



**City of Sutherlin
Regular Council Meeting
Monday, February 12, 2018
Civic Auditorium – 7:00 p.m.
AGENDA**

Mayor Todd McKnight
Council President Luzier
Councilors Boggs, Riggs, Stone, Tomlinson, and Vincent

- 1. CALL TO ORDER / FLAG SALUTE**
- 2. ROLL CALL**
- 3. INTRODUCTION OF MEDIA**
- 4. PUBLIC COMMENT**

[The purpose of citizen comment is to allow citizens to present information regarding agenda items only. A time limit of three minutes per citizen shall apply.]

5. PRESENTATIONS

- a. Central Avenue Sidewalks

6. CONSENT AGENDA

- a. January 8, 2018 Minutes – Regular Meeting
- b. January 22, 2018 Minutes – Workshop Meeting

7. PUBLIC HEARING

- a. UGB Exchange (continued from January 8, 2018 meeting)

8. COUNCIL BUSINESS

- a. Ordinance – Urban Growth Boundary Exchange (first reading, title only)
- b. Resolution 2018.02 – Land & Water Conservation Grant Authorization – Ford's Pond
- c. Resolution 2018.03 – Local Government Grant Program – Ford's Pond

9. REPORTS

- a. Budget Discussion
- b. System Development Charges & Fees

10. CITY COUNCIL COMMENT

11. PUBLIC COMMENT

[The purpose of citizen comment is to allow citizens to present information regarding items off the agenda. A time limit of three minutes per citizen shall apply.]

12. ADJOURN

Members of the audience who wish to address the Council will be invited to do so. Speakers must use the microphone stating their name and address prior to addressing the Council.



Call to Order & Flag Salute





ROLL CALL





Introduction Of Media





PUBLIC COMMENT

Agenda Items only





Presentations and/or Proclamations





126 E. Central Avenue
Sutherlin, OR 97479
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City of Sutherlin

STAFF REPORT					
Re: Central Avenue Sidewalks (Downtown)				Meeting Date:	2-12-2018
Purpose:	Action Item <input type="checkbox"/>	Workshop <input type="checkbox"/>	Report Only <input type="checkbox"/>	Discussion <input type="checkbox"/>	Update <input checked="" type="checkbox"/>
Submitted By: : Brian Elliott, Community Development Director				City Manager Review	<input checked="" type="checkbox"/>
Attachments: N/A					

WHAT IS BEING ASKED OF COUNCIL?

This staff report is to provide an update to City Council regarding Central Avenue Downtown sidewalks repair/replacement.

EXPLANATION

Originally we had identified 14,982.1 square feet of sidewalk would be repaired or replaced downtown. After several meetings with the contractor, engineer and City staff, we have changed the scope of work and added an additional 6948.7 square feet to the project. The additional sidewalk repair or replacement will enhance the downtown corridor and make construction less difficult. I have gone door to door to the majority of the businesses downtown and discussed the scope of work, time frame, and impact to downtown during construction, receiving positive feedback. The opportunity for each business owner/property owner is available, if desired, to repair or replace the additional portion of the sidewalk beyond the City's scope of work. A letter has been mailed out to the affected property owners and hand delivered to the business owners in the event they are different.

Sidewalk repair/replacement, tree grates and decorative street lights construction will start Monday February 5, 2018 at the corner of Umpqua Street and Central Avenue (Northside) proceeding west to Front Street, estimated time two weeks per block. Once the Northside is complete, construction will start at Front Street and Central Avenue (Southside) and proceed east to Umpqua Street and Central Avenue.

OPTIONS

Not applicable

SUGGESTED MOTION(S)

None



Consent Agenda



CITY OF SUTHERLIN
Regular City Council Meeting
Sutherlin Civic Auditorium
Monday, January 8, 2018 – 7:00pm

COUNCIL MEMBERS:

MAYOR: Tom Boggs, Wayne Luzier, Dennis Riggs, Forrest Stone, Travis Tomlinson, Seth Vincent
Todd McKnight

CITY STAFF: City Manager, Jerry Gillham
Sr. City Recorder, Debbie Hamilton
City Recorder, Diane Harris
Assistant CM/Finance Director, Dan Wilson
Community Development Director, Brian Elliott
Community Development Specialist, Kristi Gilbert
Public Works Superintendent, Aaron Swan
Police Chief, Troy Mills
Interim Fire Chief, Doug Dawson
Deputy Fire Chief, Avery Hazzard
Deputy Fire Chief, Dan McCormick
City Attorney, Chad Jacobs (via Skype)
Contracted Do Co Planner, Joshua Shaklee

Audience: Jim Houseman, John McDonald, Ron Bailey, Barb Camin, Pat Fahey, Tami Trowbridge, Allison Green, Mark & Susan Rochester, Wayne Ellsworth, Dian Cox, Allen Peterson, Gary Fugate

Meeting called to order by Mayor McKnight at 7:00pm.

Flag Salute:

Roll Call: All present

Introduction of Media: None

PUBLIC COMMENT (agenda items only)

- None

PRESENTATIONS

City Manager, Jerry Gillham, introduced new Interim Fire Chief, Doug Dawson, and invited him to the front of the room to share some information about him.

Dawson stated there is a misconception that he and the City Manager have been friends for a long time; however they just met few days ago. He expressed appreciation for the warm welcome from Staff upon today's arrival and explained his purpose here is to help do whatever he can for the Fire Department. Anyone who would like to talk to him or ask questions is welcome to contact him. Dawson provided a history of his career experiences. Mayor McKnight and Councilors welcomed him to the City.

- **Sutherlin Sanitary Service**

Sutherlin Sanitary Service owner, Pat Fahey, provided updates regarding the new recycling program. To date there are 1656 active recycling customers in the Sutherlin area and 47 taking advantage of the on-call service. Fahey reported issues involved with the recycling program and policies to follow. Many thanks to Les Schwab for temporary use of their parking lot for recycling cart storage.

- **Central Avenue Update**

Public Works Superintendent, Aaron Swan, provided updates for Central Avenue Improvement Project:

- 25 ADA (American Disabilities Act) ramps are completed, 5 more are partially done, that is about 34% of the ramps that need to be built. Will move westward as storm work is completed.
- ODOT (Oregon Department of Transportation) portion of the street by the freeway have completed 4 ramps, with 2 more partially finished.

- Storm work is moving rapidly; north side of Central Ave. from Oak to Grant Street is complete and will continue moving westward to Robinson St.
- Entire sidewalk on south side of Central between Umpqua and Willamette Street has been removed and will be poured the next couple of days, will then move into the downtown portion of the project.

Questions:

- Is the project on schedule? *They are close to being on schedule.*
- Concerns were voiced regarding a service station being closed off over the weekend. *They tried to leave a lane open for access unfortunately it was blocked off for a couple of days.*
- All trees have been removed downtown. *City Manager – Staff will be bringing options to Council at a later date regarding placement for the new trees.*

PUBLIC HEARING

Mayor McKnight –Public Hearing is a continuation from the October 9, 2017 Urban Growth Boundary Exchange Public Hearing. In order to allow additional comments, Staff suggests continuing tonight’s hearing until the February 12th Council meeting at 7:00pm.

Community Development Director, Brian Elliott introduced Community Development Specialist, Kristi Gilbert, and Contracted Do Co Planner, Joshua Shaklee.

Shaklee – This Public Hearing’s initial continuation resulted from ODOT’s requirement that a Traffic Impact Study (TIS) be completed prior to the UGB Exchange and Annexation. Staff received the final TIS report this morning. A continuation of tonight’s Public Hearing is recommended until the February 12th Council Meeting to allow sufficient time for Staff and ODOT to review the final report.

City has received a letter from a property owner who initially participated in the UGB Exchange, but later chose not to. Concerns were raised about connecting Trails End Road to Fir Grove Lane when a public right-of-way was involved. The letter has been entered into the record.

Mayor McKnight – Does any Councilor have ex parte contact, conflicts of interest or bias to declare? None received.

- Are there any public comments in favor? None received.
- Are there any public comments in opposition? None received.
- Council discussion or questions? None received.

Mayor McKnight called for a motion to continue the Public Hearing to February 12, 2018.

MOTION made by Councilor Luzier to continue the Public Hearing until February 12, 2018 at 7:00pm; second by Councilor Riggs.

Discussion: None

In Favor: Councilors Stone, Boggs, Tomlinson, Luzier, Riggs, Vincent, and Mayor McKnight.

Opposed: None

Motion carried unanimously.

CONSENT AGENDA

- **December 11, 2017 Minutes – Regular Meeting**

MOTION made by Councilor Stone to approve Consent Agenda; second by Councilor Vincent.

In Favor: Councilors Stone, Boggs, Tomlinson, Luzier, Riggs, Vincent, and Mayor McKnight.

Opposed: None

Motion carried unanimously.

COUNCIL BUSINESS

- **Library Board Recommendation**

Staff Report – Library Director, Debbie Hamilton – The Sutherlin Library Board has made a recommendation asking Council to remove Board Member, David Wright, due to lack of attendance, communication, and involvement. If Council agrees to remove Wright, the Board is requesting Alternate Board Member, Rannah Williams, be appointed to fill the vacancy, term ending December 31, 2019. Wright was not present to contest the decision.

MOTION made by Councilor Luzier to remove Library Board Member, David Wright and appoint Rannah Williams to take over the term ending December 31, 2019; second by Councilor Riggs.

Discussion: None

In Favor: Councilors Stone, Boggs, Tomlinson, Luzier, Riggs, Vincent, and Mayor McKnight.

Opposed: None

Motion carried unanimously.

- **Resolution No. 2018.01 – Surplus Property**

Staff Report – Chief of Police, Troy Mills, summarized the Staff Report and Resolution 2018.01.

MOTION made by Councilor Stone to approve Resolution No. 2018.01 – Surplus Property as presented; second by Councilor Boggs.

Discussion: Councilor Stone – Will surplus property's revenue be put back into the reserve fund? **Finance Director, Dan Wilson – Yes.**

Councilor Boggs – Is any of this equipment viable to donate to a smaller agency? **Mills – That is an option, wanted to have the resolution approved before moving in any direction.**

Councilor Riggs – What is the Truck Vault Command Box? **Mills – It is a command box that was installed in the back of the Tahoe; due to the weight of it, airbags had to be installed, causing issues with the vehicle. He contacted Do Co Sheriff's Dept. who provided an aluminum box that is much lighter; they were able to remove the airbags, therefore resolving the issues.**

In Favor: Councilors Stone, Boggs, Tomlinson, Luzier, Riggs, Vincent, and Mayor McKnight.

Opposed: None

Motion carried unanimously.

REPORTS

- None

STRATEGIC PLAN UPDATE

- **To Continue working with Library Volunteers**

Hamilton – Staff Report stands as submitted.

- **Wetlands Update**

Elliott – Staff Report stands as submitted.

- **Emergency Operations Center**

City Manager – These are all Strategic Plan Updates; they are included in the packet for Councilors to read. If Councilors have any questions or comments, they are welcome to engage in discussion at any time.

CITY COUNCIL COMMENTS

Councilor Boggs –

- None.

Councilor Tomlinson –

- Acknowledged that Starbucks has opened: hopefully this is the first of many businesses to come into town for the community to support. **City Manager – Starbucks brings in 27 jobs.**

Councilor Luzier –

- None.

Councilor Riggs –

- None.

Councilor Vincent –

- Would like to thank his wife for letting him attend the Council meeting on their anniversary!
- Excellent to see Starbucks and other potential businesses coming in.
- Nice seeing the downtown landscape street improvements. Businesses understand there will be “bumps” along the way but are excited for the finished product in the coming year.

Councilor Stone –

- Did we get the permit for the wetlands for the Wastewater Treatment Plant staging area? **Elliott – Yes, however still waiting for the final complete notice from U.S. Army Corp of Engineers.**
- How are we going to address the 2-foot buffer next to the street at the new Avery subdivision? Will that be a maintenance issue for City to deal with? **Swan – Plan is for homeowners to take care of that strip. At this point do not think it will be an issue.**

- The quarter-mile stretch on Scardi Blvd. to Culver Loop City is just a bank with no sidewalks. Would like to address something in the budget to cut that area out and put in gravel for pedestrians. ***City Manager agreed this is something to look into. City had an agreement as part of that mitigation and received funds to improve that portion of the road.*** Alaska Sutherlin Knolls was waiting until area was developed before doing improvements to that portion. ***Believe City agreed to share the cost 50/50 to put in gravel walkway for pedestrian safety, but will need to confirm that.***

Mayor McKnight –

- Would like to wish everyone a Happy New Year, looking forward to the coming year and moving forward.

PUBLIC COMMENT –

Chamber President, Tami Trowbridge, provided Chamber updates:

- Chamber would like to assist in gathering data for the proposed business registration; this will also provide an opportunity to meet with businesses face to face. Have received a sample registration form from [Business Committee Chair], Gary [Dagel]. Am planning to draft a form for Dagel and City Manager to review that meets all needs.
- Chamber's Executive Director recruitment will start this month. A couple of emails were sent out to from our Vice President; however as an oversight, the identity of the sender did not get changed from previous Executive Director's information, and appeared to be sent by her.
- Previous Visitor Center Coordinator, Char Hendershott, passed away recently. She is really the person to thank for having this Visitor Center; she had a vision and great passion for it. The Board would like to honor her memory; will be talking to Staff and Council in the future about ideas.
- First Citizen's Banquet is Saturday, March 17th at the Danny Lang Center at UCC. Nomination forms will be distributed this week, information on tickets will be at end the month.
- About a year ago, Council approved specific items to be funded by TRT (Transit Room Tax). One of the items was \$5,000 to Friends of Ford's Pond to use for matching grant money. However, they didn't need the funds since they raised the entire \$15,000 themselves. They will be applying for grants for Ford's Pond Phases 1 & 2, since previous money was earmarked for that, would like to confirm we can take those unspent funds and apply them to help with the new grants.

City Manager – Those funds need to be for specific purposes of promotion if wanting to use them to underfund a grant, suggest using facility funds City collects. Certain individuals in the community created that fund for promotion purposes and may not like the idea it is for a grant match. Trowbridge – Even though at the State level, it is allowable? ***City has an ordinance that specifies its uses, can discuss further with our Finance Director.*** Trowbridge reiterated Chamber really wants to show community support towards Friends of Ford's Pond's commitment for these grants.

Councilor Stone – What happened to Sutherlin's promotional CD that was produced a few years ago? Understood it could be updated as changes in the City occur. ***Trowbridge – They have been distributed; however, will look it to that possibility.***

Hamilton stated she has posted it a couple of times on the City's Website, and will repost it again.

ADJOURNMENT –

With no further business meeting adjourned at 7:48pm.

Approved:

Jerry Gillham, City Manager

Respectfully submitted by,

Diane Harris, CMC, City Recorder

Todd McKnight, Mayor

CITY OF SUTHERLIN
City Council Workshop Meeting
Sutherlin Civic Auditorium
Monday, January 22, 2018 – 7:00pm

COUNCIL MEMBERS:

MAYOR: Tom Boggs, Wayne Luzier, Dennis Riggs, Forrest Stone, Travis Tomlinson, Seth Vincent
Todd McKnight

CITY STAFF: City Manager, Jerry Gillham
Senior City Recorder, Debbie Hamilton
City Recorder, Diane Harris
Community Development Director, Brian Elliott
Public Works Superintendent, Aaron Swan
Police Captain, Kurt Sorenson
Interim Fire Chief, Doug Dawson
City Attorney, Chad Jacobs (via Skype)

Audience: Kimberly Tomlinson, Tami Trowbridge, Beth & Jim Houseman, Brian Burke, Tadd Held,
Sean Ramsey, Allen Peterson, Floyd Van Sickle, Avery Hazzard, James Thatcher, Barb
Camin, Gail Kuntz

Meeting called to order by Mayor, Todd McKnight at 7:00pm.

Flag Salute:

Roll Call: All present

Media: None

Mayor McKnight reported the public is welcome to comment during the workshop.

AGENDA CONFIRMATION

• **February 12, 2018 Agenda**

City Manager, Jerry Gillham, reported Finance Director, Dan Wilson, was unable to attend tonight's meeting due to illness. Therefore, Budget Discussion and System Development Charges will be moved to the February 12th meeting. City Manager requested each Council member to email him 3 to 5 priorities for this next year. Staff will create a priority report for Council to review and build into budget.

COUNCIL PRIORITY PROGRESS REPORT

City Manager – The Strategic Plan Updates are written elements included in the packet, Councilors are welcome to comment on the updates.

COUNCIL COMMENTS

Councilor Boggs –

- None.

Councilor Tomlinson –

- None.

Councilor Luzier –

- None.

Councilor Riggs –

- None.

Councilor Vincent –

- None.

Councilor Stone –

- At a previous Council meeting, a citizen who lives just outside city limits requested city water service. Has he annexed into the City and paid the necessary fees as directed by Council?
Community Development Director, Brian Elliott – Believe that has been taken care of by [CDD Specialist] Kristi Gilbert, however will report back.

- Council *used to* get reports showing Fire Department's activities. ***City Recorder, Diane Harris – [Police Office Supervisor] Gayla Holley, sends those reports to Council every month.*** Have only been getting the Police report. ***City Manager – The Fire activities were included with that report.*** Does the report specify *who* is responding to Fire calls? ***No.*** How do we know how many volunteers are showing up, will we get a report telling us that information? ***Yes, you will.*** How many fires have we had?

Discussion continued, the email with attached reports was located. Two fires were reported in December.

- How much is it costing the City for Rick Allen to facilitate Fire Services Working Group meetings? ***\$65 per hour plus mileage.***
- Streets are looking good.

Mayor McKnight –

- Attended the Senior Center's fundraising "kick-off" last Saturday. Additional events will be held to raise funds for repairs and upgrades needed for the center. Those interested can contact the Senior Center or refer to their Facebook page.

WORKSHOP

- **Budget Discussion** – Moved to February 12th meeting
- **System Development Charges** – Moved to February 12th meeting
- **Ford's Pond Funding Strategy**

Staff Report – Elliott reported on Ford's Pond Community Park Phase 1 & 2 funding strategies and activities involved.

REPORTS

- **Wastewater Treatment Plant – Bidding and Construction Timeline**

Staff Report – Elliott reviewed the bidding and construction schedule. City is on track, Council is scheduled to review and award bids at the March 12th Council meeting.

Questions:

- Wetland issues are taken care of? ***Yes, it was the right move for Dyer Partnership and the City to move forward rather than waiting for the contractor take care of. Have now received approval from the Army Corp of Engineers.***

STRATEGIC PLAN UPDATE

Mayor McKnight asked Council members if they had any questions regarding the Strategic Plan Updates. None were voiced.

- **Evaluate Industrial Lands Inventory, Establish Timeline, and Current Contractual Conditions and Options**
- **Storage Tank Upgrade Timelines**

ADJOURNMENT –

With no further business meeting adjourned at 7:11pm.

Approved:

Jerry Gillham, City Manager

Respectfully submitted by,

Diane Harris, CMC, City Recorder

Todd McKnight, Mayor



PUBLIC HEARING





126 E. Central Avenue
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City of Sutherlin

STAFF REPORT					
Re: Sutherlin UGB Exchange, Planning File 17-S015				Meeting Date:	02/12/2018
Purpose:	Action Item <input checked="" type="checkbox"/>	Workshop <input type="checkbox"/>	Report Only <input type="checkbox"/>	Discussion <input checked="" type="checkbox"/>	Update <input type="checkbox"/>
Submitted By: Brian Elliott, Community Development Director, Kristi Gilbert, Community Development Specialist, Jamie Chartier, City Planner Joshua Shaklee, Community Services Planner				City Manager Review <input checked="" type="checkbox"/>	
Attachments: Staff Memo, TIS, ODOT's written comments, Revised Table					

WHAT IS BEING ASKED OF COUNCIL?

The Council will reopen the public hearing and receive written and oral testimony from the public and affected agencies in favor and/or opposition, as well as neutral comments for the above referenced UGB exchange project. Council will then close the public portion of the hearing and deliberate to a decision.

EXPLANATION

The Council held a workshop on September 25, 2017 followed by a public hearing on October 9, 2017, which was continued to date certain of January 8, 2018 and then February 12, 2018, leaving the record open to allow for additional oral and written comments to include Traffic Impact Study (TIS) and ODOT's written response.

Staff will provide Council with an update to the results of the TIS received from Sandow Engineering, the consulting firm, together with ODOT's concluding comments received on January 17, 2018, identifying that a "significant effect" would not result from the proposed annexations and zone change. The TIS further concluded that certain affected facilities would fail regardless of the annexations and zone change.

Following the Staff Report, City Council should accept new public comment, close the public hearing and deliberate to a decision. Council will then have the first reading of the ordinance adopting the UGB Exchange, Comprehensive Plan Amendment and Zoning Map Amendment and Annexations.

OPTIONS

1. Close the public hearing, approve the UGB Exchange, Comprehensive Plan amendment and Zoning Map Amendment and Annexations, or
2. Close the public hearing, deny the UGB Exchange, Comprehensive Plan Amendment and Zoning Map Amendment and Annexations .

SUGGESTED MOTION(S)

Close the public hearing, approve the UGB Exchange, Comprehensive Plan amendment and Zoning Map Amendment and Annexations.




City of Sutherlin

February 5, 2018

MEMORANDUM

TO: City of Sutherlin City Council

FROM: Joshua Shaklee, Community Services Planner 

RE: **STATUS UPDATE: URBAN GROWTH BOUNDARY (UGB) EXCHANGE, COMPREHENSIVE PLAN AMENDMENT AND ZONING MAP AMENDMENT, AND ANNEXATIONS**

This memorandum updates the City of Sutherlin City Council ("City Council") on the status of the Urban Growth Boundary (UGB) Exchange, Comprehensive Plan Amendment, Zoning Map Amendment, and Annexation project since the hearing was opened at the October 9, 2017 City Council meeting. Specifically, this memo addresses the results of the traffic impact study (TIS) undertaken by the City in response to a request by Oregon Department of Transportation (ODOT) and addresses minor changes to the proposal described in the Staff Report dated August 22, 2017, which was previously entered into the record.

TRANSPORTATION IMPACT STUDY

On September 28, 2017, the City of Sutherlin entered into a contract with Sandow Engineering out of Eugene, to complete a traffic impact study (TIS), also known as a traffic impact analysis (TIA), for the area proposed to be annexed into Sutherlin and rezoned with City zoning. The City agreed to this measure upon the request of the Oregon Department of Transportation, in order to determine whether the proposed annexation and zone changes constitute a "significant effect" to a transportation facility, as required under the Transportation Planning Rule (Oregon Administrative Rule 660-012-0060) and Sutherlin Development Code 4.8.110 C.2.

Per the terms of the contract, an initial draft of the TIS was submitted to the City on November 27, 2017. Upon receiving the TIS, City staff reviewed the document and provided comment to the engineer. The TIS was then circulated to ODOT and other agencies for review. ODOT provided comment on December 15, 2017 and found the analysis was insufficient to determine whether a "significant effect" would result from the proposed actions. Sutherlin Community Development convened a meeting with Kelly Sandow of Sandow Engineering and ODOT staff on December 20, 2017 to discuss needed revisions to the study. City staff also provided Sandow with updated information on properties to be annexed, necessary for the engineer to complete their analysis.

A final draft of the TIS was submitted to the City of Sutherlin on January 8, 2018. Due to the timing of this submittal, the public hearing before City Council scheduled for January 8th (continued from the October 9, 2017 City Council meeting) was again continued to a time/date certain (February 12, 2018) to allow for ODOT review and approval of the TIS.

From the results of the revised TIS, ODOT concluded that a "significant effect" would not result from the proposed annexations and zone change. The TIS further concluded that development certain affected facilities

would fail regardless of the annexations and zone change. A letter from ODOT, submitted to the City on January 17, 2018, communicated this conclusion.

UPDATES TO STAFF REPORT

City of Sutherlin submitted a staff report into the record on August 22, 2017 in advance of an August 29, 2017 meeting of the Sutherlin Planning Commission. Since that date, several details of the project have changed, including the number of acres involved in the various actions, due to the decisions of several property owners not to participate and other mitigating factors.

- The proposed UGB exchange will involve a total of 502± acres (*staff report states 479± acres will be involved*)
- 298± acres will be removed from the UGB (*staff report states 302± acres will be removed*)
- 203± acres will be added to the UGB (*staff report states 177± acres will be added*)
- The exchange will result in 95± fewer acres within the City of Sutherlin UGB (*staff report states 125± fewer acres*)
- The City is proposing to annex 138± acres into City boundaries, including 39 properties (*staff report states 168± acres to be annexed, involving 41 properties*)
- Table 1.6 should be titled "Development Potential of Land to be Included in UGB (Based on City Zoning)" instead of "(Based on County Zoning)"
- Table 1.6 is amended to identify 16± acres to receive Forestry-Resource, 20 Acres (FR-20) zoning and comprehensive plan designations (*staff report identifies 5± acres to receive these designations*)
- Table 1.6 is amended to identify 120± acres to receive Residential Hillside (RH) zoning and comprehensive plan designations (*staff report identifies 113.46± acres to receive these designations*)
- The proposal includes 10.52 acres of land to be added to the UGB and that will retain County zoning and comprehensive plan designations of Farm Forest (FF) and Farm/Forest Transitional (FFT), respectively.
- On page 21 of the staff report, the sentences -- "There are no identified geologic hazards or steep slopes on the properties. All slopes area generally less than 8%. See Exhibit ___." -- should be removed.
- The amendment to the City of Sutherlin zoning map made necessary by the proposed annexation is a legislative amendment subject to Sutherlin Development Code Section 4.11, not a quasi-judicial decision as stated on page 24 of the Staff Report.
- The annexation includes 11 properties, 16.26 acres of land in total, already located inside the UGB.

TRANSPORTATION IMPACT ANALYSIS

SUTHERLIN

URBAN GROWTH AMENDMENT

January 5, 2018

160 Madison Street, Suite A
Eugene, Oregon 97402
541.513.3376

SANDOW
ENGINEERING

Transportation Impact Analysis

Sutherlin Urban Growth Amendment



RENEWAL 06 / 30 / 18

Kelly Sandow PE

Sutherlin, Oregon
January 5, 2018

**SANDOW
ENGINEERING**
160 Madison Street, Suite A
Eugene Oregon 97402
541.513.3376
sandowengineering.com
project # 5673

EXECUTIVE SUMMARY

The City of Sutherlin is in the process of preparing an Urban Growth Boundary (UGB) Amendment in which 203 acres will be added within the UGB and 298 acres will be removed from the UGB. Of the 203 added acres 137.52 will be annexed into the City limits and the remaining 65.37 will remain outside the city limits City limits. Additionally, the city will be annexing 16.26 acres that are already within the existing UGB boundary but outside the City limits. The UGB amendment and annexation is an amendment to the existing City of Sutherlin Comprehensive Plan. As such, the UGB amendment needs to evaluate the traffic impacts consistent with the Statewide Planning Rule Goal 12, OAR 660-12-0060 Transportation Planning Rule (TPR) requirements.

This report describes the traffic analysis and findings consistent with the Transportation Planning Rule (TPR) to evaluate the impacts of the lands added within the UGB.

FINDINGS

The following findings and recommendations are based on the information and analysis contained within this report.

- The intersection of OR 138 at Park Hill Lane will not meet mobility standards by the year 2038 under the existing UGB boundaries and will occur even without the amendment. It is recommended that this intersection be signalized and a separate eastbound right turn lane added.
- The intersection of OR 138 at Dovetail Lane meets the criteria for the installation of a westbound left turn lane. This should be installed prior to the year 2038.
- The intersection of Park Hill Lane at Southbound Ramps meets the criteria for the installation of a southbound left turn lane. This should be installed prior to the year 2038.

CONTENTS

1.0	BACKGROUND	4
1.1	SCOPE OF ANALYSIS	4
2.0	ANALYSIS STUDY AREA.....	5
2.1	UGB AMENDMENT LANDS	5
2.2	STUDY AREA	8
2.3	STREET NETWORK	8
3.0	TRAFFIC VOLUMES	10
3.1	INTERSECTION TURNING MOVEMENT COUNTS	10
3.2	SEASONAL ADJUSTMENT	10
3.3	FUTURE YEAR BACKGROUND VOLUMES.....	10
3.4	TRAFFIC FROM UGB AMENDMENT	11
3.5	YEAR 2038 TRAFFIC VOLUMES	15
4.0	INTERSECTION EVALUATION.....	18
4.1	PERFORMANCE MEASURES	18
4.2	INTERSECTION ANALYSIS RESULTS - 2017	18
4.3	INTERSECTION ANALYSIS RESULTS – 2038.....	18
4.4	INTERSECTION QUEUING ANALYSIS RESULTS - YEAR 2038	19
5.0	INTERSECTION SIGHT DISTANCE	20
6.0	RIGHT AND LEFT TURN LANE CRITERIA.....	20
7.0	INTERSECTION IMPROVEMENTS.....	21
8.0	CONCLUSION.....	22
	FINDINGS.....	22

LIST OF TABLES

TABLE 1: UGB AMENDMENT TAX LOTS	6
TABLE 2: STUDY AREA INTERSECTION	8
TABLE 3: ROADWAY CHARACTERISTICS WITHIN STUDY AREA	8
TABLE 4: TRIP GENERATION FOR EACH AREA.....	11
TABLE 5: TRIP GENERATION BY AREA	14
TABLE 6: INTERSECTION PERFORMANCE: YEAR 2017 PM PEAK HOUR.....	18
TABLE 7: INTERSECTION PERFORMANCE: YEAR 2030 PM PEAK HOUR.....	19
TABLE 8: INTERSECTION QUEUING: YEAR 2038 PM PEAK HOUR	20
TABLE 9: TURN LANE CRITERIA	21

LIST OF FIGURES

FIGURE 1 – SITE LOCATION AND VICINITY MAP	7
FIGURE 2 – EXISTING LANE CONFIGURATION AND INTERSECTION CONTROL.....	9
FIGURE 3 – YEAR 2017 PM PEAK HOUR BACKGROUND TRAFFIC VOLUMES.....	12
FIGURE 4 – YEAR 2038 PM PEAK HOUR BACKGROUND TRAFFIC VOLUMES WITHOUT UGB AMENDMENT	13
FIGURE 5 – ADDED TRAFFIC FROM UGB EXPANSION	16
FIGURE 6 – YEAR 2038 PM PEAK TRAFFIC VOLUMES WITH UGB AMENDMENT.....	17

LIST OF APPENDICES

APPENDIX A: SCOPE OF WORK
APPENDIX B: TRAFFIC COUNTS
APPENDIX C: TRAFFIC VOLUME ADJUSTMENTS
APPENDIX D: TRIP GENERATION AND DISTRIBUTION
APPENDIX E: 2017 SYNCHRO OUTPUT
APPENDIX F: 2038 SYNCHRO OUTPUT
APPENDIX G: 2038 QUEUING ANALYSIS
APPENDIX H: TURN LANE WORKSHEETS

1.0 BACKGROUND

The City of Sutherlin is in the process of an Urban Growth Boundary (UGB) amendment. As part of the Amendment, an exchange of lands will occur that will remove approximately 298 total acres of land, 198 acres on the west side of town (south of OR 138 and west of Church Road) and 100 acres from a property on the east side of town (located on State Street on Schoon Mountain); and will bring in approximately 201.5 acres of land west of I-5, (South of Highway 138, and east of Church Rd) and a 1.4-acre parcel located on the far east of town north of Central Avenue. Of the 203 added acres 137.52 acres will be annexed into the City limits and the remaining 65.37 acres will remain outside the City limits. Additionally, 16.26 acres that are already within the UGB will be annexed into the City limits.

The UGB amendment is an amendment to the existing City of Sutherlin Comprehensive Plan. As such, the UGB amendment needs to evaluate the traffic impacts consistent with the Statewide Planning Rule Goal 12, OAR 660-12-0060 Transportation Planning Rule (TPR) requirements.

The evaluation considers impacts of the lands to be added within the UGB and annexed into the City limits and the lands already within the UGB and to be annexed within the City limits. The parcels are primarily zoned Low Density Residential (R-1) and Residential Hillside (RH). At the maximum build out the parcels added into the UGB have the potential to add up to 615 homes within the UGB. This report describes the traffic analysis and findings consistent with the Transportation Planning Rule (TPR) to evaluate the impacts of the lands added within the UGB and annexed into the City limits.

1.1 SCOPE OF ANALYSIS

The traffic study is performed in accordance with Oregon Department of Transportation (ODOT) Traffic Impact Analysis standards and criteria. The results of the analysis are compared to the criteria under the TPR and Oregon Highway Plan (OHP) to demonstrate that the proposed UGB amendment is consistent with the TPR criteria. The Scope of Work was provided by ODOT to establish evaluation criteria for off-site impacts at adjacent intersections. The traffic impacts are evaluated for the weekday PM time period between 3:30 PM and 6:30 PM at the following locations:

- OR 138 @ Interstate 5 Northbound On/Off Ramps
- OR 138 @ Park Hill Lane
- Parkhill Lane @ Interstate 5 Southbound Exit On/Off Ramp
- OR 138 @ Fort McKay Road
- OR 138 @ Dovetail Lane
- OR 128 @ Church Road

The operational analysis is performed at the studied intersections during the weekday PM peak hour of the system for the existing year (year 2017) and for the 20-year planning horizon (year 2038). The scope of work is included in Appendix A.

2.0 ANALYSIS STUDY AREA

2.1 UGB AMENDMENT LANDS

As part of the UGB Amendment, an exchange of lands will occur that will remove 198 acres on the west side of town (south of OR 138 and west of Church Road), remove 100 acres from a property on the east side of town (located on State Street on Schoon Mountain), and will bring in approximately 201.5 acres of land west of I-5, (South of Highway 138, and east of Church Rd) and 1.4 acres located on the far east of town north of Central Avenue. Of the 203 added acres 137.52 acres will be annexed into the City limits and the remaining 65.37 acres will remain outside the city limits City limits. Additionally, 16.26 acres that are already within the UGB will be annexed into the City limits.

Figure 1 provides an illustration of the location of the lands to be removed and added.

Lands removed from the UGB consist of about 56.5 acres of Low Density Residential (R-1), about 116.5 acres of Residential Hillside (RH), and about 125 acres of Forestry-Resource 20 (FR-20) designated land. The lands being added within the UGB will consist of 60.81 Low Density Residential (R-1), 125.16 acres of Residential Hillside (RH), and 16.92 acres County Farm Forest (FF) designated land. Table 1 provides the tax lots included within the UGB amendment.

TABLE 1: UGB AMENDMENT TAX LOTS

LANDS TO BE REMOVED

Map and Tax Lot	Acres	Zoning	Map and Tax Lot	Acres	Zoning
25-6-13-800	71.57	FR-20 & R -1	25-5-20-600	47.25	RH
25-6-14-900	123.31	FR-20, R-1, & R-H	25-5-29-1300	40.71	RH
25-5-20DA-2601	12.94	RH			

LANDS TO BE ADDED TO UGB AND ANNEXED

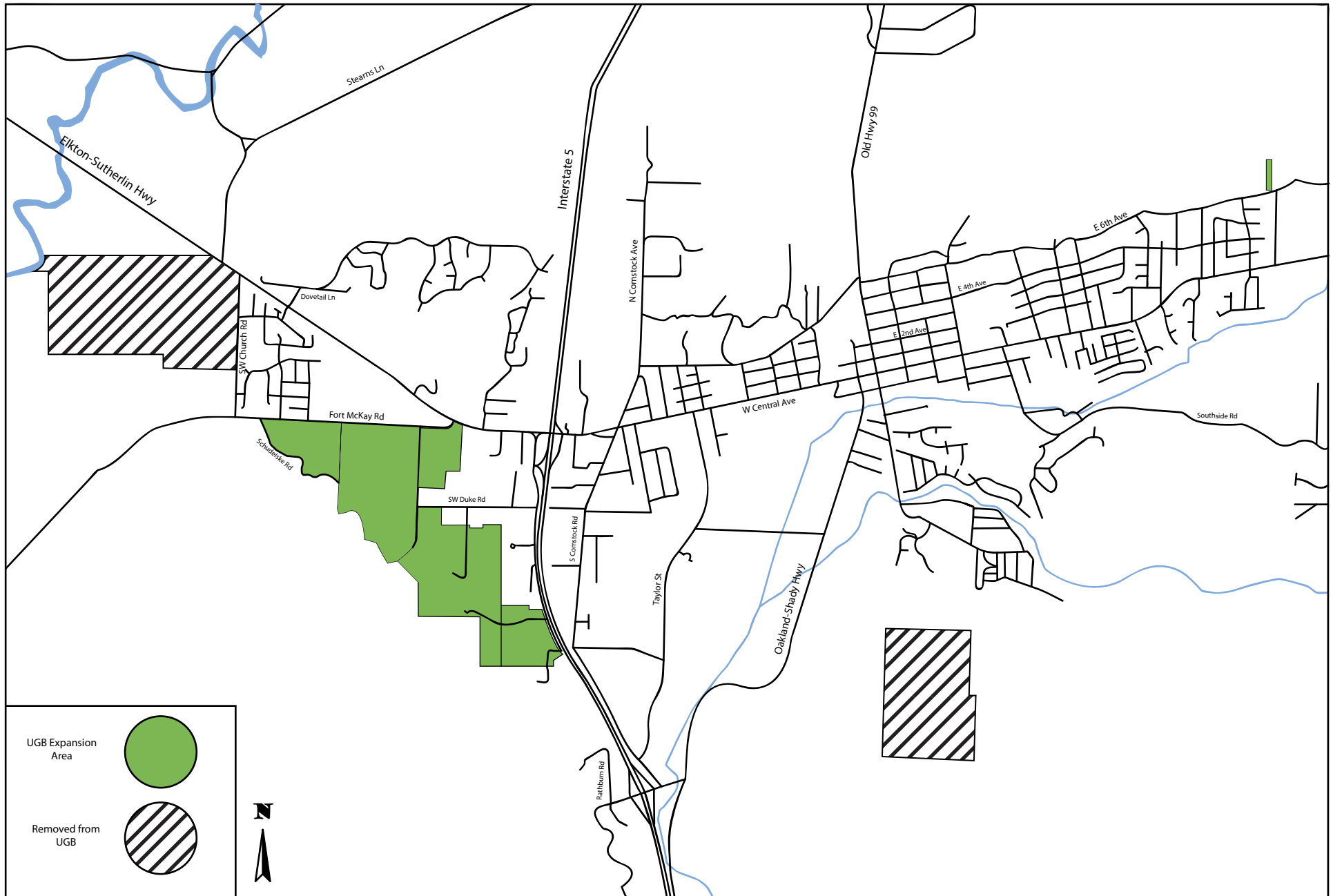
Map and Tax Lot	Acres	Zoning	Map and Tax Lot	Acres	Zoning
25-26-24-1500	9.77	RH	25-5-19C-200	1.42	RH
25-26-24-1800	0.95	RH	25-5-19C-201	1.40	RH
25-26-24-2100	3.44	RH	25-5-19C-300	2.07	RH
25-6-24A-1400	4.61	RH	25-5-19C-400	0.34	RH
25-6-24A-1600	9.68	RH	25-5-19C-800	7.05	RH
25-6-24A-1700	8.13	R-1	25-5-19CD-400	1.05	RH
25-6-24A-1800	12.18	R-1	25-5-19CD-500	0.67	RH
25-6-24A-1900	12.32	R-1	25-5-19CD-600	0.75	RH
25-6-24A-2000	9.85	R-1	25-5-19CD-800	5.11	RH
25-6-24A-2300	1.96	RH	25-5-19CD-1000	4.64	RH
25-6-24A-2401	0.53	RH	25-5-19CD-1100	2.01	RH
25-6-24A-2500	0.83	RH	25-5-19CD-1101	2.09	RH
25-5-19C-100	29.73	FF & R-1	25-5-19CD-11.02	4.94	RH

LANDS TO BE ADDED TO UGB AND NOT ANNEXED

Map and Tax Lot	Acres	Zoning	Map and Tax Lot	Acres	Zoning
25-26-24-1700	5.0	RH	25-6-24A-2400	0.53	RH
25-26-24-1900	9.12	RH	25-5-19C-401	0.34	RH
25-26-24-2200	0.83	RH	25-5-19C-500	0.68	RH
25-6-24A-1300	1.41	RH	25-5-19C-700	6.03	RH
25-6-24A-2100	4.52	RH	25-5-19CD-700	0.76	RH
25-6-24A-2200	0.90	RH	25-5-19CD-900	4.93	RH
25-5-15B-402	1.40	RH	25-5-19C-900	18.52	FF & RH
25-26-24-2000	4.03	RH	25-6-24A-1200	2.78	RH
25-5-19C-600	3.59	RH			

LANDS TO BE ANNEXED (ALREADY IN UGB)

Map and Tax Lot	Acres	Zoning	Map and Tax Lot	Acres	Zoning
25-5-19B-500	0.33	R-1	25-5-19B-1400	2.62	R-1
25-5-19B-700	0.23	R-1	25-5-19B-1500	1.89	R-1
25-5-19B-800	1.31	R-1	25-5-19BC-1100	1.19	R-1
25-5-19B-900	1.58	R-1	25-5-19BC-1300	2.38	R-1
25-5-19B-1000	0.23	R-1	25-5-19BC-1600	4.04	R-1
25-5-19B-1100	0.46	R-1			



Sutherlin UGB Modification, Sutherlin, Oregon

Figure 1: Vicinity Map and Site Location

2.2 STUDY AREA

The study area, as defined by ODOT, (Scope of Work is included Appendix A) includes intersections along Highway 138 as well as the southbound ramp terminal. The intersections within the study area are evaluated for impacts associated with the UGB amendment. All of the study area intersections are within ODOT jurisdiction. Figure 2 provides the intersection locations and Table 2 provides the intersection information.

TABLE 2: STUDY AREA INTERSECTION

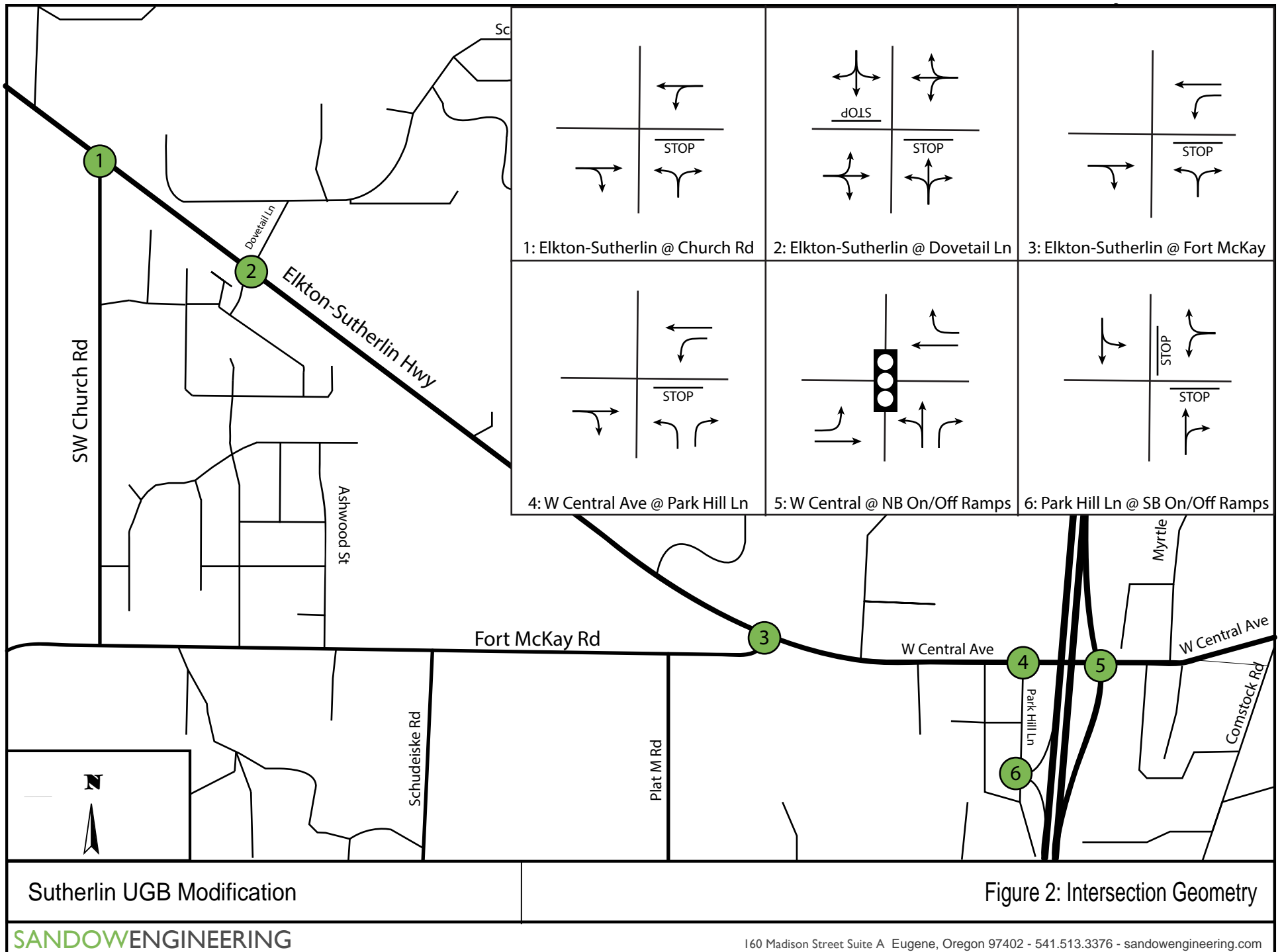
Intersection	Jurisdiction	Intersection Control
OR 138 @ Interstate 5 Northbound On/Off Ramps	ODOT	Signal
OR 138 @ Park Hill Lane	ODOT	Stop Sign
Interstate 5 Southbound Exit On/Off Ramp	ODOT	Stop Sign
OR 138 @ Fort McKay Road	ODOT	Stop Sign
OR 138 @ Dovetail Lane	ODOT	Stop Sign
OR 128 @ Church Road	ODOT	Stop Sign

2.3 STREET NETWORK

Major Streets included within the study are OR 138, Fort McKay Road, Central Avenue, and Park Hill Lane. Additionally, the local roadways of Church Road and Dovetail Road are included. Table 3 illustrates the roadway characteristics within the study area.

TABLE 3: ROADWAY CHARACTERISTICS WITHIN STUDY AREA

Characteristic	Highway 138	Fort McKay Road	Central Ave	Park Hill Lane
Functional Classification	Minor Arterial/ Regional Highway	Major Collector	Major Collector	Local
Posted Speed	30/40/55	Basic Rule/55	20/30/35/55	Basic Rule/55
Lanes per Direction	1	1	1	1
Center Left Turn Lane	Yes	No	Yes	no
Restrictions in the Median	No	No	No	No
Bikes Lanes Present	No	No	No	No
Sidewalks Present	No	No	Yes	No
On-Street Parking	No	No	Yes	No



3.0 TRAFFIC VOLUMES

Intersection evaluation is performed for the design hour traffic volumes. The design hour volumes for this project have been identified to be the typical weekday peak hour occurring from 3:30 PM to 6:30 PM during the peak month of the year. The design hour traffic volumes are determined following ODOT methodology as described in the following.

3.1 INTERSECTION TURNING MOVEMENT COUNTS

As part of the analysis, weekday PM peak hour turning movement counts were collected at the study intersections identified in the scope of work. The traffic counts were performed for the 3:30 PM to 6:30 PM peak period. The turning movement counts illustrate that the PM peak hour occurs from 4:30 PM to 5:30 PM. The traffic volumes are included in Appendix B.

3.2 SEASONAL ADJUSTMENT

Application of seasonal adjustment factors account for the fact that through volumes along State Highways and recreational routes tend to fluctuate from month to month due to changes in recreational behavior, etc. The seasonal adjustment factor adjusts the counts to represent traffic during the peak month of the year. The ODOT seasonal adjustment factor for Commuter Trend was applied to the intersections within the analysis area. The Commuter Trend has a peak that occurs during the last half of August. The October counts were seasonally adjusted to represent August traffic volumes by applying a factor of 1.036. The seasonal adjustment calculations are included in Appendix C. Figure 3 provides the year 2017 seasonally adjusted background traffic volumes.

3.3 FUTURE YEAR BACKGROUND VOLUMES

Consistent with TPR criteria the PM analysis evaluates the studied intersections for the existing year and the 20-year planning horizon, year 2038. ODOT future volume tables were used to determine background growth along the study area intersections that is due to growth with the City that is not attributed to the development of the parcels included within the UGB amendment area. The ODOT future volume tables estimate an annual growth rate of 0.5% to 1.5% per year along OR 138. The growth rate of 1.5% per year was used for intersections west of Interstate 5 and a growth rate of 1.4% was used for intersections east of Interstate 5. This growth rate was applied to all existing traffic volumes to estimate the year 2038 background traffic volumes.

The impacts of the UGB amendment are compared to conditions if the amendment did not occur. The UGB amendment impacts are compared to the existing conditions which assumes growth from the lands to be removed from the UGB. The proposal is to remove 198 acres of land west of the interchange. Of the area to be removed, the 56.5 acres designated R-1 and the 15.6 acres designated R-H will generate development trips. The remaining 126 acres of FR-25 is assumed to generate limited to no development trips. The 72 acres of residential zoning is assumed to develop at a rate of 4 homes per acre, consistent with the IAMP, resulting in 288 homes. The trips generated by the parcel to be removed is shown in Table 4.

TABLE 4: TRIP GENERATION FOR EACH AREA

ITE Land Use	Size (Dwelling Units)	Trip Generation					
		Rate (trips/ unit)	Trips	% In	% Out	Trips In	Trips Out
210 – Single-Family Detached Housing	288	1.0	288	63	74	181	107

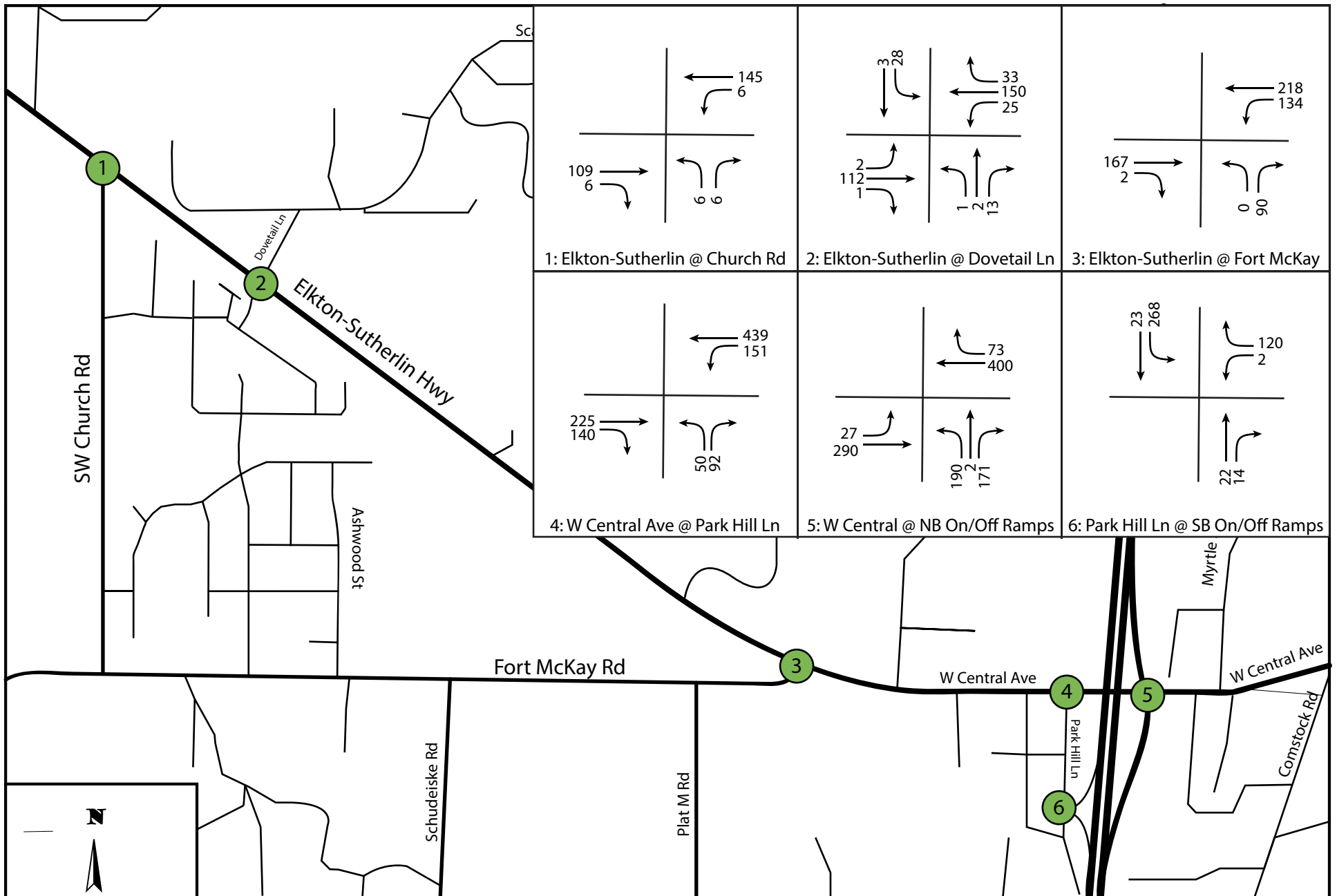
The development trips from the parcels to be removed were added to the street network based on the following distribution patterns.

- 5% to/from west via OR 138
- 45% to/from east of I-5
- 40% to/from south I-5
- 10% to/from north I-5

The development trips were added to the 2038 background resulting in the 2038 conditions prior to the UGB amendment. The growth rate calculations, including trip distribution of development trips from the parcels to be removed are included in Appendix C. Figure 4 contains the year 2038 background traffic conditions without the UGB amendment.

3.4 TRAFFIC FROM UGB AMENDMENT

To comply with TPR standards the analysis needs to evaluate conditions for the reasonable worst-case development scenario under the new zoning for each of the tax lots to be added into the UGB. The tax lots to be included within the UGB expansion were divided into 3 areas based on how traffic would access the roadway network. Each tax lot has a City zoning assigned of either Low Density Residential (R-1) or Residential Hillside (RH). The R-1 zoning has a max density of 6 units per acre and the RH zoning has a maximum density of 3 units per acres. The IAMP assumes a reasonable development potential within the City of 4 units per acre, the City staff concur that this is a reasonable assumption, therefore a development rate of 4 units per acre is assumed. The density is applied to each lot to determine the reasonable maximum number per units. The units are assumed to be Single Family houses, the ITE Trip Generation Manual is used to determine how many trips are assigned to each parcel. Appendix D contains the trips generated to each of the tax lots. Table 5 includes the trip generation by area.



Sutherlin UGB Modification

Figure 3: Existing PM Peak Hour Traffic



Sutherlin UGB Modification

Figure 4: 2038 PM Peak Hour Trips Without UGB Expansion

TABLE 5: TRIP GENERATION BY AREA

ITE Land Use	Size (Dwelling Units)	Trip Generation					
		Rate (trips/ unit)	Trips	% In	% Out	Trips In	Trips Out
210 – Single-Family Detached Housing							
Area 1 RH, R1 zoning (90.51 Acres)	362	1.0	362	63%	37%	228	134
Area 2 RH, R1 zoning (42.01 Acres)	168	1.0	168	63%	37%	106	62
Area 3 RH, R1 zoning (21.26 Acres)	85	1.0	85	63%	37%	54	31
Total			615			388	227

As described previously, the analysis includes areas added to the UGB and annexed into the City limits as well as lands already in the City limits that will be annexed.

Each of the areas illustrated in Table 5, was grouped together and traffic was distributed through the network based on the adjacent roadways.

Area 1: Area 1 is assumed to have all the traffic access to/from Fort McKay Road. Traffic is distributed through the City roadway system as follows:

- 5% to/from west via OR 138
- 45% to/from east of I-5
- 40% to/from south I-5
- 10% to/from north I-5

Area 2: Area 2 is assumed to have traffic access to/from Fort McKay, Duke Avenue, and Park Hill. Traffic is distributed through the City roadway system as follows:

- 5% to/from west via OR 138
- 45% to/from east of I-5
- 40% to/from south I-5
- 10% to/from north I-5

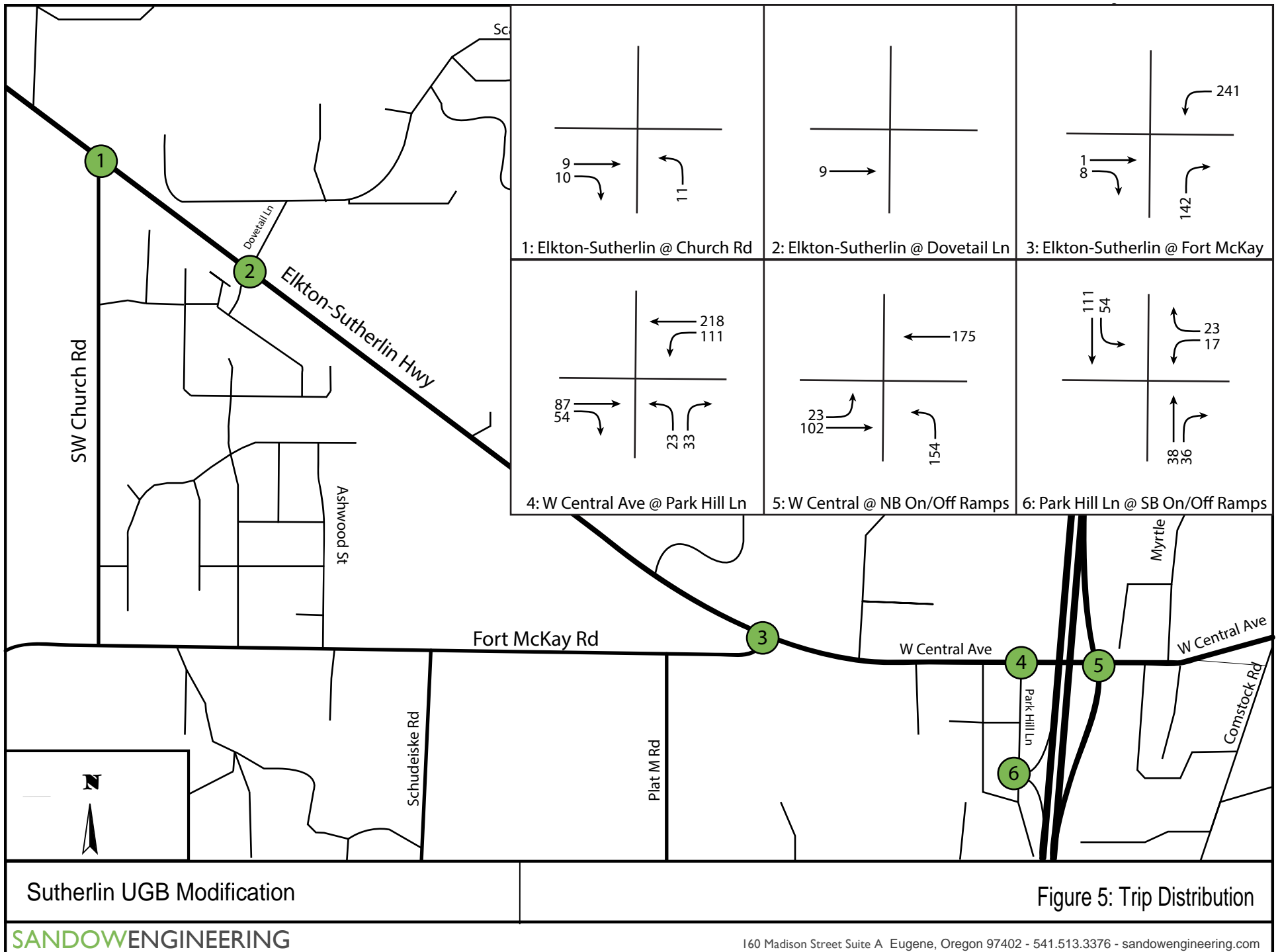
Area 3: Area 3 is assumed to have traffic access to/from Park Hill Lane south of the southbound ramps. Traffic is distributed through the City roadway system as follows:

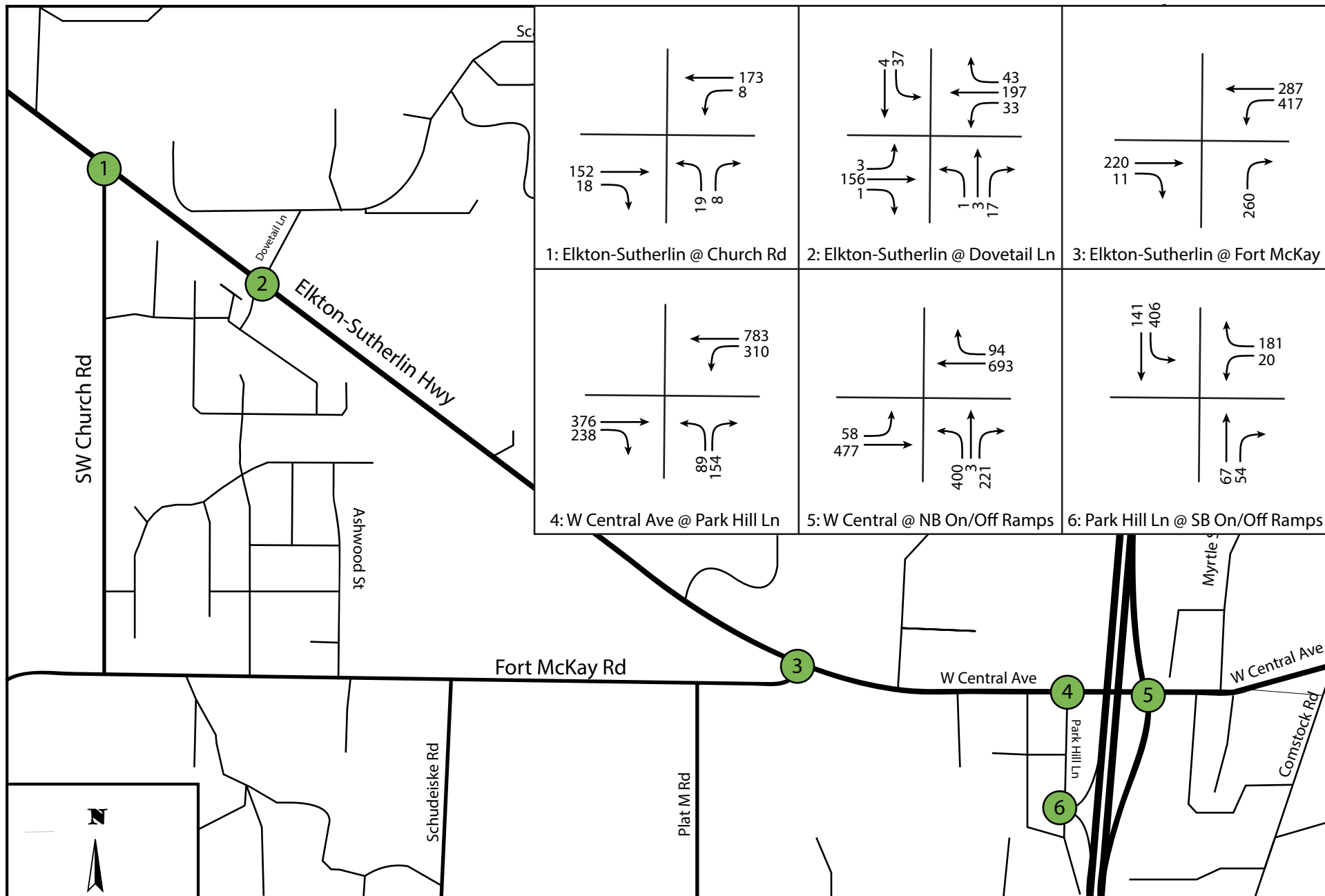
- 5% to/from west via OR 138
- 45% to/from east of I-5
- 40% to/from south I-5
- 10% to/from north I-5

The traffic from the development was distributed to the roadway network following existing travel patterns adjusting for reasonable origins and destinations within the City. Appendix D contains the trip distribution for each area. Figure 5 illustrates the traffic added from the added parcels.

3.5 YEAR 2038 TRAFFIC VOLUMES

The traffic from the UGB expansion area was added to the 2038 background traffic volumes resulting in the year 2038 total traffic volumes. These are the volumes used in the intersection analysis. Figure 6 illustrates the year 2038 total pm peak hour traffic volumes.





Sutherlin UGB Modification

Figure 6: 2038 PM Peak Hour Traffic Volumes With UGB Expansion

4.0 INTERSECTION EVALUATION

4.1 PERFORMANCE MEASURES

All Intersections are within ODOT jurisdiction, therefore, are subject to ODOT mobility standards. ODOT has a mobility standard defined as volume capacity ratio.

The volume-to-capacity ratio describes the capability of an intersection to meet volume demand based upon the maximum number of vehicles that could be served in an hour. V/C is the threshold for which ODOT evaluates the operation of intersections, as defined by the *1999 Oregon Highway Plan*. V/C thresholds are defined based on roadway classification and speed. Highway 138 is a Regional Highway with speeds between 30 and 55 mph. The maximum v/c threshold for Highway 138 is 0.90 for sections with a speed less than 35 mph and 0.85 for sections with a speed of more than 35 mph. Policy 1F of the Oregon Highway plan defines the v/c for a ramp terminal as 0.85, therefore this standard applies to the signalized intersection of Highway 138 at I-5 Northbound ramp and the intersection of Park Hill St Lane at the I-5 Southbound ramps.

4.2 INTERSECTION ANALYSIS RESULTS - 2017

A performance analysis was conducted for the studied intersections for the year 2017 existing condition during the PM peak hour. The results of the analysis are illustrated in Table 6. The SYNCHRO outputs are provided in Appendix E.

TABLE 6: INTERSECTION PERFORMANCE: YEAR 2017 PM PEAK HOUR

Intersection	Mobility Standard	2017 Background
OR 138 @ Church Road	0.85	0.02
OR 138 @ Dovetail Lane	0.90	0.06
OR 138 @ Fort McKay Road	0.85	0.11
OR 138 @ Park Hill Lane	0.85	0.26
OR 138 @ Interstate 5 Northbound On/Off Ramps	0.85	0.43
Interstate 5 Southbound Exit On/Off Ramp	0.85	0.19

*results for stop controlled intersections are reported for the critical approach only.

As illustrated in Table 6, all of the studied intersections operate better than the mobility standard for the existing conditions.

4.3 INTERSECTION ANALYSIS RESULTS – 2038

A performance analysis was conducted for the studied intersections for the year 2038 traffic conditions with the build out of the parcel being added within the UGB. The results of the analysis are illustrated in Table 7. The SYNCHRO outputs are provided in Appendix F.

TABLE 7: INTERSECTION PERFORMANCE: YEAR 2030 PM PEAK HOUR

Intersection	Mobility Standard	2038 Without UGB Expansion	2038 With UGB Expansion
OR 138 @ Church Road	0.85	0.07	0.05
OR 138 @ Dovetail Lane	0.90	0.13	0.09
OR 138 @ Fort McKay Road	0.85	0.22	0.34
OR 138 @ Park Hill Lane	0.85	1.26	<2.0
OR 138 @ Interstate 5 Northbound On/Off Ramps	0.85	0.66	0.77
Interstate 5 Southbound Exit On/Off Ramp	0.85	0.28	0.39

*results for stop controlled intersections are reported for the critical approach only.

As illustrated in Table 6, the intersection of OR 138 at Park Hill Lane is projected to not meet the mobility standards for the year 2038 under existing UGB boundary and with conditions after the UGB amendment.

4.4 INTERSECTION QUEUING ANALYSIS RESULTS - YEAR 2038

A queuing analysis was performed following procedures within the Highway Capacity Manual and implemented within SimTraffic 8. SimTraffic, a micro simulation software, evaluates traffic operations as a network and provides queuing estimates. The Average and 95th Percentile queues for the year 2038 PM peak hour existing conditions are included in Table 8. The outputs are included in Appendix G.

TABLE 8: INTERSECTION QUEUING: YEAR 2038 PM PEAK HOUR

Intersection			Available Storage (Feet)	2038 Without UGB Expansion (Feet)		2038 With UGB Expansion (Feet)	
				Average	95 th percentile	Average	95 th percentile
OR 138 @ Church Road	EB	TR	0	0	0	0	0
	WB	LT	0	25	50	0	25
	NB	LR	25	25	50	25	50
OR 138 @ Dovetail Lane	EB	LTR	0	0	25	0	25
	WB	LTR	25	25	25	0	25
	NB	LTR	25	25	50	25	50
	SB	LTR	25	25	50	25	50
OR 138 @ Fort McKay Road	WB	L	75	50	100	75	125
	NB	LR	75	50	100	75	125
OR 138 @ Park Hill Lane	EB	TR	550	25	50	25	50
	WB	L	175	75	150	125	225
	WB	T	175	0	0	25	125
	NB	L	100	200	300	225	250
	NB	R	75	210	600	400	625
OR 138 @ Interstate 5 Northbound On/Off Ramps	EB	L	100	50	100	50	1100
	EB	T	175	25	225	125	225
	WB	T	300	200	325	300	600
	WB	R	75	50	150	50	150
	NB	LT	175	150	225	175	275
	NB	R	75	75	125	75	125
Interstate 5 Southbound Exit On/Off Ramp	WB	LR	125	200	550	575	800
	NB	TR	0	25	75	225	500
	SB	LT	75	25	75	50	100

EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, L = Left, T = Thru, R = Right

5.0 INTERSECTION SIGHT DISTANCE

The Scoping letter from ODOT requested that an evaluation of intersection sight distance be prepared for any proposed access or intersection. At this time, there are no specific intersections or accesses proposed. The future street network will be developed as the parcels will be developed. At that time, all new intersections and driveways will be evaluated for sight distance to ensure standards are met.

6.0 RIGHT AND LEFT TURN LANE CRITERIA

ODOT provides guidance as to when intersections and driveways along state facilities should have right and left turn lanes installed. The criteria is traffic volume bases where the turning movements are compared to the through volumes and is used for unsignalized intersections only. The need for turn

pockets at signalized intersections are determined from the volume to capacity analysis. Table 9 includes the results of the evaluations. Appendix H includes with worksheets.

TABLE 9: TURN LANE CRITERIA

Intersection	Right Turn	Left Turn
OR 138 @ Church Road	Not Warranted	Not Warranted
OR 138 @ Dovetail Lane	Not Warranted	Westbound Left Turn Warranted
OR 138 @ Fort McKay Road	Not Warranted	Currently Exists
OR 138 @ Park Hill Lane	*Future Signal	*Future Signal
Interstate 5 Southbound Exit On/Off Ramp	Not Warranted	Southbound Left Turn Warranted

7.0 INTERSECTION IMPROVEMENTS

The traffic from the tax lots added within the UGB will impact operations and queuing conditions at the following intersections:

- OR 138 at Park Hill Lane

Additionally, the turn lane criteria suggest turn pockets would be warranted at the following locations:

- OR 138 Dovetail Lane
- Park Hill Lane at SB On/off ramps

As such the following improvements are recommended to ensure that the intersections operate acceptably for the next 20 years.

OR 138 at Park Hill Lane: The intersection of OR 138 at Park Hill Lane is projected to not meet the v/c standards prior to the year 2038 under the existing UGB boundaries. The installation of a traffic signal recommended under existing conditions. With the signal, the intersection will operate at a v/c 0.75 meeting ODOT standards of 0.85. The queuing analysis shows that the queue for the eastbound approach at this intersection will be over 900 feet with signalization. The eastbound approach is a single lane with a projection of 376 through and 239 right turning vehicles during the pm peak hour. It is recommended that a separate right turn be installed for the eastbound approach to reduce the vehicle queues. The currently adopted TSP had recommended a signal at this intersection. The signal is needed by year 2038 with the existing UGB boundaries (prior to the proposed exchange).

OR 138 at Dovetail: The intersection meets operational standards through year 2038. However, the westbound through and left turn volumes meet the criteria for a separate left turn lane. Crash

investigation and sight distance review indicate no current significant safety issue at this location. However, the left turn pocket should be considered prior to the year 2038.

Park Hill at SB Ramps: The intersection meets operational standards through year 2038. However, the southbound through and left turn volumes meet the criteria for a separate left turn lane. Crash investigation and sight distance review indicate no current significant safety issue at this location. However, the left turn pocket should be considered prior to the year 2038.

8.0 CONCLUSION

The analysis evaluates the adjacent roadway network and intersections with the added traffic from the proposed UGB expansion area consistent with ODOT analysis and evaluation criteria. The following findings are based on the information and analysis contained within this report.

FINDINGS

The analysis concludes the following findings:

- The intersection of OR 138 at Park Hill Lane will not meet mobility standards by the year 2038 under the existing UGB boundaries and will occur even without the amendment. It is recommended that this intersection be signalized and a separate eastbound right turn lane added.
- The intersection of OR 138 at Dovetail Lane meets the criteria for the installation of a westbound left turn lane. This should be installed prior to the year 2038.
- The intersection of Park Hill Lane at Southbound Ramps meets the criteria for the installation of a southbound left turn lane. This should be installed prior to the year 2038.

Sutherlin UGB Modification



Oregon

Kate Brown, Governor

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FILE CODE:

Date: August 2, 2017

File:

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Subject: Traffic Impact Analysis Scope of Work:
Sutherlin UGB Exchange

The purpose of this letter is to define the scope of work for a Traffic Impact Analysis (TIA), which evaluates the impact for the proposed Sutherlin UGB Exchange Project. The information identifying the limits of the project shall be defined in the TIA and shall be pre-approved by ODOT before continuing the evaluation.

Scope of Work:

GENERAL

1. Executive Summary

Provide a description of the proposed UGB exchange project, site location and study area (including a site map). Briefly describe the purpose of the analysis, principal findings, recommendations and conclusions.

2. Analysis Study Area

Provide a text description (including tax-lot descriptions) of the proposed UGB exchange project; and a graphic showing the intersections and accesses to be evaluated as part of this analysis.

A. Major Intersections to be evaluated:

- a) *OR 138 & I-5 NB On/Off Ramps*
- b) *OR 138 & Park Hill Lane*
- c) *I-5 Exit SB On/Off Ramp Terminals*

B. Minor Intersections:

- d) *OR 138 & Fort McKay Road*
- e) *OR 138 & Dovetail*
- f) *OR 138 & Church Road*

Some of the intersections could be removed from the study area after the evaluation of the trip generation and distribution.

TRAFFIC DATA

1. Traffic Counts

For all major intersections where significant signal modifications or where signals are being proposed, the counts shall be a minimum of 16-hour long, with 15-minute breakdowns in the A.M. and P.M. peak hours, unless pre-approved for a lesser time. Justification for deviation from these counts will be required. For all other intersections and approaches, the counts must be at least 2-hours long, made during both the morning and afternoon peaks, with 15-minute breakdowns. The morning peak hour occurs during 6:30 AM to 9:30 AM and the afternoon peak occurs during 3:30 PM to 6:30 PM. ODOT are not aware of any "false" peaks for this area. If there are indications of problems during these time frames, the traffic evaluation shall address all concerns.

Raw traffic volumes will not be accepted for use in traffic analysis. All traffic volumes shall be seasonally adjusted to represent 30th Highest Hour Volumes (30HV) for Current Year, each anticipated phase completion, and Future Year "*background traffic*" conditions, all with and with-out the project. For guidance, please refer to the *Developing Design Hour Volumes* document at:

<http://www.oregon.gov/ODOT/TD/TP/docs/TAPM/DevDHV.pdf>

2. Site Trip Generation, Distribution and Assignment

Project trip generation shall utilize the most recent edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual to estimate daily and peak hour trip volumes originating from and destined to the proposed project. In the case of an existing approval where specific land uses have not been identified, a reasonable worst-case land use scenario should be assumed based on the allowed uses under the current and requested zone(s). All assumptions and adjustments shall be documented and discussed in the TIA, or in an appendix. Trip generation may be adjusted with additional information and refinement. Pass-by, Diverted and Internal trips should be calculated based on ITE Trip Generation hand book.

This analysis should use available transportation models in conjunction with the Douglas County Transportation System Plan and the Comprehensive Plan to estimate traffic distribution patterns. This TIA could be a significant amendment to the current Comprehensive Plan and the Transportation System Plan. Approved computer models, such as TRAFFIX, or manual calculations may also be used for determining trip assignments for site-generated traffic volumes on roadways within the study area. **Pre-approval of trip generation and distribution parameters shall be obtained from ODOT prior to commencing further analysis.**

ANALYSIS PROCEDURES

For ODOT's *Analysis Procedures Manual* Refer to:

<http://www.oregon.gov/ODOT/TD/TP/TAPM.shtml>

and for ODOT's *Development Review Guidelines* Refer to:

<http://www.oregon.gov/ODOT/TD/TP/DRG.shtml>

1. Capacity Analysis

Capacity analysis of signalized intersections, unsignalized intersections, and roadway segments shall follow the established methodologies of the current Highway Capacity Manual (HCM2010). For signalized intersections, the overall intersection V/C shall be reported. For unsignalized intersections, the highest approach V/C shall be reported, along with an indication of its corresponding movement.

Please use ODOT default values for signalized intersection analysis. If multiple intersections are analyzed, the traffic volumes shall be balanced between intersection nodes. All intersection capacity analyses shall include heavy vehicles percentages by approach, as determined from manual counts. Planning level mobility results (V/C) from the TIA will be compared against Highway Mobility Standards (Policy 1F) and the Maximum V/C Ratios provided in Table 6 of the 1999 Oregon Highway Plan (OHP).

Application of Computer software shall closely follow ODOT-approved analysis methodologies using ODOT standard parameter values. HCS2010 and Synchro/SimTraffic are examples of accepted analysis software. For further guidance, contact TPAU.

2. Queue Length Analysis

Intersection operation analysis shall include the effects of queuing and blocking. Average queue lengths and 95th Percentile queue lengths shall be reported for all study area intersections. The 95th Percentile queuing shall be used for design purposes, and will be reported to the next highest 25 foot increment. Any methodology used to determine queue length shall be approved in advance by either TPAU or the Region Traffic Section.

ANALYSIS REQUIREMENTS

1. Intersection Sight Distance

Adequate intersection sight distance shall be verified for all proposed intersections and highway approaches as required in ODOT's 2012 Highway Design Manual. Refer to:
http://www.oregon.gov/ODOT/HWY/ENGSERVICES/pages/hwy_manuals.aspx

For guidance, please contact the Region Access Management Engineer.

2. Right & Left Turn Lane Criteria

Proposed right or left turn lanes at unsignalized intersections and private approach roads shall meet installation criteria contained in the current Highway Design Manual (HDM). For turn lane evaluation procedures, refer to:
<http://www.oregon.gov/ODOT/TD/TP/TAPM.shtml>

3. Traffic Signal Installations & Modifications

Analysis and recommendations related to new and/or modified traffic signals shall follow ODOT's Traffic Signal Policy and Guidelines, and all subsequent revisions. These documents can found on the web at:

<http://www.oregon.gov/ODOT/HWY/TRAFFIC/publications.shtml>

Any recommendations for traffic signals to be installed or modified as part of future mitigation should meet preliminary signal warrants (MUTCD Warrant #1, Case A & B). New signal proposals shall show, but are not limited to, the following:

- a) A clear indication for the traffic signal; only after other enhancements to nearby signals or intersections are shown to be insufficient to mitigate the new highway related impacts resulting from the proposed project.
- b) An assessment of the ability of the existing, planned, and proposed public roads to accommodate proposed project traffic at another location.
- c) A detailed description how the proposed project will affect the existing and proposed study area intersections.
- d) Documentation of traffic volumes and signal warrant satisfaction; if a new signal is determined to be the correct solution.

Clearly show how one or more of the eight warrants identified in the Millennium Edition of the Manual on Uniform Traffic Control Devices (MUTCD), Chapter 4C, Sections 1 through 9 are met, consistent with the requirements of OAR 734-020-0490. Traffic signal spacing requirements shall conform to the 1999 Oregon Highway Plan and all amendments.

All proposed signals shall show the need and warrants as described in Oregon Administrative Rule 734-020-0400-0500, the Oregon Traffic Manual section 6.34 and the above mentioned Traffic Signal Policy and Guidelines. For guidance, please contact TPAU or the Region Traffic Section, or refer to the Preliminary Signal Warrant Guidelines at:

http://www.oregon.gov/ODOT/TD/TP/docs/TAPM/Signal_Warrant.pdf

NOTE: It is ultimately up to the State Traffic Engineer to approve all signal installations, modifications and deviations. Just because an intersection may meet the MUTCD Warrants does not insure it will be approved by the State Traffic Engineer.

ANALYSIS OUTPUT

1. Existing Conditions

Identify current year site conditions at the proposed project location. This includes, but is not limited to the following:

- a) A description of the location, zoning, existing use(s), and proposed use(s) of subject property.
- b) A description of surrounding and anticipated land uses.
- c) A graphic identifying existing lane configurations and traffic control devices at the study area intersections
- d) A graphic showing existing 30HVV traffic; reported as AM (6:30-9:30 a.m.) and PM (3:30-6:30 p.m.) Peak Hour Volumes (PHV), and also as average

daily traffic (ADT). Also include in this graphic a list of heavy vehicle percentages by approach and growth rates used for future volumes.

- e) Identify all proposed road segments, public intersections, public or private approaches:
 - where the proposed project can be expected to add additional traffic volumes greater than 20 percent of the current traffic volumes,
 - or at a minimum 500 vehicle trips in a single day,
 - or more than 50 additional vehicle trips in any single hour.
- f) An analysis of existing intersection operations, reported in terms of both Volume to Capacity (V/C) and Level of Service (LOS).
- g) An analysis of at least **5-years worth of crash data**; including information on all SPIS sites within or adjacent to the study area.

2. Traffic Volumes & Operations – Year of Opening and Years of Anticipated Phases; with & without Proposed UGB Exchange Project

An analysis shall be made of all study area intersections for the Year of Opening and each anticipated phase, with both “*background traffic*” and “*total traffic*” conditions. “*Total traffic*” conditions are considered “*background traffic*” volumes plus site generated trips and “pipe line” trips. This analysis should provide the following:

- a) A graphic showing Year of phase “*background traffic*” and “*total traffic*” volumes.
- b) A graphic or table showing V/C and LOS analysis results for both “*background traffic*” and “*total traffic*” volumes.
- c) A graphic or table itemizing storage length requirements for all approaches, rounded to the next nearest 25 foot increment.
- d) If applicable, a discussion of progression performance along the analysis corridor.

3. Traffic Volumes & Operations – Future-Year; with & without Proposed UGB Exchange Project

An analysis shall be made of all study area intersections for a **20-year horizon** including each completed phase, anticipated project in the surrounding area, and all anticipated improvements on the transportation system for both “*background traffic*” and “*total traffic*” conditions. This analysis should provide the following:

- a) A graphic showing Year of Opening “*background traffic*” and “*total traffic*” volumes.
- b) A graphic or table showing V/C and LOS analysis results for both “*background traffic*” and “*total traffic*” volumes.
- c) A graphic or table itemizing storage length requirements for all approaches, rounded to the next highest 25 foot increment.
- d) If applicable, a discussion of progression performance along the analysis corridor.

Planned transportation system improvements anticipated within the **20-year horizon** shall be incorporated into the Future Year analysis. Do not incorporate improvements that are proposed as mitigation for the project. For guidance, please refer to the Transportation Planning Rule (TPR) OAR 660-012-0060 at <http://www.oregon.gov/ODOT/TD/TP/docs/TPR/adopt042005.pdf>

4. Capacity & Operation Analysis Inputs

A summary of traffic analysis variable inputs shall be provided in an appendix. In Synchro, the ***Int: Lanes, Volumes, Timings*** report is the output source for this information. TIA's submitted without an input summary will not be accepted by the Department.

5. Conclusions and Recommendations

Summarize existing and future conditions and discuss the proposed project's impacts. Identify any operational, capacity or safety deficiencies and recommend mitigation along with the effectiveness of the mitigation. Summarize how the proposed project complies with all operational, capacity and safety standards in the applicable approval criteria. Also summarize all proposed mitigations and the "assigned" proportionality to the project for all locations.

Note: Signal timing adjustments will not be considered as mitigation.

Please submit three stamped, final hard copy versions of the TIA for review to ODOT. Also, **please submit all electronic analysis files for review** to ODOT so staff can verify assumptions, default settings, and other values included in the traffic analysis. If the analysis performed used traffic software other than Trafficware's Synchro/Simtraffic software or Highway Capacity Manual 2010 software, please submit the appropriate UTDF files for review. You may contact the Region Traffic Analyst for details. ODOT staff will need a minimum of 30 days for review and comment on the TIA.

Please include this scope of work as an appendix item in the TIA.

We hope this will provide enough information to get started on the analysis. We are pleased to work with you and your staff to answer any questions that arise during the course of your work. Additional coordination of traffic analysis data may be required during the TIA review process.

Please contact me directly at 541-774-6316 or Mr. Ron Hughes at 541-957-3696 if you have comments, questions, or require additional information regarding traffic engineering issues or contact Mr. John McDonald, ODOT Development Review Planner, at 541-957-3688, if you have comments, questions, or require additional information regarding land use issues. Mr. McDonald will serve as the lead ODOT Development Review contact for this project

Sincerely,

A black rectangular redaction box covering the signature of Wei (Michael) Wang.

Wei (Michael) Wang, P.E. & M.S.
Region 3 Development Review Engineer

Sutherlin UGB Modification

Intersection:		1: SW Church Rd @ Elkton Sutherlin Hwy																				City:		Sutherlin, OR				
Counter:		Sandow Engineering										Date: Thursday, October 19, 2017																
Total of All Vehicles																												
Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians								
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB					
15:30	15:45	0	0	0	0	0	26	1	27	1	0	1	2	1	33	0	34	63		0	0	0	0					
15:45	16:00	0	0	0	0	0	27	0	27	1	0	0	1	2	31	0	33	61		0	0	0	0					
16:00	16:15	0	0	0	0	0	28	0	28	0	0	1	1	2	23	0	25	54		0	0	0	0					
16:15	16:30	0	0	0	0	0	50	1	51	0	0	1	1	0	21	0	21	73	251	0	0	0	0					
16:30	16:45	0	0	0	0	0	37	2	39	1	0	2	3	0	31	0	31	73	261	0	0	0	0					
16:45	17:00	0	0	0	0	0	33	1	34	0	0	1	1	1	26	0	27	62	262	0	0	0	0					
17:00	17:15	0	0	0	0	0	30	2	32	2	0	2	4	3	11	0	14	50	258	0	0	0	0					
17:15	17:30	0	0	0	0	0	33	1	34	3	0	1	4	2	24	0	26	64	249	0	0	0	0					
17:30	17:45	0	0	0	0	0	37	0	37	1	0	3	4	1	12	0	13	54	230	0	0	0	0					
17:45	18:00	0	0	0	0	0	41	1	42	1	0	3	4	2	18	0	20	66	234	0	0	0	0					
18:00	18:15	0	0	0	0	0	32	3	35	2	0	0	2	5	23	0	28	65	249	0	0	0	0					
18:15	18:30	0	0	0	0	0	24	0	24	0	0	2	2	1	8	0	9	35	220	0	0	0	0					
Count Period Total		0	0	0		0	398	12		12	0	17		20	261	0		720		0	0	0	0					
PM Peak Hour Count Summary																												
Peak Volumes	Southbound				Approach Total	Westbound			Approach Total	Northbound			Approach Total	Eastbound			Approach Total			Pedestrians								
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right		Thru	Left	SB				WB	NB	EB						
	0	0	0	0		0	133	6		139	6	0		6	12	6				92	0	98	249	1030	0	0	0	0
	0.00	0.00	0.00	0.00		0.00	0.90	0.75		0.89	0.50	0.00		0.75	0.50	0.74				0.00	0.79	0.85						
PHF	0	0	0		0	4	0		0	0	0		0	12	0													
Trucks	0	0	0		0	3	0		0	0	0		0	13	0													
% Trucks	0%	0%	0%		0%	3%	0%		0%	0%	0%		0%	13%	0%													

Seasonally Adjusted Peak Hour					0									
					0				0					
					Southbound									
					#DIV/0!		#DIV/0!		#DIV/0!		%			
					R		T		L		PED			
1					0		0		0		0			
145					139		Eastbound		%		Ped		0	
									100.00%		L		0	
					6				0.00%		T		0	
									0.00%		R		0	
					1: SW Church Rd @ Elkton Sutherlin Hwy									
					0		6		0		6			
					Ped		L		T		R			
					%		50.0%		0.0%		50.0%			
					Northbound									
					12						12			
					24									
Seasonal Adjustment Factor 0.000														

0		R		4.32%		Westbound		139	
133		T		95.68%					
6		L		0.00%					
0		Ped		0%				6	
145									

1: SW Church Rd @ Elkton Sutherlin Hwy

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
3:30 PM	0	0	0	0		0	0	26	1		0	1	0	1		0	1	30	0		60	
3:45 PM	0	0	0	0		0	3	23	0		0	1	0	0		0	2	26	0		55	
4:00 PM	0	0	0	0		0	1	26	0		0	0	0	1		0	2	22	0		52	
4:15 PM	0	0	0	0		0	3	43	1		0	0	0	1		0	0	14	0		62	229
4:30 PM	0	0	0	0		0	6	31	2		0	1	0	2		0	0	27	2		71	240
4:45 PM	0	0	0	0		0	5	28	1		0	0	0	1		0	1	23	0		59	244
5:00 PM	0	0	0	0		0	1	29	2		0	2	0	2		0	3	11	0		50	242
5:15 PM	0	0	0	0		0	1	31	1		0	3	0	0		0	2	24	0		62	242
5:30 PM	0	0	0	0		0	0	34	0		0	1	0	3		0	1	12	0		51	222
5:45 PM	0	0	0	0		0	0	41	1		0	1	0	3		0	2	18	0		66	229
6:00 PM	0	0	0	0		0	0	31	3		0	2	0	0		0	5	21	0		62	241
6:15 PM	0	0	0	0		0	0	22	0		0	0	0	2		0	1	8	0		33	212
Total	0	0	0	0		0	20	365	12		0	12	0	16		0	20	236	2			
Peak Hour	0	0	0	0		0	15	131	6		0	3	0	6		0	4	75	2		242	

Trucks

Time Period	Southbound					Westbound					Northbound					Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left			Right	Thru	Left			Right	Thru	Left			Right	Thru	Left			
3:30 PM	0	0	0			0	0	0			0	0	0			0	3	0		3	
3:45 PM	0	0	0			0	1	0			0	0	0			0	5	0		6	
4:00 PM	0	0	0			0	1	0			0	0	0			0	1	0		2	
4:15 PM	0	0	0			0	4	0			0	0	0			0	7	0		11	22
4:30 PM	0	0	0			0	0	0			0	0	0			0	2	0		2	21
4:45 PM	0	0	0			0	0	0			0	0	0			0	3	0		3	18
5:00 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	16
5:15 PM	0	0	0			0	1	0			0	0	1			0	0	0		2	7
5:30 PM	0	0	0			0	3	0			0	0	0			0	0	0		3	8
5:45 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	5
6:00 PM	0	0	0			0	1	0			0	0	0			0	2	0		3	8
6:15 PM	0	0	0			0	2	0			0	0	0			0	0	0		2	8
Total	0	0	0			0	13	0			0	0	1			0	23	0			
Peak Hour	0	0	0			0	4	0			0	0	0			0	12	0		16	

Bikes

Time Period	Southbound					Westbound					Northbound					Eastbound				SB	WB	NB	EB
	Right	Thru	Left			Right	Thru	Left			Right	Thru	Left			Right	Thru	Left					
3:30 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
3:45 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
4:00 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
4:15 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
4:30 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
4:45 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
5:00 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
5:15 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
5:30 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
5:45 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
6:00 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
6:15 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
Total	0	0	0			0	0	0			0	0	0			0	0	0					
Peak Hour	0	0	0			0	0	0			0	0	0			0	0	0					

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
3:30 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
3:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:30 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:30 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
6:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
6:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
Peak Hour	0	0	0		0	0	0		0	0	0		0	0	0				

Intersection:		2: Dovetail Ln @ Elkton Sutherlin Hwy								City:		Sutherlin, OR											
Counter:		Sandow Engineering								Date:		Tuesday, October 17, 2017											
Total of All Vehicles																							
Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
15:30	15:45	0	0	5	5	9	24	5	38	6	0	0	6	0	38	3	41	90	308	2	0	0	0
15:45	16:00	0	0	5	5	9	29	3	41	4	1	0	5	0	25	0	25	76		0	0	0	0
16:00	16:15	1	1	6	8	5	23	3	31	2	0	1	3	3	19	0	22	64		1	0	0	0
16:15	16:30	1	2	10	13	12	25	2	39	1	0	0	1	0	22	3	25	78		0	0	0	0
16:30	16:45	0	1	7	8	5	29	6	40	5	1	0	6	0	42	0	42	96		0	0	0	0
16:45	17:00	0	1	5	6	16	40	7	63	1	1	0	2	1	19	0	20	91	329	0	0	0	0
17:00	17:15	0	0	7	7	5	43	4	52	7	0	1	8	0	28	1	29	96	361	0	0	0	0
17:15	17:30	0	1	9	10	7	38	8	53	0	0	0	0	0	19	1	20	83	366	0	0	0	0
17:30	17:45	0	1	7	8	10	34	6	50	4	0	0	4	0	24	0	24	86	356	6	0	0	1
17:45	18:00	0	1	10	11	6	25	5	36	1	1	0	2	0	22	0	22	71	336	0	0	0	0
18:00	18:15	0	0	8	8	8	28	2	38	3	2	0	5	2	18	2	22	73	313	0	0	0	0
18:15	18:30	2	0	2	4	9	29	5	43	2	0	0	2	0	16	0	16	65	295	0	0	0	0
Count Period Total		4	8	81		101	367	56		36	6	2		6	292	10		969		9	0	0	1
PM Peak Hour Count Summary																							
Peak Volumes	Southbound				Approach Total	Westbound			Approach Total	Northbound			Approach Total	Eastbound			Approach Total			Pedestrians			
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right		Thru	Left	SB				WB	NB	EB	
		0	3	28	31	33	150	25	208	13	2	1	16	1	108	2	111	366	1370	0	0	0	0
	PHF	0.00	0.75	0.78	0.78	0.52	0.87	0.78	0.83	0.46	0.50	0.25	0.50	0.25	0.64	0.50	0.66	0.95					
	Trucks	0	1	0		1	6	1		1	0	0		0	13	0							
% Trucks	0%	33%	0%		3%	4%	4%		8%	0%	0%		0%	12%	0%								

Seasonally Adjusted Peak Hour										66					
154	151		Eastbound	%	Ped	0	31			35					
				Southbound											
				90.32%	9.68%	0.00%	%								
				R	T	L	PED								
				0	3	28	0								
				2: Dovetail Ln @ Elkton Sutherlin Hwy											
3		Westbound	66.67%	R	1	0	1	0	13						
			Ped	L	T	R									
			%	92.9%	0.0%	7.1%									
			Northbound												
			29			14									
			43												
Seasonal Adjustment Factor 0.000										33	R	12.02%	d	208	249
										150	T	72.12%			
										25	L	15.87%			
										0	Ped	%		41	

2: Dovetail Ln @ Elkton Sutherland Hwy

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
3:30 PM	2	0	0	5		0	9	23	5		0	6	0	0		0	0	30	3		81	
3:45 PM	0	0	0	5		0	9	29	3		0	4	1	0		0	0	23	0		74	
4:00 PM	1	1	1	5		0	5	23	3		0	2	0	1		0	3	18	0		62	
4:15 PM	0	1	1	10		0	11	24	2		0	1	0	0		0	0	20	3		73	290
4:30 PM	0	0	1	7		0	5	28	5		0	4	1	0		0	0	39	0		90	299
4:45 PM	0	0	1	5		0	16	36	7		0	1	1	0		0	1	18	0		86	311
5:00 PM	0	0	0	7		0	5	43	4		0	7	0	1		0	0	21	1		89	338
5:15 PM	0	0	1	9		0	7	37	7		0	0	0	0		0	0	18	1		80	345
5:30 PM	3	0	1	6		0	9	34	6		0	4	0	0		1	0	21	0		81	336
5:45 PM	0	0	1	10		0	6	25	4		0	1	1	0		0	0	21	0		69	319
6:00 PM	0	0	0	8		0	8	28	2		0	1	2	0		0	2	18	2		71	301
6:15 PM	0	2	0	2		0	9	29	5		0	2	0	0		0	0	16	0		65	286
Total	6	4	7	79		0	99	359	53		0	33	6	2		1	6	263	10			
Peak Hour	0	1	3	29		0	37	131	18		0	13	2	1		0	1	98	4		338	

Trucks

Time Period	Southbound					Westbound					Northbound					Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left			Right	Thru	Left			Right	Thru	Left			Right	Thru	Left			
3:30 PM	0	0	0			0	1	0			0	0	0			0	8	0		9	
3:45 PM	0	0	0			0	0	0			0	0	0			0	2	0		2	
4:00 PM	0	0	1			0	0	0			0	0	0			0	1	0		2	
4:15 PM	0	1	0			1	1	0			0	0	0			0	2	0		5	18
4:30 PM	0	0	0			0	1	1			1	0	0			0	3	0		6	15
4:45 PM	0	0	0			0	4	0			0	0	0			0	1	0		5	18
5:00 PM	0	0	0			0	0	0			0	0	0			0	7	0		7	23
5:15 PM	0	0	0			0	1	1			0	0	0			0	1	0		3	21
5:30 PM	0	0	1			1	0	0			0	0	0			0	3	0		5	20
5:45 PM	0	0	0			0	0	1			0	0	0			0	1	0		2	17
6:00 PM	0	0	0			0	0	0			2	0	0			0	0	0		2	12
6:15 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	9
Total	0	1	2			2	8	3			3	0	0			0	29	0			
Peak Hour	0	1	0			1	6	1			1	0	0			0	13	0		23	

Bikes

Time Period	Southbound					Westbound					Northbound					Eastbound				SB	WB	NB	EB
	Right	Thru	Left			Right	Thru	Left			Right	Thru	Left			Right	Thru	Left					
3:30 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
3:45 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
4:00 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
4:15 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
4:30 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
4:45 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
5:00 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
5:15 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
5:30 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
5:45 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
6:00 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
6:15 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
Total	0	0	0			0	0	0			0	0	0			0	0	0					
Peak Hour	0	0	0			0	0	0			0	0	0			0	0	0					

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
3:30 PM	0	0	0		0	2	2		0	0	0		0	0	0	2	0	0	0
3:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:00 PM	0	0	0		0	1	1		0	0	0		0	0	0	1	0	0	0
4:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:30 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:45 PM	0	0	0		0	0	0		0	0	0		1	0	1	0	0	0	1
5:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:30 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
6:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
6:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
Total	0	0	0		0	3	3		0	0	0		1	0	1	3	0	0	1
Peak Hour	0	0	0		0	0	0		0	0	0		1	0	1				

Intersection: 3: Fort Mackay Rd @ Elkton Sutherlin Hw City: Sutherlin, OR																							
Counter: Sandow Engineering		Date: Tuesday, October 17, 2017																					
Total of All Vehicles																							
Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
15:30	15:45	0	0	0	0	0	41	32	73	17	0	0	17	7	45	0	52	142		0	2	0	0
15:45	16:00	0	0	0	0	0	40	33	73	25	0	1	26	1	37	0	38	137		0	0	0	0
16:00	16:15	0	0	0	0	0	33	30	63	20	0	1	21	0	28	0	28	112		0	0	0	0
16:15	16:30	0	0	0	0	0	40	31	71	16	0	0	16	1	39	0	40	127	518	0	0	2	0
16:30	16:45	0	0	0	0	0	43	27	70	17	0	0	17	1	50	0	51	138	514	0	0	0	0
16:45	17:00	0	0	0	0	0	64	30	94	26	0	0	26	1	33	0	34	154	531	0	0	0	0
17:00	17:15	0	0	0	0	0	56	38	94	19	0	0	19	0	45	0	45	158	577	0	0	0	0
17:15	17:30	0	0	0	0	0	55	39	94	28	0	0	28	0	33	0	33	155	605	0	0	0	0
17:30	17:45	0	0	0	0	0	49	46	95	19	0	0	19	3	30	0	33	147	614	0	0	0	0
17:45	18:00	0	0	0	0	0	41	27	68	16	0	0	16	0	37	0	37	121	581	0	0	0	0
18:00	18:15	0	0	0	0	0	39	22	61	16	0	0	16	0	34	0	34	111	534	0	0	0	0
18:15	18:30	0	0	0	0	0	37	32	69	15	0	0	15	0	22	0	22	106	485	0	0	0	0
Count Period Total		0	0	0		0	538	387		234	0	2		14	433	0		1608		0	2	2	0
PM Peak Hour Count Summary																							
Peak Volumes	Southbound				Approach Total	Westbound			Approach Total	Northbound			Approach Total	Eastbound			Approach Total			Pedestrians			
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right		Thru	Left	SB				WB	NB	EB	
		0	0	0	0	0	218	134	352	90	0	0	90	2	161	0	163	605	2227	0	0	0	0
	PHF	0.00	0.00	0.00	0.00	0.00	0.85	0.86	0.94	0.80	0.00	0.00	0.80	0.50	0.81	0.00	0.80	0.96					
Trucks	0	0	0		0	9	4		5	0	0		1	18	0								
% Trucks	0%	0%	0%		0%	4%	3%		6%	0%	0%		50%	11%	0%								

Seasonally Adjusted Peak Hour					0																										
					0				0																						
					Southbound																										
					#DIV/0!		#DIV/0!		#DIV/0!		%																				
					R		T		L		PED																				
3					0		0		0		0																				
220					218		Eastbound	%		Ped	0		3: Fort Mackay Rd @ Elkton Sutherlin Hwy					0		R		38.07%		Westbound	352		442				
								100.00%		L	0							218		T		61.93%									
					2			0.00%		T	0							134		L		0.00%									
								0.00%		R	2							0		Ped		0%			90						
Seasonal Adjustment Factor 0.000					0		0		0		90																				
					Ped		L		T		R																				
					%		100.0%		0.0%		0.0%																				
					Northbound																										
					136						90																				
					226																										

3: Fort Mackay Rd @ Elkton Sutherland Hwy

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
3:30 PM	0	0	0	0		0	0	40	32		0	16	0	0		0	7	36	0		131	
3:45 PM	0	0	0	0		0	0	39	31		0	23	0	1		0	1	34	0		129	
4:00 PM	0	0	0	0		0	0	33	30		0	19	0	1		0	0	26	0		109	
4:15 PM	0	0	0	0		0	1	36	30		0	15	0	0		0	1	36	0		119	488
4:30 PM	0	0	0	0		0	0	41	27		0	17	0	0		0	1	44	0		130	487
4:45 PM	0	0	0	0		0	2	58	28		0	24	0	0		0	0	32	0		144	502
5:00 PM	0	0	0	0		0	0	56	37		0	17	0	0		0	0	37	0		147	540
5:15 PM	0	0	0	0		0	1	52	37		0	27	0	0		0	0	32	0		149	570
5:30 PM	0	0	0	0		0	1	47	45		0	19	0	0		0	3	26	0		141	581
5:45 PM	0	0	0	0		0	0	40	26		0	15	0	0		0	0	36	0		117	554
6:00 PM	0	0	0	0		0	0	39	20		0	16	0	0		0	0	32	0		107	514
6:15 PM	0	0	0	0		0	0	37	32		0	13	0	0		0	0	22	0		104	469
Total	0	0	0	0		0	5	518	375		0	221	0	2		0	13	393	0			
Peak Hour	0	0	0	0		0	3	191	122		0	73	0	0		0	2	149	0		540	

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
3:30 PM	0	0	0		0	1	0		1	0	0		0	9	0		11	
3:45 PM	0	0	0		0	1	2		2	0	0		0	3	0		8	
4:00 PM	0	0	0		0	0	0		1	0	0		0	2	0		3	
4:15 PM	0	0	0		0	3	1		1	0	0		0	3	0		8	
4:30 PM	0	0	0		0	2	0		0	0	0		0	6	0		8	
4:45 PM	0	0	0		0	4	2		2	0	0		1	1	0		10	
5:00 PM	0	0	0		0	0	1		2	0	0		0	8	0		11	
5:15 PM	0	0	0		0	2	2		1	0	0		0	1	0		6	
5:30 PM	0	0	0		0	1	1		0	0	0		0	4	0		6	
5:45 PM	0	0	0		0	1	1		1	0	0		0	1	0		4	
6:00 PM	0	0	0		0	0	2		0	0	0		0	2	0		4	
6:15 PM	0	0	0		0	0	0		2	0	0		0	0	0		2	
Total	0	0	0		0	15	12		13	0	0		1	40	0			
Peak Hour	0	0	0		0	9	4		5	0	0		1	18	0		37	

Bikes

Time Period	Southbound					Westbound					Northbound					Eastbound				SB	WB	NB	EB
	Right	Thru	Left			Right	Thru	Left			Right	Thru	Left			Right	Thru	Left					
3:30 PM	0	0	0			1	0	1			0	0	0			0	0	0		0	2	0	0
3:45 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
4:00 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
4:15 PM	0	0	0			0	0	0			2	0	0			0	0	0		0	0	2	0
4:30 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
4:45 PM	0	0	0			0	1	0			0	0	0			0	0	0		0	1	0	0
5:00 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
5:15 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
5:30 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
5:45 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
6:00 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
6:15 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
Total	0	0	0			1	1	1			2	0	0			0	0	0					
Peak Hour	0	0	0			0	1	0			2	0	0			0	0	0					

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
3:30 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
3:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:30 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:30 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
6:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
6:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
Peak Hour	0	0	0		0	0	0		0	0	0		0	0	0				

Intersection:		4: Park Hill Ln @ W Central Ave				City:		Sutherlin, OR															
Counter:		Sandow Engineering				Date:		Tuesday, October 17, 2017															
Total of All Vehicles																							
Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
15:30	15:45	0	0	0	0	0	100	42	142	23	0	12	35	34	49	0	83	260	0	3	1	1	
15:45	16:00	0	0	0	0	0	78	34	112	18	0	10	28	34	53	0	87	227	0	0	0	0	
16:00	16:15	0	0	0	0	0	75	44	119	17	0	8	25	28	50	0	78	222	0	1	1	0	
16:15	16:30	0	0	0	0	0	85	41	126	21	0	6	27	40	40	0	80	233	942	0	0	0	2
16:30	16:45	0	0	0	0	0	97	35	132	25	0	11	36	38	61	0	99	267	949	0	1	0	0
16:45	17:00	0	0	0	0	0	119	31	150	23	0	10	33	28	53	0	81	264	986	0	1	0	0
17:00	17:15	0	0	0	0	0	122	40	162	16	0	19	35	36	51	0	87	284	1048	0	1	0	0
17:15	17:30	0	0	0	0	0	107	50	157	28	0	10	38	38	51	0	89	284	1099	0	0	0	0
17:30	17:45	0	0	0	0	0	78	30	108	13	0	8	21	23	48	0	71	200	1032	0	12	0	0
17:45	18:00	0	0	0	0	0	87	24	111	16	0	9	25	16	39	0	55	191	959	0	2	0	0
18:00	18:15	0	0	0	0	0	89	37	126	19	0	9	28	22	48	0	70	224	899	0	0	0	0
18:15	18:30	0	0	0	0	0	90	21	111	8	0	8	16	18	40	0	58	185	800	0	0	0	0
Count Period Total		0	0	0		0	1127	429		227	0	120		355	583	0		2841		0	21	2	3
PM Peak Hour Count Summary																							
Peak Volumes	Southbound				Approach Total	Westbound			Approach Total	Northbound			Approach Total	Eastbound			Approach Total			Pedestrians			
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right		Thru	Left	SB				WB	NB	EB	
	0	0	0	0	0	445	156	601	92	0	50	142	140	216	0	356	1099	4082	0	3	0	0	
	PHF	0.00	0.00	0.00	0.00	0.00	0.91	0.78	0.93	0.82	0.00	0.66	0.93	0.92	0.89	0.00	0.90						
Trucks	0	0	0		0	15	7		8	0	6		16	10	0								
% Trucks	0%	0%	0%		0%	3%	4%		9%	0%	12%		11%	5%	0%								

Seasonally Adjusted Peak Hour

						0									
						0				0					
<div>Seasonally Adjusted Peak Hour</div>						Southbound									
						#DIV/0!		#DIV/0!		#DIV/0!		%			
						R		T		L		PED			
						0		0		0		0			
635	495		Eastbound	%	Ped	0	4: Park Hill Ln @ W Central Ave				0	R	25.96%	Westbound	601
		100.00%		L	0	445					T	74.04%			
		0.00%		T	0	156					L	0.00%			
	140			0.00%	R	140		3	Ped	0%		92			
Seasonal Adjustment Factor 0.000						0		50		0		92			
						Ped		L		T		R			
						%		64.8%		0.0%		35.2%			
						Northbound									
						296						142			
						438									

Seasonal Adjustment Factor
0.000

0

4: Park Hill Ln @ W Central Ave

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
3:30 PM	0	0	0	0		2	0	97	40		0	21	0	11		0	26	47	0		242	
3:45 PM	0	0	0	0		0	0	76	32		0	18	0	8		0	32	51	0		217	
4:00 PM	0	0	0	0		0	0	74	41		0	15	0	6		0	24	47	0		207	
4:15 PM	0	0	0	0		0	0	83	40		0	19	0	5		0	37	40	0		224	890
4:30 PM	0	0	0	0		1	0	96	32		0	23	0	11		0	34	58	0		254	902
4:45 PM	0	0	0	0		1	0	110	30		0	21	0	9		0	24	51	0		245	930
5:00 PM	0	0	0	0		0	0	119	38		0	14	0	15		0	31	46	0		263	986
5:15 PM	0	0	0	0		0	0	106	48		0	27	0	8		0	33	50	0		272	1034
5:30 PM	0	0	0	0		8	0	76	29		0	12	0	8		0	22	47	0		194	974
5:45 PM	0	0	0	0		0	0	83	21		0	15	0	8		0	15	36	0		178	907
6:00 PM	0	0	0	0		0	0	88	34		0	19	0	8		0	21	47	0		217	861
6:15 PM	0	0	0	0		0	0	90	20		0	7	0	8		0	15	38	0		178	767
Total	0	0	0	0		12	0	1098	405		0	211	0	105		0	314	558	0			
Peak Hour	0	0	0	0		2	0	408	140		0	77	0	40		0	126	195	0		986	

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
3:30 PM	0	0	0		0	3	2		2	0	1		8	2	0		18	
3:45 PM	0	0	0		0	2	2		0	0	2		2	2	0		10	
4:00 PM	0	0	0		0	1	3		2	0	2		4	3	0		15	
4:15 PM	0	0	0		0	2	1		2	0	1		3	0	0		9	52
4:30 PM	0	0	0		0	1	3		2	0	0		4	3	0		13	47
4:45 PM	0	0	0		0	9	1		2	0	1		4	2	0		19	56
5:00 PM	0	0	0		0	3	2		2	0	4		5	5	0		21	62
5:15 PM	0	0	0		0	1	2		1	0	2		5	1	0		12	65
5:30 PM	0	0	0		0	2	1		1	0	0		1	1	0		6	58
5:45 PM	0	0	0		0	4	3		1	0	1		1	3	0		13	52
6:00 PM	0	0	0		0	1	3		0	0	1		1	1	0		7	38
6:15 PM	0	0	0		0	0	1		1	0	0		3	2	0		7	33
Total	0	0	0		0	29	24		16	0	15		41	25	0			
Peak Hour	0	0	0		0	15	7		8	0	6		16	10	0		62	

Bikes

Time Period	Southbound					Westbound					Northbound					Eastbound				SB	WB	NB	EB
	Right	Thru	Left			Right	Thru	Left			Right	Thru	Left			Right	Thru	Left					
3:30 PM	0	0	0			0	1	0			1	0	0			0	1	0		0	1	1	1
3:45 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
4:00 PM	0	0	0			0	0	1			1	0	0			0	0	0		0	1	1	0
4:15 PM	0	0	0			0	0	0			0	0	0			0	2	0		0	0	0	2
4:30 PM	0	0	0			0	0	2			0	0	0			0	0	0		0	2	0	0
4:45 PM	0	0	0			0	1	0			2	0	0			0	0	0		0	1	2	0
5:00 PM	0	0	0			0	0	0			2	0	0			0	0	0		0	0	2	0
5:15 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
5:30 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
5:45 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
6:00 PM	0	0	0			0	0	1			0	0	0			0	0	0		0	1	0	0
6:15 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
Total	0	0	0			0	2	4			6	0	0			0	3	0					
Peak Hour	0	0	0			0	1	2			4	0	0			0	2	0					

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
3:30 PM	0	2	2		0	0	0		0	0	0		0	0	0	0	2	0	0
3:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:30 PM	0	0	0		1	0	1		0	0	0		0	0	0	0	1	0	0
4:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:15 PM	0	2	2		0	0	0		0	0	0		0	0	0	0	2	0	0
5:30 PM	0	2	2		0	0	0		0	0	0		0	0	0	0	2	0	0
5:45 PM	0	0	0		1	0	1		0	0	0		0	0	0	0	1	0	0
6:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
6:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
Total	0	6	6		2	0	2		0	0	0		0	0	0	0	8	0	0
Peak Hour	0	0	0		1	0	1		0	0	0		0	0	0				

Intersection: 5: NB Ramps @ W Central Ave				City: Sutherlin, OR																								
Counter: Sandow Engineering				Date: Tuesday, October 17, 2017																								
Total of All Vehicles																												
Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians								
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB					
15:30	15:45	0	0	0	0	20	101	0	121	32	0	28	60	0	70	9	79	260		0	1	0	4					
15:45	16:00	0	0	0	0	23	85	0	108	31	1	32	64	0	66	8	74	246		0	0	0	1					
16:00	16:15	0	0	0	0	26	96	0	122	38	0	27	65	0	51	5	56	243		0	0	0	3					
16:15	16:30	0	0	0	0	27	85	0	112	39	0	36	75	0	57	7	64	251	1000	0	1	0	2					
16:30	16:45	0	0	0	0	14	106	0	120	43	0	34	77	0	81	10	91	288	1028	0	1	1	2					
16:45	17:00	0	0	0	0	17	102	0	119	46	1	57	104	0	57	6	63	286	1068	0	1	1	1					
17:00	17:15	0	0	0	0	26	87	0	113	40	1	54	95	0	71	7	78	286	1111	0	0	0	0					
17:15	17:30	0	0	0	0	16	105	0	121	42	0	45	87	0	71	4	75	283	1143	0	1	0	0					
17:30	17:45	0	0	0	0	16	99	0	115	38	0	40	78	0	62	3	65	258	1113	0	10	4	34					
17:45	18:00	0	0	0	0	15	74	0	89	42	0	30	72	0	53	6	59	220	1047	0	4	2	5					
18:00	18:15	0	0	0	0	10	101	0	111	38	1	37	76	0	66	6	72	259	1020	0	0	0	0					
18:15	18:30	0	0	0	0	13	91	0	104	22	0	31	53	0	48	3	51	208	945	0	0	0	0					
Count Period Total		0	0	0		223	1132	0		451	4	451		0	753	74		3088		0	19	8	52					
PM Peak Hour Count Summary																												
Peak Volumes	Southbound				Approach Total	Westbound			Approach Total	Northbound			Approach Total	Eastbound			Approach Total			Pedestrians								
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right		Thru	Left	SB				WB	NB	EB						
	0	0	0	0		73	400	0		473	171	2		190	363	0				280	27	307	1143	4350	0	3	2	3
	0.00	0.00	0.00	0.00		0.70	0.94	0.00		0.98	0.93	0.50		0.83	0.87	0.00				0.86	0.68	0.84	0.99					
PHF	0	0	0		9	16	0		7	2	8		0	16	3													
Trucks	0	0	0																									
% Trucks	0%	0%	0%		12%	4%	0%		4%	100%	4%		0%	6%	11%													

Seasonally Adjusted Peak Hour					100									
					0				100					
					Southbound									
					#DIV/0!		#DIV/0!		#DIV/0!		%			
					R		T		L		PED			
					0		0		0		0			
5: NB Ramps @ W Central Ave					73		R		0.00%		a		473	
					400		T		84.57%					
					0		L		15.43%					
					3		Ped		%		171			
					2		190		0		171			
					Ped		L		T		R			
					%		47.4%		0.0%		52.6%			
					Northbound									
					0						361			
					361									

5: NB Ramps @ W Central Ave

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
3:30 PM	0	0	0	0		0	19	100	0		0	31	0	24		4	0	67	9		250	
3:45 PM	0	0	0	0		0	22	82	0		0	28	1	31		1	0	65	6		235	
4:00 PM	0	0	0	0		0	24	95	0		0	37	0	24		3	0	47	4		231	
4:15 PM	0	0	0	0		1	23	82	0		0	37	0	34		2	0	54	7		237	953
4:30 PM	0	0	0	0		1	14	102	0		1	41	0	33		2	0	77	8		275	978
4:45 PM	0	0	0	0		1	17	94	0		1	45	0	53		1	0	55	6		270	1013
5:00 PM	0	0	0	0		1	21	86	0		0	38	0	53		0	0	64	6		268	1050
5:15 PM	0	0	0	0		0	15	103	0		0	41	0	43		0	0	69	3		274	1087
5:30 PM	0	0	0	0		6	14	98	0		2	37	0	38		21	0	60	3		250	1062
5:45 PM	0	0	0	0		0	13	68	0		0	39	0	30		0	0	52	5		207	999
6:00 PM	0	0	0	0		0	10	98	0		0	35	1	35		0	0	63	6		248	979
6:15 PM	0	0	0	0		0	10	88	0		0	20	0	31		0	0	46	2		197	902
Total	0	0	0	0		10	202	1096	0		4	429	2	429		34	0	719	65			
Peak Hour	0	0	0	0		4	75	364	0		2	161	0	173		5	0	250	27		1050	

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
3:30 PM	0	0	0		1	1	0		1	0	4		0	3	0		10	
3:45 PM	0	0	0		1	3	0		3	0	1		0	1	2		11	
4:00 PM	0	0	0		2	1	0		1	0	3		0	4	1		12	
4:15 PM	0	0	0		4	3	0		2	0	2		0	3	0		14	
4:30 PM	0	0	0		0	4	0		2	0	1		0	4	2		13	
4:45 PM	0	0	0		0	8	0		1	1	4		0	2	0		16	
5:00 PM	0	0	0		5	1	0		2	1	1		0	7	1		18	
5:15 PM	0	0	0		1	2	0		1	0	2		0	2	1		9	
5:30 PM	0	0	0		2	1	0		1	0	2		0	2	0		8	
5:45 PM	0	0	0		2	6	0		3	0	0		0	1	1		13	
6:00 PM	0	0	0		0	3	0		3	0	2		0	3	0		11	
6:15 PM	0	0	0		3	3	0		2	0	0		0	2	1		11	
Total	0	0	0		21	36	0		22	2	22		0	34	9			
Peak Hour	0	0	0		9	16	0		7	2	8		0	16	3		61	

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound			SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left				
3:30 PM	0	0	0		0	1	0		0	0	0		0	0	0	0	1	0	0
3:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:30 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:30 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
6:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
6:15 PM	0	0	0		0	1	0		0	0	0		0	0	0	0	1	0	0
Total	0	0	0		0	2	0		0	0	0		0	0	0				
Peak Hour	0	0	0		0	0	0		0	0	0		0	0	0				

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
3:30 PM	0	0	0		0	0	0		0	4	4		0	0	0		0	0	4
3:45 PM	0	0	0		0	0	0		0	1	1		0	0	0		0	0	1
4:00 PM	0	0	0		0	0	0		0	3	3		0	0	0		0	0	3
4:15 PM	0	0	0		1	0	1		0	2	2		0	0	0		0	1	2
4:30 PM	0	0	0		1	0	1		0	2	2		0	1	1		0	1	2
4:45 PM	0	0	0		2	0	2		0	3	3		0	0	0		2	0	3
5:00 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0
5:15 PM	0	0	0		0	0	0		0	4	4		0	0	0		0	0	4
5:30 PM	0	0	0		0	0	0		0	1	1		0	0	0		0	0	1
5:45 PM	0	0	0		1	0	1		0	1	1		0	1	1		1	1	1
6:00 PM	0	0	0		1	0	1		0	0	0		0	0	0		1	0	0
6:15 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0
Total	0	0	0		6	0	6		0	21	21		0	2	2		6	2	21
Peak Hour	0	0	0		4	0	4		0	7	7		0	1	1				

Intersection: 6: Park Hill Ln @ SB Ramps				City: Sutherlin, OR																								
Counter: Sandow Engineering				Date: Tuesday, October 17, 2017																								
Total of All Vehicles																												
Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians								
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB					
15:30	15:45	0	12	77	89	30	0	2	32	4	5	0	9	0	0	0	0	130	444	1	0	1	0					
15:45	16:00	0	7	64	71	30	0	0	30	2	4	0	6	0	0	0	0	107		0	0	0	0					
16:00	16:15	0	8	65	73	19	0	0	19	2	5	0	7	0	0	0	0	99		0	0	1	0					
16:15	16:30	0	11	62	73	21	0	6	27	3	5	0	8	0	0	0	0	108		0	0	0	0					
16:30	16:45	0	3	69	72	31	0	1	32	3	4	0	7	0	0	0	0	111		425	0	0	2	0				
16:45	17:00	0	5	64	69	25	0	0	25	2	2	0	4	0	0	0	0	98	416	0	0	0	0					
17:00	17:15	0	7	61	68	26	0	0	26	4	7	0	11	0	0	0	0	105	422	0	0	0	0					
17:15	17:30	0	8	67	75	33	0	1	34	5	8	0	13	0	0	0	0	122	436	0	0	0	0					
17:30	17:45	0	15	57	72	13	0	1	14	1	6	0	7	0	0	0	0	93	418	0	0	0	0					
17:45	18:00	0	4	41	45	23	0	2	25	5	5	0	10	0	0	0	0	80	400	0	0	0	0					
18:00	18:15	0	12	48	60	25	0	0	25	5	4	0	9	0	0	0	0	94	389	0	0	0	0					
18:15	18:30	0	11	46	57	20	0	0	20	2	2	0	4	0	0	0	0	81	348	0	0	0	0					
Count Period Total		0	103	721		296	0	13		38	57	0		0	0	0		1228		1	0	4	0					
PM Peak Hour Count Summary																												
Peak Volumes	Southbound				Approach Total	Westbound			Approach Total	Northbound			Approach Total	Eastbound			Approach Total			Pedestrians								
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right		Thru	Left	SB				WB	NB	EB						
	0	23	261	284		115	0	2		117	14	21		0	35	0				0	0	0	436	1699	0	0	2	0
	0.00	0.72	0.95	0.95		0.87	0.00	0.50		0.86	0.70	0.66		0.00	0.67	0.00				0.00	0.00	0.00	0.89					
PHF	0	3	16		11	0	1		0	3	0		0	0	0													
% Trucks	0%	13%	6%		10%	0%	50%		0%	14%	0%		0%	0%	0%													

Seasonally Adjusted Peak Hour					399													
					284				115									
					Southbound													
					91.90%		8.10%		0.00%		%							
					R	T	L	PED										
					0	23	261	0										
					6: Park Hill Ln @ SB Ramps				115		R	1.71%	a		117		392	
									0		T	0.00%						
									2		L	98.29%						
									0		Ped	0%			275			
					2		0	0	14									
					Ped	L	T	R										
					%	100.0%	0.0%	0.0%										
					Northbound													
					25				14									
					39													

6: Park Hill Ln @ SB Ramps

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
3:30 PM	0	0	10	68		0	28	0	1		0	4	5	0		0	0	0	0		116	
3:45 PM	0	0	7	57		0	27	0	0		0	2	3	0		0	0	0	0		96	
4:00 PM	0	0	6	63		0	19	0	0		0	1	4	0		0	0	0	0		93	
4:15 PM	0	0	10	57		0	15	0	5		0	3	5	0		0	0	0	0		95	400
4:30 PM	0	0	2	63		0	31	0	1		0	3	2	0		0	0	0	0		102	386
4:45 PM	0	0	4	62		0	24	0	0		0	2	2	0		0	0	0	0		94	384
5:00 PM	0	0	7	58		0	22	0	0		0	4	6	0		0	0	0	0		97	388
5:15 PM	0	0	7	61		0	27	0	0		0	5	8	0		0	0	0	0		108	401
5:30 PM	0	0	14	50		0	13	0	1		0	1	6	0		0	0	0	0		85	384
5:45 PM	0	0	4	40		0	22	0	2		0	4	4	0		0	0	0	0		76	366
6:00 PM	0	0	10	43		0	22	0	0		0	4	4	0		0	0	0	0		83	352
6:15 PM	0	0	11	42		0	19	0	0		0	2	2	0		0	0	0	0		76	320
Total	0	0	92	664		0	269	0	10		0	35	51	0		0	0	0	0			
Peak Hour	0	0	23	240		0	92	0	6		0	12	15	0		0	0	0	0		388	

Trucks

Time Period	Southbound					Westbound					Northbound					Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left			Right	Thru	Left			Right	Thru	Left			Right	Thru	Left			
3:30 PM	0	2	9			2	0	1			0	0	0			0	0	0		14	
3:45 PM	0	0	7			3	0	0			0	1	0			0	0	0		11	
4:00 PM	0	2	2			0	0	0			1	1	0			0	0	0		6	
4:15 PM	0	1	5			6	0	1			0	0	0			0	0	0		13	44
4:30 PM	0	1	6			0	0	0			0	2	0			0	0	0		9	39
4:45 PM	0	1	2			1	0	0			0	0	0			0	0	0		4	32
5:00 PM	0	0	3			4	0	0			0	1	0			0	0	0		8	34
5:15 PM	0	1	6			6	0	1			0	0	0			0	0	0		14	35
5:30 PM	0	1	7			0	0	0			0	0	0			0	0	0		8	34
5:45 PM	0	0	1			1	0	0			1	1	0			0	0	0		4	34
6:00 PM	0	2	5			3	0	0			1	0	0			0	0	0		11	37
6:15 PM	0	0	4			1	0	0			0	0	0			0	0	0		5	28
Total	0	11	57			27	0	3			3	6	0			0	0	0			
Peak Hour	0	3	16			11	0	1			0	3	0			0	0	0		34	

Bikes

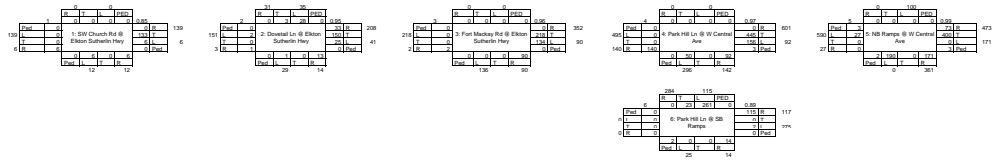
Time Period	Southbound					Westbound					Northbound					Eastbound				SB	WB	NB	EB
	Right	Thru	Left			Right	Thru	Left			Right	Thru	Left			Right	Thru	Left					
3:30 PM	0	1	0			0	0	0			0	1	0			0	0	0		1	0	1	0
3:45 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
4:00 PM	0	0	0			0	0	0			0	1	0			0	0	0		0	0	1	0
4:15 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
4:30 PM	0	1	0			0	0	0			0	0	0			0	0	0		1	0	0	0
4:45 PM	0	0	0			0	0	0			0	2	0			0	0	0		0	0	2	0
5:00 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
5:15 PM	0	0	0			0	0	0			0	2	0			0	0	0		0	0	2	0
5:30 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
5:45 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
6:00 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
6:15 PM	0	0	0			0	0	0			0	0	0			0	0	0		0	0	0	0
Total	0	2	0			0	0	0			0	6	0			0	0	0					
Peak Hour	0	1	0			0	0	0			0	2	0			0	0	0					

Pedestrians

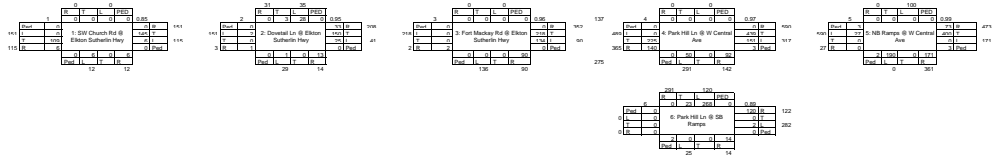
Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
3:30 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
3:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:30 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
4:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:30 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
5:45 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
6:00 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
6:15 PM	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
Peak Hour	0	0	0		0	0	0		0	0	0		0	0	0				

Sutherlin UGB Modification

Existing 2017 PM Volumes



Balanced 2017 PM Volumes



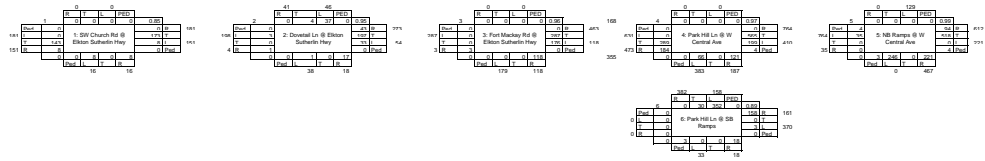
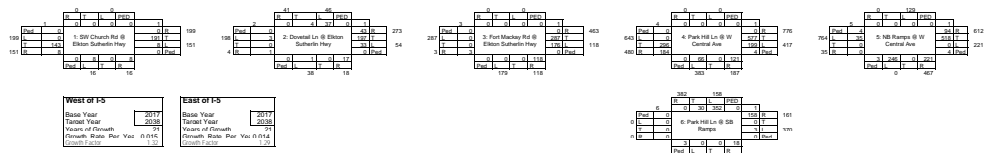


Figure 1 is an aerial map of the study area, showing 10 sampling locations (1-10) and their corresponding water quality data. The map includes a grid with latitude and longitude coordinates. The data for each location is as follows:

- 1. SW Church Rd @ Elston (Sulfate: 150, 87)
- 2. Central Ln @ Elston (Sulfate: 150, 87)
- 3. Fort Monkey Rd @ Elston (Sulfate: 150, 87)
- 4. Park Hill Ln @ W Center Ave (Sulfate: 172, 17)
- 5. NB Ramp @ W Center Ave (Sulfate: 110, 69)
- 6. Park Hill Ln @ SB Ramps (Sulfate: 106, 83)

73

2012 SEASONAL TREND TABLE (Printed: 12/14/12)																Peak Period Seasonal Factor
TREND	1-Jan	1-Jun	15-Jun	1-Jul	15-Jul	1-Aug	15-Aug	1-Sep	15-Sep	1-Oct	15-Oct	1-Nov	15-Nov	1-Dec	15-Dec	
INTERSTATE URBANIZED	0.9983	0.9337	0.9115	0.9146	0.9176	0.9142	0.9107	0.9301	0.9494	0.9572	0.9650	0.9811	0.9972	0.9958	0.9944	0.9107
INTERSTATE NONURBANIZED	1.2324	0.9604	0.9044	0.8755	0.8467	0.8446	0.8425	0.8892	0.9359	0.9839	1.0320	1.0560	1.0800	1.1051	1.1303	0.8425
COMMUTER	0.9994	0.9234	0.9075	0.9134	0.9193	0.9099	0.9004	0.9150	0.9296	0.9312	0.9329	0.9565	0.9802	0.9906	1.0009	0.9004
COASTAL DESTINATION	1.1751	0.9987	0.9501	0.8988	0.8475	0.8397	0.8319	0.8771	0.9222	0.9829	1.0436	1.1041	1.1645	1.1644	1.1643	0.8319
COASTAL DESTINATION ROUTE	1.4566	1.0618	0.9784	0.8798	0.7811	0.7778	0.7746	0.8350	0.8954	1.0302	1.1650	1.2402	1.3153	1.3338	1.3522	0.7746
AGRICULTURE	1.2435	0.9024	0.8651	0.8372	0.8094	0.8108	0.8123	0.8019	0.7915	0.8389	0.8864	0.9694	1.0524	1.1259	1.1993	0.7915
RECREATIONAL SUMMER	1.7082	0.9735	0.8720	0.8041	0.7362	0.7408	0.7453	0.7881	0.8309	0.9392	1.0476	1.2114	1.3753	1.4126	1.4499	0.7362
RECREATIONAL SUMMER WINTER	1.2634	1.3670	1.1328	0.9849	0.8370	0.8483	0.8596	1.0479	1.2362	1.4940	1.7517	1.8491	1.9465	1.5528	1.1590	0.8370
RECREATIONAL WINTER	0.9766	2.2595	1.6344	1.3977	1.1610	1.1473	1.1337	1.2792	1.4247	1.5433	1.6619	2.0128	2.3636	1.7692	1.1748	0.8629
SUMMER	1.1678	0.9401	0.9006	0.8736	0.8466	0.8435	0.8404	0.8758	0.9113	0.9481	0.9849	1.0329	1.0810	1.0973	1.1136	0.8404
SUMMER < 2500	1.1804	0.8939	0.8857	0.8693	0.8530	0.8476	0.8421	0.8540	0.8659	0.9009	0.9359	0.9870	1.0382	1.0813	1.1245	0.8421

*Seasonal Trend Table factors are based on previous year ATR data. The table is updated yearly.
 *Grey shading indicates months where seasonal factor is greater than 30%

Commuter	
0.9329	
0.9004	
1.036	

Sutherlin UGB Modification

SUTHERLIN UGB EXCHANGE -- Final Plan & Annex Proposal w/ List of Affected Properties (including those lands being annexed), 12/29/17

LANDS TO BE REMOVED FROM UGB/CITY LIMITS

Property Owner(s):	Acres	Twnshp	Range	Section	Tax Lot	Property ID	City Plan	City Zone	New Plan	New Zone	# DUs	Comments
City of Sutherlin	4.57	25	6	13	800	R26304		FR-20 & R-1	AGG	PR	0	Retain 5± Ac as FR-20 for park site
City of Sutherlin	76.95	25	6	13	800	R26296		FR-20 & R-1	AGG	PR	0	Retain 5± Ac as FR-20 for park site
City of Sutherlin	123.31	25	6	14	900	R26352		FR-20, R-1 & RH	AGG	PR	0	
											0	
Rogers, Timothy & Leoni	30.94	25	5	20DA	2601	R141397	RH	RH	FFT	AW	0	Remove part only, leaving 18± acres in UGB/city
Rogers, Timothy & Leoni	47.25	25	5	20	600	R135715	RH	RH	FFT	AW	0	
Rogers, Timothy & Leoni	40.71	25	5	29	1300	R135716	RH	RH	FFT	AW	0	
Total:	323.73										0	

Existing City Zone Designations/Densities for UGB (lands being removed from UGB/city limits):

R-1	56.50	(56.5 Acres * 6 DU/Acre = 339 + 10% overage = 373 DUs)
RH	116.50	(116.50 Acres * 3 DU/Acre = 350 + 10% overage = 385 DUs)
FR-20	125.00	(with exchange, 5± ac of FR-20 will be retained inside UGB/city limits for future restroom/parking area for park site)*
Total adjusted acres:	298.00	*Note: FR-75 zone designation was legislatively changed to FR-20 to be consistent with Comp Plan & state law, 4/10/17

LANDS TO BE ADDED TO UGB

AREA 1 -- FT MCKAY AREA

Property Owner(s):	Acres	Twnshp	Range	Section	Tax Lot	Property ID	County Plan	County Zone	New Plan	New Zone	# DUs	Comments
Calkins Enterprises LLC	9.77	25	6	24	1500	R46083	RC2	RR	RH	RH	0	Consents to Annex/ZC
Babbitt, Gary & Sharon	2.99	25	6	24	1700	R46069	RC2	RR	RH	RR	1	UGB only
Babbitt, Gary & Sharon	2.01	25	6	24	1700	R46076	RC2	RR	RH	RR	0	UGB only
O'Banion, Wayne & Salina	0.95	25	6	24	1800	R46041	RC2	RR	RH	RH	0	Consents to Annex/ZC
Witty, Floyd Jr	5.86	25	6	24	1900	R46055	RC2	RR	RH	RR	1	UGB only
Witty, Floyd Jr	3.26	25	6	24	1900	R46062	RC2	RR	RH	RR	0	UGB only
Bebeau, Katherine	4.03	25	6	24	2000	R46048	RC2	RR	RH	RR	1	UGB only
Koch, M & P, & Ward, W	3.44	25	6	24	2100	R46027	RC2	RR	RH	RH	1	Consents to Annex/ZC
Fox, Anna & Tracy	0.83	25	6	24	2200	R46034	RC2	RR	RH	RR	1	UGB only
Total:	33.14	14.16	RH								5	

Property Owner(s):	Acres	Twnshp	Range	Section	Tax Lot	Property ID	County Plan	County Zone	New Plan	New Zone	# DUs	Comments
Taylor, D & Blevins, C	2.78	25	6	24A	1200	R46426	RC2	RR	RH	RH	2	UGB only
Higgs, Glenn & Patricia	1.41	25	6	24A	1300	R46433	RC2	RR	RH	RR	1	UGB only
Heritage Loving Trust	4.61	25	6	24A	1400	R46419	RC2	RR	RH	RH	1	Consents to Annex/ZC
Palomares, Richard & Mark	9.68	25	6	24A	1600	R46412	RC2	RR	RH	RH	1	Consents to Annex/ZC
Fisher, Gibbons & McClintock	8.13	25	6	24A	1700	R46405	RC2	RR	RLD	R-1	0	Consents to Annex/ZC
Calkins Enterprises LLC	12.18	25	6	24A	1800	R46153	RC2	RR	RLD	R-1	0	Consents to Annex/ZC
Calkins Enterprises LLC	12.32	25	6	24A	1900	R46146	RC2	RR	RLD	R-1	1	Consents to Annex/ZC
Robinson & Srikureja, et al	9.85	25	6	24A	2000	R46139	RC2	RR	RLD	R-1	1	Consents to Annex/ZC
Zwijacz, Kevin & Ashley	4.52	25	6	24A	2100	R46097	RC2	RR	RH	RR	2	UGB only
Osborn, Ronda	0.90	25	6	24A	2200	R46125	RC2	RR	RH	RR	1	UGB only
Ecker, Glyndon & Mavis	1.96	25	6	24A	2300	R46104	RC2	RR	RH	RH	1	Consents to Annex/ZC
Gillian, A & Stinnett, S	0.53	25	6	24A	2400	R46111	RC2	RR	RH	RR	1	UGB only
Ecker, Glyndon & Mavis	0.53	25	6	24A	2401	R46132	RC2	RR	RH	RH	0	Consents to Annex/ZC
O'Banion, Wayne & Salina	0.83	25	6	24A	2500	R46118	RC2	RR	RH	RH	1	Consents to Annex/ZC
Total:	70.23	17.61	RH								13	
		42.48	R-1									

AREA 2 -- TRAILS END & END OF PARKHILL

Property Owner(s):	Acres	Twnshp	Range	Section	Tax Lot	Property ID	County	County	New Plan	New Zone	# DUs	Comments
							Plan	Zone				
Robinson, D & R, et al	18.33	25	5	19C	100	R22752	FFT	FF	FFT, RH, RLD	FF, RH, R-1	2	Consents to Annex/ZC; 18.33± R-1, 5.0± RH & 6.4± FF
Robinson, D & R, et al	11.40	25	5	19C	100	R22768	FFT	FF	FFT, RH, RLD	FF, RH, R-1	0	Consents to Annex/ZC; 18.33± R-1, 5.0± RH & 6.4± FF
Robinson, D & R, et al	1.42	25	5	19C	200	R46986	RC2	RR	RH	RH	1	Consents to Annex/ZC
Haley, Adam & Nannette	1.40	25	5	19C	201	R46993	RC2	RR	RH	RH	2	Consents to Annex/ZC
Germond, Clyde & Deborah	2.07	25	5	19C	300	R47000	RC2	RR	RH	RH	0	Consents to Annex/ZC
Germond, Clyde & Deborah	0.34	25	5	19C	400	R47007	RC2	RR	RH	RH	0	Consents to Annex/ZC
Tims, Jimmy & Mary	0.34	25	5	19C	401	R47014	RC2	RR	RH	RR	1	UGB only
Tims, Jimmy & Mary	0.68	25	5	19C	500	R47021	RC2	RR	RH	RR	0	UGB only
Bay, Elmer & Wanda, et al	3.59	25	5	19C	600	R22656	RC2	RR	RH	RR	2	UGB only
Resner, Gary & Mary	5.00	25	5	19C	700	R22712	RC2	RR	RH	RR	2	UGB only
Resner, Gary & Mary	1.03	25	5	19C	700	R141455	RC2	RR	RH	RR	0	UGB only
Stookey LLC	2.05	25	5	19C	800	R141456	RC2	RR	RH	RH	1	Consents to Annex/ZC
Stookey LLC	5.00	25	5	19C	800	R22744	RC2	RR	RH	RH	0	Consents to Annex/ZC
J. Rochester Rev Trust	7.15	25	5	19C	900	R22672	FFT	FF	FFT & RH	FF	1	UGB only, easterly 8± acres into UGB
J. Rochester Rev Trust	11.37	25	5	19C	900	R22688	FFT	FF	FFT & RH	FF	0	UGB only, easterly 8± acres into UGB
Total:	71.17	17.28	RH								12	
		18.33	R-1									

Property Owner(s):	Acres	Twnshp	Range	Section	Tax Lot	Property ID	County	County	New Plan	New Zone	# DUs	Comments
							Plan	Zone				
Baskids LLC	1.05	25	5	19CD	400	R22624	RC2	RR	RH	RH	1	Consents to Annex/UGB
Baskids LLC	0.67	25	5	19CD	500	R22632	RC2	RR	RH	RH	1	Consents to Annex/UGB
Bangs, Chantele & Larry	0.75	25	5	19CD	600	R22832	RC2	RR	RH	RH	1	Consents to Annex/UGB
Duncan, Jaudale & Shirley	0.76	25	5	19CD	700	R22824	RC2	RR	RH	RR	2	UGB only
Srikureja Living Trust	5.11	25	5	19CD	800	R22640	RC2	RR	RH	RH	1	Consents to Annex/UGB
Peterson, Allen & Gale	4.93	25	5	19CD	900	R22776	RC2	RR	RH	RR	2	UGB only
Bartram, Danny & Nickie	4.64	25	5	19CD	1000	R22784	RC2	RR	RH	RH	2	Consents to Annex/UGB
Robinson Loving Trust	2.01	25	5	19CD	1100	R22808	RC2	RR	RH	RH	1	Consents to Annex/UGB
Robinson Loving Trust	2.09	25	5	19CD	1101	R120911	RC2	RR	RH	RH	1	Consents to Annex/UGB
Haley, Adam & Nanette	4.94	25	5	19CD	1102	R122808	RC2	RR	RH	RH	0	Consents to Annex/UGB
Total:	26.95	21.26	RH								12	

AREA 3 -- GLAZNER SITE

Property Owner(s):	Acres	Twnshp	Range	Section	Tax Lot	Property ID	County	County	New Plan	New Zone	# DUs	Comments
							Plan	Zone				
Glazner, Paul & Janice	1.40	25	5	15B	402	R22624	FFT & RC5	FF & 5R	FFT & RH	FF & 5R	1	UGB only; add 5R portion only (1.4± ac) to UGB
Total:	1.40										1	

Existing City Zone Designations/Densities for UGB (lands being removed from UGB/city limits):

R-1	56.50	(56.5 Acres * 6 DU/Acre = 339 + 10% overage = 373 DUs)
RH	116.50	(116.50 Acres * 3 DU/Acre = 350 + 10% overage = 385 DUs)
FR-20	125.00	(with exchange, 5± ac of FR-20 will be retained inside UGB/city limits for future restroom/parking area for park site)
Total adjusted acres:	298.00	

Existing County Plan Designations/Densities for UGB Exchange:

RR (Rural Res 2 Acre)	153.24	147.60
5R (Rural Res 5 Acre)	1.40	1.40
FF (Farm Forest)	48.25	48.25
Total:	202.89	

Proposed Plan Designations/Densities for UGB Exchange:

RLD (Low Density Res)	60.81	(60.81± Acres * 6 DU/Acre = 365 DUs Proposed; 2 existing DUs, for net increase of 363 DUs)	
RH (Res Hillside)	125.16	(125± Acres * 3 DU/Acre = 375 DUs Proposed; 36 existing DUs, for net increase of 339 DUs)	
FR-20 (Forestry-Resource 20)	5.00	(5± Acres; portion for Ford's Pond, 0 existing DUs)	
County FFT (Farm Forest)	16.92	(16.92± Acres; to remain in County; 1 existing DU)	
Total (w/ FF zone):	207.89		UGB only properties will have new City plan & retain County zoning;
Total (w/o FF zone):	190.97	(Final acreage being added/exchanged into UGB)	Future annexation will require Z/C to City zone

Proposed Zone Designations/Densities for UGB Exchange (including lands annexed into UGB):

R-1 (Low Density Res)	60.81	(60.81± Acres * 6 DU/Acre = 365 DUs Proposed; 2 existing DUs, for net increase of 363 DUs)	60.81
RH (Res Hillside)	70.31	(70.31± Acres * 3 DU/Acre = 211 DUs Proposed; 36 existing DUs, for net increase of 175 DUs)	69.97
FR-20 (Forestry-Resource 20)	5.00	(5± Acres; portion for Ford's Pond, 0 existing DUs)	
Retained County FF (Farm Forest)	24.92	(24.92± Acres; 16.92± to remain in County; 8± to add to UGB; 1 existing DUs)	
Retained County RR (Rural Res 2)	45.45	(properties not being annexed at this time)	
Retained County 5R (Rural Res 5)	1.40	(property not being annexed at this time)	
Total (w/ County zones):	207.89		
Total (w/o County zones):	131.12	(Final acreage being added & annexed into UGB)	

PARCELS WITHIN EXISTING UGB, BUT OUTSIDE CITY LIMITS (FORT MCKAY & PARKHILL AREAS) -- NOT PART OF UGB SWAP PROPOSAL

Property Owner(s):	Acres	Twntshp	Range	Section	Tax Lot	Property ID	County Plan	County **Zone	City Plan	New Zone	# DUs	Comments
Tucker Rev Liv Trust	0.33	25	5	19B	500	R45915	N/A	RS	RLD	R-1	1	Consents to Annex/Already in UGB
Nelson, Robert D	0.23	25	5	19B	700	R45922	N/A	RS	RLD	R-1	1	Consents to Annex/Already in UGB
Tucker First Family LLC	1.31	25	5	19B	800	R45894	N/A	RS	RLD	R-1	1	Consents to Annex/Already in UGB
Nelson, Robert D	1.58	25	5	19B	900	R45950	N/A	RS	RLD	R-1	1	Consents to Annex/Already in UGB
Oliver, Ronald & Virginia	0.23	25	5	19B	1000	R45943	N/A	RS	RLD	R-1	?	Consents to Annex/Already in UGB
Oliver, Ronald & Virginia	0.46	25	5	19B	1100	R45936	N/A	RS	RLD	R-1	?	Consents to Annex/Already in UGB
Walker, Julius	2.62	25	5	19B	1400	R45880	N/A	RS	RLD	R-1	1	Consents to Annex/Already in UGB
Walker, Julius	1.89	25	5	19B	1500	R45887	N/A	RS	RLD	R-1	1	Consents to Annex/Already in UGB
Oliver, Ronald & Virginia	1.19	25	5	19BC	1100	R45985	N/A	RS	RLD	R-1	1	Consents to Annex/Already in UGB
Haaby, Willie & Crystal	2.38	25	5	19BC	1300	R45957	N/A	RS	RLD	R-1	1	Consents to Annex/Already in UGB
Van Laarhoven, Dale	4.04	25	5	19BC	1600	R22664	N/A	RR	RLD	R-1	1	Consents to Annex/Already in UGB
Total:	16.26	R-1									9	

**Note: Plan Density for County RR zone = 0.5 DUs/Acre & RS zone = 3 DUs/Acre

77.07

Yes, consented to annexation & submitted paperwork to City
No, does not want to annex & submitted paperwork to City

70.31 RH
77.07

Proposed Zoning

153.78 acres

Total In	Total Out
388	228

AREA 1 -- FT MCKAY AREA

Prop ID	Zone Type	Acreage	Density	# Units	RH	R-1
R46083	RH	9.77	4.00	39.08	31.77	58.74
R46041	RH	0.95	4.00	3.80		
R46027	RH	3.44	4.00	13.76		
R46419	RH	4.61	4.00	18.44		
R46412	RH	9.68	4.00	38.72		
R46405	R-1	8.13	4.00	32.52		
R46153	R-1	12.18	4.00	48.72		
R46146	R-1	12.32	4.00	49.28		
R46139	R-1	9.85	4.00	39.40		
R46104	RH	1.96	4.00	7.84		
R46132	RH	0.53	4.00	2.12		
R46118	RH	0.83	4.00	3.32		
R45915	R-1	0.33	4.00	1.32		
R45922	R-1	0.23	4.00	0.92		
R45894	R-1	1.31	4.00	5.24		
R45950	R-1	1.58	4.00	6.32		
R45943	R-1	0.23	4.00	0.92		
R45936	R-1	0.46	4.00	1.84		
R45880	R-1	2.62	4.00	10.48		
R45887	R-1	1.89	4.00	7.56		
R45985	R-1	1.19	4.00	4.76		
R45957	R-1	2.38	4.00	9.52		
R22664	R-1	4.04	4.00	16.16		

Total Acreage	90.51	362.04
	74.25	

PM Peak Hour 210-Single Family Detached Housing

Units	PM Rate	Trips	In%	Out%	In	Out
362	1	362	63%	37%	228	134
	0%	0			0	0
					228	134

AREA 2 -- FIR GROVE LANE & PLAT M RD

Prop ID	Zone Type	Acreage	Density	# Units	RH	R-1
R22752	FF, RH & R-1	18.33	4.00	73.32	17.28	18.33
R22768	FF & R-1	11.4	4.00	45.60		
R46986	RH	1.42	4.00	5.68		
R46993	RH	1.4	4.00	5.60		
R47000	RH	2.07	4.00	8.28		
R47007	RH	0.34	4.00	1.36		
R141456	RH	2.05	4.00	8.20		
R22744	RH	5	4.00	20.00		

Total Acreage	42.01	168.04
---------------	-------	--------

PM Peak Hour 210-Single Family Detached Housing

Units	PM Rate	Trips	In%	Out%	In	Out
168	1	168	63%	37%	106	62
	0%	0			0	0
					106	62

AREA 3 -- TRAILS END LN

Prop ID	Zone Type	Acreage	Density	# Units	RH	R-1
R120911	RH	2.09	4	8.36	21.26	
R122808	RH	4.94	4	19.76		
R22808	RH	2.01	4	8.04		
R22832	RH	0.75	4	3		
R22784	RH	4.64	4	18.56		
R22640	RH	5.11	4	20.44		
R22632	RH	0.67	4	2.68		
R22624	RH	1.05	4	4.2		

Total Acreage	21.26	85.04
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PM Peak Hour 210-Single Family Detached Housing

Units	PM Rate	Trips	In%	Out%	In	Out
85	1	85	63%	37%	54	31
	0%	0			0	0
					54	31

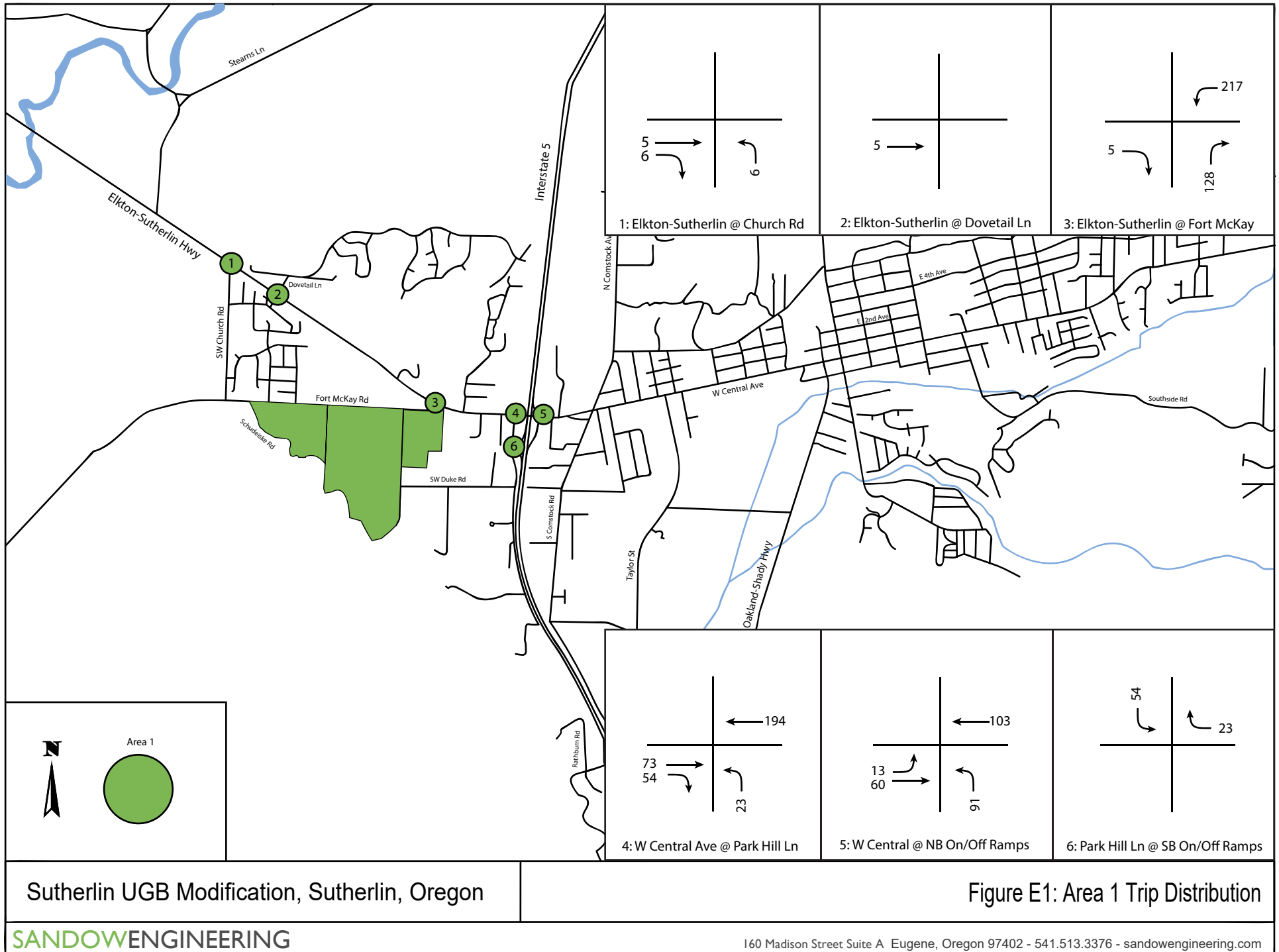
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137.52

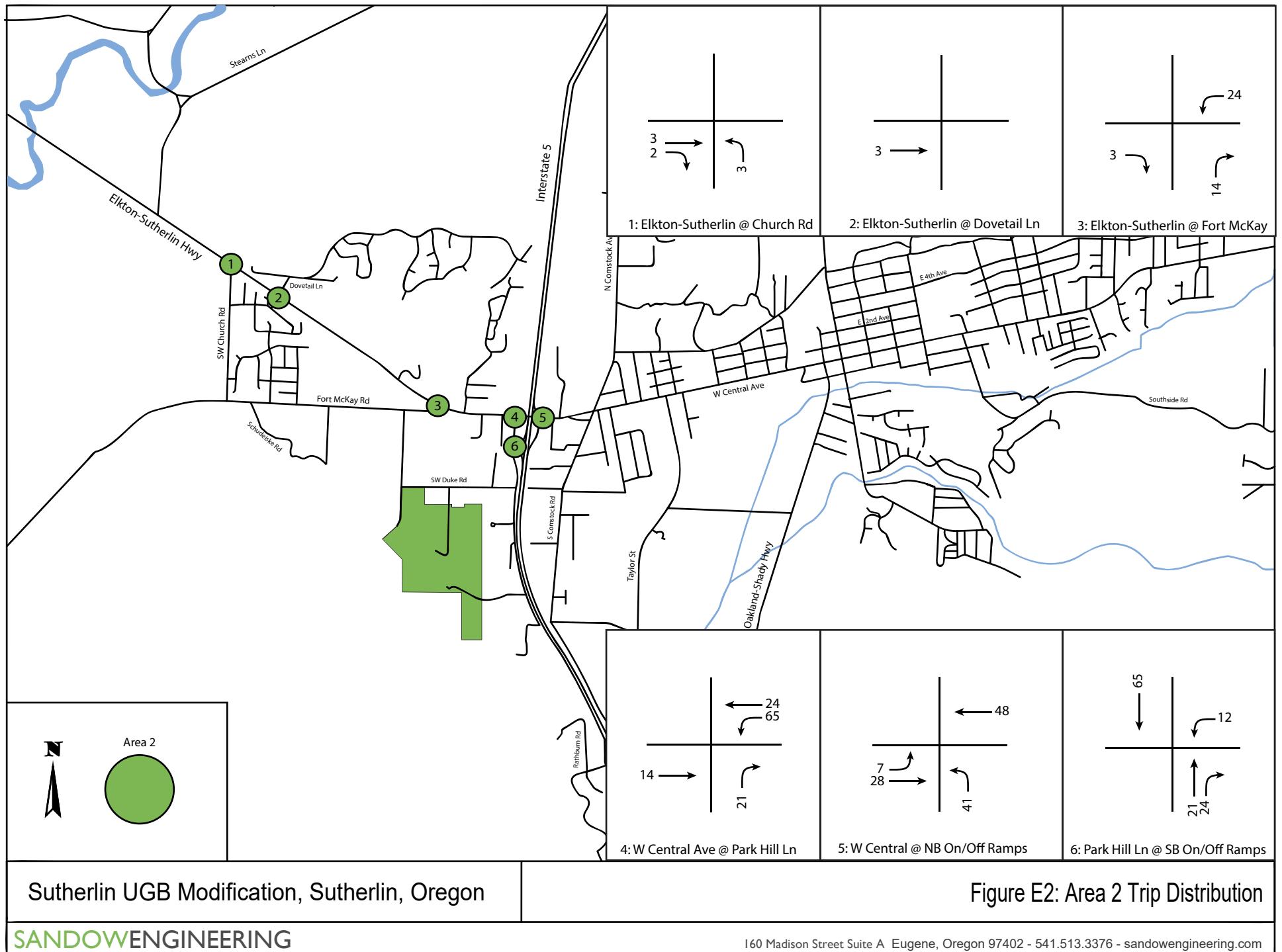
70.31 77.07

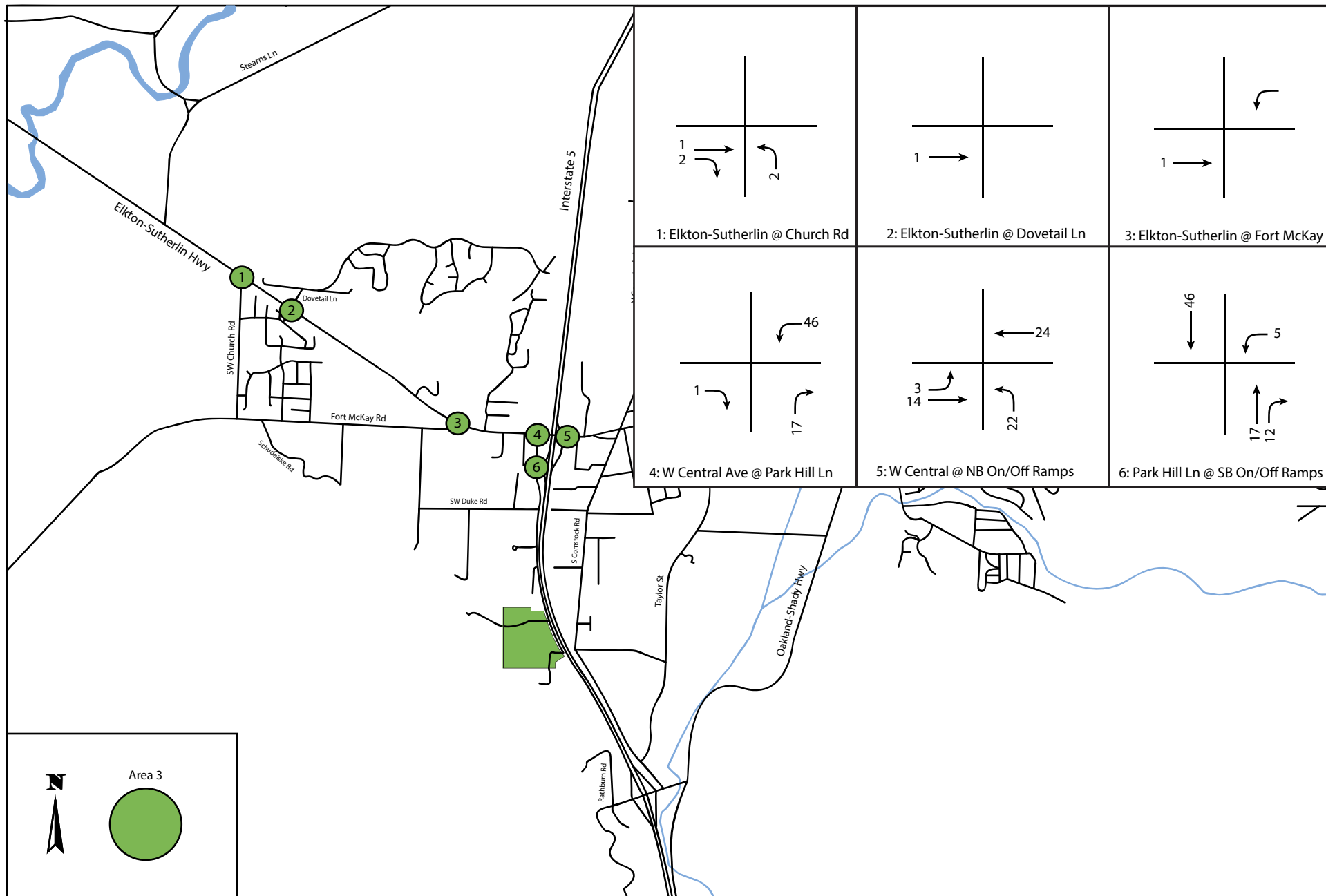
615

388

228










Sutherlin UGB Modification, Sutherlin, Oregon

Figure E3: Area 3 Trip Distribution

Sutherlin UGB Modification

HCM 2010 TWSC
1: Church Rd & OR 138





01/06/2018

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	109	6	6	145	6	6
Future Vol, veh/h	109	6	6	145	6	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	11	0	0	3	0	0
Mvmt Flow	128	7	7	171	7	7
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	135	0	317	132
Stage 1	-	-	-	-	132	-
Stage 2	-	-	-	-	185	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1462	-	680	923
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	852	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1462	-	677	923
Mov Cap-2 Maneuver	-	-	-	-	677	-
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	848	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		9.7	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	781	-	-	1462	-	
HCM Lane V/C Ratio	0.018	-	-	0.005	-	
HCM Control Delay (s)	9.7	-	-	7.5	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

HCM 2010 TWSC

2: Dovetail Ln & OR 138

01/06/2018

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	112	1	25	150	33	1	2	13	28	3	0
Future Vol, veh/h	2	112	1	25	150	33	1	2	13	28	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	13	0	6	5	2	0	0	10	0	25	0
Mvmt Flow	2	118	1	26	158	35	1	2	14	29	3	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	193	0	0	119	0	0	352	368	118	359	351	175
Stage 1	-	-	-	-	-	-	123	123	-	228	228	-
Stage 2	-	-	-	-	-	-	229	245	-	131	123	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.1	6.5	6.3	7.1	6.75	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.75	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.75	-
Follow-up Hdwy	2.2	-	-	2.254	-	-	3.5	4	3.39	3.5	4.225	3.3
Pot Cap-1 Maneuver	1392	-	-	1444	-	-	607	564	913	600	538	874
Stage 1	-	-	-	-	-	-	886	798	-	779	675	-
Stage 2	-	-	-	-	-	-	778	707	-	877	752	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1392	-	-	1444	-	-	594	552	913	579	526	874
Mov Cap-2 Maneuver	-	-	-	-	-	-	594	552	-	579	526	-
Stage 1	-	-	-	-	-	-	884	796	-	777	662	-
Stage 2	-	-	-	-	-	-	759	693	-	860	750	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.9			9.5			11.7		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	819	1392	-	-	1444	-	-	573				
HCM Lane V/C Ratio	0.021	0.002	-	-	0.018	-	-	0.057				
HCM Control Delay (s)	9.5	7.6	0	-	7.5	0	-	11.7				
HCM Lane LOS	A	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.2				






HCM 2010 TWSC

3: Fort Mckay Rd & OR 138

01/06/2018

Intersection

Int Delay, s/veh 3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	167	2	134	218	0	90
Future Vol, veh/h	167	2	134	218	0	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	295	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	12	33	4	5	0	7
Mvmt Flow	174	2	140	227	0	94

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	176
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.236
Pot Cap-1 Maneuver	-	-	1388
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1388
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	9.7
HCM LOS			A






Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	856	-	-	1388	-
HCM Lane V/C Ratio	0.11	-	-	0.101	-
HCM Control Delay (s)	9.7	-	-	7.9	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	-

HCM 2010 TWSC
4: Park Hill Ln & OR 138

01/06/2018

Intersection

Int Delay, s/veh 3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	225	140	151	439	50	92
Future Vol, veh/h	225	140	151	439	50	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	225	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	5	13	5	4	17	9
Mvmt Flow	232	144	156	453	52	95

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	376
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.15
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.245
Pot Cap-1 Maneuver	-	-	1166
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1166
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-








Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	17.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	199	720	-	-	1166	-
HCM Lane V/C Ratio	0.259	0.132	-	-	0.134	-
HCM Control Delay (s)	29.3	10.8	-	-	8.6	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	1	0.5	-	-	0.5	-

HCM Signalized Intersection Capacity Analysis




5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138

01/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	290	0	0	400	73	190	2	171	0	0	0
Future Volume (vph)	27	290	0	0	400	73	190	2	171	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
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)	1511	1651			1683	1316		1573	1430			
Flt Permitted	0.49	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	783	1651			1683	1316		1573	1430			
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	27	293	0	0	404	74	192	2	173	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	29	0	0	132	0	0	0
Lane Group Flow (vph)	27	293	0	0	404	45	0	194	41	0	0	0
Heavy Vehicles (%)	10%	6%	0%	0%	4%	13%	5%	100%	4%	0%	0%	0%
Turn Type	Perm	NA			NA	Perm	Perm	NA	Perm			
Protected Phases		2			6			8				
Permitted Phases	2					6	8		8			
Actuated Green, G (s)	32.7	32.7			32.7	32.7		11.4	11.4			
Effective Green, g (s)	32.7	32.7			32.7	32.7		12.8	12.8			
Actuated g/C Ratio	0.61	0.61			0.61	0.61		0.24	0.24			
Clearance Time (s)	4.0	4.0			4.0	4.0		5.4	5.4			
Vehicle Extension (s)	4.0	4.0			4.0	4.0		2.5	2.5			
Lane Grp Cap (vph)	478	1009			1028	804		376	342			
v/s Ratio Prot		0.18			c0.24							
v/s Ratio Perm	0.03					0.03		0.12	0.03			
v/c Ratio	0.06	0.29			0.39	0.06		0.52	0.12			
Uniform Delay, d1	4.2	4.9			5.3	4.2		17.7	15.9			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.2	0.7			0.3	0.0		0.9	0.1			
Delay (s)	4.4	5.6			5.7	4.2		18.6	16.1			
Level of Service	A	A			A	A		B	B			
Approach Delay (s)		5.5			5.4			17.4			0.0	
Approach LOS		A			A			B			A	
Intersection Summary												
HCM 2000 Control Delay			9.2				HCM 2000 Level of Service			A		
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			53.5				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			42.6%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 2010 TWSC
6: Park Hill Ln & SB Off Ramp

01/06/2018

Intersection						
Int Delay, s/veh	7.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	120	22	14	268	23
Future Vol, veh/h	2	120	22	14	268	23
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	89	89	89	89	89	89
Heavy Vehicles, %	14	11	20	0	0	10
Mvmt Flow	2	135	25	16	301	26
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	661	33	0	0	40	0
Stage 1	33	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Critical Hdwy	6.54	6.31	-	-	4.1	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.399	-	-	2.2	-
Pot Cap-1 Maneuver	409	1015	-	-	1583	-
Stage 1	959	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	330	1015	-	-	1583	-
Mov Cap-2 Maneuver	330	-	-	-	-	-
Stage 1	959	-	-	-	-	-
Stage 2	412	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.3	0		7.2		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	982	1583	-	
HCM Lane V/C Ratio	-	-	0.14	0.19	-	
HCM Control Delay (s)	-	-	9.3	7.8	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.5	0.7	-	

Sutherlin UGB Modification

Lanes, Volumes, Timings

1: Church Rd & OR 138

01/06/2018



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	208	8	48	283	8	30
Future Volume (vph)	208	8	48	283	8	30
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995				0.893	
Flt Protected				0.993	0.990	
Satd. Flow (prot)	1574	0	0	1694	1547	0
Flt Permitted				0.993	0.990	
Satd. Flow (perm)	1574	0	0	1694	1547	0
Link Speed (mph)	55			55	55	
Link Distance (ft)	1604			1094	2666	
Travel Time (s)	19.9			13.6	33.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	11%	0%	0%	3%	0%	0%
Adj. Flow (vph)	236	9	55	322	9	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	245	0	0	377	43	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary




Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 44.8% ICU Level of Service A
Analysis Period (min) 15

HCM 2010 TWSC
1: Church Rd & OR 138

01/06/2018

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	208	8	48	283	8	30
Future Vol, veh/h	208	8	48	283	8	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	11	0	0	3	0	0
Mvmt Flow	236	9	55	322	9	34

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	245
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1333
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1333
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

















Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	664	-	-	1333	-
HCM Lane V/C Ratio	0.065	-	-	0.041	-
HCM Control Delay (s)	10.8	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Lanes, Volumes, Timings

2: Dovetail Ln & OR 138

01/06/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	234	1	33	347	43	1	3	17	37	4	0
Future Volume (vph)	3	234	1	33	347	43	1	3	17	37	4	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.986			0.890				
Flt Protected		0.999			0.996			0.998			0.957	
Satd. Flow (prot)	0	1548	0	0	1640	0	0	1437	0	0	1637	0
Flt Permitted		0.999			0.996			0.998			0.957	
Satd. Flow (perm)	0	1548	0	0	1640	0	0	1437	0	0	1637	0
Link Speed (mph)		55			55			35			35	
Link Distance (ft)		1094			3881			849			758	
Travel Time (s)		13.6			48.1			16.5			14.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	13%	0%	6%	5%	2%	0%	0%	10%	0%	25%	0%
Adj. Flow (vph)	3	246	1	35	365	45	1	3	18	39	4	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	250	0	0	445	0	0	22	0	0	43	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	57.4%											
Analysis Period (min)	15											
	ICU Level of Service B											

HCM 2010 TWSC

2: Dovetail Ln & OR 138











01/06/2018

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	234	1	33	347	43	1	3	17	37	4	0
Future Vol, veh/h	3	234	1	33	347	43	1	3	17	37	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	13	0	6	5	2	0	0	10	0	25	0
Mvmt Flow	3	246	1	35	365	45	1	3	18	39	4	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	411	0	0	247	0	0	712	733	247	721	711	388
Stage 1	-	-	-	-	-	-	253	253	-	457	457	-
Stage 2	-	-	-	-	-	-	459	480	-	264	254	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.1	6.5	6.3	7.1	6.75	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.75	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.75	-
Follow-up Hdwy	2.2	-	-	2.254	-	-	3.5	4	3.39	3.5	4.225	3.3
Pot Cap-1 Maneuver	1159	-	-	1296	-	-	350	350	773	345	331	665
Stage 1	-	-	-	-	-	-	756	701	-	587	531	-
Stage 2	-	-	-	-	-	-	586	558	-	746	657	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1159	-	-	1296	-	-	336	337	773	325	318	665
Mov Cap-2 Maneuver	-	-	-	-	-	-	336	337	-	325	318	-
Stage 1	-	-	-	-	-	-	754	699	-	585	512	-
Stage 2	-	-	-	-	-	-	561	538	-	723	655	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.6			11			17.8		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	620	1159	-	-	1296	-	-	324				
HCM Lane V/C Ratio	0.036	0.003	-	-	0.027	-	-	0.133				
HCM Control Delay (s)	11	8.1	0	-	7.9	0	-	17.8				
HCM Lane LOS	B	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.5				

Lanes, Volumes, Timings

3: Fort Mckay Rd & OR 138

01/06/2018

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	306	3	226	437	0	148
Future Volume (vph)	306	3	226	437	0	148
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)		0	295		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			150		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999				0.865	
Flt Protected			0.950			
Satd. Flow (prot)	1558	0	1599	1667	1415	0
Flt Permitted			0.950			
Satd. Flow (perm)	1558	0	1599	1667	1415	0
Link Speed (mph)	55			55	55	
Link Distance (ft)	3881			1687	1532	
Travel Time (s)	48.1			20.9	19.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	12%	33%	4%	5%	0%	7%
Adj. Flow (vph)	319	3	235	455	0	154
Shared Lane Traffic (%)						
Lane Group Flow (vph)	322	0	235	455	154	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	51.2%			ICU Level of Service A		
Analysis Period (min)	15					






HCM 2010 TWSC

3: Fort Mckay Rd & OR 138

01/06/2018

Intersection

Int Delay, s/veh 3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	306	3	226	437	0	148
Future Vol, veh/h	306	3	226	437	0	148
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	295	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	12	33	4	5	0	7
Mvmt Flow	319	3	235	455	0	154

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	322
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.236
Pot Cap-1 Maneuver	-	-	1227
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1227
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-












Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	709	-	-	1227	-
HCM Lane V/C Ratio	0.217	-	-	0.192	-
HCM Control Delay (s)	11.5	-	-	8.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.7	-

Lanes, Volumes, Timings

4: Park Hill Ln & OR 138






01/06/2018

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	366	224	199	737	94	121
Future Volume (vph)	366	224	199	737	94	121
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)		0	225		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.949					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1537	0	1583	1683	1421	1365
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1537	0	1583	1683	1421	1365
Link Speed (mph)	30			30	55	
Link Distance (ft)	1687			524	230	
Travel Time (s)	38.3			11.9	2.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	13%	5%	4%	17%	9%
Adj. Flow (vph)	377	231	205	760	97	125
Shared Lane Traffic (%)						
Lane Group Flow (vph)	608	0	205	760	97	125
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			23	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	63.4%			ICU Level of Service B		
Analysis Period (min)	15					

HCM 2010 TWSC

4: Park Hill Ln & OR 138








01/06/2018

Intersection						
Int Delay, s/veh	17.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	366	224	199	737	94	121
Future Vol, veh/h	366	224	199	737	94	121
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	225	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	5	13	5	4	17	9
Mvmt Flow	377	231	205	760	97	125
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	608	0	1663	493
Stage 1	-	-	-	-	493	-
Stage 2	-	-	-	-	1170	-
Critical Hdwy	-	-	4.15	-	6.57	6.29
Critical Hdwy Stg 1	-	-	-	-	5.57	-
Critical Hdwy Stg 2	-	-	-	-	5.57	-
Follow-up Hdwy	-	-	2.245	-	3.653	3.381
Pot Cap-1 Maneuver	-	-	956	-	98	562
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	275	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	956	-	~ 77	562
Mov Cap-2 Maneuver	-	-	-	-	~ 77	-
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	216	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2.1		131	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	77	562	-	-	956	-
HCM Lane V/C Ratio	1.259	0.222	-	-	0.215	-
HCM Control Delay (s)	282.7	13.2	-	-	9.8	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	7.4	0.8	-	-	0.8	-
Notes						
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Lanes, Volumes, Timings

5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138

01/06/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	444	0	0	634	94	302	3	221	0	0	0
Future Volume (vph)	43	444	0	0	634	94	302	3	221	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	250		0	0		75	0		0	0		0
Storage Lanes	1		0	0		1	0		1	0		0
Taper Length (ft)	70			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	1511	1651	0	0	1683	1316	0	1574	1430	0	0	0
Flt Permitted	0.301							0.953				
Satd. Flow (perm)	479	1651	0	0	1683	1316	0	1574	1430	0	0	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						70			223			
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		524			1164			1185			755	
Travel Time (s)		11.9			26.5			23.1			14.7	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	10%	6%	0%	0%	4%	13%	5%	100%	4%	0%	0%	0%
Adj. Flow (vph)	43	448	0	0	640	95	305	3	223	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	448	0	0	640	95	0	308	223	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		28			14			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	1			1	1	1	3	3			
Detector Template							Left					
Leading Detector (ft)	101	186			183	76	20	136	136			
Trailing Detector (ft)	0	180			177	70	0	0	0			
Detector 1 Position(ft)	0	180			177	70	0	0	0			
Detector 1 Size(ft)	16	6			6	6	20	16	16			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 2 Position(ft)		95						70	70			
Detector 2 Size(ft)		6						6	6			
Detector 2 Type		Cl+Ex						Cl+Ex	Cl+Ex			
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0	0.0			
Detector 3 Position(ft)								130	130			
Detector 3 Size(ft)								6	6			

Lanes, Volumes, Timings

5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138

01/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Type								CI+Ex	CI+Ex			
Detector 3 Channel												
Detector 3 Extend (s)								0.0	0.0			
Turn Type	Perm	NA			NA	Perm	Perm	NA	Perm			
Protected Phases		2			6			8				
Permitted Phases	2					6	8		8			
Detector Phase	2	2			6	6	8	8	8			
Switch Phase												
Minimum Initial (s)	10.0	10.0			10.0	10.0	6.0	6.0	6.0			
Minimum Split (s)	35.4	35.4			34.0	34.0	26.4	26.4	26.4			
Total Split (s)	38.6	38.6			38.6	38.6	26.4	26.4	26.4			
Total Split (%)	59.4%	59.4%			59.4%	59.4%	40.6%	40.6%	40.6%			
Maximum Green (s)	34.6	34.6			34.6	34.6	21.0	21.0	21.0			
Yellow Time (s)	3.5	3.5			3.5	3.5	4.7	4.7	4.7			
All-Red Time (s)	0.5	0.5			0.5	0.5	0.7	0.7	0.7			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		-1.4	-1.4			
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0			4.0	4.0	2.5	2.5	2.5			
Minimum Gap (s)	2.7	2.7			2.7	2.7	2.0	2.0	2.0			
Time Before Reduce (s)	10.0	10.0			10.0	10.0	8.0	8.0	8.0			
Time To Reduce (s)	13.0	13.0			13.0	13.0	4.0	4.0	4.0			
Recall Mode	Max	Max			None	None	None	None	None			
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	23.0	23.0			23.0	23.0	14.0	14.0	14.0			
Pedestrian Calls (#/hr)	0	0			0	0	0	0	0			
Act Effect Green (s)	34.8	34.8			34.8	34.8		17.3	17.3			
Actuated g/C Ratio	0.58	0.58			0.58	0.58		0.29	0.29			
v/c Ratio	0.16	0.47			0.66	0.12		0.68	0.39			
Control Delay	9.1	10.4			13.9	3.6		27.0	4.9			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	9.1	10.4			13.9	3.6		27.0	4.9			
LOS	A	B			B	A		C	A			
Approach Delay		10.3			12.6			17.7				
Approach LOS		B			B			B				

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 60.1

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 13.5

Intersection LOS: B

Intersection Capacity Utilization 63.8%

ICU Level of Service B

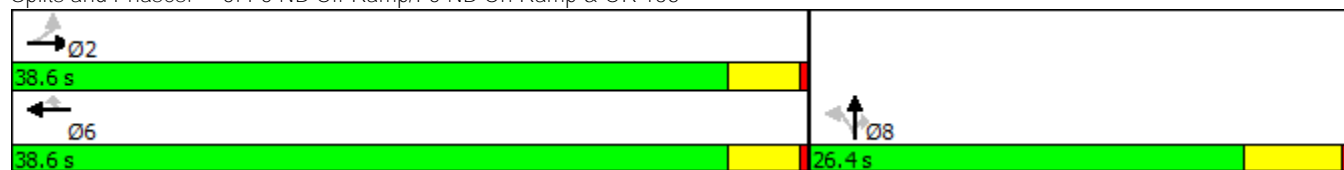
Analysis Period (min) 15

Lanes, Volumes, Timings

5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138

01/06/2018








Splits and Phases: 5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138



HCM Signalized Intersection Capacity Analysis

5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138










01/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	444	0	0	634	94	302	3	221	0	0	0
Future Volume (vph)	43	444	0	0	634	94	302	3	221	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
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)	1511	1651			1683	1316		1574	1430			
Flt Permitted	0.30	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	479	1651			1683	1316		1574	1430			
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	43	448	0	0	640	95	305	3	223	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	29	0	0	159	0	0	0
Lane Group Flow (vph)	43	448	0	0	640	66	0	308	64	0	0	0
Heavy Vehicles (%)	10%	6%	0%	0%	4%	13%	5%	100%	4%	0%	0%	0%
Turn Type	Perm	NA			NA	Perm	Perm	NA	Perm			
Protected Phases		2			6			8				
Permitted Phases	2					6	8		8			
Actuated Green, G (s)	34.8	34.8			34.8	34.8		15.9	15.9			
Effective Green, g (s)	34.8	34.8			34.8	34.8		17.3	17.3			
Actuated g/C Ratio	0.58	0.58			0.58	0.58		0.29	0.29			
Clearance Time (s)	4.0	4.0			4.0	4.0		5.4	5.4			
Vehicle Extension (s)	4.0	4.0			4.0	4.0		2.5	2.5			
Lane Grp Cap (vph)	277	955			974	762		453	411			
v/s Ratio Prot		0.27			c0.38							
v/s Ratio Perm	0.09					0.05		0.20	0.04			
v/c Ratio	0.16	0.47			0.66	0.09		0.68	0.16			
Uniform Delay, d1	5.9	7.3			8.6	5.6		18.9	16.0			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	1.2	1.7			1.8	0.1		3.7	0.1			
Delay (s)	7.0	9.0			10.4	5.7		22.6	16.1			
Level of Service	A	A			B	A		C	B			
Approach Delay (s)		8.8			9.8			19.9			0.0	
Approach LOS		A			A			B			A	
Intersection Summary												
HCM 2000 Control Delay			12.6				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			60.1				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			63.8%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

6: Park Hill Ln & SB Off Ramp

01/06/2018




						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	3	186	29	18	392	30
Future Volume (vph)	3	186	29	18	392	30
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.867		0.949			
Flt Protected	0.999					0.956
Satd. Flow (prot)	1365	0	1477	0	0	1661
Flt Permitted	0.999					0.956
Satd. Flow (perm)	1365	0	1477	0	0	1661
Link Speed (mph)	35		55			55
Link Distance (ft)	629		885			401
Travel Time (s)	12.3		11.0			5.0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	14%	11%	20%	0%	0%	10%
Adj. Flow (vph)	3	209	33	20	440	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	212	0	53	0	0	474
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	51.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 2010 TWSC
6: Park Hill Ln & SB Off Ramp

01/06/2018

Intersection

Int Delay, s/veh 7.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	186	29	18	392	30
Future Vol, veh/h	3	186	29	18	392	30
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	89	89	89	89	89	89
Heavy Vehicles, %	14	11	20	0	0	10
Mvmt Flow	3	209	33	20	440	34

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	958	43	0
Stage 1	43	-	-
Stage 2	915	-	-
Critical Hdwy	6.54	6.31	-
Critical Hdwy Stg 1	5.54	-	-
Critical Hdwy Stg 2	5.54	-	-
Follow-up Hdwy	3.626	3.399	-
Pot Cap-1 Maneuver	272	1002	-
Stage 1	950	-	-
Stage 2	372	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	194	1002	-
Mov Cap-2 Maneuver	194	-	-
Stage 1	950	-	-
Stage 2	266	-	-

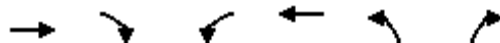
Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	7.6
HCM LOS	A		




Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	940	1566
HCM Lane V/C Ratio	-	-	0.226	0.281
HCM Control Delay (s)	-	-	9.9	8.2
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.9	1.2

Lanes, Volumes, Timings

1: Church Rd & OR 138

01/06/2018






Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	152	18	8	173	19	8
Future Volume (vph)	152	18	8	173	19	8
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.986				0.961	
Flt Protected				0.998	0.966	
Satd. Flow (prot)	1571	0	0	1698	1625	0
Flt Permitted				0.998	0.966	
Satd. Flow (perm)	1571	0	0	1698	1625	0
Link Speed (mph)	55			55	55	
Link Distance (ft)	1604			1094	2666	
Travel Time (s)	19.9			13.6	33.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	11%	0%	0%	3%	0%	0%
Adj. Flow (vph)	173	20	9	197	22	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	193	0	0	206	31	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type: Other						
Control Type: Unsignalized						
Intersection Capacity Utilization 26.9% ICU Level of Service A						
Analysis Period (min) 15						

HCM 2010 TWSC
1: Church Rd & OR 138

01/06/2018

Intersection

Int Delay, s/veh 0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	152	18	8	173	19	8
Future Vol, veh/h	152	18	8	173	19	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	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	11	0	0	3	0	0
Mvmt Flow	173	20	9	197	22	9

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	193
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1392
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1392
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

















Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	666	-	-	1392	-
HCM Lane V/C Ratio	0.046	-	-	0.007	-
HCM Control Delay (s)	10.7	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lanes, Volumes, Timings

2: Dovetail Ln & OR 138

01/06/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	156	1	33	197	43	1	3	17	37	4	0
Future Volume (vph)	3	156	1	33	197	43	1	3	17	37	4	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.979			0.890				
Flt Protected		0.999			0.994			0.998			0.957	
Satd. Flow (prot)	0	1550	0	0	1627	0	0	1437	0	0	1637	0
Flt Permitted		0.999			0.994			0.998			0.957	
Satd. Flow (perm)	0	1550	0	0	1627	0	0	1437	0	0	1637	0
Link Speed (mph)		55			55			35			35	
Link Distance (ft)		1094			3881			849			758	
Travel Time (s)		13.6			48.1			16.5			14.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	13%	0%	6%	5%	2%	0%	0%	10%	0%	25%	0%
Adj. Flow (vph)	3	164	1	35	207	45	1	3	18	39	4	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	168	0	0	287	0	0	22	0	0	43	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	44.4%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM 2010 TWSC

2: Dovetail Ln & OR 138











01/06/2018

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	156	1	33	197	43	1	3	17	37	4	0
Future Vol, veh/h	3	156	1	33	197	43	1	3	17	37	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	13	0	6	5	2	0	0	10	0	25	0
Mvmt Flow	3	164	1	35	207	45	1	3	18	39	4	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	253	0	0	165	0	0	473	493	165	481	471	230
Stage 1	-	-	-	-	-	-	171	171	-	299	299	-
Stage 2	-	-	-	-	-	-	302	322	-	182	172	-
Critical Hdwy	4.1	-	-	4.16	-	-	7.1	6.5	6.3	7.1	6.75	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.75	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.75	-
Follow-up Hdwy	2.2	-	-	2.254	-	-	3.5	4	3.39	3.5	4.225	3.3
Pot Cap-1 Maneuver	1324	-	-	1389	-	-	505	480	859	499	459	814
Stage 1	-	-	-	-	-	-	836	761	-	714	627	-
Stage 2	-	-	-	-	-	-	712	655	-	824	715	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1324	-	-	1389	-	-	490	465	859	475	445	814
Mov Cap-2 Maneuver	-	-	-	-	-	-	490	465	-	475	445	-
Stage 1	-	-	-	-	-	-	834	759	-	713	609	-
Stage 2	-	-	-	-	-	-	687	636	-	802	714	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.9			10			13.4		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	742	1324	-	-	1389	-	-	472				
HCM Lane V/C Ratio	0.03	0.002	-	-	0.025	-	-	0.091				
HCM Control Delay (s)	10	7.7	0	-	7.7	0	-	13.4				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.3				

Lanes, Volumes, Timings

3: Fort Mckay Rd & OR 138

01/06/2018






						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	220	11	417	287	0	260
Future Volume (vph)	220	11	417	287	0	260
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)		0	295		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			150		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994				0.865	
Flt Protected			0.950			
Satd. Flow (prot)	1540	0	1599	1667	1415	0
Flt Permitted			0.950			
Satd. Flow (perm)	1540	0	1599	1667	1415	0
Link Speed (mph)	55			55	55	
Link Distance (ft)	3881			1687	1532	
Travel Time (s)	48.1			20.9	19.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	12%	33%	4%	5%	0%	7%
Adj. Flow (vph)	229	11	434	299	0	271
Shared Lane Traffic (%)						
Lane Group Flow (vph)	240	0	434	299	271	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	65.9%			ICU Level of Service C		
Analysis Period (min)	15					

HCM 2010 TWSC
3: Fort Mckay Rd & OR 138

01/06/2018

Intersection

Int Delay, s/veh 5.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	220	11	417	287	0	260
Future Vol, veh/h	220	11	417	287	0	260
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	295	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	12	33	4	5	0	7
Mvmt Flow	229	11	434	299	0	271

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	241
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.236
Pot Cap-1 Maneuver	-	-	1314
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1314
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-












Approach	EB	WB	NB
HCM Control Delay, s	0	5.4	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	792	-	-	1314	-
HCM Lane V/C Ratio	0.342	-	-	0.331	-
HCM Control Delay (s)	11.9	-	-	9.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1.5	-	-	1.5	-

Lanes, Volumes, Timings

4: Park Hill Ln & OR 138






01/06/2018

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	376	239	310	783	89	154
Future Volume (vph)	376	239	310	783	89	154
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)		0	225		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.948					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1535	0	1583	1683	1421	1365
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1535	0	1583	1683	1421	1365
Link Speed (mph)	30			30	55	
Link Distance (ft)	1687			524	230	
Travel Time (s)	38.3			11.9	2.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	13%	5%	4%	17%	9%
Adj. Flow (vph)	388	246	320	807	92	159
Shared Lane Traffic (%)						
Lane Group Flow (vph)	634	0	320	807	92	159
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			23	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	71.3%			ICU Level of Service C		
Analysis Period (min)	15					

HCM 2010 TWSC

4: Park Hill Ln & OR 138








01/06/2018

Intersection						
Int Delay, s/veh	37.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	376	239	310	783	89	154
Future Vol, veh/h	376	239	310	783	89	154
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	225	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	5	13	5	4	17	9
Mvmt Flow	388	246	320	807	92	159
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	634	0	1957	511
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	1446	-
Critical Hdwy	-	-	4.15	-	6.57	6.29
Critical Hdwy Stg 1	-	-	-	-	5.57	-
Critical Hdwy Stg 2	-	-	-	-	5.57	-
Follow-up Hdwy	-	-	2.245	-	3.653	3.381
Pot Cap-1 Maneuver	-	-	935	-	~ 64	549
Stage 1	-	-	-	-	573	-
Stage 2	-	-	-	-	201	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	935	-	~ 42	549
Mov Cap-2 Maneuver	-	-	-	-	~ 42	-
Stage 1	-	-	-	-	573	-
Stage 2	-	-	-	-	132	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	3.1		284.2		
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	42	549	-	-	935	-
HCM Lane V/C Ratio	2.185	0.289	-	-	0.342	-
HCM Control Delay (s)	\$ 751.3	14.2	-	-	10.8	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	9.7	1.2	-	-	1.5	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Lanes, Volumes, Timings

5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138

01/06/2018

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	477	0	0	693	94	400	3	221	0	0	0
Future Volume (vph)	58	477	0	0	693	94	400	3	221	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	250		0	0		75	0		0	0		0
Storage Lanes	1		0	0		1	0		1	0		0
Taper Length (ft)	70			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected	0.950							0.953				
Satd. Flow (prot)	1511	1651	0	0	1683	1316	0	1578	1430	0	0	0
Flt Permitted	0.235							0.953				
Satd. Flow (perm)	374	1651	0	0	1683	1316	0	1578	1430	0	0	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)						63			223			
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		524			1164			1185			755	
Travel Time (s)		11.9			26.5			23.1			14.7	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	10%	6%	0%	0%	4%	13%	5%	100%	4%	0%	0%	0%
Adj. Flow (vph)	59	482	0	0	700	95	404	3	223	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	482	0	0	700	95	0	407	223	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		28			14			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	1			1	1	1	3	3			
Detector Template							Left					
Leading Detector (ft)	101	186			183	76	20	136	136			
Trailing Detector (ft)	0	180			177	70	0	0	0			
Detector 1 Position(ft)	0	180			177	70	0	0	0			
Detector 1 Size(ft)	16	6			6	6	20	16	16			
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Detector 2 Position(ft)		95						70	70			
Detector 2 Size(ft)		6						6	6			
Detector 2 Type		Cl+Ex						Cl+Ex	Cl+Ex			
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0	0.0			
Detector 3 Position(ft)								130	130			
Detector 3 Size(ft)								6	6			

Lanes, Volumes, Timings

5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138

01/06/2018



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Type								CI+Ex	CI+Ex			
Detector 3 Channel												
Detector 3 Extend (s)								0.0	0.0			
Turn Type	Perm	NA			NA	Perm	Perm	NA	Perm			
Protected Phases		2			6			8				
Permitted Phases	2					6	8		8			
Detector Phase	2	2			6	6	8	8	8			
Switch Phase												
Minimum Initial (s)	10.0	10.0			10.0	10.0	6.0	6.0	6.0			
Minimum Split (s)	35.4	35.4			34.0	34.0	26.4	26.4	26.4			
Total Split (s)	38.0	38.0			38.0	38.0	27.0	27.0	27.0			
Total Split (%)	58.5%	58.5%			58.5%	58.5%	41.5%	41.5%	41.5%			
Maximum Green (s)	34.0	34.0			34.0	34.0	21.6	21.6	21.6			
Yellow Time (s)	3.5	3.5			3.5	3.5	4.7	4.7	4.7			
All-Red Time (s)	0.5	0.5			0.5	0.5	0.7	0.7	0.7			
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		-1.4	-1.4			
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0			4.0	4.0	2.5	2.5	2.5			
Minimum Gap (s)	2.7	2.7			2.7	2.7	2.0	2.0	2.0			
Time Before Reduce (s)	10.0	10.0			10.0	10.0	8.0	8.0	8.0			
Time To Reduce (s)	13.0	13.0			13.0	13.0	4.0	4.0	4.0			
Recall Mode	Max	Max			None	None	None	None	None			
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	23.0	23.0			23.0	23.0	14.0	14.0	14.0			
Pedestrian Calls (#/hr)	0	0			0	0	0	0	0			
Act Effect Green (s)	34.1	34.1			34.1	34.1		20.3	20.3			
Actuated g/C Ratio	0.55	0.55			0.55	0.55		0.33	0.33			
v/c Ratio	0.29	0.53			0.76	0.13		0.79	0.36			
Control Delay	13.5	12.5			19.2	4.2		32.2	4.4			
Queue Delay	0.0	0.0			0.0	0.0		0.0	0.0			
Total Delay	13.5	12.5			19.2	4.2		32.2	4.4			
LOS	B	B			B	A		C	A			
Approach Delay		12.7			17.4			22.4				
Approach LOS		B			B			C				

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 62.4

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 17.7

Intersection LOS: B

Intersection Capacity Utilization 82.2%

ICU Level of Service E

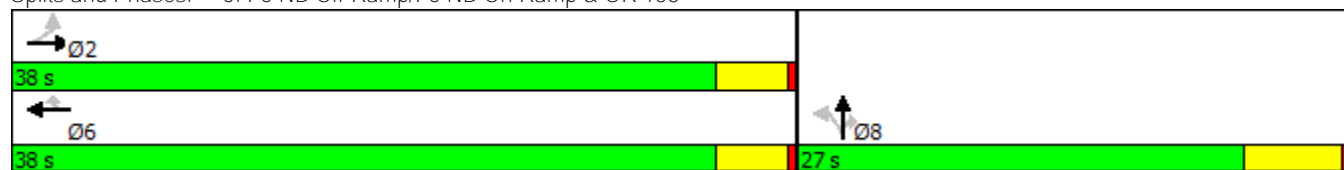
Analysis Period (min) 15

Lanes, Volumes, Timings

5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138

01/06/2018








Splits and Phases: 5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138



HCM Signalized Intersection Capacity Analysis

5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138










01/06/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	477	0	0	693	94	400	3	221	0	0	0
Future Volume (vph)	58	477	0	0	693	94	400	3	221	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
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)	1511	1651			1683	1316		1577	1430			
Flt Permitted	0.24	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	374	1651			1683	1316		1577	1430			
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	59	482	0	0	700	95	404	3	223	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	29	0	0	150	0	0	0
Lane Group Flow (vph)	59	482	0	0	700	66	0	407	73	0	0	0
Heavy Vehicles (%)	10%	6%	0%	0%	4%	13%	5%	100%	4%	0%	0%	0%
Turn Type	Perm	NA			NA	Perm	Perm	NA	Perm			
Protected Phases		2			6			8				
Permitted Phases	2					6	8		8			
Actuated Green, G (s)	34.1	34.1			34.1	34.1		18.9	18.9			
Effective Green, g (s)	34.1	34.1			34.1	34.1		20.3	20.3			
Actuated g/C Ratio	0.55	0.55			0.55	0.55		0.33	0.33			
Clearance Time (s)	4.0	4.0			4.0	4.0		5.4	5.4			
Vehicle Extension (s)	4.0	4.0			4.0	4.0		2.5	2.5			
Lane Grp Cap (vph)	204	902			919	719		513	465			
v/s Ratio Prot		0.29			c0.42							
v/s Ratio Perm	0.16					0.05		0.26	0.05			
v/c Ratio	0.29	0.53			0.76	0.09		0.79	0.16			
Uniform Delay, d1	7.6	9.1			11.0	6.8		19.1	15.0			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	3.6	2.3			4.0	0.1		8.0	0.1			
Delay (s)	11.2	11.3			15.0	6.8		27.1	15.1			
Level of Service	B	B			B	A		C	B			
Approach Delay (s)		11.3			14.0			22.9			0.0	
Approach LOS		B			B			C			A	
Intersection Summary												
HCM 2000 Control Delay			16.1				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			62.4				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			82.2%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings




6: Park Hill Ln & SB Off Ramp

01/06/2018

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	20	181	67	54	406	141
Future Volume (vph)	20	181	67	54	406	141
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.878		0.939			
Flt Protected	0.995					0.964
Satd. Flow (prot)	1374	0	1480	0	0	1645
Flt Permitted	0.995					0.964
Satd. Flow (perm)	1374	0	1480	0	0	1645
Link Speed (mph)	35		55			55
Link Distance (ft)	629		885			401
Travel Time (s)	12.3		11.0			5.0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	14%	11%	20%	0%	0%	10%
Adj. Flow (vph)	22	203	75	61	456	158
Shared Lane Traffic (%)						
Lane Group Flow (vph)	225	0	136	0	0	614
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	63.2%			ICU Level of Service B		
Analysis Period (min)	15					

HCM 2010 TWSC
6: Park Hill Ln & SB Off Ramp

01/06/2018

Intersection						
Int Delay, s/veh	7.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	181	67	54	406	141
Future Vol, veh/h	20	181	67	54	406	141
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	89	89	89	89	89	89
Heavy Vehicles, %	14	11	20	0	0	10
Mvmt Flow	22	203	75	61	456	158
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1177	106	0	0	136	0
Stage 1	106	-	-	-	-	-
Stage 2	1071	-	-	-	-	-
Critical Hdwy	6.54	6.31	-	-	4.1	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.399	-	-	2.2	-
Pot Cap-1 Maneuver	200	924	-	-	1461	-
Stage 1	889	-	-	-	-	-
Stage 2	312	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	132	924	-	-	1461	-
Mov Cap-2 Maneuver	132	-	-	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	205	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	15.1	0	6.4			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	579	1461	-	
HCM Lane V/C Ratio	-	-	0.39	0.312	-	
HCM Control Delay (s)	-	-	15.1	8.6	0	
HCM Lane LOS	-	-	C	A	A	
HCM 95th %tile Q(veh)	-	-	1.8	1.3	-	

Lanes, Volumes, Timings

4: Park Hill Ln & OR 138

01/07/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Traffic Volume (vph)	376	239	310	783	89	154
Future Volume (vph)	376	239	310	783	89	154
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Storage Length (ft)		0	225		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.948					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1535	0	1583	1683	1421	1365
Flt Permitted			0.134		0.950	
Satd. Flow (perm)	1535	0	223	1683	1421	1365
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	59					159
Link Speed (mph)	30			30	55	
Link Distance (ft)	1687			524	230	
Travel Time (s)	38.3			11.9	2.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	13%	5%	4%	17%	9%
Adj. Flow (vph)	388	246	320	807	92	159
Shared Lane Traffic (%)						
Lane Group Flow (vph)	634	0	320	807	92	159
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			23	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)		9	15		15	9
Number of Detectors	1		2	1	2	2
Detector Template						
Leading Detector (ft)	183		78	23	78	78
Trailing Detector (ft)	177		2	17	2	2
Detector 1 Position(ft)	177		2	17	2	2
Detector 1 Size(ft)	6		6	6	6	6
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Detector 2 Position(ft)			72		72	72
Detector 2 Size(ft)			6		6	6
Detector 2 Type			Cl+Ex		Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0		0.0	0.0
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	4		3	8		

Sutherlin 2038 With UGB 10/05/2017 2038 with UGB Exchange-signalization

Synchro 9 Report
Page 1

Lanes, Volumes, Timings

4: Park Hill Ln & OR 138

01/07/2018

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Permitted Phases			8		2	2
Detector Phase	4		3	8	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.0		8.0	20.0	20.0	20.0
Total Split (s)	30.0		14.0	44.0	21.0	21.0
Total Split (%)	46.2%		21.5%	67.7%	32.3%	32.3%
Maximum Green (s)	26.0		10.0	40.0	17.0	17.0
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	0.5		0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	C-Max	C-Max
Walk Time (s)	5.0			5.0	5.0	5.0
Flash Dont Walk (s)	11.0			11.0	11.0	11.0
Pedestrian Calls (#/hr)	0			0	0	0
Act Effect Green (s)	25.8		39.8	39.8	17.2	17.2
Actuated g/C Ratio	0.40		0.61	0.61	0.26	0.26
v/c Ratio	0.98		0.93	0.78	0.25	0.33
Control Delay	52.4		50.4	16.5	21.1	6.0
Queue Delay	0.0		0.0	0.5	0.0	0.0
Total Delay	52.4		50.4	17.0	21.1	6.0
LOS	D		D	B	C	A
Approach Delay	52.4			26.5	11.5	
Approach LOS	D			C	B	

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 32.8

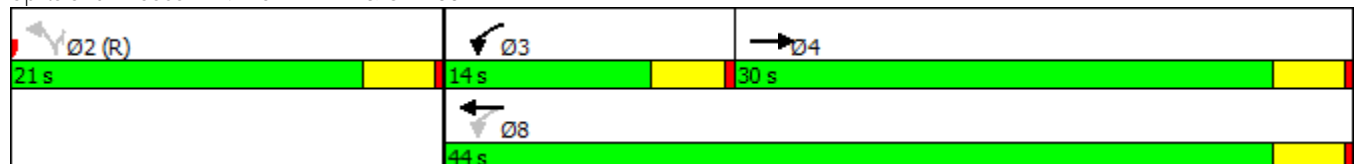
Intersection LOS: C

Intersection Capacity Utilization 71.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Park Hill Ln & OR 138



HCM Signalized Intersection Capacity Analysis

4: Park Hill Ln & OR 138

01/07/2018

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↗
Traffic Volume (vph)	376	239	310	783	89	154
Future Volume (vph)	376	239	310	783	89	154
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.95		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1534		1583	1683	1421	1365
Flt Permitted	1.00		0.13	1.00	0.95	1.00
Satd. Flow (perm)	1534		224	1683	1421	1365
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	388	246	320	807	92	159
RTOR Reduction (vph)	36	0	0	0	0	117
Lane Group Flow (vph)	598	0	320	807	92	42
Heavy Vehicles (%)	5%	13%	5%	4%	17%	9%
Turn Type	NA		pm+pt	NA	Perm	Perm
Protected Phases	4		3	8		
Permitted Phases			8		2	2
Actuated Green, G (s)	25.8		39.8	39.8	17.2	17.2
Effective Green, g (s)	25.8		39.8	39.8	17.2	17.2
Actuated g/C Ratio	0.40		0.61	0.61	0.26	0.26
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	608		346	1030	376	361
v/s Ratio Prot	0.39		c0.14	0.48		
v/s Ratio Perm			c0.42		c0.06	0.03
v/c Ratio	0.98		0.92	0.78	0.24	0.12
Uniform Delay, d1	19.4		16.1	9.4	18.8	18.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	32.3		29.7	4.0	1.5	0.7
Delay (s)	51.7		45.8	13.4	20.3	18.8
Level of Service	D		D	B	C	B
Approach Delay (s)	51.7			22.6	19.4	
Approach LOS	D			C	B	
Intersection Summary						
HCM 2000 Control Delay			31.3		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.75			
Actuated Cycle Length (s)			65.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			71.3%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Sutherlin UGB Modification

Queuing and Blocking Report

2038 with Without UGB Ammendment

01/06/2018

Intersection: 1: Church Rd & OR 138, Interval #1

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	52	33
Average Queue (ft)	17	22
95th Queue (ft)	51	36
Link Distance (ft)	1027	2616
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: Church Rd & OR 138, Interval #2

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	49	39
Average Queue (ft)	8	17
95th Queue (ft)	33	35
Link Distance (ft)	1027	2616
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: Church Rd & OR 138, All Intervals

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	64	40
Average Queue (ft)	10	18
95th Queue (ft)	38	36
Link Distance (ft)	1027	2616
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report
2038 with Without UGB Ammendment

01/06/2018

Intersection: 2: Dovetail Ln & OR 138, Interval #1

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	33	39	47
Average Queue (ft)	5	16	28
95th Queue (ft)	26	43	54
Link Distance (ft)	3812	812	728
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Dovetail Ln & OR 138, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	5	39	47	46
Average Queue (ft)	0	6	17	25
95th Queue (ft)	4	25	44	49
Link Distance (ft)	1027	3812	812	728
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Dovetail Ln & OR 138, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	5	44	50	53
Average Queue (ft)	0	6	17	26
95th Queue (ft)	4	25	44	51
Link Distance (ft)	1027	3812	812	728
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report

2038 with Without UGB Ammendment

01/06/2018

Intersection: 3: Fort Mckay Rd & OR 138, Interval #1

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	102	81
Average Queue (ft)	53	47
95th Queue (ft)	102	79
Link Distance (ft)	1498	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	295	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Fort Mckay Rd & OR 138, Interval #2

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	92	98
Average Queue (ft)	42	45
95th Queue (ft)	74	82
Link Distance (ft)	1498	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	295	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Fort Mckay Rd & OR 138, All Intervals

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	108	104
Average Queue (ft)	45	46
95th Queue (ft)	83	82
Link Distance (ft)	1498	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	295	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report
2038 with Without UGB Ammendment

01/06/2018

Intersection: 4: Park Hill Ln & OR 138, Interval #1

Movement	EB	WB	WB	NB	NB	B33
Directions Served	TR	L	T	L	R	T
Maximum Queue (ft)	33	145	44	255	163	285
Average Queue (ft)	10	70	0	224	72	177
95th Queue (ft)	35	136	0	281	220	387
Link Distance (ft)	1634		478	162	162	346
Upstream Blk Time (%)				85	1	13
Queuing Penalty (veh)				103	1	32
Storage Bay Dist (ft)		225				
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

Intersection: 4: Park Hill Ln & OR 138, Interval #2

Movement	EB	WB	NB	NB	B33
Directions Served	TR	L	L	R	T
Maximum Queue (ft)	59	170	270	180	345
Average Queue (ft)	14	74	194	46	160
95th Queue (ft)	44	141	292	153	418
Link Distance (ft)	1634		162	162	346
Upstream Blk Time (%)			64	0	25
Queuing Penalty (veh)			66	0	52
Storage Bay Dist (ft)		225			
Storage Blk Time (%)		0			
Queuing Penalty (veh)		2			

Intersection: 4: Park Hill Ln & OR 138, All Intervals

Movement	EB	WB	WB	NB	NB	B33
Directions Served	TR	L	T	L	R	T
Maximum Queue (ft)	59	179	44	271	201	346
Average Queue (ft)	13	73	0	201	52	164
95th Queue (ft)	42	140	0	294	172	411
Link Distance (ft)	1634		478	162	162	346
Upstream Blk Time (%)				70	0	22
Queuing Penalty (veh)				75	0	47
Storage Bay Dist (ft)		225				
Storage Blk Time (%)		0	0			
Queuing Penalty (veh)		1	0			

Queuing and Blocking Report
2038 with Without UGB Ammendment

01/06/2018

Intersection: 5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138, Interval #1

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	91	233	270	125	186	107
Average Queue (ft)	42	142	179	31	121	63
95th Queue (ft)	87	239	288	109	187	110
Link Distance (ft)		478	1123		1141	1141
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	250			75		
Storage Blk Time (%)		0	24			
Queuing Penalty (veh)		0	23			

Intersection: 5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138, Interval #2

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	128	235	385	145	239	153
Average Queue (ft)	44	119	181	49	130	65
95th Queue (ft)	98	207	331	146	210	123
Link Distance (ft)		478	1123		1141	1141
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	250			75		
Storage Blk Time (%)		0	21	0		
Queuing Penalty (veh)		0	20	1		

Intersection: 5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138, All Intervals

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	128	254	385	145	242	153
Average Queue (ft)	44	125	181	45	128	65
95th Queue (ft)	96	217	322	139	205	120
Link Distance (ft)		478	1123		1141	1141
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	250			75		
Storage Blk Time (%)		0	22	0		
Queuing Penalty (veh)		0	20	1		

Queuing and Blocking Report

2038 with Without UGB Ammdement

01/06/2018

Intersection: 6: Park Hill Ln & SB Off Ramp, Interval #1

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	280	31	64
Average Queue (ft)	135	6	25
95th Queue (ft)	427	35	68
Link Distance (ft)	596	853	346
Upstream Blk Time (%)	1		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Park Hill Ln & SB Off Ramp, Interval #2

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	454	102	87
Average Queue (ft)	194	16	24
95th Queue (ft)	578	83	67
Link Distance (ft)	596	853	346
Upstream Blk Time (%)	20		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Park Hill Ln & SB Off Ramp, All Intervals

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	471	110	90
Average Queue (ft)	180	14	24
95th Queue (ft)	546	74	67
Link Distance (ft)	596	853	346
Upstream Blk Time (%)	15		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty, Interval #1: 158

Network wide Queuing Penalty, Interval #2: 141

Network wide Queuing Penalty, All Intervals: 145

Queuing and Blocking Report 2038 with UGB Exchange

01/06/2018

Intersection: 1: Church Rd & OR 138, Interval #1

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	5	28
Average Queue (ft)	1	16
95th Queue (ft)	8	34
Link Distance (ft)	1027	2616
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: Church Rd & OR 138, Interval #2

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	16	32
Average Queue (ft)	1	13
95th Queue (ft)	9	34
Link Distance (ft)	1027	2616
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: Church Rd & OR 138, All Intervals

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	16	34
Average Queue (ft)	1	14
95th Queue (ft)	9	34
Link Distance (ft)	1027	2616
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

2038 with UGB Exchange

01/06/2018

Intersection: 2: Dovetail Ln & OR 138, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	4	14	55	41
Average Queue (ft)	1	2	14	28
95th Queue (ft)	7	13	48	52
Link Distance (ft)	1027	3812	812	728
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Dovetail Ln & OR 138, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	15	40	47	53
Average Queue (ft)	1	4	16	27
95th Queue (ft)	9	23	44	52
Link Distance (ft)	1027	3812	812	728
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Dovetail Ln & OR 138, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	15	40	55	54
Average Queue (ft)	1	3	15	27
95th Queue (ft)	8	21	45	52
Link Distance (ft)	1027	3812	812	728
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report

2038 with UGB Exchange

01/06/2018

Intersection: 3: Fort Mckay Rd & OR 138, Interval #1

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	84	124
Average Queue (ft)	56	61
95th Queue (ft)	90	105
Link Distance (ft)	1498	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	295	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Fort Mckay Rd & OR 138, Interval #2

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	144	153
Average Queue (ft)	57	65
95th Queue (ft)	112	120
Link Distance (ft)	1498	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	295	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Fort Mckay Rd & OR 138, All Intervals

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	148	164
Average Queue (ft)	57	64
95th Queue (ft)	108	116
Link Distance (ft)	1498	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	295	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

2038 with UGB Exchange

01/06/2018

Intersection: 4: Park Hill Ln & OR 138, Interval #1

Movement	EB	WB	WB	NB	NB	B33
Directions Served	TR	L	T	L	R	T
Maximum Queue (ft)	49	222	89	244	124	358
Average Queue (ft)	17	133	21	224	22	309
95th Queue (ft)	53	252	165	257	91	480
Link Distance (ft)	1634		478	162	162	346
Upstream Blk Time (%)				98	0	54
Queuing Penalty (veh)				136	1	150
Storage Bay Dist (ft)		225				
Storage Blk Time (%)		3	0			
Queuing Penalty (veh)		21	0			

Intersection: 4: Park Hill Ln & OR 138, Interval #2

Movement	EB	WB	WB	NB	NB	B33
Directions Served	TR	L	T	L	R	T
Maximum Queue (ft)	50	266	202	263	238	361
Average Queue (ft)	17	113	14	224	64	351
95th Queue (ft)	47	217	109	255	204	360
Link Distance (ft)	1634		478	162	162	346
Upstream Blk Time (%)				99	1	71
Queuing Penalty (veh)				118	1	168
Storage Bay Dist (ft)		225				
Storage Blk Time (%)		3	0			
Queuing Penalty (veh)		20	0			

Intersection: 4: Park Hill Ln & OR 138, All Intervals

Movement	EB	WB	WB	NB	NB	B33
Directions Served	TR	L	T	L	R	T
Maximum Queue (ft)	58	276	229	267	238	361
Average Queue (ft)	17	118	15	224	54	340
95th Queue (ft)	49	227	125	255	183	430
Link Distance (ft)	1634		478	162	162	346
Upstream Blk Time (%)				99	1	67
Queuing Penalty (veh)				123	1	164
Storage Bay Dist (ft)		225				
Storage Blk Time (%)		3	0			
Queuing Penalty (veh)		20	0			

Queuing and Blocking Report

2038 with UGB Exchange

01/06/2018

Intersection: 5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138, Interval #1

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	88	195	548	120	256	112
Average Queue (ft)	48	106	338	42	165	69
95th Queue (ft)	99	193	772	136	271	117
Link Distance (ft)		478	1123		1141	1141
Upstream Blk Time (%)			0			
Queuing Penalty (veh)			0			
Storage Bay Dist (ft)	250			75		
Storage Blk Time (%)		0	31	0		
Queuing Penalty (veh)		0	30	0		

Intersection: 5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138, Interval #2

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	111	259	614	145	292	147
Average Queue (ft)	49	126	269	50	178	64
95th Queue (ft)	102	225	522	147	274	118
Link Distance (ft)		478	1123		1141	1141
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	250			75		
Storage Blk Time (%)		0	29	0		
Queuing Penalty (veh)		0	28	0		

Intersection: 5: I-5 NB Off Ramp/I-5 NB On Ramp & OR 138, All Intervals

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	111	259	741	145	311	158
Average Queue (ft)	49	121	286	48	175	65
95th Queue (ft)	101	218	596	145	274	118
Link Distance (ft)		478	1123		1141	1141
Upstream Blk Time (%)			0			
Queuing Penalty (veh)			0			
Storage Bay Dist (ft)	250			75		
Storage Blk Time (%)		0	30	0		
Queuing Penalty (veh)		0	28	0		

Queuing and Blocking Report

2038 with UGB Exchange

01/06/2018

Intersection: 6: Park Hill Ln & SB Off Ramp, Interval #1

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	570	437	90
Average Queue (ft)	377	200	34
95th Queue (ft)	730	512	101
Link Distance (ft)	596	853	346
Upstream Blk Time (%)	37		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Park Hill Ln & SB Off Ramp, Interval #2

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	659	509	115
Average Queue (ft)	614	208	33
95th Queue (ft)	647	482	90
Link Distance (ft)	596	853	346
Upstream Blk Time (%)	99		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Park Hill Ln & SB Off Ramp, All Intervals

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	659	579	125
Average Queue (ft)	557	206	34
95th Queue (ft)	800	490	93
Link Distance (ft)	596	853	346
Upstream Blk Time (%)	83		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty, Interval #1: 339
Network wide Queuing Penalty, Interval #2: 335
Network wide Queuing Penalty, All Intervals: 336

Sutherlin UGB Modification

OR 138 at Church Road		
Let Turn	Wesbound	
Turn Volume	8	NO
Opposing + advancing volume	351	
Right Turn	Eastbound	NO
Turn Volume	18	
Approaching Volume	170	

OR 138 at Dovetail		
Let Turn	Wesbound	YES
Turn Volume	33	
Opposing + advancing volume	286	
Right Turn	Eastbound	NO
Turn Volume	1	
Approaching Volume	160	

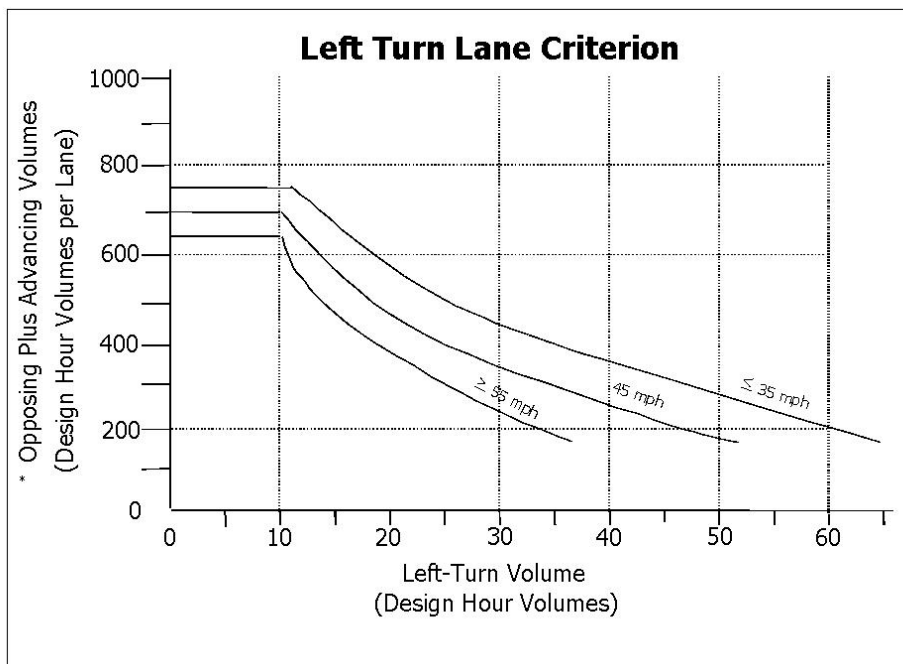
OR 138 at Fort Mckay		
Let Turn	Wesbound	
Turn Volume	Currently Exists	
Opposing + advancing volume		
Right Turn	Eastbound	NO
Turn Volume	11	
Approaching Volume	231	

OR 138 at Park Hill		
Let Turn	Wesbound	YES
Turn Volume	310	
Opposing + advancing volume	1708	
Right Turn	Eastbound	YES
Turn Volume	239	
Approaching Volume	376	

Park Hill at SB Ramps		
Let Turn	Southbound	YES
Turn Volume	406	
Opposing + advancing volume	639	
Right Turn	Northbound	NO
Turn Volume	54	
Approaching Volume	92	

may require installation of a left turn. The final determination will be based on a field study.

Exhibit 7-1 Left Turn Lane Criterion (TTI)



*(Advancing Volume/Number of Advancing Through Lanes) + (Opposing Volume/Number of Opposing Through Lanes)

Criterion 2: Crash Experience

The crash experience criteria are satisfied when:

1. Adequate trial of other remedies with satisfactory observance and enforcement has failed to reduce the accident frequency; and
2. A history of crashes of the type susceptible to correction by a left turn lane (such as where a vehicle waiting to make a left turn from a through lane was struck from the rear); and
3. The safety benefits outweigh the associated improvement costs; and
4. The installation of the left turn lane does not adversely impact the operations of the roadway.

Criterion 3: Special Cases

1. **Railroad Crossings:** If a railroad is parallel to the roadway and adversely affects left turns, a worst case scenario should be used in determining the storage requirements for the left turn lane design. The left turn lane storage length depends on the amount of time the roadway is closed, the expected number of vehicle arrivals and the location of the crossing or other obstruction. The analysis should consider all of the variables influencing the design of the left turn lane and may allow a design for conditions other than the worst case storage requirements, providing safety is not compromised.
2. **Passing Lane:** Special consideration must be given to installing a left turn lane for those locations where left turns may occur and other mitigation options are not acceptable.
3. **Geometric/Safety Concerns:** Consider sight distance, alignment, operating speeds, nearby access movements and other safety related concerns.

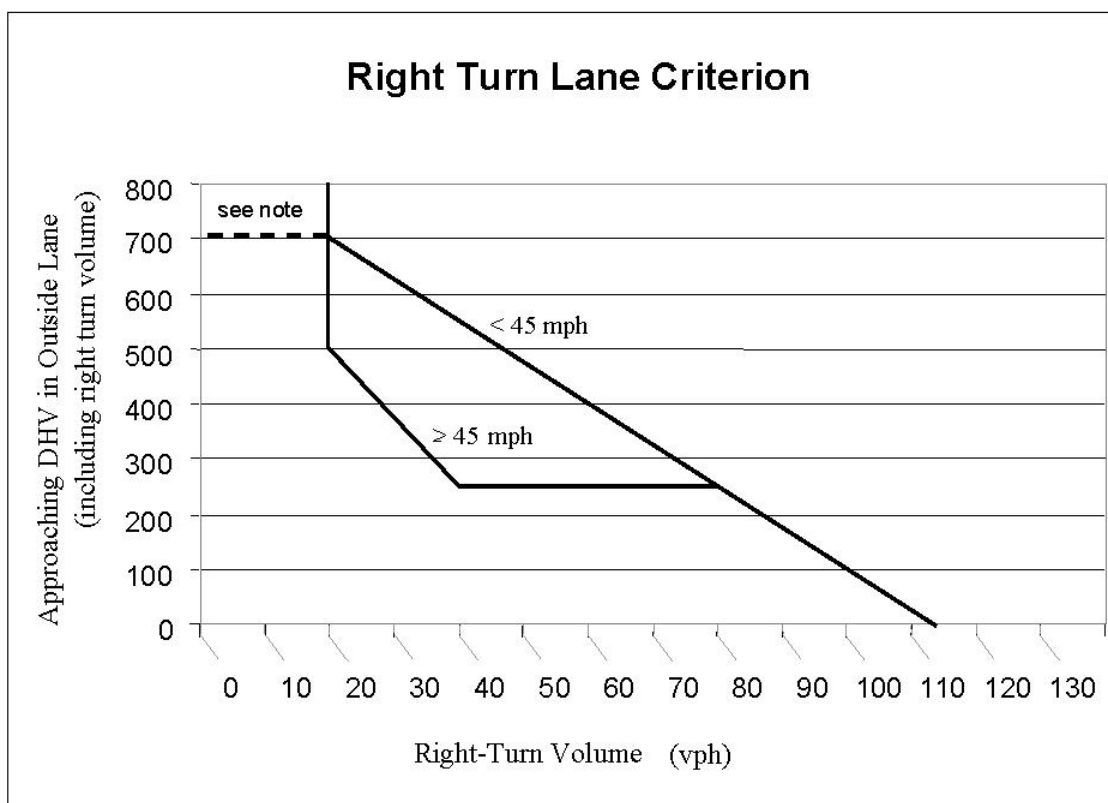
Right Turn Lane Evaluation Process

1. A right turn lane should be installed, if criteria 1 (Volume) or 2 (Crash) or 3 (Special Cases) are met, unless a subsequent evaluation eliminates it as an option; and
2. The Region Traffic Engineer must approve all proposed right turn lanes on state highways, regardless of funding source; and
3. Complies with Access Management Spacing Standards; and
4. Conforms to applicable local, regional and state plans.

Criterion 1: Vehicular Volume

The vehicular volume criterion is intended for application where the volume of intersecting traffic is the principal reason for considering installation of a right turn lane. The vehicular volume criteria are determined using the curve in Exhibit 7-2.

Exhibit 7-2 Right Turn Lane Criterion



Note: If there is no right turn lane, a shoulder needs to be provided. If this intersection is in a rural area and is a connection to a public street, a right turn lane is needed.

SANDOW ENGINEERING

160 Madison Street, Suite A
Eugene, Oregon 97402
541.513.3376
sandowengineering.com



COUNCIL BUSINESS





126 E. Central Avenue
Sutherlin, OR 97479
541-459-2856
Fax: 541-459-9363
www.cityofsutherlin.com

City of Sutherlin

STAFF REPORT					
Re: Ordinance No. – Sutherlin UGB Exchange, Planning File 17-S015				Meeting Date:	02-12-2018
Purpose:	Action Item <input checked="" type="checkbox"/>	Workshop <input type="checkbox"/>	Report Only <input type="checkbox"/>	Discussion <input type="checkbox"/>	Update <input type="checkbox"/>
Submitted By: Brian Elliott, Community Development Director, Kristi Gilbert, Community Development Specialist, Jamie Chartier, City Planner Joshua Shaklee, Community Services Planner				City Manager Review <input checked="" type="checkbox"/>	
Attachments: Ordinance & Exhibits					

WHAT IS BEING ASKED OF COUNCIL?

The Council to approve the first reading of Ordinance adopting above referenced UGB Exchange, Comprehensive Plan Amendment, Zoning Map Amendment and annexations.

EXPLANATION

Council closed the public hearing, deliberated to a decision. The Council shall consider the first reading of the ordinance adopting the UGB Exchange, Comprehensive Plan Amendment and Zoning Map Amendment and Annexations.

OPTIONS

1. Approve the first reading of Ordinance adopting the UGB Exchange, Comprehensive Plan Amendment and Zoning Map Amendment and Annexations, or
2. Not to approve the first reading of Ordinance adopting the UGB Exchange, Comprehensive Plan Amendment and Zoning Map Amendment and Annexations .

SUGGESTED MOTION(S)

To approve the first reading of Ordinance adopting the UGB Exchange, Comprehensive Plan Amendment, and Zoning Map Amendment and Annexations.



City Recorder/HR Manager
126 E. Central Avenue
Sutherlin, OR 97479
(541) 459-2856 x 207
www.cityofsutherlin.com

City of Sutherlin

NOTICE OF ORDINANCE ENACTMENT

ORDINANCE NO.

AN ORDINANCE DECLARING THE AMENDMENT OF THE CITY OF SUTHERLIN URBAN GROWTH BOUNDARY; AMENDMENT TO THE COMPREHENSIVE PLAN MAP; AMENDMENT TO THE ZONING MAP; AND DECLARING THE ANNEXATION BY CONSENT OF CERTAIN REAL PROPERTY; WITHDRAWING THE PROPERTIES TO BE ANNEXED FROM THE CALAPOOIA RURAL FIRE PROTECTION DISTRICT, AND DIRECTING THE FILING OF INSTRUMENTS OF RECORD WITH THE SECRETARY OF STATE, THE DEPARTMENT OF REVENUE AND THE DOUGLAS COUNTY ASSESSOR.

THIS ORDINANCE WILL BE CONSIDERED BY COUNCIL AT THE REGULAR COUNCIL MEETING OF

**MONDAY, FEBRUARY 12, 2018 @ 7PM
CIVIC AUDITORIUM - 175 E. EVERETT AVENUE**

Questions or copies of this Ordinance may be viewed by interested persons at the office of City Recorder, 126 E. Central Avenue, Sutherlin, Oregon, between the hours of 9:00 a.m. and 5:00 p.m., weekdays. A copy of this Ordinance may be purchased by interested persons for a sum determined to cover the City's expense for providing the copy.

Pursuant to Section 30 (b) (c) of the Sutherlin City Charter, this notice has been posted at the following locations: Sutherlin City Hall; Sutherlin Post Office; Sutherlin Visitor's Center and the City's website (www.cityofsutherlin.com).

Posted this day, February 5, 2018
By Diane Harris
City Recorder

ORDINANCE NO. ____

AN ORDINANCE DECLARING THE AMENDMENT OF THE CITY OF SUTHERLIN URBAN GROWTH BOUNDARY; AMENDMENT TO THE COMPREHENSIVE PLAN MAP; AMENDMENT TO THE ZONING MAP; AND DECLARING THE ANNEXATION BY CONSENT OF CERTAIN REAL PROPERTY; WITHDRAWING THE PROPERTIES TO BE ANNEXED FROM THE CALAPOOIA RURAL FIRE PROTECTION DISTRICT, AND DIRECTING THE FILING OF INSTRUMENTS OF RECORD WITH THE SECRETARY OF STATE, THE DEPARTMENT OF REVENUE AND THE DOUGLAS COUNTY ASSESSOR.

WHEREAS, the City of Sutherlin initiated an amendment to the Sutherlin Urban Growth Boundary (UGB) to exclude real property described on Exhibit A1, attached hereto and incorporated herein, which is identified as T25 South, R6 West, W.M., Section 14, Tax Lot 900 and a portion of T25 South, R6 West, W.M., Section 13, Tax Lot 800; and real property described on Exhibit A2, attached hereto and incorporated herein, which is identified as T25 South, R5 West, W.M., Section 20, Tax Lot 600; T25 South, R5 West, W.M., Section 29, Tax Lot 1300; and a portion of T25 South, R5 West, W.M., Section 20DA, Tax Lot 2601. Properties removed from the Sutherlin UGB will be re-designated for resource use with Douglas County Zoning Map and Comprehensive Plan Map designations; and,

WHEREAS, the City of Sutherlin initiated an amendment to the Sutherlin Urban Growth Boundary (UGB) to include real property described on Exhibit B1, attached hereto and incorporated herein, which is identified as T25 South, R6 West, W.M., Section 24, Tax Lots 1500, 1700, 1800, 1900, 2000, 2100, and 2200; T25 South, R6 West, W.M., Section 24A, Tax Lots 1200, 1300, 1400, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300, 2400, 2401 and 2500; T25 South, R5 West, W.M., Section 19C, Tax Lots 100, 200, 201, 300, 400, 401, 500, 600, 700, 800, and 900; T25 South, R5 West, W.M., Section 19CD, Tax Lots 400, 500, 600, 700, 800, 900, 1000, 1100, 1101, and 1102; and a portion of real property described on Exhibit B2, attached hereto and incorporated herein, which is identified as T25 South, R5 West, W.M., Section 15B, Tax Lot 402; and,

WHEREAS, the City of Sutherlin initiated the annexation of real property described on Exhibits C1, C2, C3 and C4, attached hereto and incorporated herein, which is identified as T25 South, R6 West, W.M., Section 24, Tax Lots 1500, 1800, and 2100; T25 South, R6 West, W.M., Section 24A, Tax Lots 1400, 1600, 1700, 1800, 1900, 2000, 2300, 2401 and 2500; T25 South, R5 West, W.M., Section 19C, Tax Lots 100, 200, 201, 300, 400, and 800; T25 South, R5 West, W.M., Section 19CD, Tax Lots 400, 500, 600, 800, 1000, 1100, 1101, and 1102; T25 South, R5 West, W.M., Section 19B, Tax Lots 500, 700, 800, 900, 1000, 1100, 1400, and 1500; and T25 South, R5 West, W.M., Section 19BC, Tax Lots 1100, 1300, and 1600 be annexed into the city, and that therefore the Zone Map be amended to accommodate said amendment and annexations; and,

WHEREAS, the properties to be annexed abut the city limits and within the amended Urban Growth Boundary of the City of Sutherlin and such annexation would be a logical extension of the city limits; and

WHEREAS, the City of Sutherlin initiated amendments to the Sutherlin Zoning Map for properties to be annexed to the city identified as T25 South, R5 West, W.M., Section 19B, Tax Lots 500, 700, 800, 900, 1000, 1100, 1400, and 1500; T25 South, R5 West, W.M., Section 19BC, Tax Lots 1100 and 1300, which are presently zoned for residential use (RS Suburban Residential) use by Douglas County and shall remain in residential use following annexation and receive a Low Density Residential (R-1) zoning designation under the City of Sutherlin Development Code. The above properties are presently designated RLD (Residential Low Density) on the Sutherlin Comprehensive Plan Map and will remain designated RLD (Residential Low Density) on the City of Sutherlin Comprehensive Plan Map following annexation.

WHEREAS, the City of Sutherlin initiated amendments to the Sutherlin Zoning Map for properties identified as T25 South, R6 West, W.M., Section 24, Tax Lots 1500, 1800, and 2100; T25 South, R6 West, W.M., Section 24A, Tax Lots 1400, 1600, 2300, 2401, and 2500; T25 South, R5 West, W.M., Section 19CD, Tax Lots 400, 500, 600, 1000, 1100, 1101, and 1102; T25 South, R5 West, W.M., Section 19C, Tax Lots 200, 201, 300, 400, 800, which are presently zoned for rural residential (RR 2 Acre Rural Residential) use by Douglas County, and shall remain in residential use following annexation and receive a Residential Hillside (RH) zoning designation by the City of Sutherlin. The above properties are presently designated RC2 (Committed 2-Acre) on the Douglas County Comprehensive Plan Map and will be designated RH (Residential Hillside) on the City of Sutherlin Comprehensive Plan Map following annexation.

WHEREAS, the City of Sutherlin initiated amendments to the Sutherlin Zoning Map for properties identified as T25 South, R6 West, W.M., Section 24A, Tax Lots 1700, 1800, 1900, and 2000, which are presently zoned for rural residential (RR 2 Acre Rural Residential) use by Douglas County, and shall remain in residential use following annexation and receive a Residential Low Density (R-1) zoning designation by the City of Sutherlin. The above properties are presently designated RC2 (Committed 2-Acre) on the Douglas County Comprehensive Plan Map and will be designated RLD (Residential Low Density) on the City of Sutherlin Comprehensive Plan Map following annexation.

WHEREAS, the City of Sutherlin initiated amendments to the Sutherlin Zoning Map for property identified as T25 South, R5 West, W.M., Section 19C, Tax Lot 100, which is presently zoned for resource (FF Farm Forest) use by Douglas County, a portion of which shall be amended to residential use upon annexation and receive a Residential Hillside (RH) zoning designation by the City of Sutherlin. The property is presently designated FFT (Farm Forest Transitional) on the Douglas County Comprehensive Plan Map and portions shall be designated either RH (Residential Hillside) or RLD (Residential Low Density) on the City of Sutherlin Comprehensive Plan Map upon annexation and inclusion in the City of Sutherlin UGB.

NOW, THEREFORE, THE CITY OF SUTHERLIN ORDAINS AS FOLLOWS:

SECTION 1. The foregoing findings are hereby approved and incorporated herein.

SECTION 2. The subject properties legally described in Exhibits A1 and A2, attached hereto and incorporated herein, are hereby removed from the City of Sutherlin Urban Growth Boundary.

SECTION 3. The subject properties legally described in Exhibits B1 and B2, attached hereto and incorporated herein, are hereby added to the City of Sutherlin Urban Growth Boundary.

SECTION 4. The subject properties legally described in Exhibits C1, C2, C3, and C4, attached hereto and incorporated herein, are hereby annexed to the City of Sutherlin.

SECTION 5. The City of Sutherlin Comprehensive Plan Map and Zoning Map are hereby amended as described above and as shown on the maps attached hereto as Exhibits D, E, and F.

SECTION 6. The Urban Growth Boundary Amendment, Comprehensive Plan Map Amendment, Zoning Map Amendment, and Annexation, have been processed pursuant to the Sutherlin Development Code Section 4.11.

SECTION 7. This annexation is made pursuant to the provisions of ORS 222.170 and pursuant to written consent of the owner of the land, which consent has been filed with the Recorder and Governing Body of the City of Sutherlin.

SECTION 8. The annexation meets the requirements of ORS 197.175 and adopted Statewide Planning Goals.

SECTION 9. This annexation and zone change meets the requirements of OAR 660-012-0060 as concluded by the Traffic Impact Analysis for the area completed for the City by Sandow Engineering upon Oregon Department of Transportation review.

SECTION 10. The City Council adopts as its own the Findings of Fact and Decision Document of the Planning Commission dated September 18, 2017 and incorporates that document herein as shown in Exhibit G, except where conditions of approval include that a traffic impact study be required as a condition of future development activity requiring land use approval.

SECTION 11. The Recorder shall make and submit to the Oregon Secretary of State for filing copies of all ordinances, maps and all other instruments required to be filed with the Secretary of State so as to evidence the annexation; the effective date thereof shall be the date upon which said papers are filed with the Secretary of State.

SECTION 12. It is further ordained that all annexed properties, legally described in Exhibits A4, A5, A6, A7, and A8, be withdrawn from the jurisdiction of the Calapooia Rural

Fire Protection District. The City shall assume the obligations referred to in ORS 222.520(2) and shall commence the procedure for division of assets provided in ORS 222.530.

SECTION 13. The Recorder shall make and submit to the Douglas County Clerk and the Oregon Department of Revenue for filing copies of all ordinances, maps and all other instruments required to be filed with the Secretary of State so as to evidence the annexation.

PASSED BY THE COUNCIL ON THIS ____ DAY OF _____, 2018.

APPROVED BY THE MAYOR ON THIS ____ DAY OF _____, 2018.

Todd McKnight, Mayor

ATTEST:

Diane Harris, CMC, City Recorder

EXHIBIT LIST

EXHIBIT A1	Urban Growth Boundary Removal – Ford’s Pond Area
EXHIBIT A2	City Limits Removal – Mountain View Area
EXHIBIT B1	Urban Growth Boundary Addition Area #1
EXHIBIT B2	Urban Growth Boundary Addition Area #2
EXHIBIT C1	Annexation Area #1
EXHIBIT C2	Annexation Area #2
EXHIBIT C3	Annexation Area #3
EXHIBIT C4	Annexation Area #4
EXHIBIT D	Map of UGB Exchange Proposal
EXHIBIT E	Map of Properties to Be Annexed
EXHIBIT F	Map of Proposed City of Sutherlin Zoning
EXHIBIT G	City of Sutherlin Planning Commission Findings of Fact

Exhibit "A1"

Urban Growth Boundary – Removal

Ford's Pond Area

City of Sutherlin, Douglas County, Oregon

Beginning at a point on the Southerly Right of Way of Oregon State Highway #138 from which the Northwest corner of Donation Land Claim No. 58, Township 25 South, Range 6 West of the Willamette Meridian bears North 2°35'37" East 722.65 feet; Thence along the Westerly Right of Way of Church Road, County Road No. 10, South 00°03'51" West 1149.99 feet more or less to a point, said point being the Northeast corner of a portion of that land described in Instrument #2014-10715 Douglas County, Oregon Deeds and Records being retained within the City Limits of the City of Sutherlin, Douglas County, Oregon; Thence leaving said Westerly Right of Way line of county Road No. 10 and along the Northerly line of said portion, West 172.57 feet more or less to a point; Thence continuing along said boundary of that portion to be retained, South 52°33'41" West 260.49 feet more or less to a point; Thence, South 496.63 feet to a point said point being in the Southerly line of Inst. #2014-10715, the Southeast corner of said Inst. #2014-010715 and that portion being retained in the City Limits bears south 89°50'49" East 378.67 feet more or less from said point; Thence along the Southerly line of Inst. #2014-10715, North 89°50'49" West 1190.66 feet more or less to a point; Thence, North 00°13'31" West 446.72 feet more or less to a point; Thence, North 88°52'05" West 15.27 feet more or less to a point; Thence continuing along said Southerly line, North 88°52'05" West 1622.05 feet to a point in an existing fence line; Thence leaving the existing fence line, South 05°51'56" East 22.06 feet more or less to a point being in Ford's Pond; Thence along the Southerly line of Inst. #2014-10715 being a line Southerly of the existing fence line, North 88°49'41" West 344.34 feet more or less to a point in said existing fence; Thence along said existing fence line and the Southerly line of Inst. #2014-10715, North 88°52'05" West 926.78 feet more or less to a fence corner post; Thence, North 00°30'17" West 1684.88 feet more or less to a point; Thence, South 87°43'30" West 330.46 feet more or less to a point; Thence, North 58°08'31" West 11.90 feet more or less to a point; Thence, North 53°18'00" East 43.44 feet more or less to a point; Thence, North 44°30'00" East 80.52 feet more or less to a point; Thence, North 31°30'00" East 108.24 feet more or less to a point; Thence, North 20°00'00" East 73.92 feet more or less to a point; Thence, North 3°30'00" East 105.60 feet more or less to a point; Thence, South 89°57'47" East 3194.31 feet more or less to a point on the Southerly Right of Way of Oregon State Highway #138; Thence, along said Right of Way, South 57°08'40" East 1330.77 feet more or less to the point of beginning

Exhibit "A2"

City Limits Removal

Mountain View Area

City of Sutherlin, Douglas County, Oregon

Beginning at a point being the Southeast corner of Block 2, Plat "C", Sutherlin Land and Water Company Subdivision, Douglas County, Oregon Subdivision Plat Records said point being also the Southeast corner of Parcel 1, Partition Plat #2013-0001 A & B, Douglas County, Oregon Partition Plat Records; Thence along the Southerly line of Parcel 1, South 87°56'39" East 1654.11 feet more or less to a point in the Easterly line of the Northeast Quarter of Section 29, Township 25 South, Range 5 West of the Willamette Meridian being also the Easterly line of Parcel 1; Thence along the Easterly line of the Northeast Quarter of Section 29 and Easterly line of Parcel 1, North 01°45'12" East 678.58 feet to a point being the Southeast corner of "Open Space A" per Mountain View Estates PUD, Phase I, Volume 23, Page 25 A & B, Douglas County, Oregon Subdivision Plat Records; Thence leaving said Easterly line of Section 29 and the Easterly line of Parcel 1 and along the Southerly line of "Open Space A" being a common line with Parcel 1, North 88°11'33" West 665.00 feet more or less to the Southwest corner of "Open Space A"; Thence, North 01°45'12" East 654.99 feet more or less along said common line between "Open Space A" and Parcel 1 to a point in the North line of Section 29 being the Northwest corner of said "Open Space A"; Thence along the North line of Section 29, "Open Space A" and Parcel 1, South 88°11'33" East 584.40 feet more or less to a point being the point of intersection of the Easterly line of Parcel 1, Partition Plat #2013-0001 A & B with the Northerly line of "Open Space A" and Northerly line of Section 29; Thence leaving the Northerly line of Section 29 and "Open Space A" and along the Easterly boundary of Parcel 1, North 01°58'50" East 2266.38 feet to a point; Thence, North 02°26'04" East 317.07 feet more or less to a point being the Easterly Northeast corner of Parcel 1 and Southeast corner of Instrument #2005-1512 said County Deeds and Records; Thence along the Northerly line of Parcel 1 and Southerly line of Inst. #2005-1512, North 89°59'52" West 352.60 feet more or less to a point; Thence, North 38°36'17" West 172.91 feet more or less to a point in the Southwesterly line of Instrument #2005-1512 said County Deeds and Records being the Southeast corner of Lot 20, Mountain View Estates, PUD, Phase I, said County Subdivision Plat Records; Thence along the Southeasterly line of Lot 20 and Northerly line of Parcel 1, South 51°22'14" West 119.90 feet more or less to the Southwesterly corner thereof; Thence along the Southwesterly line of Lot 20 and Northerly line of Parcel 1, North 38°37'46" West 10.01 feet more or less to a point in said line being the most Southeasterly corner of the dedicated Right of Way of Mountain View Drive as platted in Mountain View Estates, PUD, Phase I; Thence leaving the Southwesterly line of Lot 20 and along the Southerly line of Mountain View Drive and Northerly line of Parcel 1, South 51°22'14" West 50.00 feet to the Southwesterly corner of dedicated Mountain View Drive being a point in the Northeasterly line of Lot 21, Mountain View Estates, PUD, Phase I; Thence, South 38°37'46" East 50.00 feet along the Northeasterly line of Lot 21 and Northerly line of Parcel 1 to the Southeasterly corner thereof; Thence along the Southeasterly line of Lot 21 and Northerly line of Parcel 1, South 51°22'14" West 84.80 feet more or less to a point being the Southwesterly corner of Lot 21 and also the Southeast corner of Parcel 3, Partition Plat #2013-0001 A & B; Thence along the Southerly line of Parcel 3 and Northerly line of Parcel 1, South 73°40'09" West 234.97 feet more or less to a point; Thence continuing, South 65°33'28" West 308.16 feet more or less to a point; Thence, North 58°11'15" West 213.91 feet more or less to a point being the Southwesterly corner of Parcel 3 and the Southeasterly corner of Instruments #1980-17689 and #1998-16444, said County Deeds and Records; Thence leaving the Southerly line of Parcel 3 and along the Northerly line of Parcel 1 and Southerly line

of Inst. #1980-17689 and #1998-16444, South $51^{\circ}20'35''$ West 384.06 feet to the most Southerly corner of Inst. #1980-17689 and #1998-16444 and being a point on the East line of Block 2, Plat "C" Sutherlin Land and Water Company Subdivision; Thence along said Easterly line of Block 2, Plat "C" and the Westerly line of Parcel 1, South $01^{\circ}15'22''$ West 3166.10 feet to the point of beginning.

Exhibit "B1"

Urban Growth Boundary Area

City of Sutherlin, Douglas County, Oregon

To include those lands as herein described

Beginning at a point on the City Limits line of the City of Sutherlin, Douglas County, Oregon said point being the Southeast corner of Parcel 2, Land Partition Plat #2001-0098, Douglas County Oregon Partition Plat Records said point being also on the Westerly Right of Way line of Interstate Highway #5 and a point on the South line of Section 19, Township 25 South, Range 5 West Willamette Meridian; Thence leaving said Right of Way line and along the Southerly line of Parcel 2 and Section 19, North 89°52'11"West 504.1 feet more or less to the Southwest corner thereof being a point in the Easterly line of that land described in Instrument #2005-30164, Douglas County, Oregon Deeds and Records; Thence continuing along the South line of Section 19 and crossing Inst. #2005-30164, North 89°52'11"West (rec. West) 225 feet more or less to a point on the Westerly line thereof and being a point on the Easterly line of Instrument #1998-24589 said County Deeds and Records; Thence continuing along said Section line and crossing Inst. #1998-24589, North 89°52'11"West (rec. West) 273.8 feet more or less to the Westerly line thereof being a point on the Easterly line of Instrument #2006-5085 said County Deeds and Records; Thence continuing along said Section line and crossing Inst. #2006-5085, North 89°52'11"West (rec. West) 500.8 feet more or less to a point on the Westerly line thereof; Thence leaving the South line of Section 19 and along the Westerly line of Inst. #2006-5085, North 943 feet more or less to the Southeast corner of that land described in Instrument # 2001-15784, said County Deeds and Records; Thence along the Southerly line of Inst. #2001-15784, West 1150 feet more or less to the Southwest corner thereof being also a point on the West line of Section 19, Township 25 South, Range 5 West and on the East line of Section 24, Township 25 South Range 6 West, Willamette Meridian said point being a point on the East line of Lot 1, Block 3, Plat "M", Sutherlin Land and Water Company Subdivision, Volume 4, Page 67, Douglas County, Oregon, Subdivision Plat Records and being South 00°43'00"West 1777.5 feet from the West one quarter corner of Section 19; Thence along said Range line between Sections 24 and 19 and the common line between Lot 1, Block 3 and Inst. #2001-15784, North 00°43'00" East 700 feet more or less to the Northwest corner thereof being the Southwest corner of Instrument #1971-12052 said County Deeds and Records; Thence continuing, North 0°43'00"East 312.50 feet more or less along said Range line, the West line of that land described in Inst. #1971-12052 and East line of Lot 1, Block 3 Plat "M" to a point being the most Southerly Southeast corner of Lot 1, Block 2, Plat "M", Sutherlin Land and Water Company Subdivision and the most Southerly Southeast corner of Instrument #2000-6491 said County Deeds and Records being a point on the centerline of a 40.0 foot wide roadway as platted in Plat "M", Sutherlin Land and Water Company Subdivision; Thence leaving said line and along said Centerline and Southwesterly line of Instrument #2000-6491, North 57°55'00"West 264.0 feet more or less to the Southwest corner thereof being the Southerly Southeast corner of Instrument #2007-4101 said County Deeds and Records; Thence continuing along said Centerline and the Southwesterly line of Inst. #2007-4101, North 57°55'00"West 133.5 feet more or less to a point being the intersection of the centerline of the 40 foot wide platted roadway and Hasting Avenue, now known as Schudeiski County Road #185 also as platted in Plat "M", Sutherlin Land and Water Company Subdivision; Thence continuing, North 57°55'00" West 20.26 feet more or less to the Northerly Right of Way line of Schudeiski County Road #185 being a point on the Southeasterly boundary of Instrument #1997-4276 said County Deeds and Records; Thence along the Northerly Right of Way line of Schudeiske County Road #185 and the Southeasterly line of Inst. #1997-4276, South 41°14'00" West (rec. deed South 41°14'34"West) 212.4

feet more or less to a point; Thence, South 82°34'00" West (rec. deed South 82°31'33" West) 134.65 feet more or less to a point; Thence, North 22°14'00" West (rec. deed North 22°14'05" West) 107 feet more or less to a point; Thence, North 36°59'00" West (rec. deed North 37°01'06" West) 284.7 feet more or less to a point being the most Westerly corner of Inst. #1997-4276 and being a point on the South line of Instrument #1997-18604 said County Deeds and Records; Thence continuing along the Northerly Right of Way line of Schudeiske County Road #185 and Southerly line of Inst. #1997-18604, North 83°32'00" West (rec. deed North 83°35'55" West) 77.6 feet more or less to the Southwest corner thereof said point being the Southeast corner of Instrument #2015-19391 said County Deeds and Records and being a point on the Westerly line of Lot 3 Block 2, Plat "M", Sutherlin Land and Water Company Subdivision; Thence leaving the Northerly Right of Way line of Schudeiske County Road #185 and along the Westerly line of Lot 3, Block 2 and common line between Inst. #1997-18604 and #2015-19391, North (rec. deed North 1°38'24" East) 386.06 feet more or less to the Northeast corner of Inst. #2015-19391 being also the Southeast corner of Instrument #2007-6195 said County Deeds and Records; Thence leaving the Westerly line of Inst. #1997-18604 and along the common line between Inst. #2015-19391 and #2007-6195, West 372.42 feet more or less to a point on the Northeasterly Right of Way line of Schudeiske County Road #185 said being the Southerly Southwest corner of Inst. #2007-6195; Thence along the Southwesterly line of Inst. #20076195 and the Northeasterly line of Schudeiske County Road #185, North 22°35'00" West 109.03 feet more or less to a point; Thence, North 61°39'00" West 196.24 feet more or less to a point; Thence, North 82°53'00" West 100.32 feet more or less to a point; Thence, South 66°32'00" West 135.84 feet more or less to a point; Thence, North 24° 15'00" West 39.90 feet more or less to a point; Thence, North 00°09'00" West 173.19 feet more or less to a point; Thence, North 04°07'00" East 245.69 feet more or less to a point in the North line of Lot 4, Block 2 and South line of Lot 8, Block 2 said point being East 20.05 feet more or less from the Northwest corner of Lot 4, Block 2 on the center of Schudeiske County Road #185; Thence continuing along the Easterly line of Schudeiske County Road #185 and along the Westerly line of Inst. #2007-6195, North 04°07'00" East 95.73 feet to a point on the East line of a 30 foot wide dedicated Right of Way as platted in Plat "M", Sutherlin Land and Water Company Subdivision, said 30 foot wide Right of Way being situated over the common line between Lot 8, Block 2, and Lot 1, Block 5 of Plat "M"; Thence leaving the West line of Inst. # 2007-6195, North 34°17'00" West 51.05 feet more or less, crossing said 30 foot wide dedicated Right of Way to a point being the Southeast corner of Instrument #1997-9086 said County Deeds and Records, and also the intersection point of the Westerly Right of Way line of the 30 foot wide dedicated Right of Way and the Northerly line of Schudeiske County Road #185, Thence along the Northerly line of Schudeiske County Road #185 and the Southwesterly line of Inst. #1997-9086, North 34°17'00" West 123.17 feet more or less to a point; Thence, North 66°25'00" West 212.23 feet more or less to a point; Thence, South 69°10'00" West 63.50 feet to a point being the Southwest corner of Inst. #1997-9086 and the Southeast corner of Instrument #1992-21583 said County Deeds and Records; Thence continuing along said Northerly Right of Way and Southwesterly line of Inst. #1992-21583, South 69°10'00" West 145.86 feet more or less to a point; Thence, North 68°11'00" West 103.21 feet more or less to a point; Thence, South 79°53'00" West 124.38 feet more or less to a point; Thence, North 49°33'00" West 29.36 feet more or less to a point; Thence, North 00°40'00" West 78.42 feet more or less to a point ; Thence, North 20°48'00" East 146.08 feet more or less to a point; Thence, North 22°09'00" West 90.14 feet more or less to a point; Thence, North 55°24'00" West 80.14 feet more or less to a point; Thence, North 82°46'00" 115.55 feet to a point on the Northerly Right of Way line Schudeiske County Road #185 being the Southwest corner of Inst. #1992-21583 and the Southeast corner of Instrument #2013-7075 said County Deeds and Records; Thence continuing along said Northerly Right of Way line, North 82°46'00" West 292.96 feet more or less to a point; Thence, North 58°08'00" West 177.55 feet more or less to a point; Thence, North 76°25'00" West 124.00 feet more or less to a point; Thence, North 09°05'00" West 198.68 feet to a point on the Northerly Right of Way line of Schudeiske County Road #185, said point

being the Northwest corner of Inst. #2013-7075 and the Southwest corner of Instrument #2016-13152 said County Deeds and Records; Thence continuing along the Northerly Right of Way line and the Westerly line of Inst. #2016-13152, North 33°23'00" West 377.19 feet more or less to the Northwest corner thereof, said point being on the Southerly Right of Way line of Fort McKay County Road # 9, a 60 foot wide Right of Way; Thence leaving the Northerly Right of Way line of County Road #185 and along the Southerly line of County Road #9, South 88°38'00" East 3218.80 feet more or less along the Northerly line of the following Instruments, #2016-13152, #2007-5691, #1997-9086, #2007-6195, #2014-16813 and #2016-17822 said County Deeds and Records to the Westerly line of the 40.0 foot wide Right of Way of Duke County Road #155 as platted in Plat "M", Sutherlin Land and Water Company Subdivision, being the Northeast corner of Lot 5, Block 2, Plat "M", and the Northeast corner of Inst. #2016-17822; Thence leaving the Southerly line of Fort McKay County Road #9 and along the Westerly line of Duke County Road #155 and the Easterly line of Inst. #2016-17822 and Instruments #2016-17822, #2002-17203, #2012-4472 and #1974-7962 said County Deeds and Records, South 01°22'00" West 1256 feet more or less to the Southeast corner Inst. #1974-7962 being also the Southeast corner of Lot 5, Block 2, Plat "M"; Thence continuing along the Westerly line of Duke County Road #155 and the Easterly line of those lands described in Circuit Court Journal Volume 52, Page 824 and Instrument #2007-2370 said County Deeds and Records and Easterly line of Lot 2, Block 2, Plat "M", South 01°22'00" West 286.5 feet more or less to the point of intersection in the Southerly extension of the Westerly line of Duke County Road #155 with the Westerly extension of the Southerly line of Duke County Road #155; Thence leaving the Westerly Right of Way line of Duke County Road #155, North 88°28'00" East 40.0 feet along the Westerly extension of the Southerly Right of Way line of Duke County Road #155 to the Northwest corner of Lot 1, Block 2, Plat "M" being the Northwest corner of Instrument #2007-4101 said County Deeds and Records; Thence along the Southerly line of Duke County Road #155, the Northerly line of Lot 1, Block 2, Plat "M" and the Northerly line of Inst. #2007-4101, North 88°28'00" East 176 feet more or less to the Northeast corner of Inst. and Lot 1, Block 2, Plat "M"; Thence leaving the Southerly line of Duke County Road #155 and along the Easterly line of Lot 1, Block 2 and Inst. #2007-4101, South 00°02'00" East 330 feet more or less to the one quarter corner common to Section 24, Township 25 South, Range 6 West and Section 19, Township 25 South, Range 5 West, Willamette Meridian; Thence continuing along the Easterly line of Lot 1, Block 2 and Inst. #2007-4101 and the common line of Sections 24 and 19, South 00°32'00" West 151.8 feet more or less to the Northwest corner of Instrument #1971-12052 said County deeds and Records; Thence leaving the Easterly line of Lot 1, Block 2, Plat "M", Sutherlin Land and Water Company Subdivision, the common line of Sections 19 and 24 and the Easterly line of Inst. #2007-4101 and along the common line between Instrument's #1971-12052 and #2008-13811 said County Deeds and Records, South 86°44'00" East 356 feet more or less to a point being on the Westerly line of Instrument #2006-24415 said County Deeds and Records; Thence along the common line between Inst. #2006-24415 and Inst. #2008-13811, North 01°27'00" East 73.1 feet more or less to the Northwest corner of Inst. #2006-24415 said point being South 1°27'00" West 440.10 feet more or less from the Southeast corner of Lot 3, Block 1, S. L. & W. Co., Plat "M"; Thence along the Northerly line of Inst. #2006-24415 a portion of the Southerly line of Inst. #2008-13811, the Southerly line of Parcel 2, Partition Plat #2007-0075, Douglas County Partition Plat Records and the Southerly lines of Instruments #2005-18725 and #2012-2172 said County Deeds and Records, East 431.2 feet more or less to the Northeast corner of Inst. #2006-24415, said point being on the Westerly line of a 50 foot wide dedicated Right of Way being Fir Grove Lane as platted in Fir Grove Tracts, Volume 9, Page 20, Douglas County, Oregon Subdivision Plat Records; Thence crossing the 50 foot wide dedicated Right of Way of Fir Grove Lane, North 89°07'00" East 50 feet to a point on the Easterly line of Fir Grove Lane being on the Westerly line of Instrument #2000-23294 said County Deeds and Records being Lot 4, Fir Grove Tracts and a point in the current Urban Growth Boundary of the City of Sutherlin, Douglas County, Oregon; Thence along the Westerly line of Inst. #2000-23294 and Lot 4, Fir

Grove Tracts and the current Urban Growth Boundary line, South 00°53'00" East 38.7 feet more or less to the Northwest corner of Inst. #2005-19683 being the Northwest corner of Lot 5, Fir Grove Tracts; Thence leaving the Easterly line of Fir Grove Lane and along the North line of Lot 5 following the current Urban Growth Boundary line, East 311.1 feet more or less to the Northeast corner thereof and being a point in the Westerly line of Instrument #2006-5085 said County Deeds and Records; Thence continuing along the current Urban Growth Boundary line, the Westerly line of Inst. #2006-5085 and Easterly line of Inst. #2000-23294, North 50.5 feet more or less to the Northwest corner of Inst. #2006-5085, Thence leaving said Easterly line of Inst. #2000-23294 and Lot 4, Fir Grove Tracts and along the Northerly line of Inst. #2006-5085 following the current Urban Growth Boundary line of the City of Sutherlin, Douglas County, Oregon, East 500.8 feet more or less to the Northeast corner of Inst. #2006-5085 being a point on the Westerly line of Instrument #1995-16363 said County Deeds and Records, said point being West 498.8 feet and North 3682.2 feet from the Southeast corner of Donation Land Claim #53, Township 25 South, Range 5 West, Willamette Meridian; Thence along the Easterly line of Inst. #2006-5085 and Westerly line of Inst. #1995-16363, South 16.5 feet more or less to a point being the Northwest corner of Instrument #2003-6218 said County Deeds and Records; Thence continuing Southerly along the Easterly line of Inst. #2006-5085 and the Westerly lines of Instrument's #2003-6218, #2003-6219, #2015-8457, Inst. #2015-8457, #1999-29060, #1993,10054, #1993-10053, #2015-3532, #2006-5085, #2011-14811 and #2000-19990 said County Deeds and Records South 1247.6 feet more or less to the Southwest corner of Inst. #2000-19990 being the Northwest corner of Instrument #1998-11492 said County Deeds and Records; Thence continuing along the current Urban Growth Boundary line of the City of Sutherlin, Douglas County, Oregon and the Northerly line of Instrument #1998-11492, North 89°31'00" East 481.8 feet more or less to the Northeast corner thereof being also a point on the Westerly line of Parcel 6, Instrument #1999-5574 said County Deeds and Records; Thence continuing along said current Urban Growth Boundary line, a portion of the Easterly line of Instrument #1998-11492 and Westerly line of Parcel 6, Instrument #1999-5574, South 00°27' 00" East 83 feet more or less to the Southwest corner of Parcel 6, Inst. #99-5574; Thence leaving the Easterly line of Inst. #1998-11492 and along the current Urban Growth Boundary line and Southerly line of Parcel 6, Inst. #1999-5574, East 207 feet more or less to the Southeast corner thereof being on the Westerly Right of Way line of Interstate Highway #5; Thence along the Westerly Right of Way line of Interstate Highway #5, the Easterly line of Instrument #1988-14078 and #2002-26640, said County Deeds and Records and the current Urban Growth Boundary line 308 feet more or less along the Arc of a spiral curve to the left, said curve having a Long Chord which bears South 20°31'51" East 308 feet more or less to the Southeast corner of Inst. #2002-26640, said point being the point of intersection of the Northerly line of a 48 foot wide Deeded Right of Way per Volume 24, Page 387, Douglas County, Oregon Deeds and Records and the Westerly Right of Way line of Interstate Highway #5; Thence continuing along said current Urban Growth Boundary line and the Westerly Right of Way line of Interstate Highway #5 along the Arc of a spiral curve to the left, said curve having a Long Chord which bears South 22°37'10" East 52.9 feet more or less to the intersection of the Southerly line of said 48 foot wide deeded Right of Way with the Westerly line of Interstate Highway #5, said point being the Northeast corner of Instrument #2004-20863 said County Deeds and Records; Thence continuing along the current Urban Growth Boundary line, the Westerly Right of Way line of Interstate Highway #5 and along the Easterly line of Inst. #2004-20863 on the Arc of a spiral curve to the left, said curve having a Long Chord which bears South 24°17'55" East 195 feet more or less to the Northeast corner of Parcel 3, Partition Plat #2001-0098, Douglas County, Oregon Partition Plat Records being recorded in Instrument #2001-28369 said County Deeds and Records; Thence continuing along the current Urban Growth Boundary line, the Easterly line of Parcel 3 and the Westerly Right of Way line of Interstate Highway #5 on the Arc of a spiral curve to the left, said curve having a Long Chord which bears South 26°48'46" East 176.2 feet more or less to a point being Interstate Highway #5 Station 1835+43.61 Right 125.00 feet; Thence continuing on the Arc

of a spiral curve to the left, said curve having a Long Chord which bears South 29°52'58" East 343.5 feet more or less to a point being Interstate Highway #5 Station 1838+80.00 125 feet Right and being the most Easterly Southeast corner of said Parcel 3, Partition Plat #2001-0098; Thence continuing along the current Urban Growth Boundary line, the Southeasterly line of Parcel 3 and the Westerly Right of Way of Interstate Highway #5, South 58°44'30" West 194.50 feet more or less to the Southerly Southeast corner of said Parcel 3 being also the Northeast corner of Parcel 2 of said Land Partition Plat and an angle point in the Westerly Right of Way of Interstate Highway #5; Thence along the East line of Parcel 2, Partition Plat #2001-0098, the Westerly Right of Way line of Interstate Highway #5 and the current Urban Growth Boundary line, South 01°15'42" West 181 feet more or less to the Southeast corner of Parcel 2 being a point on the Westerly Right of Way line of Interstate Highway #5 and the point of beginning.

Exhibit "B2"

Urban Growth Boundary Area (Glazner)

City of Sutherlin, Douglas County, Oregon

Beginning at a point on the centerline of Northeast 6th Avenue, said point being an angle point in the current city limits line of the City of Sutherlin, Douglas County, Oregon and being North 89°42'50" East 309.61 feet, and South 01°07'05" East 1020.65 feet from the Northwest corner of Section 15, Township 25 South, Range 5 West of the Willamette Meridian; Thence leaving said city limits line, North 01°07'05" West 31.20 feet to a point on the Northerly Right of Way line of Northeast 6th Avenue being also the Southeast corner of that land described in Instrument #2013-10795, Douglas County, Oregon Deeds and Records; Thence along the Easterly line of Inst. #2013-10795, North 01°07'05" West 500.00 feet to a point; Thence leaving said Easterly line, South 78°42'51" West 126.38 feet to a point on the Westerly line of Inst. #2013-10795 being also a point on the current city limits line of the City of Sutherlin, Douglas County, Oregon

Exhibit "C1"

Annexation Area #1

City of Sutherlin, Douglas County, Oregon

Beginning at a point in the current City Limits line of the City of Sutherlin, Douglas County, Oregon said point being the Southeast corner of Parcel 2, Land Partition Plat #2001-0098, Douglas County Oregon Partition Plat Records and being also on the Westerly Right of Way line of Interstate Highway #5 and a point on the South line of Section 19, Township 25 South, Range 5 West, Willamette Meridian; Thence leaving said Right of Way line and along the South line of Parcel 2 and Section 19, North 89°52'11"West 504.1 feet more or less to the Southeast corner of Parcel 2 being a point in the Easterly line of that land described in Instrument #2005-30164, Douglas County, Oregon Deeds and Records; Thence continuing along the South line of Section 19 and crossing Inst. #2005-30164, North 89°52'11"West (rec. West) 225 feet more or less to a point being on the Easterly line of that land described in Parcel 1, Inst. #2005-30164 said County Deeds and Records; Thence, North 00°25'00" West 918.55 feet more or less to a point on the Southerly line of Instrument #1998-11492 said County Deeds and Records; Thence along said Southerly line of Inst. #1998-11492 and Northerly line of Inst. #1998-24589, South 63°40'00" West 123.46 feet more or less to an angle point in the Southerly line of Inst. #1998-11492; Thence continuing, South 85°32'00" West 164.6 feet more or less to the Southwest corner of Inst. #1998-11492, the Northwest corner of Inst. #1998-24589 and a point on the Easterly line of Instrument #2006-5085 said County Deeds and Records; Thence Southerly along the Easterly line of Inst. #2006-5085 and Westerly line of Inst. #1998-24589, South 00°25'00" East 851 feet more or less to the South line of Section 19; Thence along said South Section line and crossing Instrument #2006-5085, North 89°52'11"West (rec. West) 500.8 feet more or less to a point in the Westerly line thereof; Thence leaving the South line of Section 19 and along the Westerly line of Inst. #2006-5085, North 943 feet more or less to the Southeast corner of Instrument # 2001-15784 said County Deeds and Records; Thence along the South line of Inst. #2001-15784, West 331.8 feet more or less to a point being the intersection of the Southerly extension of the Westerly line of Fir Grove Lane as platted in Fir Grove Tracts, Volume 9, Page 20, Douglas County, Oregon Subdivision Plat Records; Thence crossing Inst. #2001-15784, Northerly 709.9 feet more or less along the Southerly extension of the Westerly line of Fir Grove Lane to the Southwesterly corner of Fir Grove Lane, said point being on the Easterly line of Instrument #2007-19673 said County Deeds and Records being 10 feet from the Southeast corner thereof ; Thence along the Southerly line of Fir Grove Lane and Lot 13, Fir Grove Tracts, East 344.6 feet more or less to the Southeast corner of Lot 13 and Fir Grove Tracts, said point also being in the Westerly line of that land described in Inst. #2006-5085 said County Deeds and Records; Thence along the common line between Fir Grove Tracts and Inst. #2006-5085, North 00°10'00" West (rec. Deed North) 150 feet more or less to the Southeast corner of Instrument #2015-19427 said County Deeds and Records; Thence leaving said Easterly line of Fir Grove Tracts and Westerly line of Inst. #2006-5085 and along the Southerly line of Inst. #2015-19427, West 297.3 feet more or less to the Southeast corner of Inst. #2015-19427 being a point on the Easterly Right of Way line of Fir Grove Lane; Thence along the Easterly line of Fir Grove Lane and Westerly line of Instruments #2015-19427, #2005-11322 and #2005-19683 said County Deeds and Records, North 00°53'00" West 750 feet more or less to the Northwest corner of Inst. #2005-19683 being the Northwest corner of Lot 5, Fir Grove Tracts; Thence leaving said Easterly Right of Way line and along the Northerly line of Inst. #2005-19683, East 311.1 feet more or less to the Southeast corner thereof being a point on the Easterly line of Fir Grove Tracts and on the Westerly line of Inst. #2006-5085; Thence along the Easterly line of Fir Grove Tracts and Westerly line of Inst. #2006-5085, North 00°10'00" West (rec. deed North) 50.5 feet more or less to the Northwest corner of Inst. #2006-5085; Thence leaving the

Easterly line of Fir Grove Tracts and along the Northerly line of Inst. #2006-5085, East 500.8 feet more or less to the Northeast corner thereof said point being on the Westerly line of Instrument #1995-16363 said County Deeds and Records and being West 498.8 feet and North 3682.2 feet from the Southeast corner of Donation Land Claim #53, Township 25 South, Range 5 West, Willamette Meridian; Thence along the Easterly line of Inst. #2006-5085 and the Westerly lines of Instrument's #1995-16363, #2003-6218, #2003-6219, #1999-29060, #1993-10054, #1993-10053, #2015-3532, #2011-14811 and #2000-19990 said County Deeds and Records, South 1247.6 feet more or less to the Northwest corner of Instrument #1998-11492 said County Deeds and Records being the Southwest corner of Inst. #2000-19990; Thence leaving said Easterly line of Inst. #2006-5085 and along the Northerly line of Inst. #1998-11492, North 89°31'00" East 481.8 feet more or less to the Northeast corner thereof being also a point in the Westerly line of Parcel 6, Instrument #1999-5574 said County Deeds and Records; Thence along a portion of the Easterly line of Inst. #1998-11492 and Westerly line of Parcel 6, Inst. #99-5574 of said County Deeds and Records, South 0°27'00" East 83 feet more or less to the Southwest corner of Parcel 6, Inst. #1999-5574; Thence leaving the Easterly line of Inst. #1998-11492 and along the Southerly line of Parcel 6, Inst. #1999-5574, East 207 feet more or less to the Southeast corner thereof being on the Westerly Right of Way line of Interstate Highway #5; Thence along the Westerly Right of Way line of Interstate Highway #5 and the Easterly line of Instrument's #1988-14078 and #2002-26640 said County Deeds and Records 308 feet more or less along the Arc of a spiral curve to the left, said curve having a Long Chord which bears South 20°31'51" East 308 feet more or less to the Southeast corner of Inst. #2002-26640 said point being the point of intersection of the Northerly line of a 48 foot wide Deeded Right of Way per Volume 24, Page 387, Douglas County, Oregon Deeds and Records and the Westerly Right of Way line of Interstate Highway #5; Thence leaving said Westerly Right of Way line and along the Southerly line of Inst. #2002-26640 and Northerly line of the deeded 48 foot wide Right of Way, West 315.13 feet more or less to the Westerly end of the Northerly Right of Way line and the Easterly line of Inst. #1998-11492; Thence leaving said Northerly Right of Way line and along the Easterly line of Inst. #1998-11492 and Parcel 1, Inst. #2005-30164 being the Westerly end of the 48 foot wide Right of Way and Westerly line of Instrument #1965-6699, South 090°25'00" East 223 feet more or less to the Southwest corner of Inst. #1965-6699; Thence Leaving said Westerly lines and along the Southerly line of Inst. #1965-6699, East 288 feet more or less to the Southeast corner thereof being the Southwest corner of Instrument #2004-20863 said County Deeds and Records; Thence along the common line between Inst. #1965-6699 and #2004-20863, North 175 feet more or less to the Northeast corner of Inst. #1965-6699 and being a point on the Southerly line of the 48 foot wide deeded Right of Way; Thence along said Southerly line and the Northerly line of Inst. #2004-20863, East 147.47 feet more or less to the Northeast corner thereof being a point on the Westerly Right of Way line of Interstate Highway #5; Thence leaving said Northerly line and along the Westerly Right of Way line of Interstate Highway #5 and along the Easterly line of Instrument #2004-20863 on the Arc of a spiral curve to the left, said curve having a Long Chord which bears South 24°17'55" East 195 feet more or less to the Northeast corner of Parcel 3, Partition Plat #2001-0098, Douglas County, Oregon Partition Plat Records; Thence continuing along the Easterly line of Parcel 3 and the Westerly Right of Way line of Interstate Highway #5 on the Arc of a spiral curve to the left, said curve having a Long Chord which bears South 26°48'46" East 176.2 feet more or less to a point being Interstate Highway #5 Station 1835+43.61 Right 125.00 feet; Thence continuing along the Easterly line of Parcel 3 and the Westerly Right of Way line of Interstate Highway #5 on the Arc of a spiral curve to the left, said curve having a Long Chord which bears South 29°52'58" East 343.5 feet more or less to a point being Interstate Highway #5 Station 1838+80.00 125 feet right and being the most Easterly Southeast corner of said Parcel 3, Partition Plat #2001-0098; Thence continuing along the Southeasterly line of Parcel 3 and the Westerly Right of Way of Interstate Highway #5, South 58°44'30" West 194.50 feet more or less to the Southerly Southeast corner of said Parcel 3 being also the Northeast corner of Parcel 2 of said Land Partition Plat and an angle point in the

Westerly Right of Way line of Interstate Highway #5; Thence along the East line of Parcel 2, Partition Plat #2001-0098 and the Westerly Right of Way line of Interstate Highway #5, South 01°15'42" West 181 feet more or less to the Southeast corner of Parcel 2 being a point on the Westerly Right of Way line of Interstate Highway #5 and the point of beginning.

Exhibit "C2"

Annexation Area #2

City of Sutherlin, Douglas County, Oregon

Beginning at the Northeast corner of Instrument #2007-4101, Douglas County, Oregon Deeds and Records said point being South 00°02'00" East 20 feet from the Northeast corner of Lot 1, Block 2, Plat "M" Sutherlin Land And Water Company Subdivision, Volume 4, Page 67, Douglas County, Oregon Subdivision Plat Records and on the Southerly Right of Way of Duke County Road No. 155; Thence along the Easterly line of Lot 1, Block 2 and Inst. #2007-4101, South 00°02'00" East 330.0 feet more or less to a point and South 00°32'00" West 515.0 feet more or less to a point being the Northeast corner of that land described in Instrument #2000-6491 said County Deeds and Records; Thence leaving the Easterly line of Inst. #2007-4101 and Lot 1, Block 2 and along the Southerly line of Inst. #2007-4101 and Northerly line of Instrument #2000-6491, South 88°28'00" West 184 feet more or less to the Northwest corner of Inst. #2000-6491; Thence continuing along the common line between Instrument's #2007-4101 and #2000-6491, South 19°48'00" West 111.2 feet more or less to a point on the Northerly Right of Way line of a 40 foot wide roadway as platted in Plat "M", Sutherlin Land and Water Company Subdivision and also being the Southwest corner of Inst. #2000-6491 and the Southerly Southeast corner of Inst. #2007-4101; Thence leaving the Westerly line of Inst. #2000-6491 and along the Southerly line of Inst. #2007-4101 and Northeasterly line of the platted 40 foot roadway, North 57°55'00" West 133.5 feet more or less to the Southwest corner of Inst. #2007-4101; Thence along the Westerly line of Inst. #2007-4101, North 33°05'00" East 279.9 feet more or less to an angle point; Thence continuing, North 01°22'00" East 645.0 feet more or less to the Northwest corner of Inst. #2007-4101; Thence along the Northerly line of Inst. #2007-4101, North 88°28'00" East 176.0 feet more or less to the point of beginning.

Exhibit "C3"

Annexation Area #3

City of Sutherlin, Douglas County, Oregon

Beginning at a point on the Southerly line of Fort McKay County Road No. 9, a 60 foot wide Right of Way said point being the Northwest corner of Instrument #2007-6195, Douglas County, Oregon Deeds and Records and is situated on the West line of Lot 8, Block 2, Plat "M" Sutherlin Land and Water Company Subdivision, Volume 4, Page 67, Douglas County, Oregon Subdivision Plat Records, said point being South 01°22'00" West 30.0 feet from the Northwest corner of Lot 8, Block 2, Plat "M"; Thence along the Southerly Right of Way line of County Road No. 9 and Northerly lines of Instruments #2007-6195 and #2014-16813 said County Deeds and Records, South 88°38'00" East 1192.6 feet more or less to a point being the Northeast corner of Lot 6, Block 2, Plat "M" and the Northeast corner of Inst. #2014-16813; Thence leaving said Southerly Right of Way line of County Road #9 and along the Easterly line of Inst. #2014-16813 and the Westerly lines of Instruments #2016-17822 and #2002-17203 said County Deeds and Records being also the common line between Lots 6 and 5, Block 2, South 01°22'00" West 747.48 feet more or less to the Southwest corner of Inst. #2002-17203; Thence leaving the Easterly line of Inst. #2014-16813 and along the common line between Inst. #2002-17203 and that certain property described in Circuit Court Journal Volume 80, Page 680, South 88°38'00" East 330.00 feet more or less to the Westerly Right of Way line of a 40 foot wide roadway being Duke County Road #155; Thence along the Westerly Right of Way line of Duke County Road #155 and the Easterly line of that land described in Circuit Court Journal Volume 80, Page 680, South 01°22'00" West 258.6 feet more or less to the Southeast corner thereof; Thence leaving the Westerly Right of Way of Duke County Road #155 and along the common line between Instrument #2012-4472 said County Deeds and Records and that land described in Circuit Court Journal Vol. 80, Pg. 680, North 88°38'00" West 163.00 feet more or less to the Northwest corner of Inst. #2012-4472; Thence along the Westerly line of Inst. #2012-4472, South 01°22'00" West 138.92 feet more or less to the Southwest corner thereof being a point in the North line of that land described in Instrument #1979-9214 said County Deeds and Records; Thence along the common line between Inst. #1997-9214 and Inst. #2012-4472, South 88°38'00" East 163.00 feet more or less to the Westerly Right of Way of Duke County Road #155; Thence along said Westerly Right of Way line and the Easterly line of Inst. #1997-9214, South 01°22'00" West 110 feet more or less to the Southeast corner thereof being the Southeast corner of Lot 5, Block 2, Plat "M"; Thence continuing along said Westerly Right of Way line of County Road #155 and the Easterly line of that land described in Circuit Court Journal Volume 52, Page 824 South 01°22'00" West 120 feet more or less to the Southeast corner thereof; Thence leaving said Westerly Right of Way line and along the Southerly line of that land described in Circuit Court Journal, Volume 52, Page 824 and the Northerly line of Instrument #2007-23704 said County Deeds and Records, North 88°38'00" West 345.47 feet more or less to a point being the Southwest corner of that land described in Circuit Court Journal Volume 52, Page 824; Thence along the Westerly line of said land and a portion of the Easterly line of Inst. #2007-23704, North 01°20'28" East 120.03 feet more or less to a point on the Northerly line of Inst. #2007-23704 also being a point in the South line of Lot 6, Block 2 and on the Southerly line of Inst. #2014-16813; Thence along the Northerly line of Inst. #2000-23704 and Instrument #1997-18604 and Southerly line of Inst. #2014-16813 and a portion of the Southerly line of Inst. #2007-6192, North 88°38'00" West 379.7 feet more or less to the Northwest corner of Inst. #1997-18604 said County Deeds and Records said point being the internal angle point in the Southerly line of lot 7, Block 2, Plat "M"; Thence, South 01°22'00" West 40 feet more or less to the Southerly Southeast corner of Lot 7 and Northeast corner of Lot 2, Block 2 Plat "M" and being a point on the Easterly line of Inst. #2007-6195; Thence continuing along the Easterly line

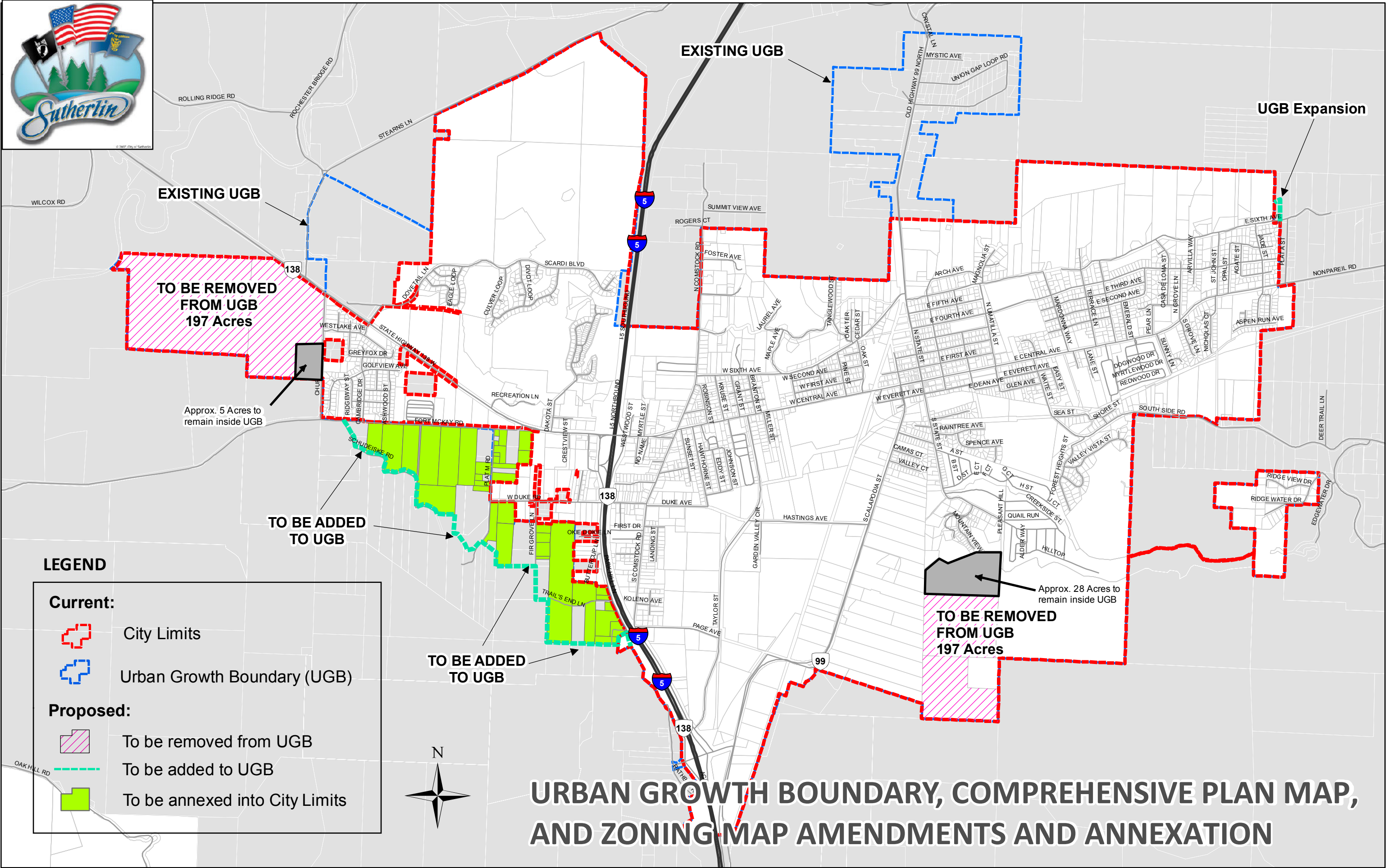
of Inst. #2007-6195 and the Westerly line of Inst. #1997-18604, South 01°22'00" West 608.4 feet more or less to the Northeast corner of that land described in Instrument #2015-19391 said County Deeds and Records; Thence leaving the Westerly line of Inst. #1997-18604 and along the Northerly line of Inst. #2015-19391 being also the Southerly line of Inst. #2007-6195, West 372.4 feet more or less to a point on the Northeasterly Right of Way line of Schudeiski County Road No. 185 said point being the Southwest corner of Inst. #2007-6195; Thence along the Southwesterly line of said Instrument and the Northeasterly line of Schudeiski County Road No. 185, North 22°35'00" West 109.03 feet more or less to a point; Thence, North 61°39'00" West 196.24 feet more or less to a point; Thence, North 82°53'00" West 100.32 feet more or less to a point; Thence, South 66°32'00" West 135.84 feet more or less to a point; Thence, North 24° 15'00" West 39.90 feet more or less to a point; Thence, North 00°09'00" West 173.19 feet more or less to a point; Thence, North 04°07'00" East 245.69 feet more or less to a point in the North line of Lot 4 and South line of Lot 8, Block 2 said point being East 20.05 feet more or less from the Northwest corner of Lot 4, Block 2 being in the center of Schudeiski County Road No. 185; Thence continuing along the Northeasterly line of Schudeiski County Road No. 185 and along the Westerly line of Instrument #2007-6195, North 4°07'00" East 95.73 feet more or less to a point on the East line of a 30 foot wide dedicated Right of Way as platted in Plat "M", Sutherlin Land and Water Company Subdivision said roadway being situated over the common line between Lot 8, Block 2, and Lot 1 Block 5, Plat "M"; Thence continuing along the Westerly line of Inst. # 2007-6195 being the Easterly line of said 30 foot wide Right of Way, North 05°46'53" East 107 feet more or less to a point; Thence, North 01°22'00" East 1062.3 feet more or less to the Northwest corner thereof being the point of beginning.

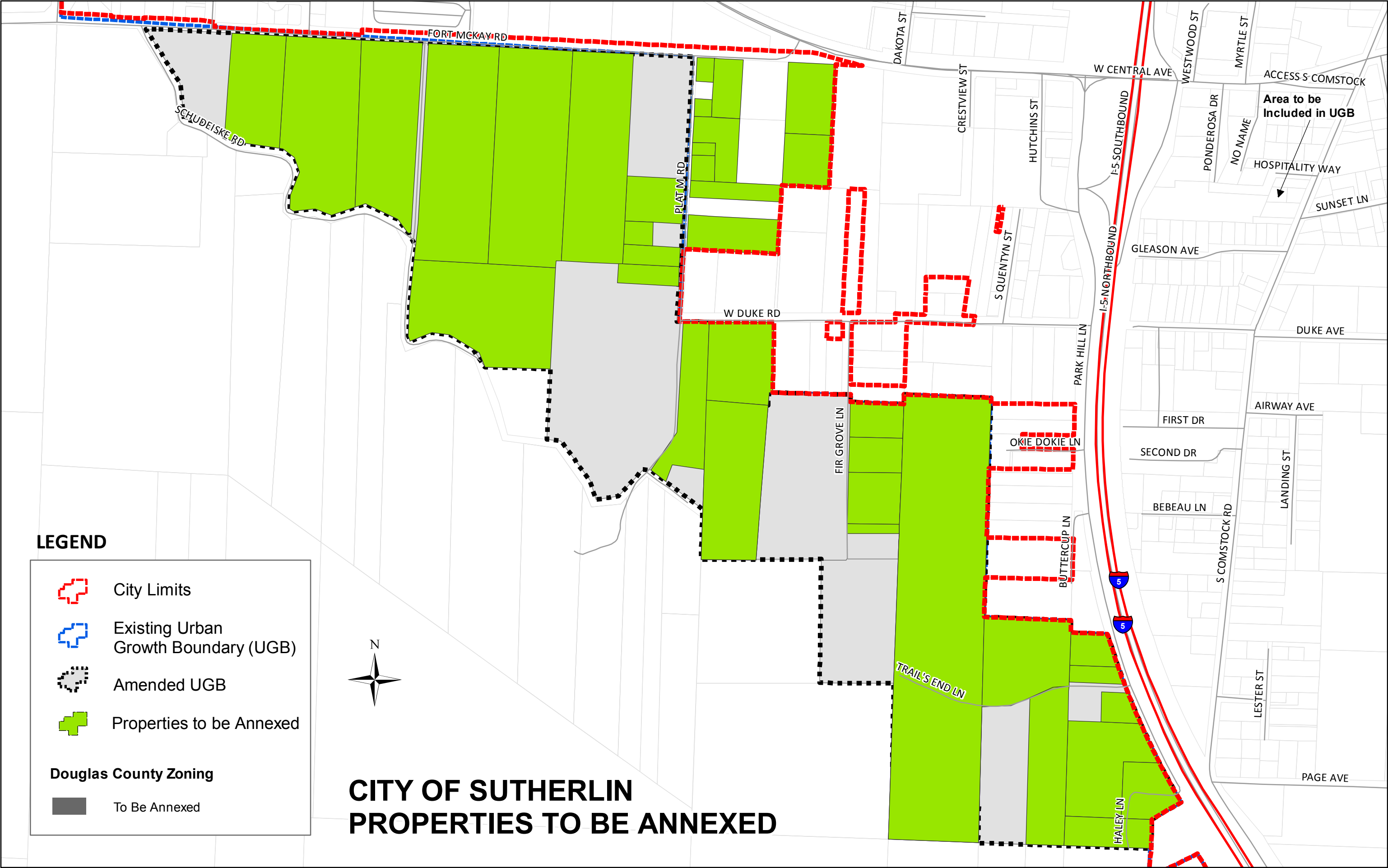
Exhibit "C4"

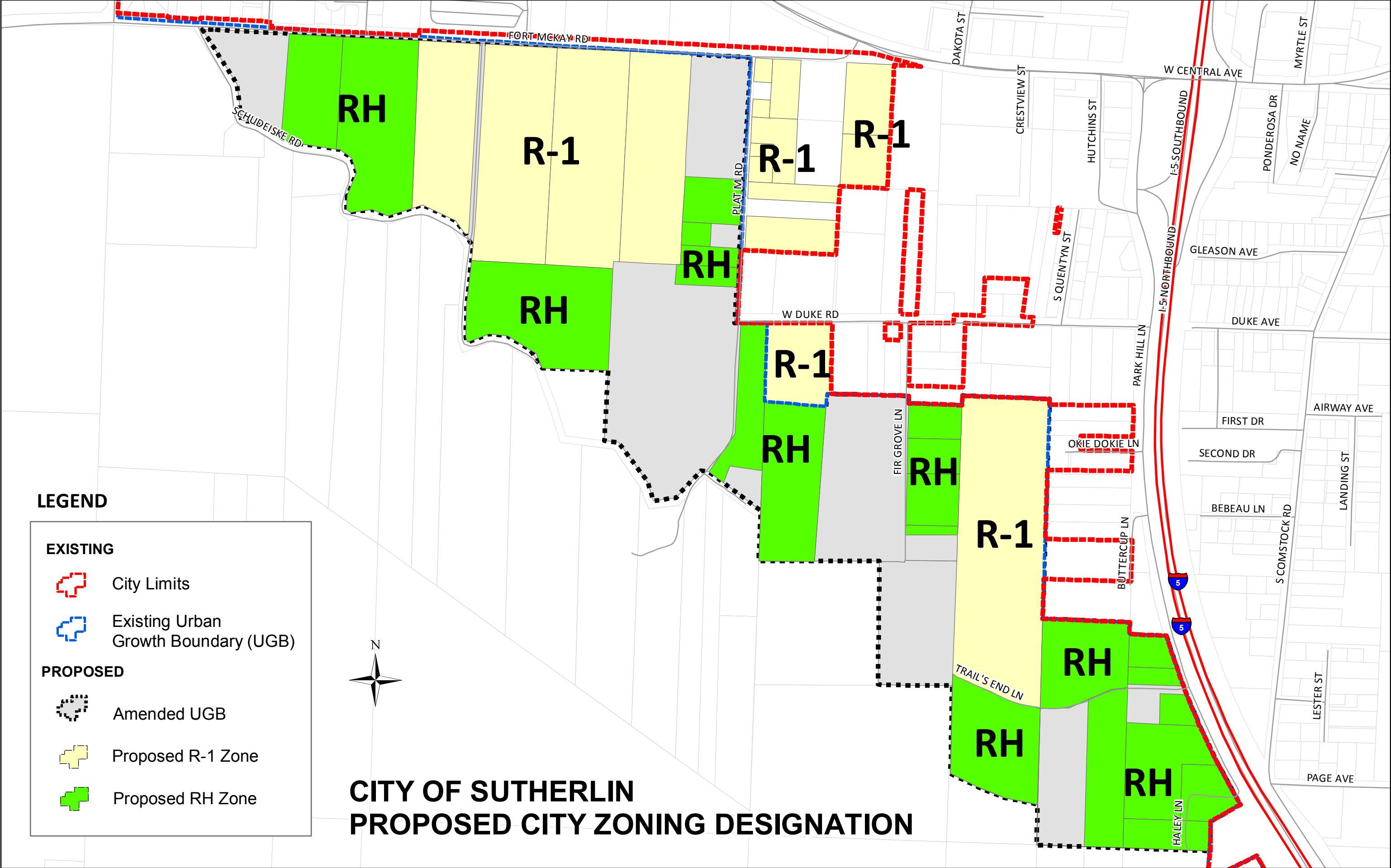
Annexation Area #4

City of Sutherlin, Douglas County, Oregon

Beginning at the Northeast corner of Instrument #1997-9086, Douglas County, Oregon Deeds and Records said point being the Northeast corner of Block 5, Plat "M", Sutherlin Land and Water Company Subdivision, Volume 4, Page 67, Douglas County, Oregon Subdivision Plat Records and being the intersection of the Westerly Right of Way line of the dedicated 30 foot wide portion of County Road #185 with the Southerly Right of Way line of Fort McKay County Road No. 9; Thence along the Westerly line of the 30 foot wide portion of County Road No. 185, South 01°22'00" West 1060.48 feet more or less to the Southeast corner of Inst. #1997-9086 said point being the intersection point of the Westerly Right of Way line of the 30.0 foot portion of County Road #185 and the Northeasterly line of the 40.0 foot wide Right of Way of Schudeiske County Road No. 185, Thence continuing along the Northeasterly line of Schudeiski County Road No. 185 and along the Southerly line of Inst. #1997-9086, South 08°10'00" West 67.58 feet more or less to a point; Thence, North 34°17'00" West 123.17 feet more or less to a point; Thence, North 66°25'00" West 212.23 feet more or less to a point; Thence, South 69°10'00" West 63.50 feet more or less to a point being the Southwest corner of Inst. #1997-9086 and the Southeast corner of Instrument #1992-21583 said County Deeds and Records; Thence continuing along the Northeasterly line of County Road #185, South 69°10'00" West 145.86 feet more or less to a point; Thence, North 68°11'00" West 103.21 feet more or less to a point; Thence, South 79°53'00" West 124.38 feet more or less to a point; Thence, North 49°33'00" West 29.36 feet more or less to a point; Thence, North 00°40'00" West 78.42 feet more or less to a point ; Thence, North 20°48'00" East 146.08 feet more or less to a point; Thence, North 22°09'00" West 90.14 feet more or less to a point; Thence, North 55°24'00" West 80.14 feet more or less to a point; Thence, North 82°46'00" 15.55 feet to a point being the Southwest corner of Inst. #1992-21583 and the Southeast corner of Instrument #2007-5691 said County Deeds and Records; Thence continuing along the Northeasterly line of County Road No. 185, North 82°46'00" West 292.96 (rec. North 82°53'10" West 290.70 feet) feet more or less to a point; Thence, North 58°08'00" West (rec. North 58°15'10" West) 31.5 feet more or less to the Southwest corner of Inst. #2007-5691; Thence leaving the Northeasterly line of the County Road No. 185 and along the Westerly line of Inst. #2007-5691, North 01°22'00" East (rec. North 01°27'00" East) 605.26 feet more or less to a point on the Southerly Right of Way line of Fort McKay County Road No. 9; Thence along the Southerly Right of Way line of County Road No. 9 and along the Northerly line of the following Instruments, #2007-5691, #1992-21583 and #1997-9086, South 88°38'00" East 1116.51 feet more or less to the point of beginning







BEFORE THE PLANNING COMMISSION OF THE CITY OF SUTHERLIN

IN THE MATTER of an Urban Growth Boundary]	FINDINGS OF FACT AND DECISION
Amendment, Comprehensive Plan Map]	Applicant: City of Sutherlin
Amendment and Zoning Map Amendments and]	Subject: UGB amendment, Comprehensive
Annexations involving 479± acres. A 202± acre]	Plan Amendment, Zoning Map Amendment
Ford's Pond property, owned by the City of]	and Annexation
Sutherlin, located on the west side of Church]	File No.: 17-S015
Road and a 100± acre property located off S.]	
State Street on Schoon Mountain are proposed]	
to be removed from the UGB and City Limits.]	
The proposal will add 177± acres to the UGB]	
located southwest of Exit 136 and south of W.]	
Central Ave and Fort McKay Road, and is]	
generally bounded by Schudeiske Road on the]	
west and Parkhill Lane and Trails End Lane on]	
the southeast adjacent to Interstate 5. A]	
portion of this area will be annexed into the]	
City Limits and be rezoned with City of]	
Sutherlin Zoning.]	

PROCEDURAL FINDINGS OF FACT

1. The Urban Growth Boundary (UGB) Amendment, Comprehensive Plan Map Amendment and Zone Map Change, and Annexations were advanced by the City of Sutherlin as a legislative action pursuant to Sutherlin Development Code and Oregon Revised Statute.
2. DLCD Notice of Proposed Amendment was mailed to the Department of Land Conservation and Development on July 24, 2017, which was at least 35 days prior to the first evidentiary public hearing on August 29, 2017. DLCD did not provide comments on the application.
3. Pursuant to Sections 4.2.150.D.4 and 4.2.140.C of the Sutherlin Development Code, notice of the public hearing was given by publication in the *News Review* on August 15, 2017, which was at least fourteen (14) days prior to the date of the public hearing.
4. Notice of a Public Hearing on an application for the UGB amendment, Annexation, Comprehensive Plan Map Amendment and Zone Map Change before the Planning Commission was provided in accordance with Section 4.2.150.D. Notice was sent to affected property owners of record within 100 feet of the subject properties, service providers, and governmental agencies on August 8, 2017. Four written comments were received.
 - a. Pursuant to the Urban Growth Management Agreement (UGMA) with Douglas County, notice was sent to the Douglas County Planning Department. No written comments on the proposal were submitted.

5. The Planning Commission held a public hearing on this matter on August 29, 2017.
6. At the public hearing on August 29, 2017, Planning Commissioner Sam Robinson declared an actual conflict of interest and recused himself from the hearing. There were no other declarations of ex parte contact or other conflicts of interest made by the Planning Commission. No objections were raised and the Commission was qualified to hear the matter.
7. The Planning Commission declared the following as parties to the hearing:
 - a. Jim Houseman, Friends of Ford's Pond
 - b. Jim Houseman
 - c. John McDonald, Oregon Dept of Transportation
 - d. Gale Peterson
 - e. Kathleen Case
 - f. Corina Blevins
 - g. Mark Rochester
 - h. Martha Oerman
 - i. Mavis Eckerd
8. Reference was made to the August 22, 2017 Staff Report, and findings of fact addressing conformance to the applicable criteria of the Statewide Planning Goals, the applicable goals and policies of the Sutherlin Comprehensive Plan, and the applicable criteria of the Sutherlin Development Code.
9. Lisa Hawley, Community Services Planner with the City of Sutherlin, presented the Staff Report dated August 22, 2017 and entered Staff Exhibits 1-25, including the staff report, into the record.
10. Ms. Hawley then entered three additional staff exhibits into the record, which were added since the notice was mailed: Staff Exhibit 26, Staff Memorandum dated August 22, 2017 with attached comments received on the proposed amendment; Staff Exhibit 27, copy of documentation from ODOT, dated August 15, 2007 regarding review of traffic analysis for zone change on Fords Pond property; and Staff Exhibit 28, Staff Memo, dated August 29, 2017 regarding traffic impact study (TIS) and recommendation for City Council.
11. The Planning Commission provided opportunity to receive clarifying questions and oral testimony from persons in support of the application. Jim Houseman testified in favor of the application as a representative of himself and Friends of Ford's Pond. Mr. Houseman addressed Statewide Planning Goal 5, Open Spaces, Scenic and Historic Areas and Natural Resources and Goal 8, Recreational Needs and spoke about the work being done towards the establishment of Ford's Pond Community Park. The proposed UGB exchange will facilitate this development.
12. The Planning Commission provided opportunity to receive clarifying questions and oral testimony from persons in opposition to the application. John McDonald with the Oregon Department of Transportation (ODOT) testified in opposition of the application. He stated that ODOT objects to the Zone Changes, not to the UGB exchange. He requested a continuance of

the hearing to allow the City time to complete a traffic impact study (TIS). Mr. McDonald also proposed that if the City chose not to continue the hearing, the City could approve the UGB Exchange without the Zone Changes. He indicated that the information the City currently has is inadequate.

13. The Planning Commission provided opportunity for clarifying questions and oral testimony from persons neither opposing or supporting the application. Gale Peterson testified as a neutral party and testified that they have no objections as long as there will be no additional development south of Trails End Lane. She expressed concern that traffic impacts be adequately addressed and improvements made if the area is to be developed. Kathleen Case testified as a neutral party and stated that she was not interested in participating in the process. Ms. Hawley clarified that Ms. Case is already located within the UGB and that it is up to the property owners whether they wanted to annex into the City Limits. She noted that Ms. Case did not consent to opt in and that her property is not included in the proposed annexations. Corina Blevins testified as a neutral party and requested that the City hold a question and answer session to answer property owner questions. Ms. Blevins later testified that traffic on Ft McKay is bad and would recommend a speed reduction zone as traffic enters into Sutherlin. Mark Rochester testified as a neutral party and stated that he had concerns regarding the increase in traffic that would be generated. He stated that he would like a continuance to receive additional information and answers to questions. Martha Oerman testified as a neutral party and asked whether water and sewer lines would be placed through Schudeiske Road. Ms. Hawley clarified that water and sewer lines would be development driven and would go through the developments, rather than strictly along Schudeiske Rd. Mavis Eckerd asked about time of completion and when she could expect water and sewer for her property. The Planning Commission closed the public portion of the hearing and commenced discussion on the application.
14. John McDonald, with ODOT further testified that the proposed Zone Change triggers the TIS and if the process is to move forward without completion of the TIS, then ODOT loses its teeth in the traffic requirements.
15. The Planning Commission closed the public portion of the hearing and commenced discussion on the application.

FINDINGS OF FACT RELATED TO DECISION

1. The Planning Commission expressed no objections to the proposed UGB Amendment, Comprehensive Plan Map and Zoning Map Amendments and Annexations. The Planning Commission discussed the issue of traffic impacts resulting from the zone change and agreed with Staff's assessment that a traffic impact study should be completed as a condition of future development approvals. The Commission requested that Staff host a public Q & A session to answer any outstanding questions on the proposal. The Commission also considered the request from the owners of property at 1814 and 1818 Trails End Lane to include the portions of those properties containing existing dwellings for inclusion in the UGB Amendment, Comprehensive Plan Map and Zoning Map Amendments and Annexations.

FINDINGS OF FACT

Finding No. 1. The Planning Commission finds that properties to be removed from the UGB and City Limits are zoned Forestry Resource (FR-20), Residential Hillside (RH) and Low Density Residential (R-1) under the Sutherlin Development Code and designated Residential-Agriculture/Forestry, Residential Hillside and Residential Low Density under the Sutherlin Comprehensive Plan.

Finding No. 2. The Planning Commission finds that properties to be added to the UGB are currently zoned Rural Residential and Farm Forest under Douglas County zoning and designated Committed Residential 2-Acre and Farm Forest Transitional under the Douglas County Comprehensive Plan.

Finding No. 3. The Planning Commission adopts by reference Option 2 from the Staff Memorandum dated August 22, 2017.

Finding No. 4. The Planning Commission finds, based upon the staff report, application materials and the oral testimony provided, that the requested UGB amendment, Comprehensive Plan Map Amendment and Zoning Map Amendments and Annexations are consistent with the applicable Statewide Planning Goals, and that no exceptions to the goals were proposed.

Finding No. 5. The Planning Commission finds, based upon the staff report, application materials and the oral testimony provided, that the requested UGB amendment, Comprehensive Plan Map Amendment and Zoning Map Amendments and Annexations is consistent with the applicable general goals and policies of the Sutherlin Comprehensive Plan and its implementing ordinances, including those related to Natural Features, Population, Air Water and Land Resource Quality, Natural Hazards, Recreational Needs, Economy, Housing, Public Facilities and Services, Transportation System, including Energy Conservation and Land Use and Urbanization.

Finding No. 6. The Planning Commission finds, based upon the staff report, application materials and the oral testimony provided, that the proposed amendment is consistent with the applicable criteria of Section 4.11 [Amendments] of the Sutherlin Development Code. The applicant has demonstrated consistency with the Comprehensive Plan, including inventory documents and facility plans.

CONCLUSION

1. A motion was made by Commissioner Lusby and seconded by Commissioner Price to approve the requested UGB amendment, Comprehensive Plan Map Amendment and Zoning Map Amendments and Annexations and forward the recommendation to approve these actions to the City Council, subject to the following conditions:
 - a. Prior to the issuance of any land division, subdivision, and planned unit development approval by the City for development of parcels subject to the UGB amendment, annexations and zone changes, a traffic impact study (TIS) shall be required as a condition of final approval; and

- b. The City shall host an informational meeting to answer outstanding questions from property owners regarding the proposed actions prior to the City Council hearing; and
- c. The UGB amendment, annexations and zone changes undertaken by the City shall include portions of properties located at 1814 and 1818 Trails End Lane (Tax Lot 100 in Section 19C of T25S, R5W, W.M., also identified by Property ID No. R22752) which contain two (2) existing dwellings, as requested by the property owner.

The motion passed unanimously.

- 2. The Commission adopts the findings of the staff report and staff memos in the record in support of their decision.

NOW, THEREFORE, based upon the foregoing findings of fact and the oral testimony provided, the Sutherlin Planning Commission recommends to City Council the **ADOPTION** of the requested UGB amendment, Comprehensive Plan Map Amendment and Zoning Map Amendments and Annexations involving 476± acres.

DATED THE 18TH DAY OF SEPT, 2017.


WILLIAM LEE, ACTING CHAIR



City of Sutherlin

STAFF REPORT					
Re: Approval of Resolution 2018.02-Land & Water Conservation Grant and Resolution 2018.03-Local Government Grant Program				Meeting Date:	2-12-2018
Purpose:	Action Item <input checked="" type="checkbox"/>	Workshop <input type="checkbox"/>	Report Only <input type="checkbox"/>	Discussion <input type="checkbox"/>	Update <input type="checkbox"/>
Submitted By: Brian Elliott, Community Development Director				City Manager Review	<input checked="" type="checkbox"/>
Attachments:	Resolution 2018.02-Land & Water Conservation Grant and Resolution 2018.03 Local Government Grant Program				

WHAT IS BEING ASKED OF COUNCIL?

City Council is being asked to approve Resolution 2018.02-Land & Water Conservation Grant and Resolution 2018.03 Local Government Grant Program.

EXPLANATION

The City of Sutherlin and Friends of Ford's Pond have partnered in seeking grant opportunities to fund Projects 1 & 2A. Project 1 consists of construction of a fully accessible 10-foot wide paved path extending around the perimeter of Ford's Pond. The path is approximately 1.7 miles in total length. Project 2A is located in the Southwest corner of the site, abutting Church Road. The project involves the construction of asphalt parking, asphalt paths, site utilities, benches, bicycle racks and restrooms.

OPTIONS

Approve Resolution 2018.02-Land & Water Conservation Grant and Resolution 2018.03 Local Government Grant Program.

Not approve Resolution 2018.02-Land & Water Conservation Grant and Resolution 2018.03 Local Government Grant Program.

SUGGESTED MOTION(S)

Approve Resolution 2018.02-Land & Water Conservation Grant and Resolution 2018.03 Local Government Grant Program.

RESOLUTION NO. 2018.02

A RESOLUTION AUTHORIZING THE CITY OF SUTHERLIN TO APPLY FOR LAND AND WATER CONSERVATION FUND ASSISTANCE FROM THE OREGON PARKS AND RECREATION DEPARTMENT TO DEVELOP PROJECTS 1 & 2A (POND PERIMETER PATH, SOUTHEAST COMMUNITY PARK - PHASE 1 OF 3) AND DELEGATING AUTHORITY TO THE CITY MANAGER TO SIGN THE APPLICATION.

WHEREAS, the Oregon Parks and Recreation Department is accepting applications for the federal Land and Water Conservation Fund Grant Program; and

WHEREAS, the City of Sutherlin desires to participate in this grant program to the greatest extent possible as a means of providing needed park and recreation improvements and enhancements; and

WHEREAS, the Sutherlin City Council has identified improvements at Ford's Pond Community Park as a high priority need in Sutherlin; and

WHEREAS, Project 1 involves the construction of a fully accessible 10-foot wide paved path extending around the perimeter of Ford's Pond. The path will be constructed of pervious asphalt with a crushed rock base. The primary use is by walkers, bicyclists, and joggers. The path is predominately on-grade; however, sections are slightly elevated to be above seasonal inundation levels. The path is approximately 1.7 miles in total length. Project 2A is within the larger project area and is located in the southeast corner of the site, abutting Church Road and residential neighborhoods to the east. The project site is composed of 3 terraces; an upper terrace that is a few feet below the elevation of Church Road; a middle terrace; and a lower terrace that is approximately 5-10 feet above the pond elevation. There is approximately 10-15 feet of grade change between the upper, middle, and lower terraces, respectively. The project involves the construction of a new access drive extending from Church Road and the parking area. The parking area includes short-term vehicle parking with views of Ford's Pond, a few larger vehicle or bus parking spaces, a turnaround, food cart or vendor staging area, and standard vehicle parking. The park is connected to the upper terrace by stairs and two accessible paths. Accessible paths extend to the north and south, to the lower terrace, providing access to the Pond Perimeter Path; and

WHEREAS, The City of Sutherlin recognizes the unique value of the Ford's Pond site, both as a natural and community asset. The Pond Perimeter Path and Southeast Community Park will meet community assessed needs and protect the natural environment. Program elements include protecting and restoring natural resources, providing public access, appropriate infrastructure such as restrooms and parking, trails, signage, education and disabled access to recreation in the park. Ford's Pond has a rich natural history that is highly visible on-site and from the stunning views from around the pond. The position of the property and connections into the community provide unique opportunities for public access and education. This project establishes the shared vision for potential and possibilities of developing Ford's Pond as a place where residents

Resolution No. 2018.02

and visitors can enjoy healthy, outdoor activities and serve as a demonstration of what citizens and small cities can achieve by working in partnership.

WHEREAS, the City of Sutherlin, in partnership with the Friends of Ford's Pond (cash match anticipated to be \$341,000, prior to the grant award in September 2018), has available local matching funds to fulfill its share of obligation related to this grant application should the grant funds be awarded; and in accordance to the Matching Requirement definition in Section 1.10 of the OPRD LWCF Manual: The eligible agency match may include local budgeted funds, donated funds, and value of private donated property, equipment, materials, labor or any combination thereof.

WHEREAS, the City of Sutherlin has been estimated that annual maintenance costs will be \$15,100 and we will dedicate adequate funding for on-going operations and maintenance of this park and recreation facility should the grant funds be awarded; and

NOW, THEREFORE, BE IT RESOLVED by the Sutherlin City Council as follows:

Section 1: The Sutherlin City Council demonstrates its support for the submittal of a grant application to the Oregon Parks and Recreation Department for development of Projects 1 and 2A at Ford's Pond Community Park.

Section 2: This Resolution shall be effective following its adoption by the Sutherlin City Council.

PASSED BY THE CITY COUNCIL, ON THIS 12TH DAY OF FEBRUARY, 2018

APPROVED BY THE MAYOR, ON THIS 12TH DAY OF FEBRUARY, 2018

Mayor, Todd McKnight

ATTEST:

City Recorder, Diane Harris, CMC

RESOLUTION NO. 2018.03

A RESOLUTION AUTHORIZING THE CITY OF SUTHERLIN TO APPLY FOR LOCAL GOVERNMENT GRANT PROGRAM ASSISTANCE FROM THE OREGON PARKS AND RECREATION DEPARTMENT TO DEVELOP PROJECTS 1 & 2A (POND PERIMETER PATH, SOUTHEAST COMMUNITY PARK - PHASE 1 OF 3) AND DELEGATING AUTHORITY TO THE CITY MANAGER TO SIGN THE APPLICATION.

WHEREAS, the Oregon Parks and Recreation Department is accepting applications for the Local Government Grant Program; and

WHEREAS, the City of Sutherlin desires to participate in this grant program to the greatest extent possible as a means of providing needed park and recreation improvements and enhancements; and

WHEREAS, the Sutherlin City Council has identified improvements at Ford's Pond Community Park as a high priority need in Sutherlin; and

WHEREAS, Project 1 involves the construction of a fully accessible 10-foot wide paved path extending around the perimeter of Ford's Pond. The path will be constructed of pervious asphalt with a crushed rock base. The primary use is by walkers, bicyclists, and joggers. The path is predominately on-grade; however, sections are slightly elevated to be above seasonal inundation levels. The path is approximately 1.7 miles in total length. Project 2A is within the larger project area and is located in the southeast corner of the site, abutting Church Road and residential neighborhoods to the east. The project site is composed of 3 terraces; an upper terrace that is a few feet below the elevation of Church Road; a middle terrace; and a lower terrace that is approximately 5-10 feet above the pond elevation. There is approximately 10-15 feet of grade change between the upper, middle, and lower terraces, respectively. The project involves the construction of a new access drive extending from Church Road and the parking area. The parking area includes short-term vehicle parking with views of Ford's Pond, a few larger vehicle or bus parking spaces, a turnaround, food cart or vendor staging area, restrooms and standard vehicle parking. The park is connected to the upper terrace by stairs and two accessible paths. Accessible paths extend to the north and south, to the lower terrace, providing access to the Pond Perimeter Path; and

WHEREAS, The City of Sutherlin recognizes the unique value of the Ford's Pond site, both as a natural and community asset. The Pond Perimeter Path and Southeast Community Park will meet community assessed needs and protect the natural environment. Program elements include protecting and restoring natural resources, providing public access, appropriate infrastructure such as restrooms and parking, trails, signage, education and disabled access to recreation in the park. Ford's Pond has a rich natural history that is highly visible on-site and from the stunning views from around the pond. The position of the property and connections into the community provide unique opportunities for public access and education. This project establishes the shared vision for potential and possibilities of developing Ford's Pond as a place where residents

and visitors can enjoy healthy, outdoor activities and serve as a demonstration of what citizens and small cities can achieve by working in partnership.

WHEREAS, the City of Sutherlin, in partnership with the Friends of Ford's Pond (cash match anticipated to be \$341,000, prior to the grant award in September 2018), has available local matching funds to fulfill its share of obligation related to this grant application should the grant funds be awarded; and in accordance to the Matching Requirement definition in Section 1.7 D of the OPRD LGGP Manual: The Project Sponsor match may include local budgeted funds, local agency labor or equipment, federal revenue sharing, other eligible grants, donated funds, the value of private donated property, equipment, materials, labor, the value of land acquired within the past six year period, cost of appraisals and pre-agreement planning costs, or any combination thereof.

WHEREAS, the City of Sutherlin has been estimated that annual maintenance costs will be \$15,100 and we will dedicate adequate funding for on-going operations and maintenance of this park and recreation facility should the grant funds be awarded; and

NOW, THEREFORE, BE IT RESOLVED by the Sutherlin City Council as follows:

Section 1: The Sutherlin City Council demonstrates its support for the submittal of a grant application to the Oregon Parks and Recreation Department for development of Projects 1 and 2A at Ford's Pond Community Park.

Section 2: This Resolution shall be effective following its adoption by the Sutherlin City Council.

PASSED BY THE CITY COUNCIL, ON THIS 12TH DAY OF FEBRUARY, 2018

APPROVED BY THE MAYOR, ON THIS 12TH DAY OF FEBRUARY, 2018

Mayor, Todd McKnight

ATTEST:

City Recorder, Diane Harris, CMC



REPORTS



City of Sutherlin



Council Priorities Review

2016 Council Priorities

1. North Comstock - Complete
2. Mixed-Use Industrial - Complete
3. Toddler Playground - Complete
4. UGB Exchange/Expansion – Near Completion (May/June 2018)
5. Valentine Street – In Progress (Engineering Fiscal Year 2018)
6. Central Avenue TOA/TE Grant – In Progress
7. Street & Facility Maintenance Reserve Funds - Complete
8. Continued Economic Development - Ongoing

2017 Council Priorities

1. Business License & Building Safety Inspections – In Progress
2. Strengthen Building Development Code-Zone Restrictions - Complete
3. Examine SDC Rates – In Progress
4. Upgrade Fire Equipment – In Progress
5. Industrial Lands-County and City – Near Completion
6. Emergency Operations Center-Public Safety Building/City Hall – In Progress
7. Water Storage Tank Deficiency – In Progress
8. Street Management Master Plan w/Funding – After Central is Complete
9. Emergency Communications Structure – In Progress
10. Central Avenue & Downtown Improvements – In Progress
11. Wetland and Buildable Lands Inventory – In Progress
12. Continued Economic Development - Ongoing



City of Sutherlin

STAFF REPORT					
Re: System Development Charge Overview/Q & A				Meeting Date:	2/12/18
Purpose:	Action Item <input type="checkbox"/>	Workshop <input type="checkbox"/>	Report Only <input checked="" type="checkbox"/>	Discussion <input type="checkbox"/>	Update <input type="checkbox"/>
Submitted By: Jerry Gillham, City Manager & Dan Wilson, F. D.				City Manager Review	<input checked="" type="checkbox"/>
Attachments: None					

WHAT IS BEING ASKED OF COUNCIL?

This is a written overview of System Development Charges for purposes of obtaining council direction as we prepare and eventually propose the 2018-2019 FY budget. For this meeting, staff will make a short presentation on the City's current System Development Charge (SDC) profile for council's consideration as we proceed.

EXPLANATION

This written narrative will provide an overview and explanation and the generally recognized rationale for SDC's through Q & A.

1. What are SDC's?

System Development Charges are imposed by a local government within the United States on a new or proposed development project to pay for all or a portion of the costs of providing public services to the new development.

2. What are SDC's used for?

In most cases SDC's are used in new development. An example of this would be when a new neighborhood or commercial development is constructed the developer may be asked to pay the fee for new infrastructure due to the demand the new development causes. There is a clear cost of New Development in any community.

3. Rationale?

A city's infrastructure provides a given **quality of life** in a community, and new development can put strain on that infrastructure; particularly as it relates to water, sewer, Parks, and streets. The City not only needs to provide a means for getting these services to a given development but also needs to provide the capacity to meet peak demands.

Sewer lines must be of adequate size and capacity must be provided at the treatment plant to treat the wastewater. Street systems, including traffic signals and street capacity, must often be modified to address added vehicle miles traveled resulting from this new development. Parks and open spaces built into the fabric of the community must be planned for, constructed and maintained.

4. Is there a generally accepted approach a city should take?

No. Given that the impacts are real and the costs can be quantified, different cities take different approaches to paying for the impacts of new development. In some cities, the full cost of new development is born by the people and consumers already living there. In this situation utility rates are set at a level that covers the whole cost of new development. At the same time, other cities place the full cost of the new development on those creating the demand. Still other cities fall in the middle and distribute the cost to both the new development and to those who already paid into the system.

5. Does the new development create a great enough increase in property taxes to cover the costs of the impacts of this new development?

No. However, any increase in property taxes into our GF theoretically should contribute to the increased cost of providing public safety, parks and street maintenance.

6. Do SDC's prohibit economic growth?

Generally no, however, some cities that come to a comfortable point in their population and want to control growth enact exorbitant SDC's in order to limit any new development. This has warped the general perception of SDC's and the intended purpose of encouraging economic growth while sustaining the high **quality of life** of a community by asking for reasonable investments into this **quality of life** by the proposed new developer.

In 2013, the Brookings Institute conducted a multi-year study of SDC's and concluded the following:

Impact fees do not slow job growth. In this study, we find, at minimum, that impact fees are not a drag on local economies. At most, impact fees are the grease that helps sustain job growth in the local economy. While impact fees will continue to draw detractors, this paper shows that impact fees are a practical and valuable tool for financing local infrastructure needs. Without them, growing communities may not be able to sustain growth. In short, impact fees can directly fund vital infrastructure improvements, while increasing the supply of buildable land, improving predictability in the development process, and indirectly promoting local employment at the same time. Faced with the growing demand for investment and the public resistance to tax (and utility) increases, localities in growing regions that institute impact fees may become more prosperous in the long run than communities in such regions that do not have them.

7. Does the infrastructure and utility system and city services investment correlate to quality of life?

Yes. There is no debate as to whether quality city infrastructure and services serve as the foundation of community livability. This question and the following are presented here to offer a larger picture of the long-term implications of SDC policy-making.

8. If city infrastructure and system services are indeed the capstone to community quality of life and if quality of life pays a more impactful role in new development than the collection of SDC's, then shouldn't quality of life become a relevant factor in considering SDC's?

We believe so which is why this question is proposed (and emphasized) for consideration to council in any eventual direction they provide to staff for FY 2018-2019.

Consider the following observations taken from recent newspaper editorials:

- **Do SDC's play a role in quality of life of a community or take away from?**

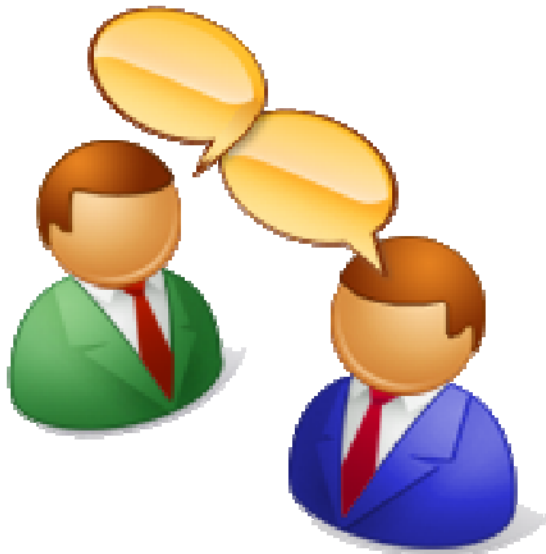
In the end, infrastructure investment in any city should be the uppermost priority in sustaining a high quality of life. There are only three ways that local government can pay for these important investments, utility rates, system development charges or taxes (same terminology: SDC and impact fee).

- **So how important is quality of life in growing a local economy?**

In any case, in a competitive world, only firms that deliver excellence as well as cost effectiveness can survive the brutal global competition. Which workers are more likely to produce excellent products, ones that demand excellence in their own communities, or ones who embrace mediocrity? How can any investor believe that residents who tolerate a run down, mediocre community for their own families to live in will suddenly start taking pride in the products coming off their employers' production lines? It makes no sense at all. Low costs, low taxes, and a business friendly environment are clearly important. However, in an era where quality global labor is available at prices no American place can match, you just can't win on low costs alone. Quality of life at almost all times is the "tie-breaker" (language added). You would think that in cities that are struggling, policy makers would go look at the places that are doing well, find out what those places are doing right and then figure out how to get started doing some of that. Sadly, not many leaders seem interested in that. In fact, many of them seem more interested in stopping anybody from doing more of what "High Quality of Life" places have already done.



COUNCIL COMMENTS





PUBLIC COMMENT





ADJOURNMENT





FOR YOUR INFORMATION





City of Sutherlin

STAFF REPORT					
Re: 2017 SDC Summary Report				Meeting Date:	02/12/18
Purpose:	Action Item <input type="checkbox"/>	Workshop <input type="checkbox"/>	Report Only <input checked="" type="checkbox"/>	Discussion <input type="checkbox"/>	Update <input type="checkbox"/>
Submitted By: Dan Wilson, Finance Director				City Manager Review	<input checked="" type="checkbox"/>
Attachments: SDC Annual Report					

WHAT IS BEING ASKED OF COUNCIL?

As this is only an informational report no action is being asked of council.

EXPLANATION

ORS 223.311 states that "The local government shall provide an annual accounting for system development charges showing the total amount of system development charge revenues collected for each system and the projects that were funded in the previous fiscal year".

The attached report is meant to satisfy the requirements of ORS 223.311.

ORS 223.229 (2) & (3) distinguishes between Improvement SDCs and Reimbursement SDCs. Currently the City of Sutherlin only charges for Improvement SDCs which are to be used for future capital improvements to the City. Reimbursement SDCs are repayments for capital improvements already completed.

OPTIONS

N/A

SUGGESTED MOTION(S)

N/A

System Development Charges

Annual Report



In accordance with ORS 223.311 the City shall provide an annual accounting of revenue collected and amount spent on each project funded in whole or in part by SDC revenue.

For FY 2016-2017 the following was recognized:

Street SDC

Improvement SDC Balance 07/01/2016:	269,473
Reimbursement SDC Balance 07/01/2016:	-
Revenue:	
Improvement SDC	43,098
Reimbursement SDC	-
Expenditures:	
Improvement SDC Projects	-
Reimbursement SDC Projects	-
Improvement balance 06/30/2017:	<u>312,571</u>
Reimbursement balance 06/30/2017:	<u>-</u>

Parks SDC

Improvement SDC Balance 07/01/2016:	13,685
Reimbursement SDC Balance 07/01/2016:	-
Revenue:	
Improvement SDC	10,000
Reimbursement SDC	-
Expenditures:	
Improvement SDC Projects	
Central Park Improvements	23,685
Reimbursement SDC Projects	-
Improvement balance 06/30/2017:	<u>-</u>
Reimbursement balance 06/30/2017:	<u>-</u>

System Development Charges

Annual Report; Continued



Water SDC

Improvement SDC Balance 07/01/2016:	30,669
Reimbursement SDC Balance 07/01/2016:	-
Revenue:	
Improvement SDC	42,027
Reimbursement SDC	-
Expenditures:	
Improvement SDC Projects	
Reimbursement SDC Projects	-
Improvement balance 06/30/2017:	<u>72,696</u>
Reimbursement balance 06/30/2017:	<u>-</u>

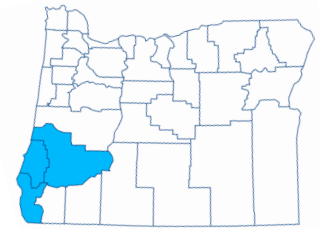
Wastewater SDC

Improvement SDC Balance 07/01/2016:	-
Reimbursement SDC Balance 07/01/2016:	-
Revenue:	
Improvement SDC	3,277
Reimbursement SDC	-
Expenditures:	
Improvement SDC Projects	
Wastewater Treatment Plant Upgrade	3,277
Reimbursement SDC Projects	-
Improvement balance 06/30/2017:	<u>-</u>
Reimbursement balance 06/30/2017:	<u>-</u>

Southwestern Oregon Economic Indicators

January 2018 (December 2017 Data)

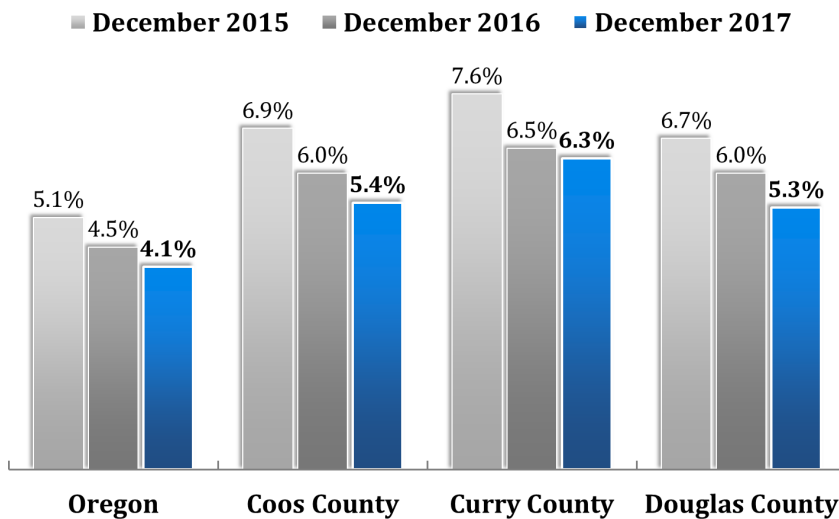
For data or publications on Southwestern Oregon, visit us at: QualityInfo.org



Local and State Unemployment Rates

(Seasonally-adjusted)

Source: Oregon Employment Department, LAUS

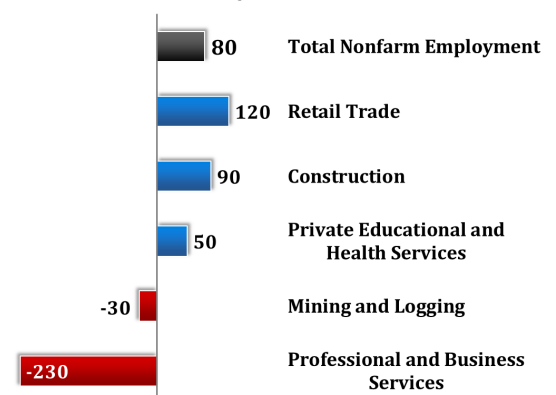


Industry Gains and Losses

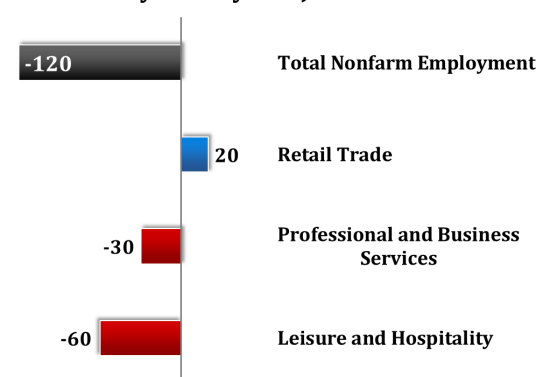
(Over-the-year net change in employment)

Source: Oregon Employment Department, CES

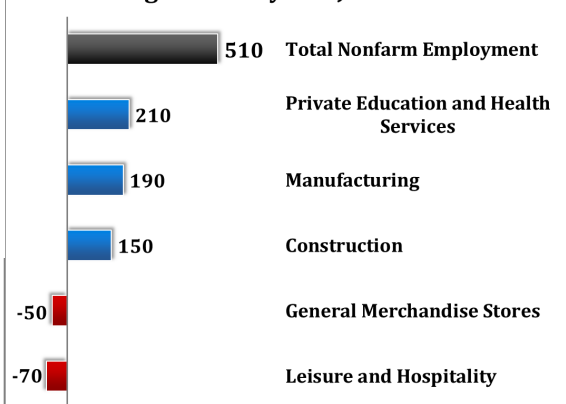
Coos County Net Job Growth



Curry County Net Job Growth



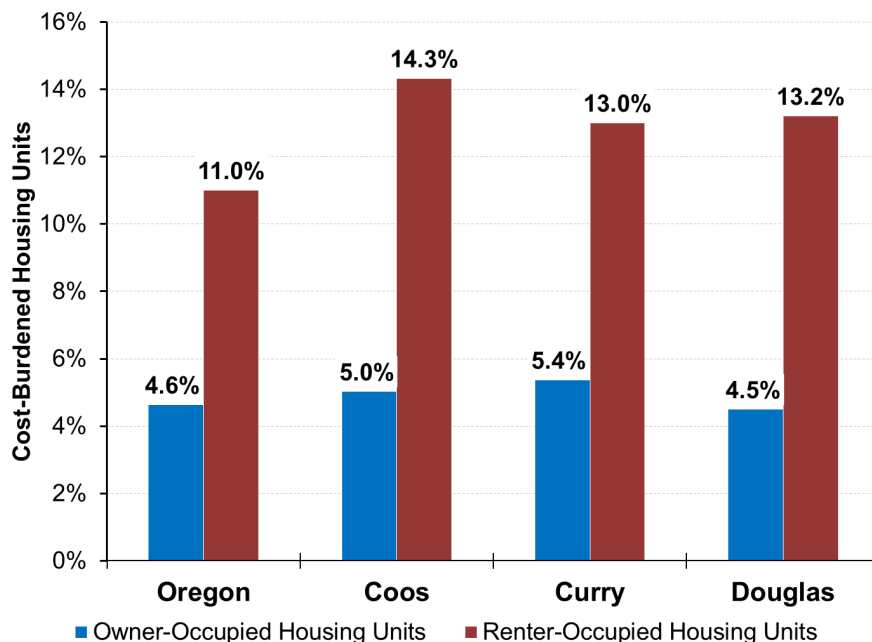
Douglas County Net Job Growth



Graph of the Month

Cost-Burdened Housing Units — Owners vs. Renters (2016)

Source: American Community Survey Table S2503, 2016 5-Year Estimates



In order to be considered cost-burdened, a household must be spending 30 percent or more of its monthly income on housing. As shown above, those who rent have a greater propensity to be cost-burdened. Low income households are also more likely to rent than own. In Southwest Oregon, more than half of renter-occupied units earned a household income of \$35,000 per year or less. Among owner-occupied housing units in Southwest Oregon, roughly one-third earned \$35,000 per year or less.

Kale Donnelly | Workforce Analyst | E-mail: Kale.Donnelly@oregon.gov | Phone: (541) 530-0605

Diane Harris

From: Diane Harris
Sent: Wednesday, February 07, 2018 9:12 AM
To: 'Ashley KQEN News (ashley@bciradio.com)'; 'DC Commissioners'; 'KUGN'; 'KYLE-KQUEN'; 'News Desk (newsdesk@nrtoday.com)'; 'Register Guard'; 'Roseburg Beacon'; 'Vera Westbrook (vwestbrook@nrtoday.com)'
Subject: Public Meeting Notice
Attachments: CC FEB 12.18 Meeting.pdf

Good morning!

Please see attached agenda for the February 12th Sutherlin City Council meeting.

Thank you,

Diane Harris, CMC
City Recorder/HR Manager
City of Sutherlin
126 E Central
Sutherlin, OR 97479
(541) 459-2856 ext 207
d.harris@ci.sutherlin.or.us