140
Mov Cap-2 Maneuver	-	-	-	-	140
Stage 1	-	-	-	-	627
Stage 2	-	-	-	-	354

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	30.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	226	-	-	1099	-
HCM Lane V/C Ratio	0.373	-	-	0.01	-
HCM Control Delay (s)	30.1	-	-	8.3	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	1.6	-	-	0	-

Intersection						
Int Delay, s/veh	8.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	55	225	85	30	35	20
Future Vol, veh/h	55	225	85	30	35	20
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	3	3	2	2
Mvmt Flow	60	247	93	33	38	22

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	269	50	61	0	0
Stage 1	50	-	-	-	-
Stage 2	219	-	-	-	-
Critical Hdwy	6.41	6.21	4.13	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.227	-	-
Pot Cap-1 Maneuver	722	1021	1536	-	-
Stage 1	975	-	-	-	-
Stage 2	820	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	676	1020	1535	-	-
Mov Cap-2 Maneuver	676	-	-	-	-
Stage 1	914	-	-	-	-
Stage 2	819	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	5.5	0
HCM LOS	B		

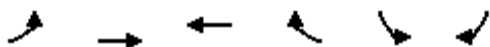
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1535	-	927	-	-
HCM Lane V/C Ratio	0.061	-	0.332	-	-
HCM Control Delay (s)	7.5	0	10.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1.5	-	-



# HCM Signalized Intersection Capacity Analysis

## 3: SW Herman Rd & SW 108th Ave

10/19/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	370	565	110	245	15
Future Volume (vph)	5	370	565	110	245	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	5.4		6.5	6.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1703	1792	1753		1752	1534
Flt Permitted	0.20	1.00	1.00		0.95	1.00
Satd. Flow (perm)	352	1792	1753		1752	1534
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	6	440	673	131	292	18
RTOR Reduction (vph)	0	0	5	0	0	14
Lane Group Flow (vph)	6	440	799	0	292	4
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	6%	6%	6%	6%	3%	3%
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	51.8	51.8	45.6		17.5	17.5
Effective Green, g (s)	51.8	51.8	45.6		17.5	17.5
Actuated g/C Ratio	0.64	0.64	0.56		0.22	0.22
Clearance Time (s)	5.4	5.4	5.4		6.5	6.5
Vehicle Extension (s)	2.0	3.1	3.1		2.6	2.6
Lane Grp Cap (vph)	237	1143	984		377	330
v/s Ratio Prot	0.00	c0.25	c0.46		c0.17	
v/s Ratio Perm	0.02					0.00
v/c Ratio	0.03	0.38	0.81		0.77	0.01
Uniform Delay, d1	17.3	7.1	14.3		30.0	25.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.2	5.2		9.3	0.0
Delay (s)	17.3	7.3	19.5		39.3	25.1
Level of Service	B	A	B		D	C
Approach Delay (s)		7.4	19.5		38.4	
Approach LOS		A	B		D	

### Intersection Summary

HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	81.2	Sum of lost time (s)	17.3
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 4: SW Teton Ave & SW Herman Rd

10/19/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↗	↘		↗	↘		↗	↘	
Traffic Volume (vph)	5	315	315	45	340	20	315	255	40	30	130	15
Future Volume (vph)	5	315	315	45	340	20	315	255	40	30	130	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1672		1687	1759		1719	1773		1687	1744	
Flt Permitted	0.44	1.00		0.09	1.00		0.41	1.00		0.56	1.00	
Satd. Flow (perm)	801	1672		152	1759		745	1773		989	1744	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	6	362	362	52	391	23	362	293	46	34	149	17
RTOR Reduction (vph)	0	21	0	0	1	0	0	4	0	0	3	0
Lane Group Flow (vph)	6	703	0	52	413	0	362	335	0	34	163	0
Confl. Peds. (#/hr)						1						1
Confl. Bikes (#/hr)			2									1
Heavy Vehicles (%)	4%	4%	4%	7%	7%	7%	5%	5%	5%	7%	7%	7%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.0	42.9		51.8	46.8		38.3	30.7		20.1	16.5	
Effective Green, g (s)	44.0	42.9		51.8	46.8		38.3	30.7		20.1	16.5	
Actuated g/C Ratio	0.44	0.43		0.51	0.46		0.38	0.30		0.20	0.16	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.2		2.0	3.2		2.0	3.2		2.0	3.2	
Lane Grp Cap (vph)	360	712		154	817		455	540		222	285	
v/s Ratio Prot	0.00	c0.42		c0.02	0.23		c0.14	0.19		0.01	0.09	
v/s Ratio Perm	0.01			0.16			c0.16			0.03		
v/c Ratio	0.02	0.99		0.34	0.51		0.80	0.62		0.15	0.57	
Uniform Delay, d1	16.2	28.6		19.7	18.9		24.9	30.0		32.9	38.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	30.2		0.5	0.5		8.7	2.3		0.1	2.8	
Delay (s)	16.3	58.8		20.1	19.4		33.6	32.3		33.0	41.7	
Level of Service	B	E		C	B		C	C		C	D	
Approach Delay (s)		58.5			19.5			33.0			40.2	
Approach LOS		E			B			C			D	

### Intersection Summary

HCM 2000 Control Delay	39.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.7	Sum of lost time (s)	18.5
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 5: SW Herman Rd & SW Tualatin Rd

10/19/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	445	335	785	390	10
Future Volume (vph)	30	445	335	785	390	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1827	1553	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	1827	1553	1770	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.92
Adj. Flow (vph)	33	489	368	863	429	11
RTOR Reduction (vph)	0	0	0	562	0	7
Lane Group Flow (vph)	33	489	368	301	429	4
Heavy Vehicles (%)	2%	2%	4%	4%	2%	2%
Turn Type	Prot	NA	NA	Perm	Prot	Prot
Protected Phases	5	2	6		4	4
Permitted Phases				6		
Actuated Green, G (s)	2.5	27.4	19.9	19.9	19.6	19.6
Effective Green, g (s)	2.5	27.4	19.9	19.9	19.6	19.6
Actuated g/C Ratio	0.04	0.48	0.35	0.35	0.34	0.34
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	77	895	637	542	608	544
v/s Ratio Prot	0.02	c0.26	0.20		c0.24	0.00
v/s Ratio Perm				0.19		
v/c Ratio	0.43	0.55	0.58	0.56	0.71	0.01
Uniform Delay, d1	26.6	10.4	15.1	15.0	16.2	12.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	0.7	1.3	1.2	3.7	0.0
Delay (s)	30.4	11.1	16.4	16.2	19.9	12.3
Level of Service	C	B	B	B	B	B
Approach Delay (s)		12.3	16.3		19.7	
Approach LOS		B	B		B	

### Intersection Summary

HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	57.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	610	660	10	25	15
Future Vol, veh/h	5	610	660	10	25	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	663	717	11	27	16

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	728	0	-	0	1396 723
Stage 1	-	-	-	-	723 -
Stage 2	-	-	-	-	673 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	876	-	-	-	156 426
Stage 1	-	-	-	-	481 -
Stage 2	-	-	-	-	507 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	876	-	-	-	155 426
Mov Cap-2 Maneuver	-	-	-	-	155 -
Stage 1	-	-	-	-	478 -
Stage 2	-	-	-	-	507 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	27.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	876	-	-	-	204
HCM Lane V/C Ratio	0.006	-	-	-	0.213
HCM Control Delay (s)	9.1	-	-	-	27.4
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.8



**Intersection**

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	
Traffic Vol, veh/h	860	40	88	340	7	6
Future Vol, veh/h	860	40	88	340	7	6
Conflicting Peds, #/hr	0	2	2	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	300	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	2	2	5	5	33	33
Mvmt Flow	989	46	101	391	8	7

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	1037
Stage 1	-	-	1014
Stage 2	-	-	594
Critical Hdwy	-	4.15	6.73
Critical Hdwy Stg 1	-	-	5.73
Critical Hdwy Stg 2	-	-	5.73
Follow-up Hdwy	-	2.245	3.797
Pot Cap-1 Maneuver	-	659	97
Stage 1	-	-	307
Stage 2	-	-	496
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	657	82
Mov Cap-2 Maneuver	-	-	82
Stage 1	-	-	306
Stage 2	-	-	419

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	39.5
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	119	-	-	657	-
HCM Lane V/C Ratio	0.126	-	-	0.154	-
HCM Control Delay (s)	39.5	-	-	11.5	-
HCM Lane LOS	E	-	-	B	-
HCM 95th %tile Q(veh)	0.4	-	-	0.5	-

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	65	210	43	28	85
Future Vol, veh/h	15	65	210	43	28	85
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	8	8	2	2	4	4
Mvmt Flow	17	73	236	48	31	96

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	600	80	128	0	0
Stage 1	80	-	-	-	-
Stage 2	520	-	-	-	-
Critical Hdwy	6.48	6.28	4.12	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.218	-	-
Pot Cap-1 Maneuver	454	964	1458	-	-
Stage 1	928	-	-	-	-
Stage 2	585	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	378	963	1457	-	-
Mov Cap-2 Maneuver	378	-	-	-	-
Stage 1	773	-	-	-	-
Stage 2	584	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	6.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1457	-	746	-	-
HCM Lane V/C Ratio	0.162	-	0.12	-	-
HCM Control Delay (s)	7.9	0	10.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.4	-	-

# HCM Signalized Intersection Capacity Analysis

## 3: SW Herman Rd/SW 108th Ave

10/19/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑	↘		↙	↘
Traffic Volume (vph)	10	588	315	240	75	11
Future Volume (vph)	10	588	315	240	75	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	5.4		6.5	6.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1702	1792	1567		1597	1429
Flt Permitted	0.36	1.00	1.00		0.95	1.00
Satd. Flow (perm)	637	1792	1567		1597	1429
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	11	632	339	258	81	12
RTOR Reduction (vph)	0	0	21	0	0	11
Lane Group Flow (vph)	11	632	576	0	81	1
Confl. Peds. (#/hr)	2			2		
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	6%	6%	13%	13%	13%	13%
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	37.1	37.1	31.0		6.8	6.8
Effective Green, g (s)	37.1	37.1	31.0		6.8	6.8
Actuated g/C Ratio	0.66	0.66	0.56		0.12	0.12
Clearance Time (s)	5.4	5.4	5.4		6.5	6.5
Vehicle Extension (s)	2.0	3.1	3.1		2.6	2.6
Lane Grp Cap (vph)	436	1191	870		194	174
v/s Ratio Prot	0.00	c0.35	c0.37		c0.05	
v/s Ratio Perm	0.02					0.00
v/c Ratio	0.03	0.53	0.66		0.42	0.01
Uniform Delay, d1	6.0	4.8	8.7		22.7	21.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.5	1.9		1.1	0.0
Delay (s)	6.0	5.3	10.6		23.8	21.6
Level of Service	A	A	B		C	C
Approach Delay (s)		5.3	10.6		23.5	
Approach LOS		A	B		C	

### Intersection Summary

HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	55.8	Sum of lost time (s)	17.3
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 4: SW Teton Ave & SW Herman Rd

10/19/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	333	331	70	297	25	287	145	35	20	225	10
Future Volume (vph)	10	333	331	70	297	25	287	145	35	20	225	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1533		1687	1752		1655	1693		1770	1849	
Flt Permitted	0.47	1.00		0.08	1.00		0.29	1.00		0.63	1.00	
Satd. Flow (perm)	798	1533		151	1752		501	1693		1170	1849	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	11	383	380	80	341	29	330	167	40	23	259	11
RTOR Reduction (vph)	0	90	0	0	2	0	0	6	0	0	2	0
Lane Group Flow (vph)	11	673	0	80	368	0	330	201	0	23	268	0
Confl. Peds. (#/hr)			2	2			2					2
Confl. Bikes (#/hr)			1			2						
Heavy Vehicles (%)	13%	13%	13%	7%	7%	7%	9%	9%	9%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.3	43.1		53.1	47.9		44.6	38.4		25.4	23.2	
Effective Green, g (s)	44.3	43.1		53.1	47.9		44.6	38.4		25.4	23.2	
Actuated g/C Ratio	0.41	0.40		0.49	0.44		0.41	0.35		0.23	0.21	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.2		2.0	3.2		2.0	3.2		2.0	3.2	
Lane Grp Cap (vph)	335	610		159	775		392	600		286	396	
v/s Ratio Prot	0.00	c0.44		c0.03	0.21		c0.14	0.12		0.00	0.15	
v/s Ratio Perm	0.01			0.22			c0.21			0.02		
v/c Ratio	0.03	1.10		0.50	0.48		0.84	0.34		0.08	0.68	
Uniform Delay, d1	19.1	32.5		23.7	21.3		24.7	25.6		32.1	39.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	67.9		0.9	0.5		14.5	0.4		0.0	4.6	
Delay (s)	19.2	100.4		24.6	21.8		39.1	25.9		32.1	43.7	
Level of Service	B	F		C	C		D	C		C	D	
Approach Delay (s)		99.3			22.3			34.0			42.8	
Approach LOS		F			C			C			D	

### Intersection Summary

HCM 2000 Control Delay	57.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	108.2	Sum of lost time (s)	18.5
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



# HCM Signalized Intersection Capacity Analysis

## 5: SW Herman Rd & SW Tualatin Rd

10/19/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	318	407	370	685	15
Future Volume (vph)	5	318	407	370	685	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1612	1696	1845	1532	1736	1553
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1612	1696	1845	1532	1736	1553
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	6	370	473	430	797	17
RTOR Reduction (vph)	0	0	0	306	0	8
Lane Group Flow (vph)	6	370	473	124	797	9
Confl. Peds. (#/hr)	1			1		
Confl. Bikes (#/hr)				1		1
Heavy Vehicles (%)	12%	12%	3%	3%	4%	4%
Turn Type	Prot	NA	NA	Perm	Prot	Prot
Protected Phases	5	2	6		4	4
Permitted Phases				6		
Actuated Green, G (s)	1.1	28.4	22.3	22.3	39.0	39.0
Effective Green, g (s)	1.1	28.4	22.3	22.3	39.0	39.0
Actuated g/C Ratio	0.01	0.37	0.29	0.29	0.50	0.50
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	22	622	531	441	874	782
v/s Ratio Prot	0.00	c0.22	c0.26		c0.46	0.01
v/s Ratio Perm				0.08		
v/c Ratio	0.27	0.59	0.89	0.28	0.91	0.01
Uniform Delay, d1	37.8	19.8	26.4	21.3	17.6	9.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.6	1.5	16.9	0.4	13.6	0.0
Delay (s)	44.4	21.4	43.3	21.7	31.2	9.6
Level of Service	D	C	D	C	C	A
Approach Delay (s)		21.7	33.0		30.8	
Approach LOS		C	C		C	

### Intersection Summary

HCM 2000 Control Delay	30.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	77.4	Sum of lost time (s)	15.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	650	545	49	24	10
Future Vol, veh/h	13	650	545	49	24	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	707	592	53	26	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	645	0	-	0	1354 619
Stage 1	-	-	-	-	619 -
Stage 2	-	-	-	-	735 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	940	-	-	-	165 489
Stage 1	-	-	-	-	537 -
Stage 2	-	-	-	-	474 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	940	-	-	-	163 489
Mov Cap-2 Maneuver	-	-	-	-	163 -
Stage 1	-	-	-	-	529 -
Stage 2	-	-	-	-	474 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	26.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	940	-	-	-	203
HCM Lane V/C Ratio	0.015	-	-	-	0.182
HCM Control Delay (s)	8.9	-	-	-	26.6
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	1	3	250	0	8	85
Future Vol, veh/h	1	3	250	0	8	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	3	272	0	9	92

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	382	272	0	0	272	0
Stage 1	272	-	-	-	-	-
Stage 2	110	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	620	767	-	-	1291	-
Stage 1	774	-	-	-	-	-
Stage 2	915	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	616	767	-	-	1291	-
Mov Cap-2 Maneuver	616	-	-	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	909	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	723	1291
HCM Lane V/C Ratio	-	-	0.006	0.007
HCM Control Delay (s)	-	-	10	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

# HCM Signalized Intersection Capacity Analysis

## 4: SW Teton Ave & SW Herman Rd

11/10/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	325	325	70	275	25	270	145	35	20	225	10
Future Volume (vph)	10	325	325	70	275	25	270	145	35	20	225	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1597	1532		1687	1750		1656	1693		1770	1849	
Flt Permitted	0.51	1.00		0.07	1.00		0.25	1.00		0.63	1.00	
Satd. Flow (perm)	852	1532		123	1750		437	1693		1170	1849	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	11	374	374	80	316	29	310	167	40	23	259	11
RTOR Reduction (vph)	0	56	0	0	2	0	0	5	0	0	1	0
Lane Group Flow (vph)	11	692	0	80	343	0	310	202	0	23	269	0
Confl. Peds. (#/hr)			2	2			2					2
Confl. Bikes (#/hr)			1			2						
Heavy Vehicles (%)	13%	13%	13%	7%	7%	7%	9%	9%	9%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	54.8	53.6		63.8	58.6		47.8	40.4		27.6	24.2	
Effective Green, g (s)	54.8	53.6		63.8	58.6		47.8	40.4		27.6	24.2	
Actuated g/C Ratio	0.45	0.44		0.52	0.48		0.39	0.33		0.23	0.20	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.2		2.0	3.2		2.0	3.2		2.0	3.2	
Lane Grp Cap (vph)	389	672		143	839		366	560		281	366	
v/s Ratio Prot	0.00	c0.45		c0.03	0.20		c0.14	0.12		0.00	0.15	
v/s Ratio Perm	0.01			0.26			c0.20			0.02		
v/c Ratio	0.03	1.03		0.56	0.41		0.85	0.36		0.08	0.74	
Uniform Delay, d1	18.8	34.2		24.9	20.5		29.4	31.0		37.1	45.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	42.5		2.7	0.3		15.8	0.4		0.0	7.6	
Delay (s)	18.8	76.8		27.6	20.9		45.1	31.5		37.1	53.5	
Level of Service	B	E		C	C		D	C		D	D	
Approach Delay (s)		75.9			22.2			39.7			52.2	
Approach LOS		E			C			D			D	

### Intersection Summary

HCM 2000 Control Delay	51.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	122.1	Sum of lost time (s)	18.5
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	440	7	11	915	44	42
Future Vol, veh/h	440	7	11	915	44	42
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	300	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	4	1	1	4	4
Mvmt Flow	463	7	12	963	46	44

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	470	0	1455
Stage 1	-	-	-	-	467
Stage 2	-	-	-	-	988
Critical Hdwy	-	-	4.11	-	6.44
Critical Hdwy Stg 1	-	-	-	-	5.44
Critical Hdwy Stg 2	-	-	-	-	5.44
Follow-up Hdwy	-	-	2.209	-	3.536
Pot Cap-1 Maneuver	-	-	1097	-	142
Stage 1	-	-	-	-	627
Stage 2	-	-	-	-	357
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1097	-	140
Mov Cap-2 Maneuver	-	-	-	-	140
Stage 1	-	-	-	-	627
Stage 2	-	-	-	-	353

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	31.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	223	-	-	1097	-
HCM Lane V/C Ratio	0.406	-	-	0.011	-
HCM Control Delay (s)	31.8	-	-	8.3	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	1.8	-	-	0	-

Intersection						
Int Delay, s/veh	8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	55	225	85	36	38	20
Future Vol, veh/h	55	225	85	36	38	20
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	3	3	2	2
Mvmt Flow	60	247	93	40	42	22

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	280	54	65	0	0
Stage 1	54	-	-	-	-
Stage 2	226	-	-	-	-
Critical Hdwy	6.41	6.21	4.13	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.227	-	-
Pot Cap-1 Maneuver	712	1016	1531	-	-
Stage 1	971	-	-	-	-
Stage 2	814	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	666	1015	1530	-	-
Mov Cap-2 Maneuver	666	-	-	-	-
Stage 1	910	-	-	-	-
Stage 2	813	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	5.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1530	-	920	-	-
HCM Lane V/C Ratio	0.061	-	0.334	-	-
HCM Control Delay (s)	7.5	0	10.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1.5	-	-

# HCM Signalized Intersection Capacity Analysis

## 3: SW Herman Rd/SW 108th Ave

10/19/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	371	566	110	245	16
Future Volume (vph)	5	371	566	110	245	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	5.4		6.5	6.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1703	1792	1753		1752	1534
Flt Permitted	0.20	1.00	1.00		0.95	1.00
Satd. Flow (perm)	351	1792	1753		1752	1534
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	6	442	674	131	292	19
RTOR Reduction (vph)	0	0	5	0	0	15
Lane Group Flow (vph)	6	442	800	0	292	4
Confl. Bikes (#/hr)						1
Heavy Vehicles (%)	6%	6%	6%	6%	3%	3%
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	51.8	51.8	45.6		17.5	17.5
Effective Green, g (s)	51.8	51.8	45.6		17.5	17.5
Actuated g/C Ratio	0.64	0.64	0.56		0.22	0.22
Clearance Time (s)	5.4	5.4	5.4		6.5	6.5
Vehicle Extension (s)	2.0	3.1	3.1		2.6	2.6
Lane Grp Cap (vph)	237	1143	984		377	330
v/s Ratio Prot	0.00	c0.25	c0.46		c0.17	
v/s Ratio Perm	0.02					0.00
v/c Ratio	0.03	0.39	0.81		0.77	0.01
Uniform Delay, d1	17.3	7.1	14.4		30.0	25.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.2	5.2		9.3	0.0
Delay (s)	17.3	7.3	19.6		39.3	25.1
Level of Service	B	A	B		D	C
Approach Delay (s)		7.4	19.6		38.4	
Approach LOS		A	B		D	

### Intersection Summary

HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	81.2	Sum of lost time (s)	17.3
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 4: SW Teton Ave & SW Herman Rd

10/19/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	332	328	45	350	20	322	255	40	30	130	15
Future Volume (vph)	5	332	328	45	350	20	322	255	40	30	130	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.99		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1673		1687	1759		1719	1773		1687	1744	
Flt Permitted	0.43	1.00		0.09	1.00		0.41	1.00		0.56	1.00	
Satd. Flow (perm)	780	1673		152	1759		742	1773		989	1744	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	6	382	377	52	402	23	370	293	46	34	149	17
RTOR Reduction (vph)	0	21	0	0	1	0	0	4	0	0	3	0
Lane Group Flow (vph)	6	738	0	52	424	0	370	335	0	34	163	0
Confl. Peds. (#/hr)						1						1
Confl. Bikes (#/hr)			2									1
Heavy Vehicles (%)	4%	4%	4%	7%	7%	7%	5%	5%	5%	7%	7%	7%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	43.9	42.8		51.7	46.7		38.4	30.8		20.0	16.4	
Effective Green, g (s)	43.9	42.8		51.7	46.7		38.4	30.8		20.0	16.4	
Actuated g/C Ratio	0.44	0.43		0.51	0.46		0.38	0.31		0.20	0.16	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.2		2.0	3.2		2.0	3.2		2.0	3.2	
Lane Grp Cap (vph)	350	711		154	815		457	542		221	284	
v/s Ratio Prot	0.00	c0.44		c0.02	0.24		c0.14	0.19		0.01	0.09	
v/s Ratio Perm	0.01			0.16			c0.16			0.03		
v/c Ratio	0.02	1.04		0.34	0.52		0.81	0.62		0.15	0.57	
Uniform Delay, d1	16.3	29.0		20.9	19.1		25.0	29.9		33.0	38.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	44.1		0.5	0.6		9.6	2.1		0.1	2.9	
Delay (s)	16.4	73.1		21.3	19.7		34.6	32.1		33.1	41.8	
Level of Service	B	E		C	B		C	C		C	D	
Approach Delay (s)		72.6			19.9			33.4			40.3	
Approach LOS		E			B			C			D	

### Intersection Summary

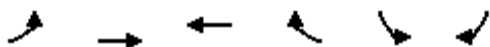
HCM 2000 Control Delay	45.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.7	Sum of lost time (s)	18.5
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



# HCM Signalized Intersection Capacity Analysis

## 5: SW Herman Rd & SW Tualatin Rd

10/19/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	462	345	785	390	10
Future Volume (vph)	30	462	345	785	390	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1827	1553	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	1827	1553	1770	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.92
Adj. Flow (vph)	33	508	379	863	429	11
RTOR Reduction (vph)	0	0	0	558	0	7
Lane Group Flow (vph)	33	508	379	305	429	4
Heavy Vehicles (%)	2%	2%	4%	4%	2%	2%
Turn Type	Prot	NA	NA	Perm	Prot	Prot
Protected Phases	5	2	6		4	4
Permitted Phases				6		
Actuated Green, G (s)	2.5	27.8	20.3	20.3	19.6	19.6
Effective Green, g (s)	2.5	27.8	20.3	20.3	19.6	19.6
Actuated g/C Ratio	0.04	0.48	0.35	0.35	0.34	0.34
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	77	902	646	549	604	540
v/s Ratio Prot	0.02	c0.27	0.21		c0.24	0.00
v/s Ratio Perm				0.20		
v/c Ratio	0.43	0.56	0.59	0.56	0.71	0.01
Uniform Delay, d1	26.8	10.5	15.1	14.9	16.4	12.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	0.8	1.4	1.2	3.9	0.0
Delay (s)	30.6	11.3	16.5	16.1	20.4	12.5
Level of Service	C	B	B	B	C	B
Approach Delay (s)		12.5	16.3		20.2	
Approach LOS		B	B		C	

### Intersection Summary

HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	57.4	Sum of lost time (s)	15.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	610	660	27	55	16
Future Vol, veh/h	6	610	660	27	55	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	663	717	29	60	17

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	746	0	-	0	1409 732
Stage 1	-	-	-	-	732 -
Stage 2	-	-	-	-	677 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	862	-	-	-	153 421
Stage 1	-	-	-	-	476 -
Stage 2	-	-	-	-	505 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	862	-	-	-	152 421
Mov Cap-2 Maneuver	-	-	-	-	152 -
Stage 1	-	-	-	-	472 -
Stage 2	-	-	-	-	505 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	39.9
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	862	-	-	-	178
HCM Lane V/C Ratio	0.008	-	-	-	0.434
HCM Control Delay (s)	9.2	-	-	-	39.9
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	2

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	1	6	115	0	3	260
Future Vol, veh/h	1	6	115	0	3	260
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	7	125	0	3	283

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	414	125	0	0	125	0
Stage 1	125	-	-	-	-	-
Stage 2	289	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	595	926	-	-	1462	-
Stage 1	901	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	594	926	-	-	1462	-
Mov Cap-2 Maneuver	594	-	-	-	-	-
Stage 1	901	-	-	-	-	-
Stage 2	758	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	858	1462
HCM Lane V/C Ratio	-	-	0.009	0.002
HCM Control Delay (s)	-	-	9.2	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection: 1: SW 108th Ave & SW Tualatin Rd

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	22	94	72
Average Queue (ft)	1	36	13
95th Queue (ft)	13	74	49
Link Distance (ft)	3156		588
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		300	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: SW 108th Ave & SW Leveton Dr

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	86	69	5
Average Queue (ft)	38	21	0
95th Queue (ft)	68	56	4
Link Distance (ft)	1898	746	658
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: SW Herman Rd & SW 108th Ave

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	57	277	240	102	28
Average Queue (ft)	9	86	91	33	4
95th Queue (ft)	39	231	191	73	18
Link Distance (ft)		4736	432		746
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100			150	
Storage Blk Time (%)		4		0	
Queuing Penalty (veh)		0		0	



Intersection: 4: SW Teton Ave & SW Herman Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	131	531	211	357	268	308	51	257
Average Queue (ft)	10	393	51	154	144	84	13	128
95th Queue (ft)	82	619	137	294	246	221	38	226
Link Distance (ft)		517		996		1985		846
Upstream Blk Time (%)	0	8						
Queuing Penalty (veh)	0	50						
Storage Bay Dist (ft)	450		125		180		170	
Storage Blk Time (%)		18	0	13	7	0		4
Queuing Penalty (veh)		2	1	9	11	0		1

Intersection: 5: SW Herman Rd & SW Tualatin Rd

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	104	327	526	314	427	52
Average Queue (ft)	7	156	195	30	223	9
95th Queue (ft)	44	274	382	191	379	35
Link Distance (ft)		896	1377			1084
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100			250	800	
Storage Blk Time (%)		19	5			
Queuing Penalty (veh)		1	21			

Intersection: 6: SW Herman Rd/SW 108th Ave & Site Driveway

Movement	EB	EB	SB
Directions Served	L	T	LR
Maximum Queue (ft)	60	363	54
Average Queue (ft)	4	72	16
95th Queue (ft)	36	272	47
Link Distance (ft)		432	180
Upstream Blk Time (%)		1	
Queuing Penalty (veh)		4	
Storage Bay Dist (ft)	200		
Storage Blk Time (%)		4	
Queuing Penalty (veh)		0	

Zone Summary

Zone wide Queuing Penalty: 101

Intersection: 1: SW 108th Ave & SW Tualatin Rd

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	6	35	12	99
Average Queue (ft)	0	4	1	39
95th Queue (ft)	5	23	8	73
Link Distance (ft)	3152		1572	584
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		300		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: SW 108th Ave & SW Leveton Dr

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	105	56	2
Average Queue (ft)	59	6	0
95th Queue (ft)	89	31	2
Link Distance (ft)	1894	737	654
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: SW Herman Rd & SW 108th Ave

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	38	200	344	166	140
Average Queue (ft)	4	80	160	91	12
95th Queue (ft)	22	159	292	156	89
Link Distance (ft)		4732	424		737
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			1		
Storage Bay Dist (ft)	100			150	
Storage Blk Time (%)		3		2	0
Queuing Penalty (veh)		0		0	0

Intersection: 4: SW Teton Ave & SW Herman Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	77	518	152	424	268	356	91	186
Average Queue (ft)	7	330	32	166	143	135	22	83
95th Queue (ft)	78	571	99	320	244	265	60	159
Link Distance (ft)		508		991		1981		842
Upstream Blk Time (%)	0	5						
Queuing Penalty (veh)	0	30						
Storage Bay Dist (ft)	450		125		180		170	
Storage Blk Time (%)		11		14	5	2	0	1
Queuing Penalty (veh)		1		6	15	8	0	0

Intersection: 5: SW Herman Rd & SW Tualatin Rd

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	134	288	281	180	252	34
Average Queue (ft)	31	143	125	12	130	6
95th Queue (ft)	89	249	223	96	211	27
Link Distance (ft)		892	1373			1080
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100			250	800	
Storage Blk Time (%)	0	12	1	0		
Queuing Penalty (veh)	0	4	5	0		

Intersection: 6: SW Herman Rd/SW 108th Ave & Site Driveway

Movement	EB	EB	WB	SB
Directions Served	L	T	TR	LR
Maximum Queue (ft)	50	289	25	145
Average Queue (ft)	4	45	1	45
95th Queue (ft)	37	227	19	122
Link Distance (ft)		424	508	216
Upstream Blk Time (%)		1		2
Queuing Penalty (veh)		4		0
Storage Bay Dist (ft)	200			
Storage Blk Time (%)	0	4		
Queuing Penalty (veh)	0	0		

Zone Summary

Zone wide Queuing Penalty: 74

Intersection: 1: SW 108th Ave & SW Tualatin Rd

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	31	90	16	77
Average Queue (ft)	1	36	1	12
95th Queue (ft)	15	73	9	48
Link Distance (ft)	3156		1576	592
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		300		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: SW 108th Ave & SW Leveton Dr

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	80	72	3
Average Queue (ft)	39	23	0
95th Queue (ft)	65	60	4
Link Distance (ft)	1898	746	662
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: SW Herman Rd & SW 108th Ave

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	96	589	288	98	28
Average Queue (ft)	11	189	101	40	4
95th Queue (ft)	57	570	223	81	16
Link Distance (ft)		4736	430		746
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100			150	
Storage Blk Time (%)	0	16			
Queuing Penalty (veh)	0	2			



**Intersection: 4: SW Teton Ave & SW Herman Rd**

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	87	535	186	375	272	335	48	296
Average Queue (ft)	9	509	53	149	154	109	14	149
95th Queue (ft)	62	575	136	290	253	255	40	251
Link Distance (ft)		519		1000		1986		846
Upstream Blk Time (%)		20						
Queuing Penalty (veh)		136						
Storage Bay Dist (ft)	450		125		180		170	
Storage Blk Time (%)		39	1	15	8	1		7
Queuing Penalty (veh)		4	2	11	15	2		1

**Intersection: 5: SW Herman Rd & SW Tualatin Rd**

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	95	368	514	279	472	47
Average Queue (ft)	10	169	202	31	234	8
95th Queue (ft)	60	300	397	196	389	34
Link Distance (ft)		900	1377			1084
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100			250	800	
Storage Blk Time (%)	0	19	6			
Queuing Penalty (veh)	0	1	23			

**Intersection: 6: SW Herman Rd/SW 108th Ave & Site Driveway**

Movement	EB	EB	SB
Directions Served	L	T	LR
Maximum Queue (ft)	193	444	128
Average Queue (ft)	12	216	47
95th Queue (ft)	94	502	147
Link Distance (ft)		430	236
Upstream Blk Time (%)		5	4
Queuing Penalty (veh)		36	0
Storage Bay Dist (ft)	200		
Storage Blk Time (%)		20	
Queuing Penalty (veh)		2	

**Zone Summary**

Zone wide Queuing Penalty: 237

Intersection: 1: SW 108th Ave & SW Tualatin Rd

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	12	31	16	140
Average Queue (ft)	0	3	1	49
95th Queue (ft)	8	20	9	101
Link Distance (ft)	3152		1572	584
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		300		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: SW 108th Ave & SW Leveton Dr

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	114	54	5
Average Queue (ft)	64	7	0
95th Queue (ft)	96	34	3
Link Distance (ft)	1894	737	654
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: SW Herman Rd & SW 108th Ave

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	61	406	430	174	345
Average Queue (ft)	5	127	229	108	52
95th Queue (ft)	30	347	427	179	250
Link Distance (ft)		4732	424		737
Upstream Blk Time (%)			2		
Queuing Penalty (veh)			16		
Storage Bay Dist (ft)	100			150	
Storage Blk Time (%)	0	12		11	0
Queuing Penalty (veh)	0	1		2	0

Intersection: 4: SW Teton Ave & SW Herman Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	78	523	167	472	269	476	82	215
Average Queue (ft)	6	464	34	172	175	173	22	97
95th Queue (ft)	56	640	106	341	281	365	59	174
Link Distance (ft)		508		991		1981		842
Upstream Blk Time (%)		19						
Queuing Penalty (veh)		123						
Storage Bay Dist (ft)	450		125		180		170	
Storage Blk Time (%)		38	0	15	12	4		1
Queuing Penalty (veh)		2	0	7	37	12		0

Intersection: 5: SW Herman Rd & SW Tualatin Rd

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	116	367	296	160	265	44
Average Queue (ft)	30	159	138	9	142	7
95th Queue (ft)	79	287	240	89	230	30
Link Distance (ft)		892	1373			1080
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100			250	800	
Storage Blk Time (%)	0	14	1	0		
Queuing Penalty (veh)	0	4	7	0		

Intersection: 6: SW Herman Rd/SW 108th Ave & Site Driveway

Movement	EB	EB	WB	SB
Directions Served	L	T	TR	LR
Maximum Queue (ft)	112	432	225	240
Average Queue (ft)	6	191	24	127
95th Queue (ft)	55	474	145	285
Link Distance (ft)		424	508	237
Upstream Blk Time (%)		4	0	26
Queuing Penalty (veh)		28	0	0
Storage Bay Dist (ft)	200			
Storage Blk Time (%)		20		
Queuing Penalty (veh)		1		

Zone Summary

Zone wide Queuing Penalty: 242

Intersection: 1: SW 108th Ave & SW Tualatin Rd

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	32	122	12	74
Average Queue (ft)	2	41	0	15
95th Queue (ft)	17	90	9	50
Link Distance (ft)	3152		1572	584
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		300		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: SW 108th Ave & SW Leveton Dr

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	86	66	26
Average Queue (ft)	39	25	1
95th Queue (ft)	69	61	11
Link Distance (ft)	1896	327	654
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: SW Herman Rd/SW 108th Ave

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	115	1347	346	145	83
Average Queue (ft)	15	595	139	54	7
95th Queue (ft)	71	1339	297	117	50
Link Distance (ft)		4732	421		352
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)	100			150	
Storage Blk Time (%)	0	48		1	
Queuing Penalty (veh)	0	5		0	



Intersection: 4: SW Teton Ave & SW Herman Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	222	526	174	370	268	359	114	316
Average Queue (ft)	23	516	56	168	168	122	15	156
95th Queue (ft)	174	531	139	317	269	274	65	274
Link Distance (ft)		511		991		1982		842
Upstream Blk Time (%)	0	37						
Queuing Penalty (veh)	0	250						
Storage Bay Dist (ft)	450		125		180		170	
Storage Blk Time (%)		61	0	16	11	1		7
Queuing Penalty (veh)		6	1	12	20	4		2

Intersection: 5: SW Herman Rd & SW Tualatin Rd

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	79	304	662	336	504	46
Average Queue (ft)	6	160	249	38	249	7
95th Queue (ft)	43	274	576	235	418	30
Link Distance (ft)		892	1373			1080
Upstream Blk Time (%)			1			
Queuing Penalty (veh)			0			
Storage Bay Dist (ft)	100			250	800	
Storage Blk Time (%)		19	11			
Queuing Penalty (veh)		1	46			

Intersection: 6: SW Herman Rd & Site Driveway

Movement	EB	EB	WB	SB
Directions Served	L	T	TR	LR
Maximum Queue (ft)	224	437	20	176
Average Queue (ft)	28	380	1	138
95th Queue (ft)	140	555	18	213
Link Distance (ft)		421	511	156
Upstream Blk Time (%)		21		72
Queuing Penalty (veh)		137		0
Storage Bay Dist (ft)	200			
Storage Blk Time (%)	0	55		
Queuing Penalty (veh)	0	7		

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Intersection: 7: Site Driveway & SW 108th Ave

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Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	31	31
Average Queue (ft)	4	2
95th Queue (ft)	21	17
Link Distance (ft)	241	327
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Zone Summary

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Zone wide Queuing Penalty: 490

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Intersection: 1: SW 108th Ave & SW Tualatin Rd

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	7	37	108
Average Queue (ft)	0	4	47
95th Queue (ft)	5	24	86
Link Distance (ft)	3152		584
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		300	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: SW 108th Ave & SW Leveton Dr

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	114	48	3
Average Queue (ft)	64	7	0
95th Queue (ft)	97	32	3
Link Distance (ft)	1897	327	654
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: SW Herman Rd/SW 108th Ave

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	84	569	425	171	303
Average Queue (ft)	9	187	235	117	75
95th Queue (ft)	50	474	425	193	286
Link Distance (ft)		4732	421		352
Upstream Blk Time (%)			2		2
Queuing Penalty (veh)			11		6
Storage Bay Dist (ft)	100			150	
Storage Blk Time (%)	0	25		17	0
Queuing Penalty (veh)	0	1		3	1

Intersection: 4: SW Teton Ave & SW Herman Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	123	526	174	423	269	468	93	221
Average Queue (ft)	6	506	34	183	177	181	20	94
95th Queue (ft)	77	575	100	349	282	386	61	180
Link Distance (ft)		511		991		1982		842
Upstream Blk Time (%)	0	26						
Queuing Penalty (veh)	0	176						
Storage Bay Dist (ft)	450		125		180		170	
Storage Blk Time (%)		49		17	12	4		1
Queuing Penalty (veh)		3		8	36	14		0

Intersection: 5: SW Herman Rd & SW Tualatin Rd

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	R	L	R
Maximum Queue (ft)	134	344	296	217	292	36
Average Queue (ft)	31	155	137	14	138	5
95th Queue (ft)	86	281	232	111	233	25
Link Distance (ft)		892	1373			1080
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	100			250	800	
Storage Blk Time (%)	0	13	1	0		
Queuing Penalty (veh)	0	4	6	1		

Intersection: 6: SW Herman Rd & Site Driveway

Movement	EB	EB	WB	SB
Directions Served	L	T	TR	LR
Maximum Queue (ft)	186	437	190	194
Average Queue (ft)	12	271	18	160
95th Queue (ft)	87	546	116	207
Link Distance (ft)		421	511	156
Upstream Blk Time (%)		10		91
Queuing Penalty (veh)		61		0
Storage Bay Dist (ft)	200			
Storage Blk Time (%)	0	34		
Queuing Penalty (veh)	0	2		



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Intersection: 7: Site Driveway & SW 108th Ave

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Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	35	64
Average Queue (ft)	8	6
95th Queue (ft)	31	49
Link Distance (ft)	241	327
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Zone Summary

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Zone wide Queuing Penalty: 333

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12/31/19

## MEMORANDUM

**DATE:** April 26, 2019  
**TO:** Gary Danielson, SRG Partnership, Inc  
**FROM:** Garth Appanaitis, PE  
**SUBJECT:** Tualatin Ops Site Transportation Planning Rule Analysis

The purpose of this memorandum is to address Oregon Administrative Rule (OAR) 660-012-0060, Transportation Planning Rule (TPR), requirements for a map change amendment to rezone two parcels near SW 108<sup>th</sup> Ave/SW Herman Rd in Tualatin. The change in zoning may be pursued to support additional development on the site. Prior traffic analysis conducted for the site<sup>1</sup> addressed the additional traffic that would be added with the actual proposed development use but did not address TPR requirements.

## TPR OVERVIEW

The TPR provides a means for ensuring that future land use and traffic growth is consistent with transportation system planning. The TPR requires that a change of allowable land uses do not create a significant impact on the transportation system beyond currently allowed (planned) uses. The TPR can be addressed through a variety of means, but typically compares the change in trip potential (simply trip generation or traffic impacts) between the allowed use (existing zoning) and proposed use (proposed zoning). In many cases the reasonable worst-case use (for either the existing or propose zoning) will not reflect the actual existing use for a site or the specific use that may ultimately be developed on a site. Rather, the reasonable worst case considers the allowed trip potential for either zoning condition and is rarely development specific (e.g., no site plan, nor intent to use the site for that purpose). In some cases, a "trip cap" or limit to the maximum trips generated by a site will be imposed with a change in zoning in order to limit the future trip potential while still allowing for the intended development.

## SITE TRAFFIC POTENTIAL

The City of Tualatin Public Works Department is located in the northeast quadrant of SW 108<sup>th</sup> Ave/SW Herman Rd. The site is currently zoned as Light Manufacturing (ML) and composed of two parcels:

- 2S122AD00200 (approximately 5.18 acres)
- 2S122AD00300 (approximately 3.54 acres)

<sup>1</sup> Tualatin City Operation Site Traffic Impact Analysis, prepared by DKS Associates, December 2018.



For purposes of the TPR analysis, the existing uses on the site are ignored and redevelopment options allowed within zoning designations are considered. Applying typical industrial development assumptions, the combined size of the site (8.72 acres) could provide approximately 95,000 feet of floor area<sup>2</sup> based on overall size and not considering other site-specific limitations (topography, etc.) that may be identified through a site design process. This development potential of 95 ksf is considered for both the existing and proposed zoning designations.

## Existing Zoning (ML) Traffic Potential

The existing ML zoning<sup>3</sup> allows several industrial uses, including manufacturing and warehousing. Some components of commercial uses are allowed as ancillary components of the site. *ITE Trip Generation, 10<sup>th</sup> Edition* was used to determine traffic potential for allowed uses. The allowed industrial use with the highest trip generation rate for the p.m. peak hour is 155 High-Cube Fulfillment Center Warehouse (1.37 trips/ksf). However, data in the ITE manual indicates that these uses typically exceed 500 ksf and would not be reasonable for the site given the size.

Under the existing ML zoning, the reasonable worst-case trip potential (that would scale to the size of the site) would fall under ITE Category 140 – Manufacturing, which generates approximately 0.67 trips/ksf during the p.m. peak hour. Therefore, the reasonable worst-case trip potential for a 95 ksf building would generate approximately 64 p.m. peak hour trips. Further, this trip potential is approximately the same as the government office building documented and analyzed in the related TIA (59 p.m. peak hour trips)<sup>4</sup>.

## Proposed Zoning (IN) Traffic Potential

The proposed Institutional (IN) zoning allows uses that serve the community, such as educational, religious, recreational, and government uses. The Community Services category within IN includes community recreation building, which is the reasonable worst-case use from a trip potential standpoint. ITE category 495 Recreational Community Center would generate approximately 2.31 p.m. peak hour vehicle trips/ksf. Therefore, a 95 ksf building would generate approximately 219 p.m. peak hour trips.

## TEXT AMENDMENT IMPACTS

While the government office building analyzed in the prior TIA would fit within the general intent of the IN zone, it is not currently listed as an allowed use. A text amendment to specifically allow government office buildings in the IN zone may be required in addition to a map amendment for the site.

The potential text amendment action would not create a significant effect for TPR purposes. While a text amendment would affect all locations with IN zone designation, allowing government office uses would not increase the reasonable worst-case trip potential for IN zoning designation. The ITE trip rate for 730 Government Office Building is 1.71 trips/ksf<sup>5</sup> during the p.m. peak hour, which is less trips than a

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<sup>2</sup> 8.72 acres \* 0.25 FAR = 95 ksf

<sup>3</sup> <https://www.tualatinoregon.gov/developmentcode/tdc-chapter-60-light-manufacturing-zone-ml>

<sup>4</sup> TIA Table 5 lists 59 p.m. peak hour trips for the additional government office building.

<sup>5</sup> A higher effective trip rate of approximately 2.95 trips/ksf (59 trips/20 ksf) was used for the smaller 20 ksf building in the TIA to provide a conservative estimate and account for potential public service counter trips. However, for consideration of larger building sizes and reasonable worst-case trip potential, the overall ITE average rate of 1.71 (which includes building sizes approaching 80 ksf) is appropriate.



recreational community center (2.31 trips/ksf) and would not increase the trip potential for zones designated IN to allow this additional use.

## FINDINGS

The TPR analysis addressed two potential actions, which, while related, include separate findings.

### Map Amendment (ML to IN)

The trip generation potential for the existing zoning (ML) and proposed zoning (IN) was calculated using site redevelopment assumptions for a reasonable worst-case use and ITE trip generation rates. For the two subject parcels, a map amendment to change the zoning designation from ML to IN has the potential to add an increase of approximately 155 (219-64) p.m. peak hour vehicle trips. This action has the potential to create a significant effect on the transportation system, but can be resolved through either of the following actions:

- 1) Conduct additional traffic analysis to address TPR requirements and determine if additional offsite transportation improvements would be required to offset the impacts of the map amendment. This analysis would identify specific potential impacts related to adding 155 vehicle trips to the transportation system for the p.m. peak hour (during the future year Transportation System Plan horizon). This action would maximize flexibility for future uses allowed for the zoning designation, but would require additional analysis, and (pending the results of the analysis) may lead to unnecessary transportation system investments if the reasonable worst-case use is not developed.

--or--

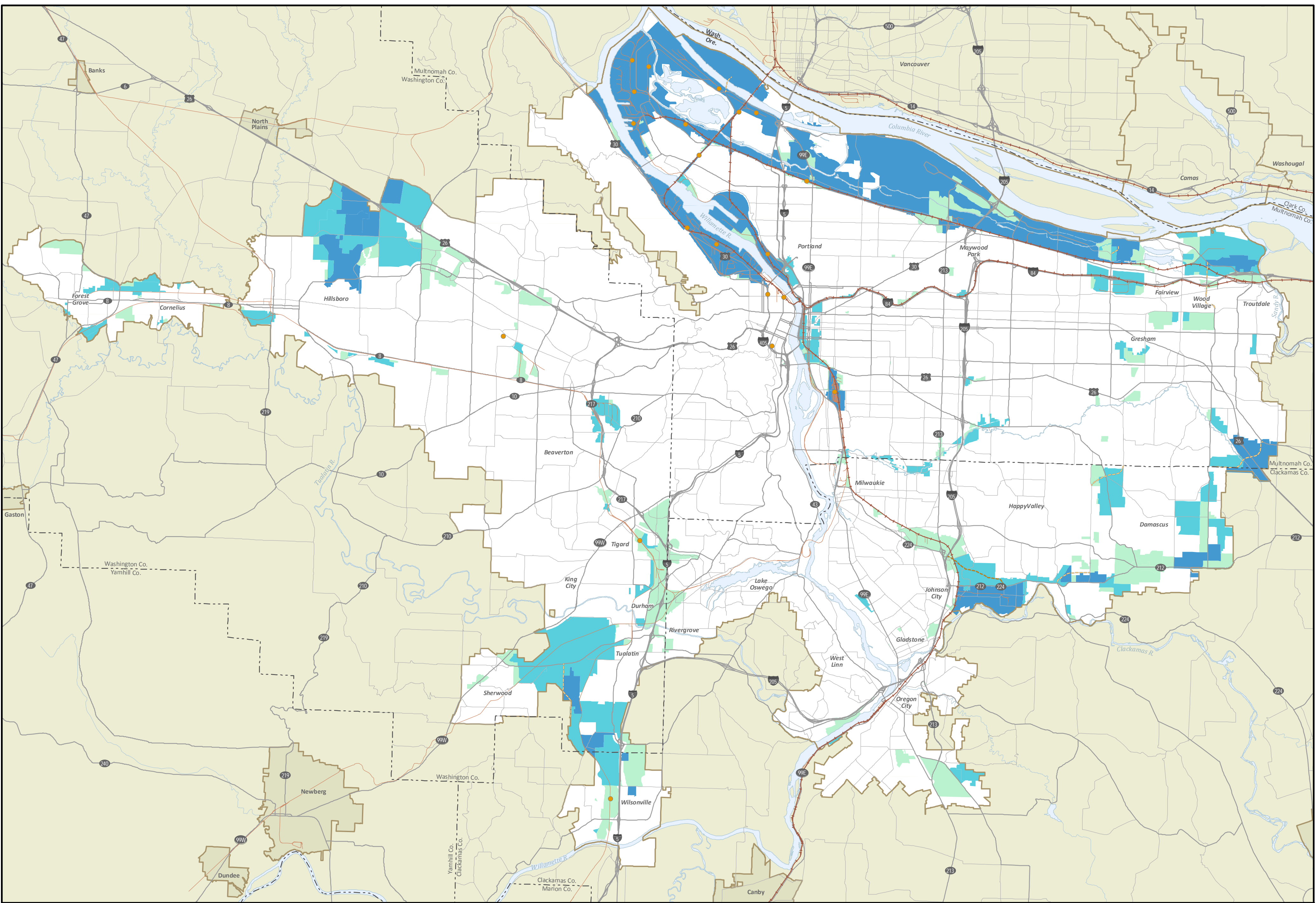
- 2) Include a trip cap with the map amendment that would limit site trips and not further degrade the transportation system. The analysis indicates that the existing zoning would allow approximately 64 p.m. peak hour trips, which would exceed the number of trips required for the government office building included in the TIA (59 p.m. peak hour trips). A trip cap of 80 p.m. peak hour trips would provide some flexibility for the site design to add a nominal portion of trips, while not creating a significant increase above the reasonable worst-case trip potential of the existing ML zoning.

### Text Amendment (Allow Government Office use in IN)

The potential text amendment to allow government office buildings in any IN zone would not increase the reasonable worst-case trip potential for IN zones beyond what is currently allowed for recreational community center. Therefore, such action would meet TPR requirements.

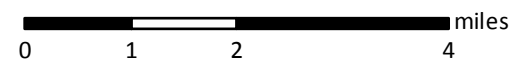
If you have any questions, please call.





# Title 4, Industrial and Other Employment Areas

October 2014



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- Employment areas
- Industrial areas
- Regionally significant industrial areas
- Proposed main roadway routes
- Proposed road connectors
- Mainline freight
- Branch line freight
- Rail yards
- County boundaries
- Urban growth boundaries
- Neighbor cities

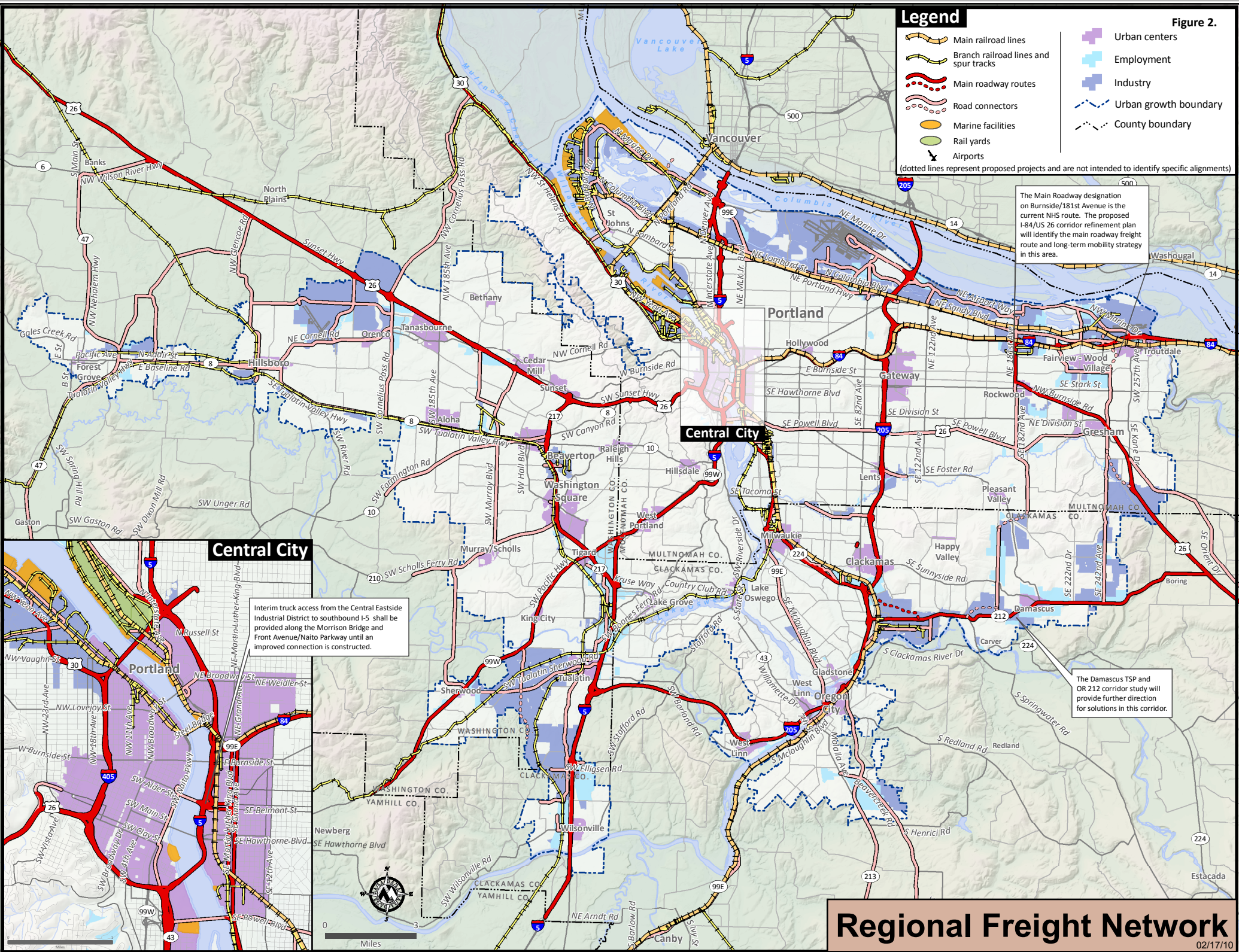




Figure 2.

Legend

- Main railroad lines
  - Branch railroad lines and spur tracks
  - Main roadway routes
  - Road connectors
  - Marine facilities
  - Rail yards
  - Airports
  - Urban centers
  - Employment
  - Industry
  - Urban growth boundary
  - County boundary
- (dotted lines represent proposed projects and are not intended to identify specific alignments)



The Main Roadway designation on Burnside/181st Avenue is the current NHS route. The proposed I-84/US 26 corridor refinement plan will identify the main roadway freight route and long-term mobility strategy in this area.

### Central City

Interim truck access from the Central Eastside Industrial District to southbound I-5 shall be provided along the Morrison Bridge and Front Avenue/Naito Parkway until an improved connection is constructed.

The Damascus TSP and OR 212 corridor study will provide further direction for solutions in this corridor.



# Regional Freight Network

02/17/10





# STAFF REPORT

## CITY OF TUALATIN

**TO:** Honorable Mayor and Members of the City Council

**THROUGH:** Bates Russell, IS Director

**FROM:** Clayton Reynolds, Maintenance Services Div Manager

**DATE:** 06/10/2019

**SUBJECT:** Consideration of **Ordinance No. 1423-19** Establishing an Annual Core Area Parking District (CAPD) Tax Rate of \$170.88 for Fiscal Year 2019-20

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### **ISSUE BEFORE THE COUNCIL:**

Ordinance Establishing a Core Area Parking District (CAPD) Tax Rate

### **RECOMMENDATION:**

Staff recommends that the City Council consider approval of Ordinance No 1423-19 establishing a Core Area Parking District (CAPD) tax rate of \$170.88 for Fiscal Year 2019/20.

### **EXECUTIVE SUMMARY:**

The Core Area Parking District Board and staff are recommending that the tax rate remain at \$170.88 for the upcoming Fiscal Year (2019/20).

### **OUTCOMES OF DECISION:**

Approval of the CAPD Tax Rate will result in the following:

- Retain current CAPD tax rate while maintaining current services without raising the current tax rate.

### **FINANCIAL IMPLICATIONS:**

Tax revenue supports operation and maintenance of the Core Area Parking District. With the requested tax rate, the total estimated revenue for the District is \$60,000.00

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**Attachments:** Ordinance No. 1423-19

ORDINANCE NO. 1423-19

AN ORDINANCE ADOPTING THE CORE AREA PARKING DISTRICT TAX RATE AND CREDIT FOR FISCAL YEAR 2019/20

WHEREAS, Tualatin Municipal Code (TMC) 11-3-060 requires Council to establish an annual tax rate and credit by ordinance for the Core Area Parking District;

WHEREAS, the Core Area Parking District Board recommends to Council that the tax rate be \$170.88 and that the credit remain unchanged; and

WHEREAS, Council finds the tax rate and credit to be appropriate.

THE CITY OF TUALATIN ORDAINS AS FOLLOWS:

**Section 1.** "Schedule A" of the TMC Chapter 11-3 is amended to read as follows:

The annual Core Area Parking District tax rate for Fiscal Year 2019/20 is hereby established as \$170.88.

The formula for the credit is as follows:

$$A = \frac{\text{(Number of on-site parking spaces provided)}}{\text{(Gross Leasable Area) x (Space Factor)}}$$

If "A": is greater than or equal to 1.0, the credit is 50%.

If "A": is less than 1.0, the credit is ("A" x 50%).

INTRODUCED AND ADOPTED by the City Council this 10<sup>th</sup> day of June, 2019.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

APPROVED AS TO FORM

ATTEST

BY \_\_\_\_\_  
City Attorney

BY \_\_\_\_\_  
City Recorder





# STAFF REPORT

## CITY OF TUALATIN

**TO:** Honorable Mayor and Members of the City Council

**THROUGH:** Sherilyn Lombos, City Manager

**FROM:** Richard Mueller, Parks and Recreation Manager  
Ross Hoover, Parks and Recreation Director

**DATE:** 06/10/2019

**SUBJECT:** Consideration of **Resolution No. 5449-19, or 5450-19, or 5451-19** Establishing the Parks System Development Charges for the City Of Tualatin

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### **ISSUE BEFORE THE COUNCIL:**

Council consideration of Resolution No. 5449-19, or 5450-19, or 5451-19 A Resolution Establishing the Parks System Development Charges for the City Of Tualatin.

### **RECOMMENDATION:**

Staff recommends Council consider and adopt Resolution No. 5449-19, or 5450-19, or 5451-19 a Resolution Establishing Parks System Development Charges (SDC); repealing and replacing the existing Park SDC charge schedule.

### **EXECUTIVE SUMMARY:**

Ordinance No. 1415-18 relating to a new Parks SDC Methodology was adopted by Council on January 14, 2019. This ordinance did not set rates and Council directed staff to return to Council for rate setting in spring of 2019.

At the Budget Work Session on April 15, 2019 there was a consensus from Council for staff to return with rate data for Council consideration. Council continued consideration on May 13 and May 28, 2019 and after staff presentation, public comments, and discussion, Council directed staff to return on June 10 to consider three resolution options.

The attached Park SDC presentation summarizes the rates, along with information for other SDC charges and development costs, with comparisons from other Cities.

The Parks & Recreation Master Plan Project Advisory Committee and Park Advisory Committee recommended that Council adopt the Park System Development Charge Methodology including nonresidential rates.

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**Attachments:** [Resolution No. 5449-19](#)  
[Resolution No. 5450-19](#)

Resolution No. 5451-19

PowerPoint

RESOLUTION NO. 5449-19

A RESOLUTION ESTABLISHING THE PARKS SYSTEM DEVELOPMENT CHARGES FOR THE CITY OF TUALATIN.

WHEREAS, on or about June 24, 1991, the City adopted Ordinance No. 833-91 to adopt a Parks System Development Charge Methodology and create a Parks System Development Charge Ordinance, as amended by Ordinance No. 1154-04 (Tualatin Municipal Code Chapter 2-6);

WHEREAS, the Council complied with ORS Chapter 223 and held a duly noticed Public Hearing on December 10, 2018, to consider this ordinance and the changes to the Parks System Development Charge Methodology;

WHEREAS, on January 14, 2019, the Council enacted Ordinance No. 1415-18, which amended TMC Chapter 2-6, and adopted a new Parks System Development Charge Methodology;

WHEREAS, Ordinance No. 1415-18 adopted the Parks System Development Charge Methodology entitled "Park System Development Charge Methodology," for the City of Tualatin, as prepared by Community Attributes Inc., and it establishes the methodology and analysis for the determination of the impact of new development on the need and costs for additional parkland and related improvements;

WHEREAS, Ordinance No. 1415-18 established the maximum amount of Parks System Development Charges that can be assessed under the methodology;

WHEREAS, for the Residential Development Category, the Parks System Development fees should be discounted such that they are set at 50% of the maximum rate;

WHEREAS, for the Nonresidential Development Category, the Parks System Development fees should be discounted such that they are set at 50% of the maximum rate;

WHEREAS, under TMC 2-6 and Ordinance No. 1415-18, the Council is to adopt the Parks System Development Charge by resolution; and

WHEREAS, the Council may reevaluate the Parks System Development fees at any time the Council deems appropriate.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

**Section 1.** The Council establishes the Parks System Development Charge as follows:

**DEVELOPMENT CATEGORY**

**PARKS SYSTEM DEVELOPMENT CHARGE**

**Residential**

Single-Family

\$ 7,705 per dwelling unit

Multi-Family \$ 5,743 per dwelling unit

**Nonresidential**

Industrial/Manufacturing	\$1.94 per square foot
Warehousing	\$0.49 per square foot
Retail/Restaurant/Hospitality	\$1.90 per square foot
Office	\$1.57 per square foot

**Section 2.** The existing Parks System Development Charge schedule is repealed and replaced with the schedule set forth in Section 1.

**Section 3.** The Parks System Development Charge set forth in Section 1 will be annually indexed according to TMC 2-6-085.

**Section 4.** This resolution is effective July 1, 2019.

INTRODUCED AND ADOPTED by the City Council this 10<sup>th</sup> day of June, 2019.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

APPROVED AS TO FORM

ATTEST:

BY \_\_\_\_\_  
City Attorney

BY \_\_\_\_\_  
City Recorder



RESOLUTION NO. 5450-19

A RESOLUTION ESTABLISHING THE PARKS SYSTEM DEVELOPMENT CHARGES FOR THE CITY OF TUALATIN.

WHEREAS, on or about June 24, 1991, the City adopted Ordinance No. 833-91 to adopt a Parks System Development Charge Methodology and create a Parks System Development Charge Ordinance, as amended by Ordinance No. 1154-04 (Tualatin Municipal Code Chapter 2-6);

WHEREAS, the Council complied with ORS Chapter 223 and held a duly noticed Public Hearing on December 10, 2018, to consider this ordinance and the changes to the Parks System Development Charge Methodology;

WHEREAS, on January 14, 2019, the Council enacted Ordinance No. 1415-18, which amended TMC Chapter 2-6, and adopted a new Parks System Development Charge Methodology;

WHEREAS, Ordinance No. 1415-18 adopted the Parks System Development Charge Methodology entitled "Park System Development Charge Methodology," for the City of Tualatin, as prepared by Community Attributes Inc., and it establishes the methodology and analysis for the determination of the impact of new development on the need and costs for additional parkland and related improvements;

WHEREAS, Ordinance No. 1415-18 established the maximum amount of Parks System Development Charges that can be assessed under the methodology;

WHEREAS, after due consideration, the Council determined funding Park improvements must be balanced with economic impacts, and that the Parks System Development Charges on nonresidential development should increase from the current zero dollars to 40% of the maximum rate;

WHEREAS, for the Residential Development Category, the Parks System Development fees should be discounted such that they are set at 50% of the maximum rate;

WHEREAS, for the Nonresidential Development Category, the Parks System Development fees should be discounted such that they are set at 40% of the maximum rate;

WHEREAS, under TMC 2-6 and Ordinance No. 1415-18, the Council is to adopt the Parks System Development Charge by resolution; and

WHEREAS, the Council may reevaluate the Parks System Development fees at any time the Council deems appropriate.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

**Section 1.** The Council establishes the Parks System Development Charge as follows:

**DEVELOPMENT CATEGORY**

**PARKS SYSTEM DEVELOPMENT CHARGE**

**Residential**

Single-Family

\$ 7,705 per dwelling unit

Multi-Family

\$ 5,743 per dwelling unit

**Nonresidential**

Industrial/Manufacturing

\$1.55 per square foot

Warehousing

\$0.39 per square foot

Retail/Restaurant/Hospitality

\$1.52 per square foot

Office

\$1.25 per square foot

**Section 2.** The existing Parks System Development Charge schedule is repealed and replaced with the schedule set forth in Section 1.

**Section 3.** The Parks System Development Charge set forth in Section 1 will be annually indexed according to TMC 2-6-085.

**Section 4.** This resolution is effective July 1, 2019.

INTRODUCED AND ADOPTED by the City Council this 10<sup>th</sup> day of June, 2019.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

APPROVED AS TO FORM

ATTEST:

BY \_\_\_\_\_  
City Attorney

BY \_\_\_\_\_  
City Recorder

RESOLUTION NO. 5451-19

A RESOLUTION ESTABLISHING THE PARKS SYSTEM DEVELOPMENT CHARGES FOR THE CITY OF TUALATIN.

WHEREAS, on or about June 24, 1991, the City adopted Ordinance No. 833-91 to adopt a Parks System Development Charge Methodology and create a Parks System Development Charge Ordinance, as amended by Ordinance No. 1154-04 (Tualatin Municipal Code Chapter 2-6);

WHEREAS, the Council complied with ORS Chapter 223 and held a duly noticed Public Hearing on December 10, 2018, to consider this ordinance and the changes to the Parks System Development Charge Methodology;

WHEREAS, on January 14, 2019, the Council enacted Ordinance No. 1415-18, which amended TMC Chapter 2-6, and adopted a new Parks System Development Charge Methodology;

WHEREAS, Ordinance No. 1415-18 adopted the Parks System Development Charge Methodology entitled "Park System Development Charge Methodology," for the City of Tualatin, as prepared by Community Attributes Inc., and it establishes the methodology and analysis for the determination of the impact of new development on the need and costs for additional parkland and related improvements;

WHEREAS, Ordinance No. 1415-18 established the maximum amount of Parks System Development Charges that can be assessed under the methodology;

WHEREAS, after due consideration, the Council determined funding Park improvements must be balanced with economic impacts, and that the Parks System Development Charges on nonresidential development should increase from the current zero dollars to 30% of the maximum rate;

WHEREAS, for the Residential Development Category, the Parks System Development fees should be discounted such that they are set at 50% of the maximum rate;

WHEREAS, for the Nonresidential Development Category, the Parks System Development fees should be discounted such that they are set at 30% of the maximum rate;

WHEREAS, under TMC 2-6 and Ordinance No. 1415-18, the Council is to adopt the Parks System Development Charge by resolution; and

WHEREAS, the Council may reevaluate the Parks System Development fees at any time the Council deems appropriate.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

**Section 1.** The Council establishes the Parks System Development Charge as follows:

**DEVELOPMENT CATEGORY**

**PARKS SYSTEM DEVELOPMENT CHARGE**

**Residential**

Single-Family  
Multi-Family

\$ 7,705 per dwelling unit  
\$ 5,743 per dwelling unit

**Nonresidential**

Industrial/Manufacturing  
Warehousing  
Retail/Restaurant/Hospitality  
Office

\$1.16 per square foot  
\$0.29 per square foot  
\$1.14 per square foot  
\$0.94 per square foot

**Section 2.** The existing Parks System Development Charge schedule is repealed and replaced with the schedule set forth in Section 1.

**Section 3.** The Parks System Development Charge set forth in Section 1 will be annually indexed according to TMC 2-6-085.

**Section 4.** This resolution is effective July 1, 2019.

INTRODUCED AND ADOPTED by the City Council this 10<sup>th</sup> day of June, 2019.

CITY OF TUALATIN, OREGON

BY \_\_\_\_\_  
Mayor

APPROVED AS TO FORM

ATTEST:

BY \_\_\_\_\_  
City Attorney

BY \_\_\_\_\_  
City Recorder





**TUALATIN**  
PARKS &  
RECREATION  
MASTER  
PLAN



# Park System Development Charges

*Council Meeting June 10, 2019*



*City of Tualatin*

# WHY & WHAT?

- Why?
  - Revenue to fund public parks & recreation facilities
  - Ensures growth pays a portion of costs
  - Ensure facilities keep up with the demands caused by growth
- What?
  - One time charge
  - New development only
  - Capital cost of facilities
  - Needed/created by new development
  - Development application
  - Building permit issued

# WHY & WHAT?

- ORS Chapter 223
  - For transportation, water, sewer, stormwater, & parks
  - Growth to pay for growth, but not deficiencies
  - Proportionate Share to be proportionate to the impact
- Restrictions
  - Used for capital projects to support new or increased use
  - Not allowed to be used for
    - Maintenance
    - Operations
    - Repairs
    - Replacement of existing system



# COMMUNITY OUTREACH & ENGAGEMENT

- Master Plan Business Involvement
  - 14 City Council Meetings
  - Business representatives on PAC
  - Chamber BAC meeting
  - Chamber draft plan review
  - Economic Development Draft plan review
  - Draft plan public meetings
  - Rotary meeting presentation
  - Business focus group
  - 1:1 Chamber Executive Director
- Advisory Committee's
  - 8 meetings - Project Advisory Committee
  - 12 meetings – Park Advisory
  - 6 meetings - Library Advisory
  - 3 meetings - Youth Council
  - 6 meetings – Arts Advisory
  - 2 meetings - Planning Commission

**TUALATIN**  
Accessible, Inclusive & Vibrant  
Parks and Recreation

WHAT WILL  
TUALATIN'S  
PARKS LOOK  
LIKE IN  
**20**  
YEARS?

**Come Talk To Us!**  
Open House:  
Wednesday, 9/12  
5:30-7:30pm  
Tualatin Public Library

Join us in the review and comment on  
**PARKS & RECREATION**  
DRAFT MASTER PLAN Online at:  
[www.tualatinoregon.gov/recreation](http://www.tualatinoregon.gov/recreation)

*Council Meeting June 10, 2019*



City of Tualatin



<b>Residential</b>	<b>Maximum Allowable Rate</b>	<b>50%</b>		
Single Family	\$15,409	\$7,705		
Multi Family	\$11,486	\$5,743		
<b>Nonresidential</b>	<b>Maximum Allowable Rate</b>	<b>50%</b>	<b>40%</b>	<b>30%</b>
Industrial/ Manufacture	\$3.88	\$1.94	\$1.55	\$1.16
Warehousing	\$0.98	\$0.49	\$0.39	\$0.29
Retail	\$3.79	\$1.90	\$1.52	\$1.14
Office	\$3.13	\$1.57	\$1.25	\$0.94



	<b>System Development Charges <sup>1</sup></b>	<b>Other Fees <sup>2</sup></b>	<b>Park SDC</b>	<b>Total <sup>3</sup></b>	<b>City Property Taxes</b>
<b>Tualatin 30%</b>	<b>\$783,815</b>	<b>\$121,302</b>	<b>\$75,120</b>	<b>\$985,237</b>	<b>\$16,156</b>
<b>Tualatin 40%</b>	<b>\$783,815</b>	<b>\$121,302</b>	<b>\$100,160</b>	<b>\$1,005,277</b>	<b>\$16,156</b>
<b>Tualatin 50%</b>	<b>\$783,815</b>	<b>\$121,302</b>	<b>\$125,600</b>	<b>\$1,030,717</b>	<b>\$16,156</b>
Beaverton	\$814,522	\$134,209	\$88,000	\$1,036,731	\$30,084
Wilsonville	\$849,088	\$148,237	\$46,240	\$1,043,565	\$18,132
Sherwood	\$911,652	\$156,084	\$17,801	\$1,085,537	\$23,505
Hillsboro	\$805,577	\$125,413	\$216,432	\$1,147,422	\$26,135
Tigard	\$1,182,457	\$168,336	\$108,216	\$1,459,009	\$17,913

**80,000 Sq Ft Office Building**  
**Building Value = \$10,915,840**

Source: Mackenzie Fee Comparison Report and City Community Development Department

<sup>1</sup> Transportation, Stormwater, Sewer, Water

<sup>2</sup> Other Fees includes Land Use Review, Building Permit Fees and Engineering Plan Review Fees

<sup>3</sup> Not including City Property Taxes



	<b>System Development Charges <sup>1</sup></b>	<b>Other Fees <sup>2</sup></b>	<b>Parks SDC</b>	<b>Total <sup>3</sup></b>	<b>City Property Taxes</b>
<b>Tualatin 30%</b>	<b>\$1,449,063</b>	<b>\$74,735</b>	<b>\$56,850</b>	<b>\$1,580,648</b>	<b>\$6,919</b>
<b>Tualatin 40%</b>	<b>\$1,449,063</b>	<b>\$74,735</b>	<b>\$75,800</b>	<b>\$1,599,598</b>	<b>\$6,919</b>
<b>Tualatin 50%</b>	<b>\$1,449,063</b>	<b>\$74,735</b>	<b>\$95,000</b>	<b>\$1,618,798</b>	<b>\$6,919</b>
Hillsboro	\$1,470,825	\$75,822	\$106,713	\$1,653,360	\$11,193
Beaverton	\$1,553,796	\$147,958	\$28,519	\$1,730,273	\$12,884
Sherwood	\$1,882,548	\$89,781	\$8,759	\$1,981,088	\$10,067
Tigard	\$1,958,187	\$99,169	\$53,106	\$2,110,463	\$7,672
Wilsonville	\$3,325,609	\$86,388	\$14,450	\$3,426,447	\$7,766

**50,000 Sq Ft Retail Building**  
**Building Value = \$4,675,000**

Source: Mackenzie Fee Comparison Report and City Community Development Department

<sup>1</sup> Transportation, Stormwater, Sewer, Water

<sup>2</sup> Other Fees includes Land Use Review, Building Permit Fees and Engineering Plan Review Fees

<sup>3</sup> Not including City Property Taxes



	System Development Charges <sup>1</sup>	Other Fees <sup>2</sup>	Parks SDC	Total <sup>3</sup>	City Property Taxes
<b>Tualatin 30%</b>	<b>\$998,647</b>	<b>\$133,535</b>	<b>\$58,800</b>	<b>\$1,190,182</b>	<b>\$18,073</b>
<b>Tualatin 40%</b>	<b>\$998,647</b>	<b>\$133,535</b>	<b>\$78,400</b>	<b>\$1,210,582</b>	<b>\$18,073</b>
<b>Tualatin 50%</b>	<b>\$998,647</b>	<b>\$133,535</b>	<b>\$98,000</b>	<b>\$1,230,182</b>	<b>\$18,073</b>
Hillsboro	\$1,020,949	\$136,370	\$60,120	\$1,217,439	\$29,236
Beaverton	\$1,210,120	\$147,115	\$3,850	\$1,361,084	\$33,654
Sherwood	Not included				
Wilsonville	\$1,287,363	\$166,888	\$87,800	\$1,542,051	\$20,284
Tigard	\$1,376,590	\$189,244	\$30,561	\$1,596,395	\$20,039

**200,000 Sq Ft Warehouse**  
**Building Value = \$12,211,200**

Source: Mackenzie Fee Comparison Report and City Community Development Department

<sup>1</sup> Transportation, Stormwater, Sewer, Water

<sup>2</sup> Other Fees includes Land Use Review, Building Permit Fees and Engineering Plan Review Fees

<sup>3</sup> Not including City Property Taxes





	<b>System Development Charges <sup>1</sup></b>	<b>Excise Taxes <sup>2</sup></b>	<b>Parks SDC</b>	<b>Total <sup>3</sup></b>	<b>City Property Taxes</b>
<b>Tualatin</b>	<b>\$19,469</b>	<b>\$3,043</b>	<b>\$7,705*</b>	<b>\$30,217</b>	<b>\$515</b>
Wilsonville	\$21,695	\$2,760	\$5,825	\$30,280	\$606
Hillsboro	\$25,905	\$3,043	\$5,288	\$33,426	\$833
Sherwood	\$23,095	\$2,963	\$7,921	\$33,979	\$750
Beaverton	\$22,356	\$3,043	\$11,545	\$36,944	\$959
Tigard	\$30,549	\$3,043	\$13,672	\$47,264	\$571

**2,000 Sq Ft Single-Family House**  
**Building Value = \$369,000**

\*50% of Maximum Allowable Rate

Source: Mackenzie Fee Comparison Report and City Community Development Department

<sup>1</sup> Transportation, Stormwater, Sewer, Water

<sup>2</sup> School District, Metro and City Construction Excise Taxes

<sup>3</sup> Not including City Property Taxes



	<b>System Development Charges <sup>1</sup></b>	<b>Excise Taxes <sup>2</sup></b>	<b>Parks SDC</b>	<b>Total <sup>3</sup></b>	<b>City Property Taxes</b>
<b>Tualatin</b>	<b>\$161,010</b>	<b>\$17,400</b>	<b>\$68,916*</b>	<b>\$247,325</b>	<b>\$1,197</b>
Hillsboro	\$183,855	\$17,400	\$63,456	\$264,711	\$1,936
Sherwood	\$190,014	\$16,920	\$71,338	\$278,272	\$1,741
Wilsonville	Not included				
Tigard	\$219,186	\$17,400	\$71,292	\$307,878	\$1,327
Beaverton	\$180,084	\$17,400	\$110,568	\$308,052	\$2,228

**12,000 Sq Ft, 12-unit, Multi-Family Housing Complex**  
**Building Value = \$1,500,000**

\*50% of Maximum Allowable Rate

Source: Mackenzie Fee Comparison Report and City Community Development Department

<sup>1</sup> Transportation, Stormwater, Sewer, Water

<sup>2</sup> School District, Metro and City Construction Excise Taxes

<sup>3</sup> Not including City Property Taxes



% of Maximum	Residential 2040	Nonresidential 2035	Projected Total
Residential 50% and Nonresidential 50%	\$6,816,174	\$5,140,285	\$11,956,459
Residential 50% and Nonresidential 40%	\$6,816,174	\$4,103,104	\$10,919,278
Residential 50% and Nonresidential 30%	\$6,816,174	\$3,067,385	\$9,883,559

**Updated:** Housing Needs Assessment & Metro 2020-2040 Forecast

**Sources:** Standard Industrial Classification Code System, North American Industry Classification System Association, State of Oregon Employment Department employment data, Metro 2035 Population Forecast, Metro 2035 Employment Forecast, Metro Housing Forecast, Park System Development Charge Methodology, Basalt Creek Concept Plan, Southwest Concept Plan





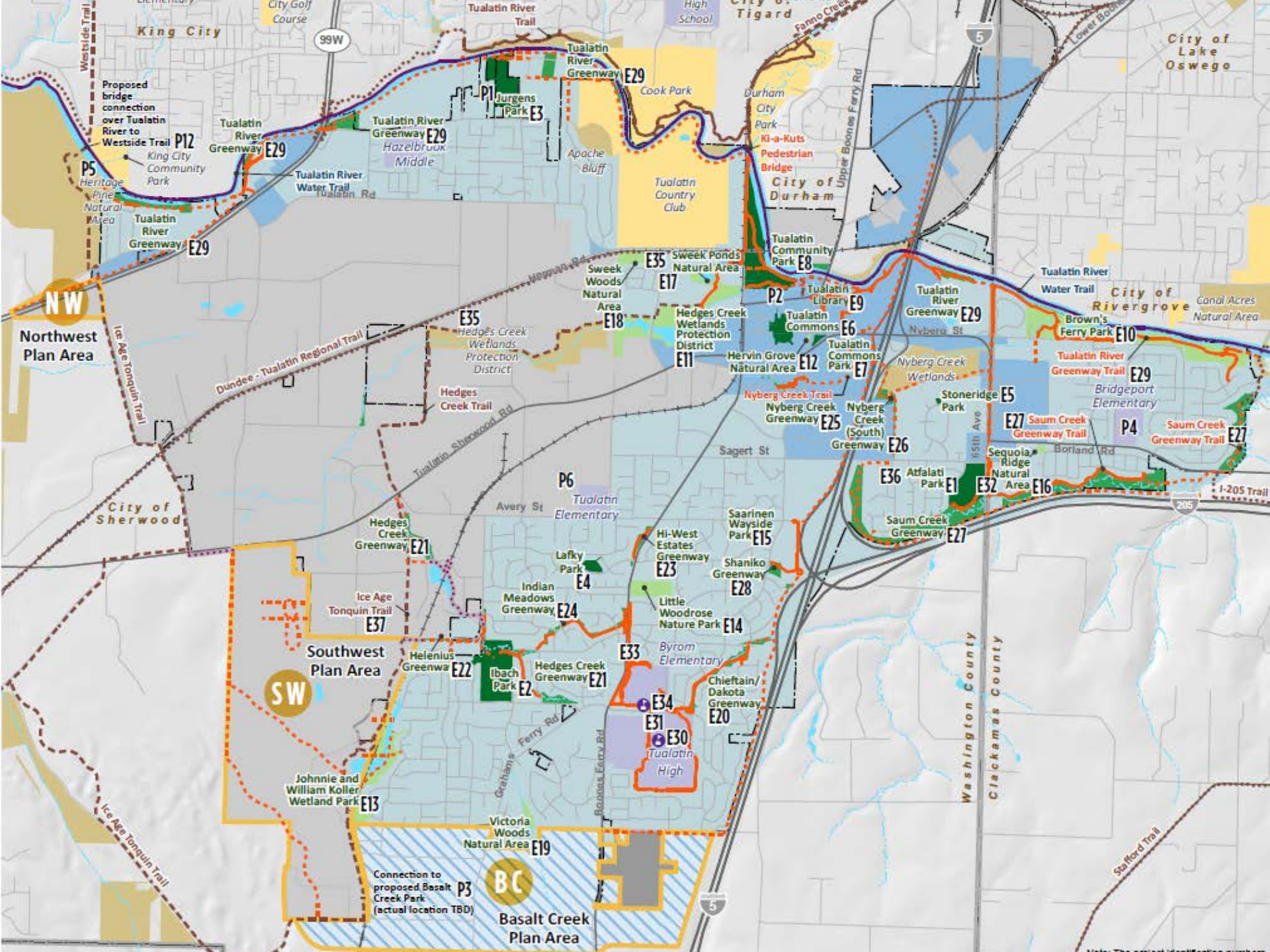
**TUALATIN**  
Accessible, Inclusive & Vibrant  
**Parks and Recreation**



**Goal 6: Promote Tualatin's unique identity, economic vitality, and tourism through parks, natural resources, historic preservation, events, programs, and placemaking.**







King City

99W

5

5

205

NW  
Northwest Plan Area

SW  
Southwest Plan Area

BC  
Basalt Creek Plan Area

P12  
Proposed bridge connection over Tualatin River to Westside Trail

Tualatin River Greenway E29

Tualatin River Greenway E29  
Hazelbrook Middle

Tualatin River Greenway E29

City of Durham  
Ki-a-Kuts Pedestrian Bridge

Tualatin Community Park E8

Tualatin River Greenway E29

City of Rivergrove  
Brown's Ferry Park E10

Tualatin River Greenway Trail E29

Bridgeport Elementary

Saum Creek Greenway Trail E27

Saum Creek Greenway Trail E27

City of Sherwood

Southwest Plan Area

SW

Johnnie and William Koller Wetland Park E13

Victoria Woods Natural Area E19

Connection to proposed Basalt Creek Park P3 (actual location TBD)

Basalt Creek Plan Area

Tualatin High

Byrom Elementary

5

Washington County  
Clackamas County

Safford Trail

Project	Description	Estimated Cost
<p>Basalt Creek Park</p> <p>P3</p>	<ul style="list-style-type: none"> <li>• Property acquisition</li> <li>• Planning</li> <li>• Design</li> <li>• Development</li> <li>• Park facilities &amp; trail connections</li> </ul>	<p>\$17,110.000</p>
Project	Description	Estimated Cost
<p>New Greenways and Multi Use Paths</p> <p>P11 &amp; P12</p>	<ul style="list-style-type: none"> <li>• Connect trail system</li> <li>• Develop planned &amp; proposed paths</li> <li>• Regional &amp; local</li> <li>• Interconnected <ul style="list-style-type: none"> <li>▪ Parks &amp; public services</li> <li>▪ Residential</li> <li>▪ Business &amp; industry</li> </ul> </li> </ul>	<p>\$18,915,000</p>
Project	Description	Estimated Cost
<p>Central Sports Park</p> <p>P6</p>	<ul style="list-style-type: none"> <li>• Property acquisition</li> <li>• School Partnership</li> <li>• Design</li> <li>• Develop</li> <li>• Fields &amp; Courts</li> </ul>	<p>\$6,835,000</p>



# QUESTIONS & DISCUSSION



**TUALATIN**  
Accessible, Inclusive & Vibrant  
**Parks and Recreation**

