URBAN GROWTH

MANAGEMENT AGREEMENT

CITY OF ROSEBURG
AND
DOUGLAS COUNTY

REVISED 10/94

CITY OF ROSEBURG/DOUGLAS COUNTY
URBAN GROWTH MANAGEMENT AGREEMENT

AGREEMENT BETWEEN THE CITY OF ROSEBURG AND DOUGLAS COUNTY, FOR THE JOINT MANAGEMENT OF THE ROSEBURG URBAN GROWTH AREA AND FOR THE COORDINATION OF LAND USE ACTIVITY IN IDENTIFIED AREAS OF MUTUAL INTEREST.

RECITALS:

A. The City of Roseburg (City), and Douglas County (County), are authorized under the provisions of ORS 190.003 to 190.030 to enter into intergovernmental agreements for the performance of any or all functions that a party to the agreement has authority to perform; and

B. ORS 197.175, 197.190, and 197.250, require counties and cities to prepare and adopt comprehensive plans consistent with statewide planning goals, and to enact ordinances or regulations to implement the comprehensive plans; and

C. Statewide Planning Goal 14 requires that the establishment and change of urban growth boundaries shall be through a cooperative process between the city and the county; and

D. The City and the County share a common concern regarding development and use of lands within the Urban Growth Area (UGA) and other identified areas of mutual interest; and

E. The City and the County are required to have coordinated and consistent comprehensive plans which establish an Urban Growth Boundary (UGB) and a plan for the UGA; and

F. Statewide Planning Goal 2 requires the City and County to maintain a consistent and coordinated plan for the UGA and UGB when amending their respective comprehensive plans; and

G. The City and the County recognize that it is necessary to cooperate with each other to implement the City Plan for the UGA.

NOW THEREFORE, THE PARTIES DO MUTUALLY AGREE AS FOLLOWS:

1. Intent of Agreement

1.1. The City and the County hereby establish a procedure to implement the City plan for the Roseburg Urban Growth Area. The "plan for the UGA" shall consist of the Roseburg Urban Area Comprehensive Plan. For purposes of this agreement, the Roseburg Urban Growth Area (UGA) shall be defined as the unincorporated area within the Roseburg Urban Growth Boundary (UGB). The City and County Comprehensive Plans are incorporated in this agreement by reference.

1.2. The Roseburg Urban Area Comprehensive Plan (City Plan), in conjunction with this agreement, shall establish the standards and procedures for review and action on comprehensive plan amendments, land use ordinance changes, proposed land use actions, provision of services, public improvement projects, and other related matters which pertain to implementing the City Plan within the UGA.

1.3. The City shall have jurisdiction, within the UGA, to implement the City Plan using City land use ordinances in jurisdictional subarea No. 1 as delineated in Exhibit A attached hereto and incorporated herein by this reference.

1.4. The County adopts, and incorporates by reference, the current (current as of the date of this agreement) City Comprehensive Plan, as it applies to the UGA, and the current City land use ordinances and authorizes the City to administer those ordinances within jurisdictional subarea No. 1 as provided for in this agreement.

1.5 The County shall have jurisdiction, within the UGA, to implement the City Plan using County land use ordinances in jurisdictional subarea No. 2 as delineated in Exhibit A attached hereto and incorporated herein by this reference. In addition, the County shall apply the standards set forth in the attached Exhibit B, as appropriate, to all land use actions in jurisdictional subarea No.2.

1.6 It is recognized that within the UGB a variety of urban services are provided including: sanitary sewer, water, storm drainage, fire protection, parks and recreation, and transportation. Providers of such services contribute both to existing services and future development within the UGB and serve essential functions. It is intended that this agreement serve to strengthen coordination between urban service providers, the County, and the City in order to maximize efficiency of urban service delivery within the UGB.

1.7. The boundaries of jurisdictional subareas No. 1 and No. 2 may be amended as provided in Section 12 of this agreement.

1.8. All actions as specified by this agreement shall be taken to assure that the City and County comprehensive plans remain consistent and coordinated with each other.

1.9. All land within the UGB may be subject to future annexation, however, establishment of a UGB does not imply that all land within the boundary will be annexed.

1.10. This Urban Growth Management Agreement (UGMA) replaces all prior UGMA's between the City and the County.

2. Amendments to the City Plan and City Land Use Ordinances.

2.1. All City Plan text or map amendments and all City Land Use and Development Ordinance amendments, not including Zone Map amendments, affecting the UGA shall be enacted in accordance with the procedures established in this Section. This section does not apply to those areas within the city limits of Roseburg.

2.1.1. All amendments referenced in Subsection 2.1 shall be initially processed by the City. The City shall notify the County of the proposed amendment at least 20 days before the City Planning Commission's first hearing. The City Planning Commission shall consider the County's comments when making its recommendation. The City Planning Commission's recommendation shall be forwarded to the County for comments. The County may provide additional comments prior to the City Council's (Council) final decision. In making its decision, the Council shall consider the comments of the County. The City shall notify the County in writing of its decision.

2.1.2. Within 14 days of receipt of written notice of the Council's decision, the Board of Commissioners (Board) may, on its own motion, notify the City of its intent to review the Council's decision. If the Board fails to respond within 14 days, the Council's decision shall be final and take effect, for the UGA, on the 15th day.

2.1.3. If the Board reviews the Council's decision, the Board shall establish a hearing date for its review which shall be held within 30 days from the date the City is given written notice of the Board's intent to review. If the review is of a quasi-judicial proceeding, it shall be confined to arguments of those who qualified as parties in the proceedings conducted by the City and to a de novo review of the record of the proceeding before the City Council and City Planning Commission. Notice and opportunity to be heard shall be provided as if the hearing were a review of a decision of the County Planning Commission. If the review is not quasi-judicial in nature, the review shall be de novo and any person may appear and be heard. The Board shall render a decision on the review within 30 days after such hearing.

2.1.4. If the Board reviews the Council's decision, the Council's decision shall not take effect in the UGA until 31 days after the hearing by the Board unless the Board affirms the Council's decision before the 31 day period elapses. In such case the Council's decision,

if affirmed by the Board, shall take effect immediately upon the decision of the Board. If the Board reverses the Council's decision before the 31 day period elapses, the Council's decision shall not take effect in the UGA and the City may appeal such reversal to the Land Use Board of Appeals within the time period specified in ORS 197.830 and OAR 661-10-015.

2.1.5. If the Board fails to make a decision within 30 days after its the hearing, the decision of the Council shall take effect on the 31st day after the Board's hearing.

3. Review Process for Land Use Actions

3.1 Subsection 3.2. applies to the following land use actions being considered in jurisdictional subarea No.1 within the UGA:

a. Amendments to the Zoning Map
b. Conditional Use Permits
c. Planned Unit Developments
d. Subdivisions
e. Partitions
f. Road Dedications and Vacations

3.1.1 Subsection 3.4. applies to the following land use action being considered in jurisdictional subarea No. 1 within the UGA:

a. Alteration, Restoration or Repair of and continuance of a residential non-conforming use.

3.2. All applications for land use actions referenced in Subsection 3.1. shall be initially processed by the City. The City shall notify the County of each application and shall give the County 15 days to comment. Other land use actions not specifically dealt with in this UGMA shall be administered by the city without notice to Douglas County.

3.2.1. The County's failure to timely respond to the notice shall mean no comment regarding the proposal.

3.2.2. In making its decision, the City shall consider, and is obligated to respond to, as appropriate, all comments made by the County with regard to the notice. The City shall notify the County in writing of all land use decisions, as listed in Subsection 3.1., whether or not the County has commented. If a timely response is received by the City from the County, the County shall have standing to appeal decisions consistent with the appeals process specified in the City Land Use and Development Ordinance for those areas within subarea No.1.

3.3. Subsection 3.4. applies to the following land use actions being considered in jurisdictional subarea No. 2 within the UGA:

a. Amendments to the Zoning Map
b. Conditional Use Permits
c. Planned Unit Developments
d. Subdivisions
e. Partitions
f. Road Dedications and Vacations
g. Riparian Setback Variances

3.4. All applications for land use actions referenced in Subsection 3.3. and 3.1.1. shall be initially processed by the County. The County shall notify the City of each application and shall give the City 14 days to comment. Other land use actions not specifically dealt with in this UGMA shall be administered by the County without notice to the City.

3.4.1. The City's failure to timely respond to the notice shall mean no comment regarding the proposal.

3.4.2. In making its decision, the County shall consider, and is obligated to respond to, as appropriate, all comments made by the City with regard to the notice. The County shall notify the City in writing of all land use decisions, as listed in Subsection 3.3., whether or not the City has commented. If a timely response is received by the County from the City, the City shall have standing to appeal decisions consistent with the appeals process specified in the County Land Use and Development Ordinance.

4. Review Process for Other Specified Land Use Activities

4.1. The City and County shall use the following process for review and action on legislative amendments not covered under Section 2 of this agreement and public improvement projects specified below which affect land use within the UGA.

4.1.1. The County shall seek comments from the City with regard to the following items, for which the County has ultimate decision making authority, and which affect land use within the UGA.

a. Major public works projects sponsored by the County for transportation improvements.

b. Proposed plan, or plan amendments, for sewer, water, drainage, solid waste, or transportation.

c. Proposal for formation of, or changes of organization, boundary or function of special districts, as these terms are defined in ORS 198.705 to ORS 198.710.

d. Recommendations for designation of an area as a health hazard.

4.1.2. The City shall seek comments from the County with regard to the following items, for which the City has ultimate decision making authority, and which affect land use within the UGA.

a. Proposed plan, or plan amendments, for sewer, water, drainage, solid waste, or transportation.

b. Proposals for extension of any City service, utility or facility outside of the UGB.

c. Major public works projects sponsored by the City for transportation improvements.

4.2. The initiating jurisdiction shall allow the responding jurisdiction 30 days to comment with regard to the items listed in Subsections 4.1.1. and 4.1.2. Failure to timely respond to the proposal shall mean no comment.

4.3. The initiating jurisdiction shall consider and respond to the comments of the responding jurisdiction in making its decision.

5. Approvals for Structural Development (Building Permits)

5.1. Requests for authorization of structural development which can be authorized at the ministerial level, within jurisdictional subarea No. 1 of the UGA, shall be initiated at the City. Requests for authorization of structural development within jurisdictional subarea No. 2 shall be initiated at the County.

5.1.1. The City may utilize (within subarea No. 1) a discretionary structural development review process (site plan review) as required by the City's ordinance. The City may charge a fee for site plan review as provided in City Ordinances. Notice of fee changes shall be provided to the County under the process specified in Section 3 of this agreement. The City's site plan review process may impose additional conditions to approvals of structural development that are necessary to implement the City ordinances.

5.1.2. Floodplain Certifications: The County shall be responsible for authorizing floodplain certification on structural development in the UGA. Such certification shall be consistent with the County's floodplain ordinance except that the City's floor height elevation shall apply if higher than the County standard.

a. For requests initially processed by the City in jurisdictional sub area 1, the City will first review and, if appropriate, approve the land use portion

of the request. The City will then forward the request to the County and the County will review and, if appropriate, sign off the floodplain certification clearance, thereby completing the process.

5.2. The County shall have the authority for issuing permits (commonly referred to as "building permits"), as provided for by the State Building Codes Agency, within the UGA. Within Jurisdictional Sub Area No. 1 the County shall not issue "building permits" without written verification from the City that site plan review pursuant to subsection 5.1.1. has been completed.

5.2.1. County issued permits include, but are not limited to: structural, mechanical, plumbing, manufactured dwelling alterations and placement, and manufactured dwelling and recreational vehicle parks.

5.2.2. The County will not issue a temporary or final occupancy permit for any structural development which is subject to City site plan review conditions or other structural development authorization conditions until such time as the City certifies that the conditions have been fulfilled.

6. Annexations

6.1. City Annexations: The City may annex land or enter into agreements for delayed annexation in accordance with state law.

6.1.1. At least ten days prior to the City's final action, the City shall notify the County of any proposed annexation and permit the County to make comments.

6.1.2. Proposals for annexations to the City which are for areas outside the UGB shall be considered concurrently with a proposal to amend the UGB in accordance with Section two.

7. Urban Services in the UGA

7.1. The extension, development and maintenance of sewer, water and storm drainage facilities shall be consistent with the City Plan and any Urban Service Agreement that has been made for the extension, development and maintenance of these facilities.

7.2. The City shall be responsible for public facility planning within the UGA unless other arrangements are provided for in the Urban Service Agreement.

8. Coordination With Urban Service Providers

8.1. The City and County shall jointly enter into Urban Service Agreement(s) with individual Urban Service Providers operating within the UGB. The Urban Service Agreement, as used in this UGMA, is defined as an agreement that meets the statutory requirements for both a "cooperative agreement" (ORS 195.020) and an "urban service agreement" (ORS 195.065). The intent of the Urban Service Agreement is to assure effectiveness and efficiency in the delivery of urban services required by the City Plan, and to enhance coordination between the City, the County and each urban service provider (including, but not necessarily limited to, special districts as defined by ORS 450.005, county service districts as defined by ORS 451.410, authorities as defined by ORS 450.710, and corporations and associations). For purposes of this agreement, "urban services" means sanitary sewer, water, fire protection, parks, open space, recreation, and streets, roads, and mass transit. The Urban Service Agreement should at a minimum:

a. describe how the City and County will involve the Urban Service Provider in comprehensive planning, including plan amendments, periodic review and amendments to land use regulations;

b. describe the responsibilities of the Urban Service Provider in comprehensive planning, including plan amendments, periodic review and amendments to land use regulations regarding provision of urban services;

c. establish the role and responsibilities of each party to the agreement with respect to City or County approval of new development;

d. establish the role and responsibilities of the City and County with respect to Urban Service Provider interests including, where applicable, water sources, capital facilities and real property, including rights of way and easements;

e. specify whether the urban service will be provided in the future by the City, County, Urban Service Provider or a combination thereof;

f. set forth the functional role of all parties in the future provision of the urban service within the UGB;

g. determine the future service area within the UGB for each party;

h. assign responsibilities for:

   1) planning and coordinating provision of the urban service with other urban services;

   2) planning, constructing and maintaining service facilities; and,

3) managing and administering provision of services to urban users.

i. define the terms of necessary transitions in provision of the urban service, ownership of facilities, annexation of service territory, transfer of moneys or project responsibility for projects proposed on a plan of the City or Urban Service Provider prepared pursuant to ORS 223.309 and merger of service providers or other measures for enhancing the cost efficiency of providing urban services;

j. provide a process for resolving disputes between the parties; and,

k. establish a process for review and modification of the Urban Service Agreement.

8.2. Nothing in this Section shall restrict the right of the City or the County to enter into separate special purpose intergovernmental agreements with each other or with any other entity as provided for by state law. Such other agreements shall not be inconsistent with this UGMA and the Urban Service Agreement.

9. Standards For Urban Growth Boundary Streets

9.1. Standards for Construction of New Streets

9.1.1. All new streets within Jurisdictional Sub Area No. 1, which are part of a new land division or planned development, shall be constructed to City standards.

9.1.2. Within Jurisdictional Sub Area No.1, the City and County will maintain coordinated urban street construction standards for new streets that are not part of a land division or planned development.

9.1.3. All new streets within the UGB that are not part of a land division or planned development shall be constructed to coordinated urban street construction standards. The coordinated standards would apply County construction standards which would be coordinated to allow for other amenities or improvements the City may require in the future.

9.1.4. All new streets within Jurisdictional Sub Area No. 2 shall be constructed to coordinated urban street construction standards.

9.2. Existing Streets Within the UGB

9.2.1. The County shall maintain all streets that are currently included within the County road maintenance system until annexed by the City.

9.2.2. Upon annexation, the City agrees to accept, within the annexed area, jurisdiction of all streets and maintenance responsibility of the following streets in the County road maintenance system except major collectors and arterials:

AMANDA STREET # 217-D	MP 0.00 to MP 0.11
ANGELA COURT # 217-E	MP 0.00 to MP 0.09
ASTER STREET # 335-K	MP 0.00 to MP 0.13
ASTER STREET # 901-B	MP 0.13 to MP 0.19
ATKINSON COURT # 297-C	MP 0.00 to MP 0.07
BOWER STREET # 225-B	MP 0.00 to MP 0.25
BRENT COURT # 367-E	MP 0.00 to MP 0.06
CALKINS ROAD # 144	MP 0.00 to MP 0.40
CAMELIA STREET # 335-J	MP 0.00 to MP 0.18
CARMEN COURT #322-D	MP 0.00 tO MP 0.07
CHANNON AVENUE # 229-A	MP 0.00 to MP 0.18
CHINKAPIN STREET # 311-C	MP 0.00 to MP 0.03
CHINKAPIN COURT # 311-D	MP 0.00 to MP 0.05
CHRISTIE COURT # 384-A	MP 0.00 to MP 0.02
CHURCH AVENUE # 257	MP 0.00 to MP 0.13
CLOVER LANE # 294	MP 0.00 to MP 0.41
CLUB STREET # 270	MP 0.00 to MP 0.25
CORDELIA COURT # 217-F	MP 0.00 to MP 0.09
CURRIER AVENUE # 227	MP 0.00 to MP O.26
DOBIE COURT #322-C	MP 0.00 to MP 0.02
DOUGLAS AVENUE # 4-A	MP 0.00 to MP 1.31
EAST BRADLEY COURT #335-C	MP 0.00 to MP 0.06
EXCHANGE AVENUE # 171	MP 0.00 to MP 0.78
FAIRHILL DRIVE # 353	MP 0.00 to MP 0.55
FOLLETT STREET #252-G	MP 0.00 to MP 0.26
FREAR STREET # 56	MP 0.00 to MP 0.47
GARDEN STREET # 903-A	MP 0.00 to MP 0.11
GENERAL AVENUE # 225-A	MP 0.00 to MP 0.43
GRAY SQUIRREL COURT # 335-G	MP 0.00 to MP 0.09
HEWITT AVENUE # 297-A	MP 0.00 to MP 0.22
HOOKER ROAD # 171-A	MP 0.00 to MP 0.99
HOUSLEY AVENUE # 232	MP 0.00 to MP 0.22
HUGHES LOOP # 252-E	MP 0.00 to MP 0.26
HUGHES STREET # 252-F	MP 0.00 to MP 0.37
ISABELL STREET # 364	MP 0.00 to MP 0.10
JOHNSON STREET # 252-A	MP 0.00 to MP 0.19
KENDALL AVENUE # 260	MP 0.00 to MP 0.32
KERR STREET # 297-B	MP 0.00 to MP 0.22
KESTER ROAD # 86	MP 0.00 to MP 0.52
KIMBERLY COURT # 384-B	MP 0.00 to MP 0.02

KINCAID DRIVE # 4-B	MP 0.00 to MP 0.20
KIRBY AVENUE # 322-B	MP 0.00 to MP 0.35
KLINE STREET # 367-A	MP 0.00 to MP 0.47
KNOLL AVENUE # 252-B	MP 0.00 to MP 0.30
KRISTEN COURT # 217-C	MP 0.00 to MP 0.09
LA QUINTA COURT # 901-D	MP 0.00 to MP 0.07
LA QUINTA COURT # 901-D SPUR	MP 0.00 to MP 0.01
LAUREL SPRINGS DRIVE # 314-A	MP 0.00 to MP 0.08
LIVE OAK COURT # 311-B	MP 0.00 To MP 0.06
MADISON AVENUE # 229-B	MP 0.00 TO MP 0.10
MAKAH COURT # 351-C	MP 0.00 to MP 0.03
MARTHA DRIVE # 901-C	MP 0.00 to MP 0.05
MEADOW LANE # 238	MP 0.00 to MP 0.36
MEDFORD AVENUE # 139-A	MP 0.00 to MP 0.11
MERCY HILLS DRIVE # 384	MP 0.00 to MP 0.11
MILITARY AVENUE # 113	MP 0.00 to MP 0.82
MONTEREY DRIVE # 314-C	MP 0.00 to MP 0.14
NAVAJO AVENUE # 351-A	MP 0.00 to MP 0.03
NEWPORT DRIVE # 314-D	MP 0.00 to MP 0.06
NEWTON CREEK ROAD # 84	MP 0.00 to MP 1.40
NORTH RIVER DRIVE # 311-A	MP 0.00 to MP 0.71
NW WHIPPLE STREET # 903-C	MP 0.00 to MP 0.08
PAGE ROAD # 115	MP 0.00 to MP 1.35
PARKER ROAD # 322-A	MP 0.00 to MP 0.17
PAWNEE COURT # 351-B	MP 0.00 to MP 0.06
PEBBLE BEACH COURT # 901-E	MP 0.00 to MP 0.08
PEGGY AVENUE # 322-E	MP 0.00 to MP 0.10
PIONEER WAY # 115-B	MP 0.00 to MP 0.52
PLATEAU DRIVE # 327	MP 0.00 to MP 0.36
PLEASANT STREET # 242	MP 0.00 to MP 0.30
POPLAR STREET # 291	MP 0.00 to MP 0.08
PORTER STREET # 252-D	MP 0.00 to MP 0.11
RAMP ROAD # 159	MP 0.31 to MP 0.41
RIDGE AVENUE # 314-B	MP 0.00 to MP 0.04
RIFLE RANGE ROAD # 85	MP 0.23 to MP 1.13
RIVERVIEW DRIVE # 903-B	MP 0.00 to MP 0.08
SHAKEMILL ROAD # 166-A	MP 0.00 to MP 0.61
SIDNEY DRIVE # 335-B	MP 0.00 to MP 0.07
SLOPE STREET # 280	MP 0.00 to MP 0.10
SONGBIRD COURT #284-A	MP 0.00 to MP 0.07
STRAUSS AVENUE # 901-A	MP 0.00 to MP 0.15
STRAUSS AVENUE # 901-A	MP 0.59 to MP 0.72
STERLING DRIVE # 222	MP 0.00 to MP 0.16
SUNSHINE ROAD # 58	MP 0.00 to MP 0.60

SWEETBRIAR AVENUE # 225-C	MP 0.00 to MP 0.13
TAFT DRIVE # 335-A	MP 0.00 to MP 0.25
TEMPLE BROWN ROAD # 137	MP 0.00 to MP 0.30
THORA CIRCLE DRIVE # 336-E	MP 0.00 to MP 0.62
TIMBO DRIVE # 335-H	MP 0.00 to MP 0.05
TROOST STREET # 273	MP 0.75 to MP 0.94
TRUST AVENUE # 362	MP 0.00 to MP 0.12
UMPQUA COLLEGE ROAD # 284	MP 0.00 to MP 1.19
VINE STREET # 252-C	MP 0.00 to MP 0.11
WALDON AVENUE # 259	MP 0.00 to MP 0.22
WALTER COURT # 217-B	MP 0.00 to MP 0.02
WALKER COURT # 297-D	MP 0.00 to MP 0.08
WEST BRADLEY COURT # 335-D	MP 0.00 to MP 0.09
WEYERHAEUSER DRIVE # 902	MP 0.00 to MP 0.24
WILD FERN DRIVE # 335-F	MP 0.00 to MP 0.50
WILSON COLLINS ROAD # 139	MP 0.00 to MP 0.10
WOODWILLOW DRIVE # 367-B	MP 0.00 to MP 0.26
WOODROSE LANE # 367-C	MP 0.00 to MP 0.02
WOODOAK DRIVE # 367-D	MP 0.00 to MP 0.11

9.2.3. The County shall continue to be responsible for the maintenance of all major collectors and arterials that are currently included within the County road maintinence system unless otherwise agreed to by the City and County.

10. Areas of Mutual Interest

10.1. The City and County agree to establish the Charter Oaks Area as an Area of Mutual Interest outside the UGB for the purpose of establishing a process for the provision of urban services and future urbanization. The Charter Oaks Area is delineated in Exhibit C and is attached to this agreement.

10.2. The County shall give the City 14 days advance notice to review and comment on the following activities which apply to the Area of Mutual Interest located outside the UGB:

a. Comprehensive Plan Amendments
b. Zoning Map Amendments
c. Planned Unit Developments
d. Subdivisions
e. Formation of, or changes of boundary or function of, urban service providers
f. Major public works projects

10.2.1. The City's failure to timely respond to the notice shall mean no comment regarding the proposal.

10.2.2. In making its decision, the County shall consider, and is obligated to respond to, as appropriate, all comments made by the City with regard to the notice. The County shall notify the City in writing of all land use decisions, as listed in Subsection 10.2., whether or not the City has commented. If a timely response is received by the County from the City, the City shall have standing to appeal decisions consistent with the appeals process specified in the County Land Use and Development Ordinance.

10.3. The City and County agree to establish The Roseburg Regional Airport as an Area of Mutual Interest inside the City Limits for the purpose of establishing a process for coordination and comment on land use in the airport vicinity. The Roseburg Regional Airport is delineated in Exhibit D and is attached to this agreement.

10.4. The City shall give the County 14 days advance notice to review and comment on the following activities which apply to the Areas of Mutual Interest inside the City Limits:

a. Comprehensive Plan Amendments
b. Major public works projects
c. Zoning Map Amendments
d. Planned Unit Developments
e. Subdivisions
f. Road Dedications and vacations

10.4.1. The County's failure to timely respond to the notice shall mean no comment regarding the proposal.

10.4.2. In making its decision, the City shall consider, and is obligated to respond to, as appropriate, all comments made by the County with regard to the notice. The City shall notify the County in writing of all land use decisions, as listed in Subsection 11.3., whether or not the County has commented. If a timely response is received by the City from the County, the County shall have standing to appeal decisions consistent with the appeals process specified in the City land use ordinances or codes.

11. Enforcement

11.1. Within jurisdictional subarea No. 1, the City shall be responsible for enforcement of City Land Use and Development Ordinance and optional codes not administered by Douglas County, and shall have the exclusive right to decide whether to proceed with any enforcement actions. City enforcement actions shall be taken in accordance with the enforcement provisions of the City ordinances.

11.2. Within jurisdictional subarea No. 2, the County shall be responsible for enforcement of County land use ordinances, and shall have the exclusive right to decide whether to proceed with any enforcement actions. All County enforcement actions shall be taken in accordance with the enforcement provisions of the County Land Use and Development Ordinance.

11.3. The County shall have the authority, within the UGA, for enforcement of State building codes as specified in Section 5.2. of this agreement.

12. Amendment and Termination

12.1. This agreement may be amended at any time by mutual consent of the parties, after public hearings and adoption by both the City Council and County Board of Commissioners.

12.2. This agreement may be terminated by either party under the following procedure:

a. A public hearing shall be called by the party considering termination. The party shall give the other party notice of hearing at least 60 days prior to the scheduled hearing date. The 60 day period shall be used by both parties to seek resolution of differences.

b. Final action on termination shall not be taken until at least 90 days after the final public hearing.

This Urban Growth Management Agreement is signed and executed by:

CITY OF ROSEBURG, OREGON

Jeri Kimmel

Jeri Kimmel, Mayor

Randy Wetmore

Randy Wetmore, City Manager

Attest:

Sheila R. Tauchen

City Recorder

10/12/94

Date

BOARD OF COUNTY COMMISSIONERS
OF DOUGLAS COUNTY, OREGON

Doug Robertson, Chairman

Doris Wadsworth, Commissioner

Joyce Morgan, Commissioner

October 12, 1994

Date

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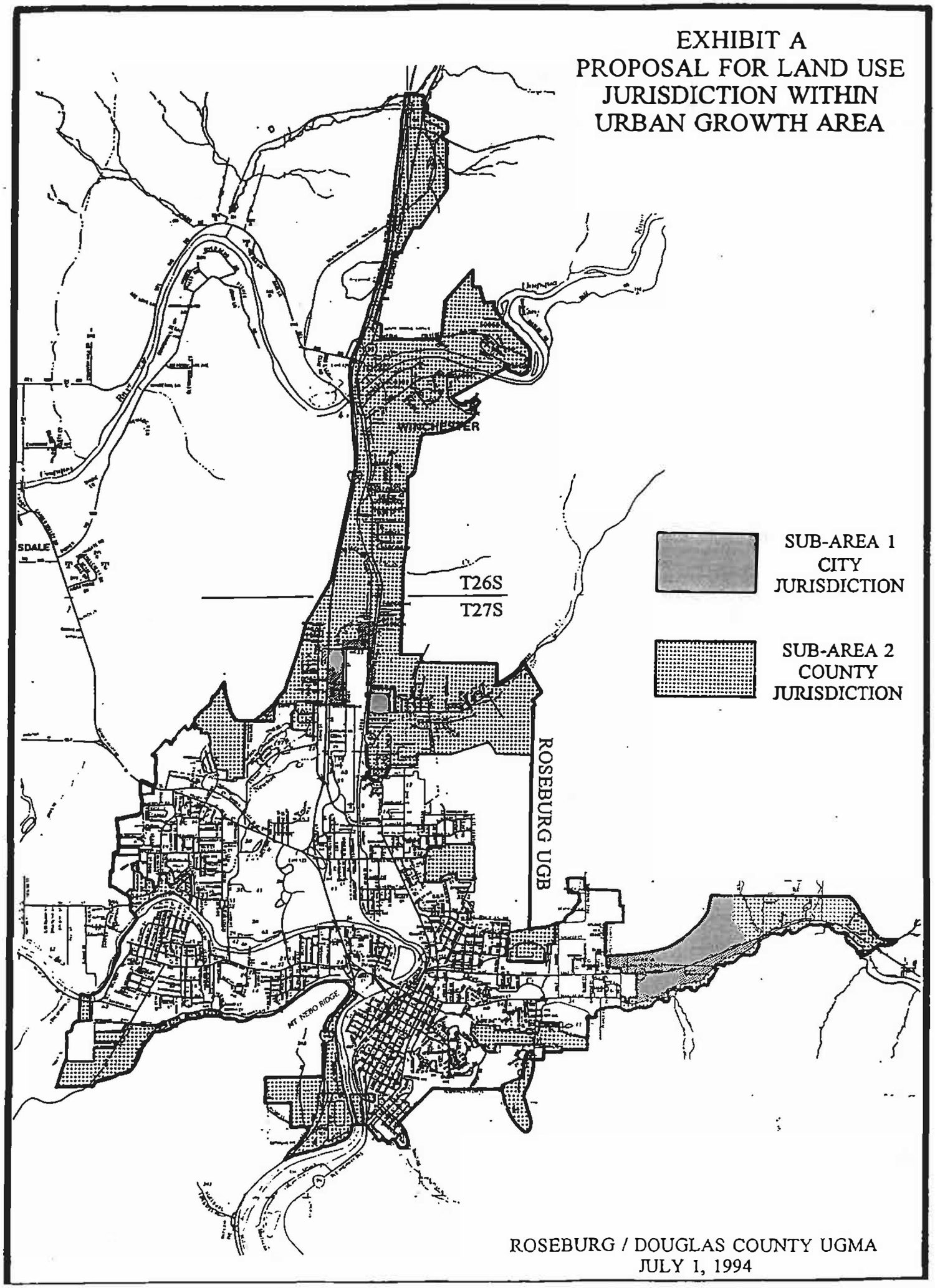
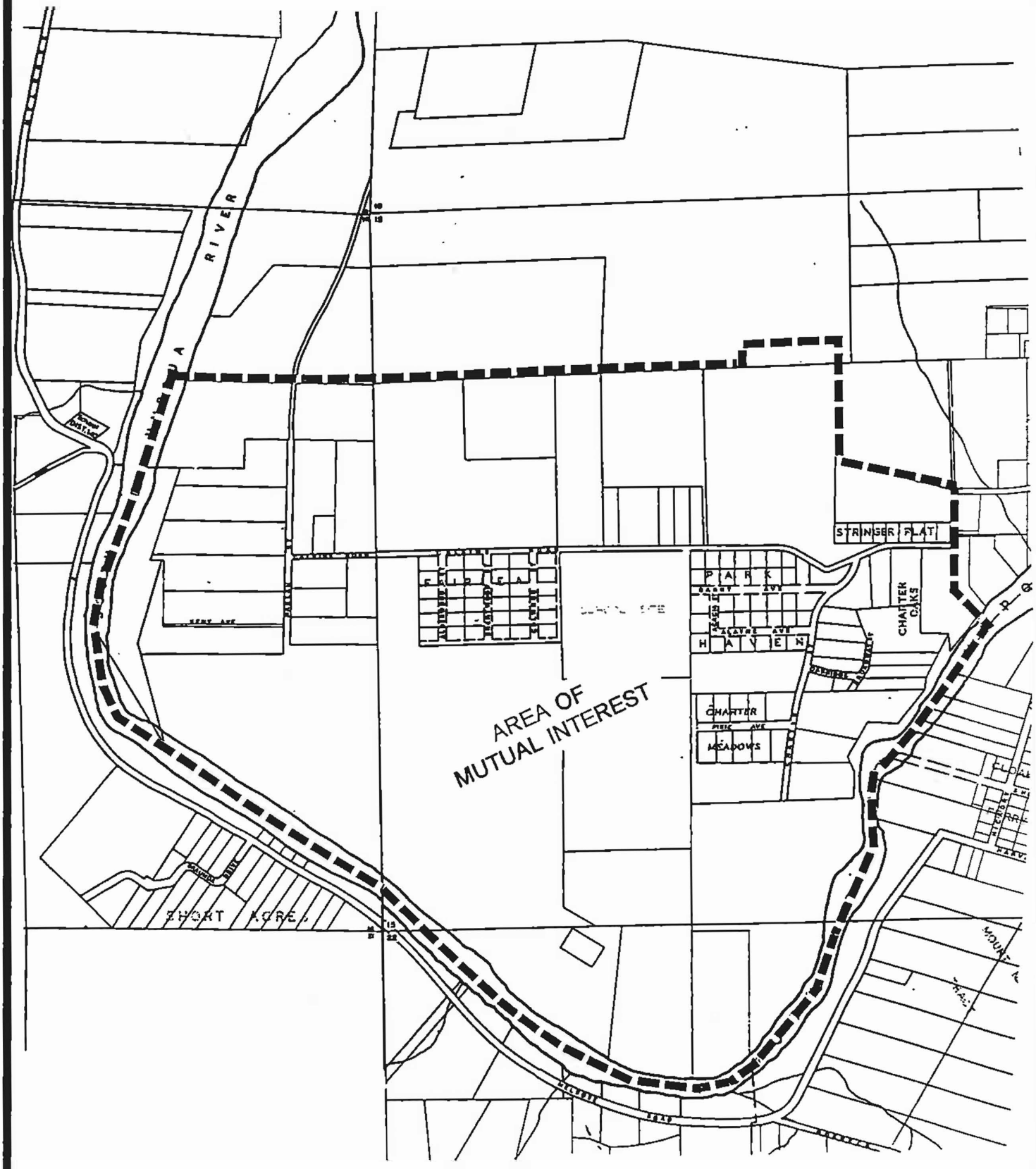
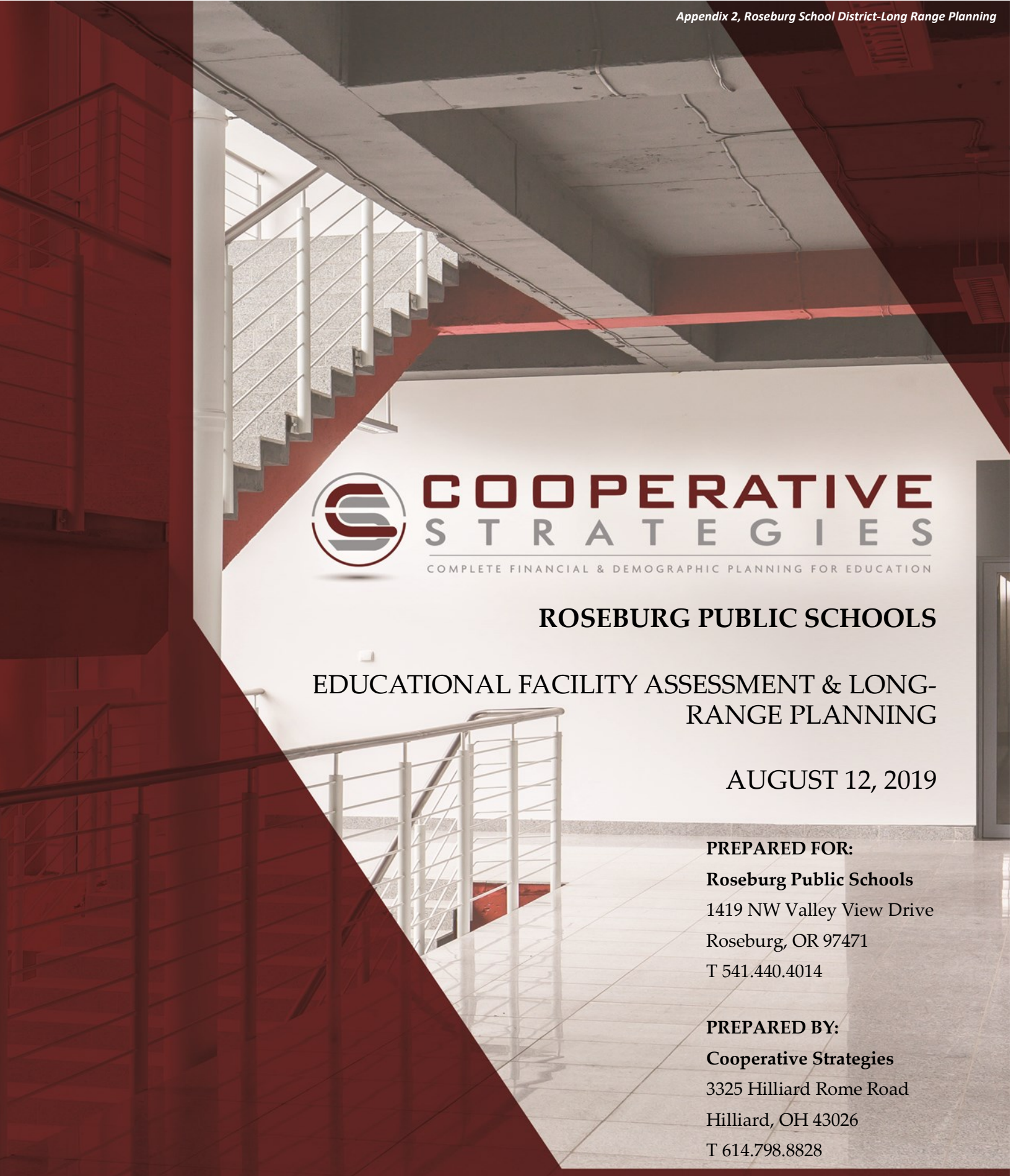


EXHIBIT A
PROPOSAL FOR LAND USE
JURISDICTION WITHIN
URBAN GROWTH AREA
SUB-AREA 1
CITY
JURISDICTION
SUB-AREA 2
COUNTY
JURISDICTION
T26S
T27S
ROSEBURG UGB
SDALE
MT NEBO RIDGE
ROSEBURG / DOUGLAS COUNTY UGMA
JULY 1, 1994

EXHIBIT C
CHARTER OAKS AREA
OF MUTUAL INTEREST



ROSEBURG / DOUGLAS COUNTY UGMA
10/18/93



COOPERATIVE STRATEGIES

COMPLETE FINANCIAL & DEMOGRAPHIC PLANNING FOR EDUCATION

ROSEBURG PUBLIC SCHOOLS

EDUCATIONAL FACILITY ASSESSMENT & LONG-RANGE PLANNING

AUGUST 12, 2019

PREPARED FOR:
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ACKNOWLEDGMENTS

Cooperative Strategies extends our appreciation to Roseburg Public Schools for commissioning these assessments and long-range plan and for its cooperation to make this possible. We also thank the following groups.

School Board

Joseph Garcia, Chairman

Steve Patterson, Vice Chairman

Micki Hall

Rev. Howard Johnson

Rodney Cotton

Charles F. Lee

Rebecca Larson

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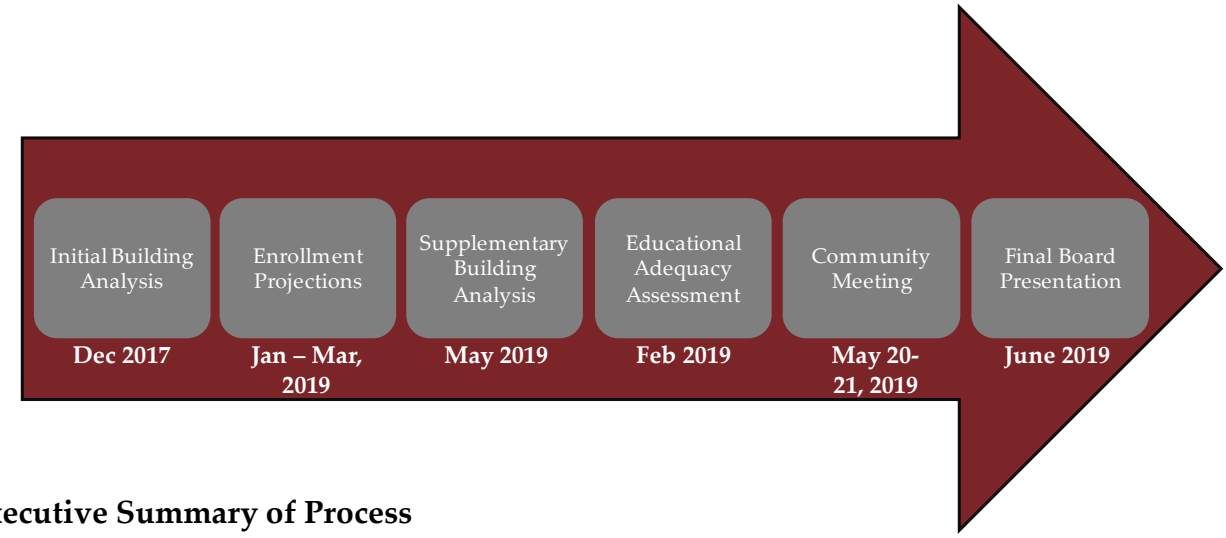
EXECUTIVE SUMMARY RECOMMENDATIONS



Executive Summary of Process

I. Building Analysis

Cooperative Strategies assessed six of the Roseburg Public Schools' facilities in accordance with OAR 851-027-0035, utilizing the Oregon Department of Education "TAP" assessment workbook. The facilities assessed included: Eastwood Elementary School, Fir Grove Elementary, Winchester Elementary School, Melrose Elementary School, Joseph Lane Middle School, and John C Freemont Middle School. The initial assessments took place in December of 2017. The assessments were updated in 2018 and Melrose Elementary School was assessed in May of 2019. Initial findings were presented to groups of stakeholders during the month of June 2019.

The assessments included an evaluation of the physical school building systems, as identified with Uniformat level III. This non-destructive assessment evaluated such major building systems as: foundations, roofing, flooring, doors, windows, walls, electrical, HVAC, plumbing, fire protection, communication systems, furniture, fixtures, and equipment. The facility site was also assessed to identify the condition of: school site roadways, parking lots, pedestrian walkways, fencing, site lighting, and utilities.

In addition to the physical condition assessments, a school safety audit and ADA assessment were performed. The safety audit focused on if there were clearly defined drop-off / pick-up areas, appropriate levels of lighting and clear lines of sight for administration to monitor main entrances to

the buildings. The ADA assessment focused on ADA accessibility into the school, as well as ADA compliance throughout the facility. All issues were clearly identified and are included in the final recommendations section of this report.

Lastly, three additional audits were conducted with district personnel; one for information technology, one for harmful substances, and one for indoor air quality. The information technology assessment focused on connectivity speed, wireless coverage, access control, video surveillance and central communications systems. The harmful substance audit identified whether the facility had been tested for lead, asbestos, mold, water quality, PCBs and radon; and if there was treatment or abatement plan in place to remedy any identified issues. The indoor air quality assessment focused on if the school had a HVAC preventative maintenance schedule in place, if rooms were being tested for CO2, and if there was proper ventilation throughout the facility.

II. Enrollment Projections

Cooperative Strategies developed 10-year enrollment projections for the Roseburg Public Schools using the cohort survival methodology. The cohort survival method is a popular methodology used to project K-12 enrollment. This methodology uses historical live birth data and historical student enrollment to age a known population throughout the school grades. The percentage of students who move from grade to grade, year to year (survival ratios) are analyzed to determine a projection ratio that is applied to current and future enrollment to develop the enrollment projections. The cohort survival methodology inherently considers the net effects of historical trends in migration, housing, dropouts, transfers to and from charter schools, open enrollment, and deaths. This methodology does not assume changes in policies, program offerings, or future changes in housing and migration patterns.

Roseburg Public Schools K – 12 enrollment decreased by 398 students from 2009-10 to 2018-19. Enrollment for grades K – 12 was 5,799 students in the 2018-19 school year.

A range of enrollment projections, including recommended, moderate, low, and high, were provided to the Roseburg Public Schools. The moderate projection reflects a 3 year weighted average of survival ratios. The low and high projections offer a more conservative and liberal approach surrounding the moderate projection. The recommended projection is based on a detailed analysis of survival ratios by grade, by year and reflects more recent trends in the District.

Over the next ten years, based on the recommended projection developed, K – 12 enrollment is projected to increase due to factors such as an increase in resident live birth counts; an increase in the birth to k ratio; and a gain in students at most grade levels in recent years.

There are many factors that can influence student enrollment including, but not limited to, changes or additions in program offerings, student transfer policy changes, housing activity, school voucher programs, school closures, etc. It is important to keep a close eye on these trends as they are difficult to predict and they do have an impact on projected enrollment. *A more in-depth summary of these projections is offered later in this report on page 8 and the full enrollment projections report is available in the appendix on page 1.*

III. Educational Adequacy Assessments

Principals were interviewed to determine the presence/absence of certain key systems that support teaching and learning, and the educational impact the condition or absence of those systems have. Questions asked included:

- Do all of your classrooms have doors that can lock from the inside?
- Are all of your classrooms free of ambient noise that can interfere with instruction?
- Do all of your classrooms have windows? Are they operable?
- Do all of your classrooms have dimmable lights?
- Do all of your classrooms have display technology like a projector?
- Do all of your classrooms have access to high-speed wireless internet?
- Do all of your classrooms have a telephone?
- Do your classrooms have a sufficient electrical outlets in the classroom to support your instructional model?
- Do your PreK classrooms have a restroom in the room?

Following the principal interview, CS looked specifically at science and art rooms to determine whether or not they had the HVAC, plumbing and equipment to support project-based learning in these spaces. CS assessors looked for the following:

Science:

- Fume Hoods
- Emergency power shut off
- Hard floor

- Floor drains
- Tables for student experiments
- Utility sinks

Art:

- Kiln
- Kiln room
- Hard floor
- Floor drains
- Tables for students to work on projects
- Utility Sink

The results showed that up-to-date and sufficient technology, sufficient wireless internet access, and adequate temperature regulation were consistently absent. Additionally, the principals for each school also gave "Principal Pain Points", their responses are included:

- Fullerton ES—Separate drop-off / pick up lanes—expand, decrease the number of access points—could accomplish through perimeter fencing, and Separate gym / cafeteria
- Green ES—Separate gym / cafeteria and quad buildings ~20 ft. from Carnes Road—emergency vehicles speed by—relocate
- Huecrest ES—Sperate drop-off / pick up lanes—expand
- Sunnyslope ES—N/A
- Eastwood ES—separate drop-off / pick up lanes—expand, Separate gym / cafeteria, and covered play area
- Fir Grove ES—separate drop-off / pick up lanes—expand, Separate gym / cafeteria, and Classroom addition
- Melrose ES—Separate gym /cafeteria and major septic renovation
- Winchester ES—Site drainage renovation (pond forms on the playground ~3 ft. deep)
- Jo Lane MS— N/A
- Fremont MS—separate drop-off / pick up lanes—expand
- Roseburg HS—N/A
- Rose Alt—N/A

The above list includes significant building or site condition concerns shared by administrators. While not all administrators identified such concerns, the visioning exercises identified renovation priorities impacting every school. The visioning exercises are outlined in Appendix pages 118-122 of this report, and resulted in the following educational adequacy

renovation priorities with preliminary, rough order of magnitude cost estimates:

- Add keyless (digital card) entry to some or all exterior doors, district-wide; approximately $8,500 per door
- Separate cafeterias & gyms when the site would support it. Schools identified that currently have combined gym/cafeteria with a site able to support them separated are Eastwood Elementary, Fir Grove Elementary, Fullerton Elementary, Melrose Elementary, and Green Elementary schools. To have separate areas for each it will cost approximately $6 million
- Provide dedicated Early Childhood/PreK classrooms. Schools that currently need dedicated PreK/Early Childhood classrooms and offices: Fir Grove Elementary, Fullerton Elementary, Hucrest Elementary, Melrose Elementary, and Sunnyslope Elementary schools. Eastwood Elementary School currently does not have a dedicated classroom, but one is being added in the fall. To add the 15 rooms needed, it will cost approximately $5.3 million
- Provide a sensory/cool-down room for each school. This would cost approximately $162,630 per room and there are 12 buildings in the district. In total, this would cost $1.95 million
- Need for electrical power upgrades and backup systems (generators) at each school will cost approximately $250,000 per school for a total of $3 million
- Replace the tracks at both middle schools: $330,000 each or $660,000 total
- Acquire~ 700 Chromebooks at $220 per Chromebook: $154,000
- Replace the septic system at Melrose Elementary School to update/eliminate odor: $500,000

IV. Community Engagement

A community meeting was held to share the facility scorecards, enrollment projections, and garner input on district priorities. The meeting was held the evening before the options development meeting. The meeting was only attended by a local journalist. During this meeting the results of the community survey were shared and any questions the journalist had were answered. District principals and leadership met for a full-day work session following the community meeting to review survey results and engage in a visioning workshop to create facility options.
Cooperative Strategies also created a web survey to receive community input on the District's priorities. A more detailed summary can be found on page 17 and the full report can be found in the appendix on page 27.

V. Final Board Presentation

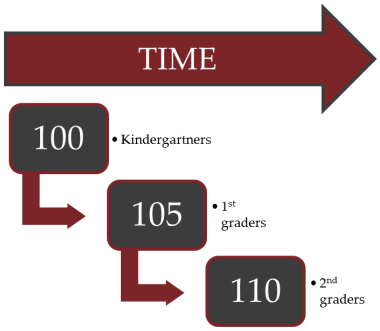
The final report was presented to the Roseburg Board of Education on June 20th, 2019. The final presentation outlined the components of the physical building assessments, the calculated enrollment projections, and the educational adequacy assessments. Cooperative Strategies outlined their recommendations, which were based on priority and available funding. The recommendations are outlined at the end of the report before the appendix.

ENROLLMENT PROJECTIONS

Cohort Survival Method

The cohort survival methodology (sometimes referred to as the grade progression ratio method) is a widely used enrollment projection model that is used by many school districts and state and federal agencies to project K-12 enrollment.

A cohort is a group of persons [in this case, students]. The cohort survival enrollment projection methodology uses historic live birth data and historic student enrollment to "age" a known population or cohort throughout the school grades. For instance, a cohort begins when a group of kindergarteners enrolls in grade K and moves to first grade the following year, second grade the next year, and so on.



A "survival ratio" is developed to track how this group of students increased or decreased in number as they moved through the grade levels. By developing survival ratios for each grade transition [i.e. 2nd to 3rd grade] over a ten year period of time, patterns emerge. A projection ratio for each grade transition is developed based on analysis of the survival ratios. The projections are used as a multiplier in determining future enrollment.

For example, if student enrollment has consistently increased from the 8th to the 9th grade over the past ten years, the survival ratio would be greater than 100% and could be multiplied by the current 8th grade to develop a projection for next year's 9th grade. This methodology can be carried through to develop ten years of projection figures. Because there is not a grade cohort to follow for students coming into kindergarten, resident live birth counts are used to develop a birth-to-kindergarten survival ratio. Babies born five years previous to the kindergarten class are compared in number, and a ratio can be developed to project future kindergarten enrollments.

The cohort survival method is useful in areas where population is stable [relatively flat, growing steadily, or declining steadily], and where there have been no significant fluctuations in enrollment, births, and housing patterns from year to year. The cohort survival methodology inherently considers the net effects of factors such as migration, housing, dropouts, transfers to and from charter schools, open enrollment, and deaths. This methodology does not assume changes in policies, program offerings, or future changes in housing and migration patterns.

ROSEBURG PUBLIC SCHOOLS
HISTORICAL ENROLLMENT

As indicated in the table below, over the past ten years, enrollment in the Roseburg Public Schools has decreased by 398 students.

Historical Enrollment - District-wide

Grade	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
K	430	435	444	467	422	432	415	430	472	463
1	464	454	458	462	461	480	438	404	444	494
2	481	462	474	467	467	483	476	453	413	464
3	455	486	472	464	462	465	477	479	439	419
4	456	452	475	457	457	446	488	476	501	455
5	473	449	447	469	446	460	456	500	491	507
6	519	482	453	438	462	450	455	456	491	499
7	506	506	468	447	441	452	434	448	472	475
8	509	511	504	463	438	443	450	429	429	454
9	500	481	496	496	454	429	438	438	441	423
10	453	479	486	477	474	427	421	425	433	396
11	482	440	487	472	455	442	383	397	415	378
12	469	500	444	464	478	478	459	423	424	372
Grand Total	**6,197**	**6,137**	**6,108**	**6,043**	**5,917**	**5,887**	**5,790**	**5,758**	**5,865**	**5,799**

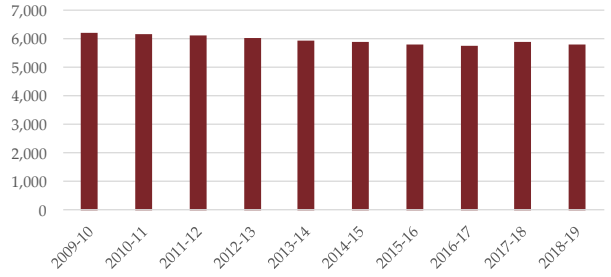
Source: Roseburg Public Schools

Historical Enrollment - District-wide

Grade	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
K - 5	2,759	2,738	2,770	2,786	2,715	2,766	2,750	2,742	2,760	2,802
6 - 8	1,534	1,499	1,425	1,348	1,341	1,345	1,339	1,333	1,392	1,428
9 - 12	1,904	1,900	1,913	1,909	1,861	1,776	1,701	1,683	1,713	1,569
Grand Total	**6,197**	**6,137**	**6,108**	**6,043**	**5,917**	**5,887**	**5,790**	**5,758**	**5,865**	**5,799**

Source: Roseburg Public Schools

HISTORICAL ENROLLMENT - DISTRICT-WIDE



The varying shades of color in the table represent significant cohort sizes. The darker blue represents smaller cohorts, while the darker red represents larger cohorts, comparatively.

RESIDENT LIVE BIRTH DATA

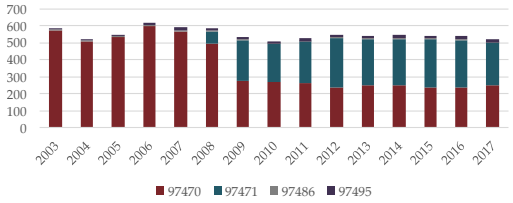
Utilization of resident live birth data is recommended when projecting future kindergarten enrollments. This data provides a helpful overall trend. Large bubbles in birth counts, either up or down, can also be planned for or anticipated by the District.

In addition, the live birth counts are used in determining a birth-to-kindergarten and birth-to-first grade survival ratio. This ratio identifies the percentage of children born in a representative area who attend kindergarten and first grade in the District five and six years later. The survival ratios for birth-to-kindergarten, birth-to-first grade, as well as grades 1-12 can be found on page 15 of the Enrollment Projection Report.

Data is arranged by the residence of the mother. For example, if a mother lives in Roseburg but delivers her baby in Portland, the birth is counted in Roseburg. Live birth counts are different from live birth rates. The live birth count is simply the actual number of live births. A birth rate is the number of births per 1,000 women in a specified population group.

The table and graph includes the resident live birth counts for zip codes 97457, 97462, 97470, 97471, 97479, 97486, and 97495. Upon analysis of the map on the following page, only live birth counts for zip codes 97470, 97471, 97486, and 97495 were used in the development of the enrollment projections.

RESIDENT LIVE BIRTH COUNTS
ROSEBURG PUBLIC SCHOOLS ZIP CODES

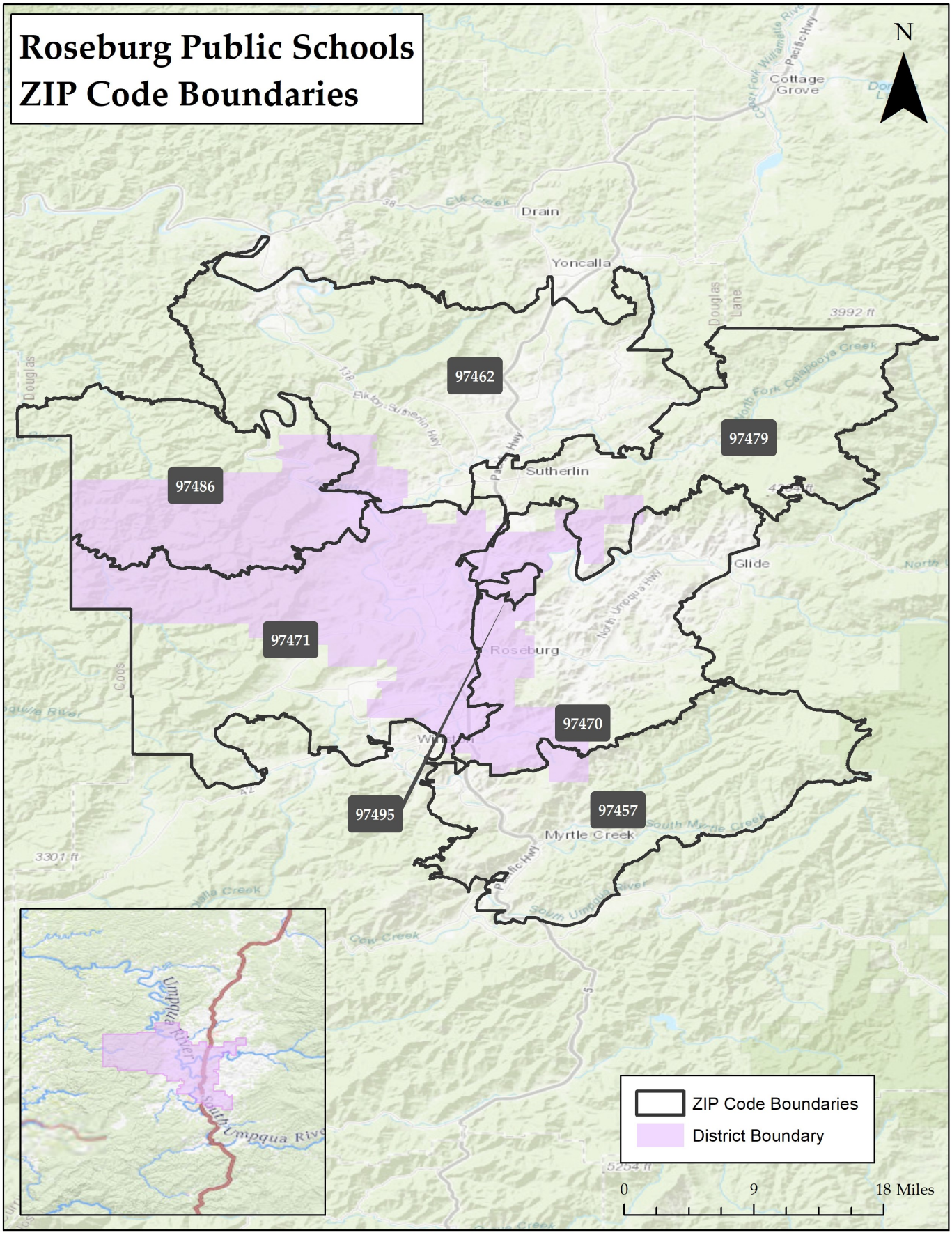


RESIDENT LIVE BIRTH COUNTS
ROSEBURG PUBLIC SCHOOLS ZIP CODES

Year	97457	97462	97470	97471	97479	97486	97495
2003	99	23	573	-	90	5	8
2004	121	34	507	-	100	6	6
2005	114	22	535	-	99	4	7
2006	110	20	598	-	111	8	14
2007	100	25	569	-	98	3	17
2008	111	28	496	73	95	6	12
2009	105	37	274	240	96	9	9
2010	117	28	269	225	101	1	13
2011	111	31	263	244	100	4	18
2012	108	27	236	290	99	7	13
2013	86	25	250	268	85	7	14
2014	128	31	250	274	99	5	19
2015	104	28	236	287	99	5	11
2016	102	28	234	283	98	4	16
2017	116	39	252	249	90	3	17

Source: Oregon Department of Health

Roseburg Public Schools
ZIP Code Boundaries



HOUSING DATA

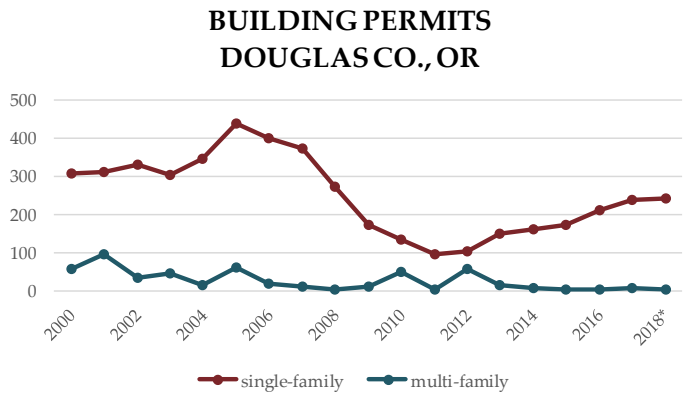
Housing development and building permits are tracked to determine their effect on student enrollment. The table and graph below illustrate the number of single- and multi-family building permits issued in Douglas County since 2000.

BUILDING PERMITS

Year	DOUGLAS CO., OR	
	single-family	multi-family
2000	305	58
2001	311	94
2002	328	32
2003	303	45
2004	346	14
2005	438	59
2006	397	18
2007	373	9
2008	272	4
2009	170	12
2010	133	48
2011	96	4
2012	102	58
2013	150	14
2014	160	6
2015	170	2
2016	211	4
2017	238	6
2018*	242	4

Source: SOCDS Building Permits Database

*preliminary through October 2018



Based on information provided by the City of Roseburg the following subdivisions are currently under construction or planned to be platted in the next year:

Active/Under Construction:

- Woodside Village —5 total lots; 4 lots available
- Obrien Heights—26 total lots; 22 lots available
- Crystal Vista—18 total lots; 11 lots available

Planned:

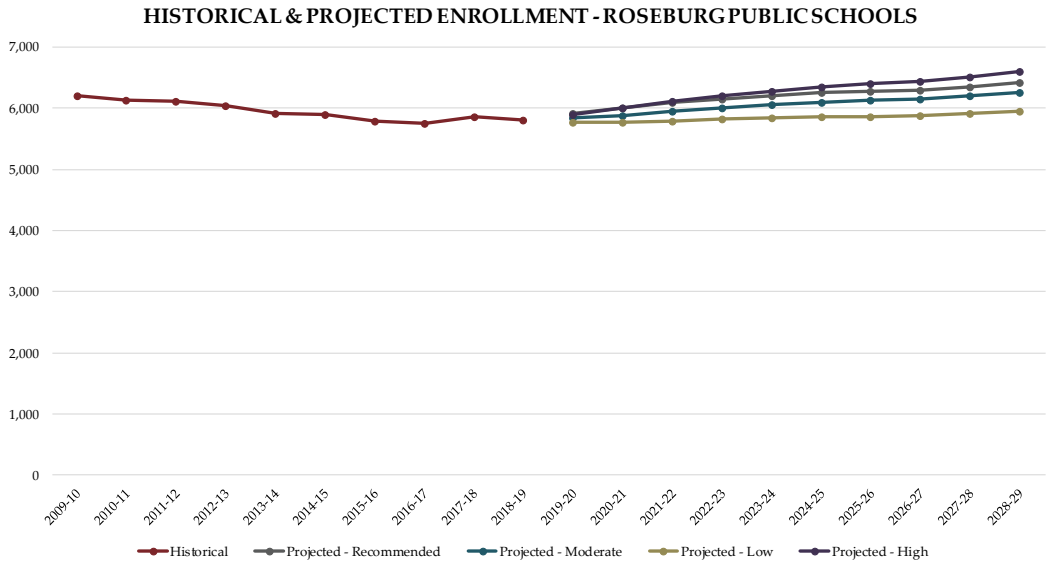
- Townsend Lane—38 total lots to begin Summer 2019
- Oregano—7 total lots to begin Summer 2019

PROJECTED ENROLLMENT

Cooperative Strategies developed low, moderate, high, and recommended enrollment projections for the Roseburg Public Schools. The moderate enrollment projections are based on a selected average or weighted average of survival ratios (in this case, a 3 year weighted average). The low and high enrollment projections are developed using statistical distributional theory, providing the District with a more conservative (low) and more liberal (high) enrollment projection. The recommended enrollment projection is based on a detailed analysis of historical enrollment and resulting survival ratios over the past 10 years. Significant shifts in survival ratio patterns are realized and accounted for in determining projection ratios independently for each grade level. The recommended illustrates the most likely direction of the District based on more recent trends.

The range of enrollment projections from low (conservative) to high (liberal) are offered due to the limitations of the cohort survival method in factoring changes to policies, program offerings, and future changes in housing and migration patterns. For example, the low enrollment projection might be used if housing declines significantly more than anticipated; the high enrollment projection might be used if housing growth increases at a more rapid rate than seen in recent years.

It should be noted that actual live birth counts are available through 2017 and project kindergarten enrollment through 2022-23. To project kindergarten through 2028-29, an average of the last 3 years of live birth counts was used.



ROSEBURG PUBLIC SCHOOLS

PROJECTED ENROLLMENT—RECOMMENDED

Based on the recommended projected enrollment, the student enrollment in the Roseburg Public Schools is projected to increase from 5,799 in 2018-19 to 6,416 students in 2028-29.

Projected Enrollment - Recommended - District-wide

Grade	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
K	470	463	461	447	457	457	457	457	457	457
1	482	490	482	480	466	476	476	476	476	476
2	511	499	507	498	497	482	492	492	492	492
3	467	514	502	510	502	500	485	495	495	495
4	434	484	533	520	529	520	518	503	513	513
5	464	443	493	543	530	539	530	528	512	523
6	512	468	447	498	549	535	544	535	533	517
7	489	502	459	438	488	538	525	533	524	522
8	463	477	489	447	427	476	524	512	520	511
9	449	458	471	483	442	422	470	518	505	513
10	407	432	441	454	465	425	406	453	499	487
11	376	386	410	418	430	441	403	385	429	473
12	385	383	394	417	426	438	450	411	392	437
Grand Total	**5,909**	**5,999**	**6,089**	**6,153**	**6,208**	**6,249**	**6,280**	**6,298**	**6,347**	**6,416**

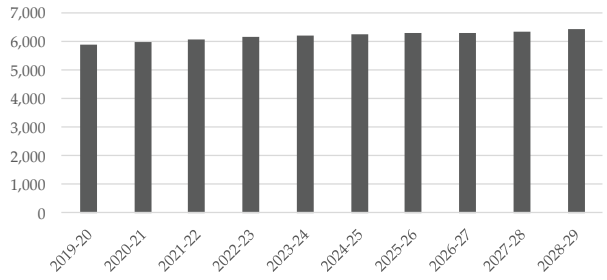
Source: Cooperative Strategies

Projected Enrollment - Recommended - District-wide

Grade	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
K - 5	2,828	2,893	2,978	2,998	2,981	2,974	2,958	2,951	2,945	2,956
6 - 8	1,464	1,447	1,395	1,383	1,464	1,549	1,593	1,580	1,577	1,550
9 - 12	1,617	1,659	1,716	1,772	1,763	1,726	1,729	1,767	1,825	1,910
Grand Total	**5,909**	**5,999**	**6,089**	**6,153**	**6,208**	**6,249**	**6,280**	**6,298**	**6,347**	**6,416**

Source: Cooperative Strategies

PROJECTED ENROLLMENT - RECOMMENDED - DISTRICT-WIDE



The varying shades of color in the table represent significant cohort sizes. The darker blue represents smaller cohorts, while the darker red represents larger cohorts, comparatively.

COMMUNITY MEETING, LOCAL MUNICIPAL COLLABORATION, AND ONLINE QUESTIONNAIRE RESULTS SUMMARY

On Tuesday, March 20th, a community meeting was held to share the information that was collected during the assessments and garner input on District priorities. The community meeting consisted of administrators, board members, and one local journalist. Community members were encouraged to attend. Cooperative Strategies created a web survey, using Survey Monkey, to receive community inputs on the District's priorities and allow the community members to bring forth any additional concerns not addressed in the survey. The survey was open May 7th—May 20th. The list of questions asked, and possible responses to them, are included on page 18. A survey results report can be found in the appendix as well as the answers to all open-ended responses.

The meeting was run by Cooperative Strategies' David Sturtz. During the meeting, David presented the results of the community web survey and answered any questions that were brought up. Due to the lack of attendance at the meeting, the meeting somewhat transformed into an options development meeting. All the principals participated in this options development meeting, which gave insight into possible options for the District to consider. District principals and leadership met for six hours to create a vision for the capital investments in their schools (see appendix, page 123 for details). Visioning began by discussing the economy students currently face upon graduation and the skill sets needed to find success in this economy. Additionally, principals discussed the role of the teacher in modern schooling and the essential components of meaningful instructional practices. Principals and leadership focused on the imperative of building positive relationships with students as a means to guide them to educational success. Participants then practically defined capital investments that they believed would help foster these relationships and provide clean, safe and comprehensive instructional spaces. Example outputs include offices for support staff and Special Education, separate gyms and cafeterias for elementary students, power upgrades among others.

Cooperative Strategies also reached out to the planning department with the city of Roseburg to outline the proposed plans and request any collaboration to determine if there was a duplication of work, pursuant to ORS 195.110. The response was that the proposed plans are not duplicative of the recommendation, but would require some collaboration. For example, Umpqua Community college is looking to replace their grass baseball field, that Roseburg High School uses, with a turf one. As of

June, 2019, UCC is planning to utilize the field with the high school team, but further communication between the two parties should take pace to facilitate scheduling and such. The city is also working on several other projects including: Housing Needs Analysis, Buildable Land Inventory, Urban Growth Boundary Swap, Road improvements along NE Douglas Ave., Exit 124 improvements, and a Roseburg Bottleneck Corridor Study. Although these projects may not be directly impacting the recommendation provided, they should be monitored to prevent any future duplication .

Cooperative Strategies found that one of the Roseburg school district facilities listed as a historical sites. The historical site was the Melrose school site located at 2960 Melrose Rd. This was done by investigating the registry lists on the National Historic Register, State Historical Preservation Office, and the Douglas historic building registry.

Following are the unedited narrative responses to the web survey.

Q1: Under what conditions would you support rebuilding a school versus repairing it? Check all the apply.

1. *Repair would cost 50% or greater of new construction*
2. *It would allow for a greater educational experience*
3. *Other (please specify)*

Q2: Which areas do you believe our schools require the most improvements? (Highest need for improvement, Needs improvement, No Opinion, No Need for Improvement)

1. *Safety/Security*
2. *Update/Modernization*
3. *Athletics*
4. *Career and Technical*
5. *Visual and Preforming Arts*

Q3: In your opinion, what is a desirable class size for a typical classroom in each grade level. Class size is often determined by considering the available space, the need for personalized instruction, group instruction, and group instruction and school budgets. Current standard class sizes for general instruction are 24 for ES, 22 for MS, and 22 for HS.

-Please see results in appendix.

Q4: Rate your level of support for building or renovating one overflow classroom for each elementary school.

1. *Strongly Agree*
2. *Agree*
3. *Disagree*
4. *Strongly Disagree*
5. *No Opinion*

Q5: If the overflow rooms were built in the elementary school, would you support the classrooms being built as science or art rooms? This would allow the spaces to be used even if the school was not at capacity.

1. *Yes*
2. *No*

Q6: Open Ended Question: Please describe any other facility needs at the elementary school leave that were not addressed in this survey.

-See responses in appendix

Q7: Open Ended Question: Please describe any other facility needs at the middle school level that were not address in this survey.

-See responses in appendix

Q8: Open Ended Question: Please describe any other facility needs at the high school level that were not addressed in this survey.

-See responses in appendix

FACILITY RECOMENDAIONS

In addition to the $36.9M in identified condition needs, and $17.5+M in educational adequacy improvements, Roseburg Public Schools recognizes the need to look ahead to future building replacements. The current portfolio of schools is aging and many facilities will undoubtedly require replacements in the coming decade or two. The District operates over 800,000 square feet of facilities with average original construction in the 1950s. Cooperative Strategies recommends the Roseburg Board and Superintendent engage in further conversations with school and community stakeholders to determine a vision for future school replacements. Based on input from the principals during options development, CS recommends these conversations specifically include examination of the benefits and challenges of moving to a K-8 grade configuration. For example, the district could consider a long-term strategy to replace the current eight elementary schools and two middle schools with five-six K-8 schools. These schools could be created through a combination of new construction and/or renovations to existing sites. Furthermore, CS recommends the District aim to decide on a direction for future school configurations, at least broadly, by December 2019 (see slide 17 of the Board presentation in the appendix, page 130). Since the District is considering calling a bond election in the fall of 2020, having a direction for future school construction and configuration can help ensure near-term capital investments align with long-term strategy.

School	GSF	Est. Replacement Costs	Est. Repair Costs	FCI	Class-rooms	Est. Program Capacity	2013-14 enroll	2017-18 enroll	Growth/ Decline	Current Utilization
Fullerton ES	44,811	$ 18,706,352	$ 3,262,364	17%	22	502	329	367	12%	73%
Green ES	33,933	$ 14,190,378	$ 1,817,994	13%	22	502	309	250	-19%	50%
Hucrest ES	46,790	$ 19,532,486	$ 2,796,477	14%	21	479	413	426	3%	89%
Sunnyslope ES	46,970	$ 19,607,627	$ 1,213,330	6%	18	410	282	274	-3%	67%
Eastwood ES	38,000	$ 15,863,100	$ 1,439,896	9%	22	502	451	411	-9%	82%
Fir Grove ES	30,690	$ 12,811,541	$ 1,096,561	9%	15	342	290	320	10%	94%
Melrose ES	32,500	$ 13,567,125	$ 1,146,653	8%	18	410	289	348	20%	85%
Winchester ES	43,454	$ 18,139,872	$ 1,812,807	10%	25	570	350	360	3%	63%
ES TOTALS	**317,148**	**132,418,480**	**14,586,084**	**11%**	**163**	**3716**	**2713**	**2756**	**2%**	
Jo Lane MS	98,504	$ 43,363,431	$ 3,273,536	8%	40	748	664	646	-3%	86%
Fremont MS	102,736	$ 45,226,442	$ 3,504,926	8%	37	692	668	730	9%	106%
MS TOTALS	**201,240**	**88,589,873**	**6,778,462**	**8%**	**77**	**1440**	**1332**	**1376**	**3%**	
Roseburg HS	292,347	$ 137,572,651	$ 13,184,199	10%		2000	1772	1576	-11%	79%
Rose Alt	32,750	$ 15,411,495	$ 2,379,046	15%				36		
District Total	**843,485**	**373,992,499**	**36,927,792**	**10%**		**7,156**	**5,817**	**5,744**	**-1%**	**80%**

In total, the recommendations educational adequacy enhancements sum to $17,564,000 (plus keyless locks), and condition assessments total $36,927,792, for a total rough order of magnitude cost of $54,671,792. CS recommends that the Roseburg School District administration and board review, prioritize and confirm the desired capital investments in their schools from those identified in this Facilities Master Plan. Additionally, CS recommends that the Roseburg School District administration and board begin focused discussions with community and school stakeholders about the future vision for school replacements. The age of current facilities, flat enrollment and current underutilization at some schools present opportunities to gain operational efficiencies in future construction, supporting educational and financial goals. The following is a recommended timeline for the board and administration to consider when pursuing these conversations and a potential future bond measure.

Appendix

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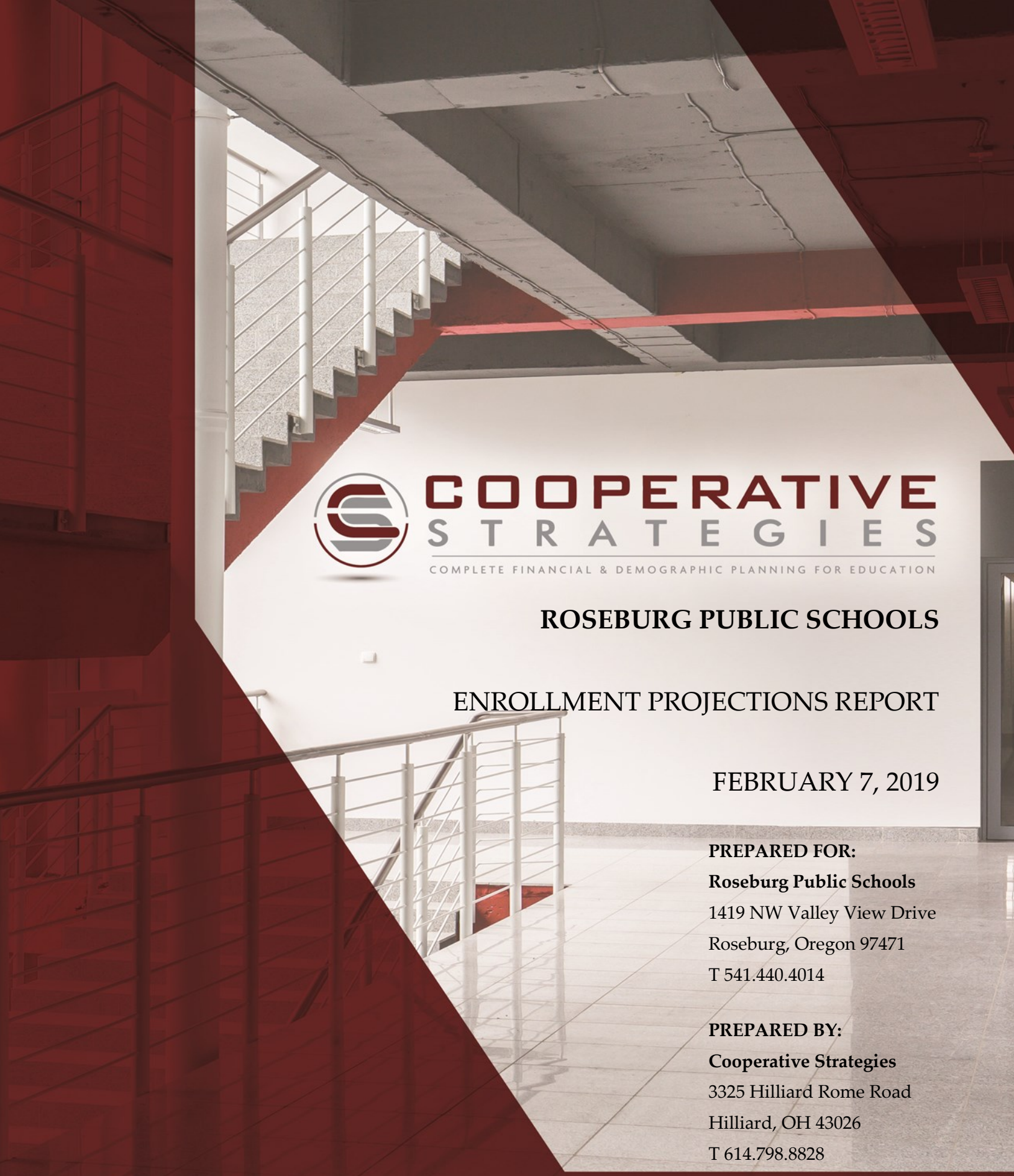
Enrollment Projections Report



COOPERATIVE STRATEGIES

COMPLETE FINANCIAL & DEMOGRAPHIC PLANNING FOR EDUCATION

ROSEBURG PUBLIC SCHOOLS

ENROLLMENT PROJECTIONS REPORT

FEBRUARY 7, 2019

PREPARED FOR:
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ACKNOWLEDGMENTS

On behalf of Cooperative Strategies, we would like to extend our appreciation to the Roseburg Public Schools for the opportunity to assist them in developing this Enrollment Projections Report. As a planning team, we hope that this document will serve the Roseburg Public Schools for years to come.

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EXECUTIVE SUMMARY

The enrollment projections for the Roseburg Public Schools included in this report were developed using the cohort survival methodology and Cooperative Strategies' custom enrollment projection software, S.T.E.P. [Student Trends & Enrollment Projections]. This custom software was developed in collaboration with The Ohio State University and is based on industry best practices as well as the national experience Cooperative Strategies has with schools, school districts, and state agencies.

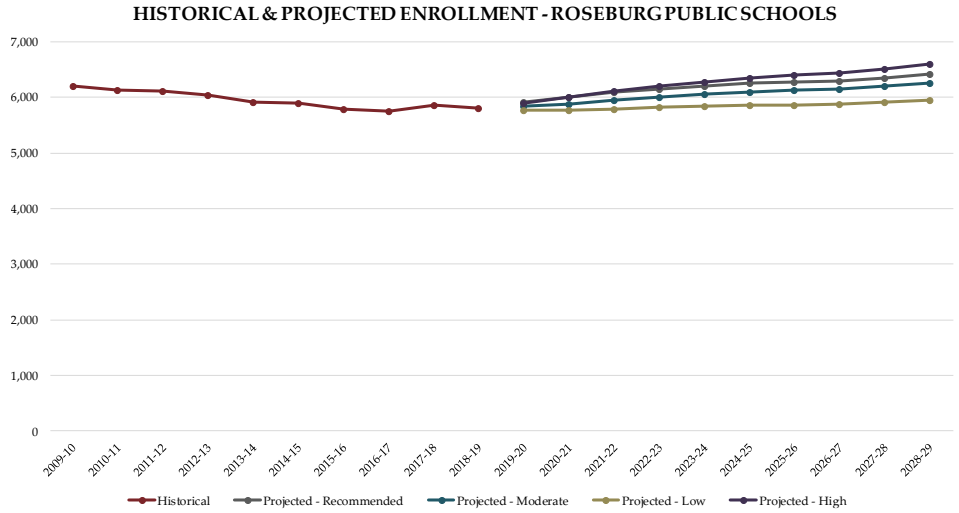
S.T.E.P.
STUDENT TRENDS AND ENROLLMENT PROJECTIONS

The Roseburg Public Schools is a school district in Douglas County, serving 5,799 students in the 2018-19 school year.

The projections presented in this report are meant to serve as a planning tool for the future, and represent the most likely direction of the District. Enrollment projections were developed using the cohort survival methodology and by analyzing the following data outlined in this report:

- Live birth data
- Historical enrollment by grade
- Transfers In/Out
- Building permits
- Census data

Enrollment in the Roseburg Public Schools has decreased overall by 398 students since the 2009-10 school year. Based on the cohort survival methodology, enrollment is projected to increase over the next ten years.

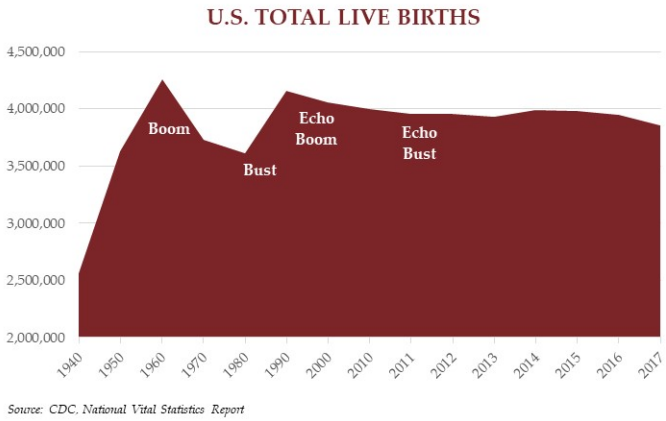


As with any projection, the District should pay close attention to the variables associated with determining enrollment projections discussed in this document. Any one or more of these factors can increase or decrease enrollment within the Roseburg Public Schools. It is recommended that the data contained in this report be reviewed on an annual basis to determine how more recent trends will impact both the enrollment and any new housing development.

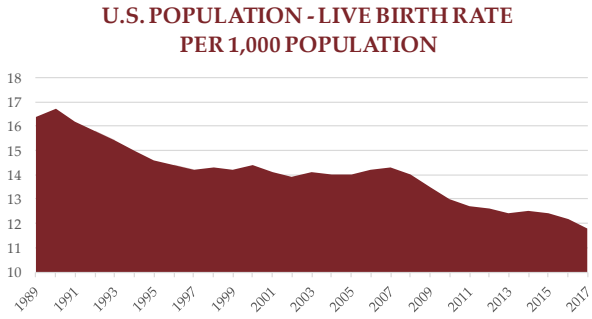
ENROLLMENT PROJECTION METHODOLOGY

Introduction

Tracing the landscape of the country's public school enrollment back over the past fifty years reveals demographic, economic, and social changes. The United States as a whole continues to undergo major shifts in public student enrollment, due in large part to past events including the baby boom, the availability and use of birth control, and the development of suburbs. The baby boom of the late 1940s and 50s was followed by the baby bust of the 1960s and 70s. This gave rise to the echo baby boom of the 1980s.



Source: CDC, National Vital Statistics Report



Source: CDC, National Vital Statistics Report

Nationwide, districts have experienced the effects of the echo baby bust of the 1990s. From the 1950s to the 1970s, a dramatic downsizing of the family unit occurred. A direct result was the declining school enrollment of the 1970s and 1980s. As of the 2010 Census, the size of a family was at an all-time low of 3.14 persons. The live birth rate increased for the first time in several years in 1998 and increased again in 2000. However, the birth rate resumed a descending pattern in 2001 and reached an all-time low of 11.8 (per 1,000) in 2017.

When projecting future enrollments, it is vital to track the number of live births, the amount of new housing activity, and the change in household composition. In addition, any of the following factors could cause a significant change in projected student enrollment:

- Boundary adjustments
- New school openings
- Changes / additions in program offerings
- Preschool programs
- Change in grade configuration
- Interest rates / unemployment shifts
- Intra- and inter-district transfer
- Magnet / charter / private school opening or closure
- Zoning changes
- Unplanned new housing activity
- Planned, but not built, housing
- School voucher programs
- School closures

Obviously, certain factors can be gauged and planned for far better than others. For instance, it may be relatively straightforward to gather housing data from local builders regarding the total number of lots in a planned subdivision and calculate the potential student yield. However, planning for changes in the unemployment rate, and how these may either boost or reduce public school enrollment, proves more difficult. In any case, it is essential to gather a wide variety of information in preparation for producing enrollment projections.

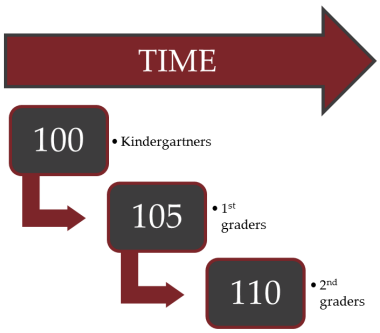
When looking ahead at a school district's enrollment over the next two, five, or ten years, it is helpful to approach the process from a global perspective. For example: How many new homes have been constructed each year? How many births have occurred each year in relation to the resident population? Is housing experiencing a turnover—if so, what is the composition of families moving in/out? Are more or less students attending private school or being home-schooled? What has the unemployment rate trend been over the past ten years? What new educational policies are in place that could affect student enrollment figures?

The cohort survival methodology is often used to answer these questions and is standard throughout the educational planning industry. The enrollment projections developed for the Roseburg Public Schools were developed using the cohort survival method.

Cohort Survival Method

The cohort survival methodology (sometimes referred to as the grade progression ratio method) is a widely used enrollment projection model that is used by many school districts and state and federal agencies to project K-12 enrollment.

A cohort is a group of persons [in this case, students]. The cohort survival enrollment projection methodology uses historic live birth data and historic student enrollment to "age" a known population or cohort throughout the school grades. For instance, a cohort begins when a group of kindergarteners enrolls in grade K and moves to first grade the following year, second grade the next year, and so on.



A "survival ratio" is developed to track how this group of students increased or decreased in number as they moved through the grade levels. By developing survival ratios for each grade transition [i.e. 2nd to 3rd grade] over a ten year period of time, patterns emerge. A projection ratio for each grade transition is developed based on analysis of the survival ratios. The projections are used as a multiplier in determining future enrollment.

For example, if student enrollment has consistently increased from the 8th to the 9th grade over the past ten years, the survival ratio would be greater than 100% and could be multiplied by the current 8th grade to develop a projection for next year's 9th grade. This methodology can be carried through to develop ten years of projection figures. Because there is not a grade cohort to follow for students coming into kindergarten, resident live birth counts are used to develop a birth-to-kindergarten survival ratio. Babies born five years previous to the kindergarten class are compared in number, and a ratio can be developed to project future kindergarten enrollments.

The cohort survival method is useful in areas where population is stable [relatively flat, growing steadily, or declining steadily], and where there have been no significant fluctuations in enrollment, births, and housing patterns from year to year. The cohort survival methodology inherently considers the net effects of factors such as migration, housing, dropouts, transfers to and from charter schools, open enrollment, and deaths. This methodology does not assume changes in policies, program offerings, or future changes in housing and migration patterns.

U.S. CENSUS

According to the U.S. Census Bureau, the population in Roseburg, Oregon increased from 20,017 to 21,181, or 6 percent, between the 2000 and 2010 Census.

In terms of school-aged children [5-19], the population decreased by 173, or approximately 4 percent. The under age 5 population increased from 1,240 to 1,308, or approximately 5 percent.

The median age of a Roseburg, Oregon resident is 41.1, an increase of 1.9 years since the 2000 Census.

The average household size decreased from 2.32 to 2.23. The average family size decreased from 2.88 to 2.84.

The number of total housing units increased in tandem with the number of occupied housing units. The number of vacant housing units decreased.

The table to the right provides a comparison of the 2000 and 2010 U.S. Census data.

ROSEBURG, OR
U.S. CENSUS

Subject	2000	2010
Total population	20,017	21,181
SEX AND AGE		
Male	9,683	10,176
Female	10,334	11,005
Under 5 years	1,240	1,308
5 to 19 years	3,994	3,821
20 to 64 years	10,994	12,003
65 years and over	3,789	4,049
Median age (years)	39.2	41.1
RACE		
One Race	97.5%	96.5%
White	93.6%	91.0%
Black or African American	0.3%	0.5%
American Indian and Alaska Native	1.3%	1.7%
Asian	1.0%	1.6%
Native Hawaiian and Other Pacific Islander	0.1%	0.3%
Some Other Race	1.3%	1.4%
Two or More Races	2.5%	3.5%
Hispanic or Latino	3.7%	5.5%
DEMOGRAPHICS		
Average household size	2.32	2.23
Average family size	2.88	2.84
HOUSING OCCUPANCY		
Total housing units	8,237	9,732
Occupied housing units	4,658	9,081
Vacant housing units	3,579	651

Source: U.S. Census

GENERAL DEMOGRAPHICS

The following information represents block group estimates and projections created from market research and U.S. Census data obtained from the Environmental Systems Research Institute [ESRI]. ESRI provides a yearly update to their demographic data in increments of five years. To make updates to their demographic data set, they use American Community Survey [ACS] data that takes a series of monthly sample surveys but only from areas with populations of 65,000 or more. One year of ACS data is a period estimate as a twelve-month average, rather than a single point in time.

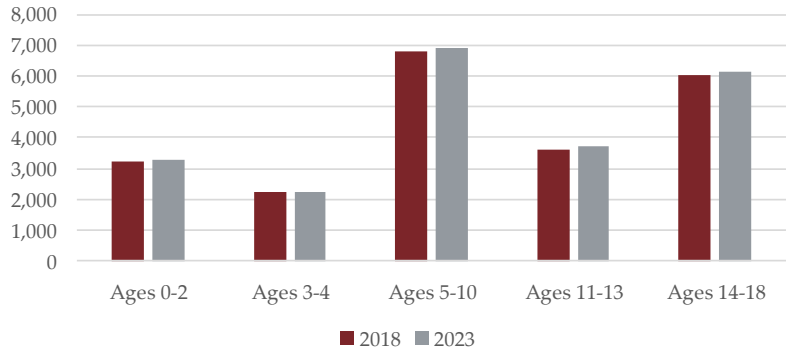
According to the ESRI estimates, the total population of Douglas County, Oregon is projected to increase over the next five years. As illustrated in the table below, the number of children, ages 5-18, is projected to increase by 321 children.

DOUGLAS COUNTY
POPULATION ESTIMATES

Age	2018	2023
Ages 0-2	3,236	3,308
Ages 3-4	2,229	2,257
Ages 5-10	6,785	6,883
Ages 11-13	3,592	3,709
Ages 14-18	6,042	6,148
Ages 5-18	**16,419**	**16,740**
Total Population	**112,441**	**115,962**

Source: ESRI BIS

DOUGLAS COUNTY
POPULATION ESTIMATES

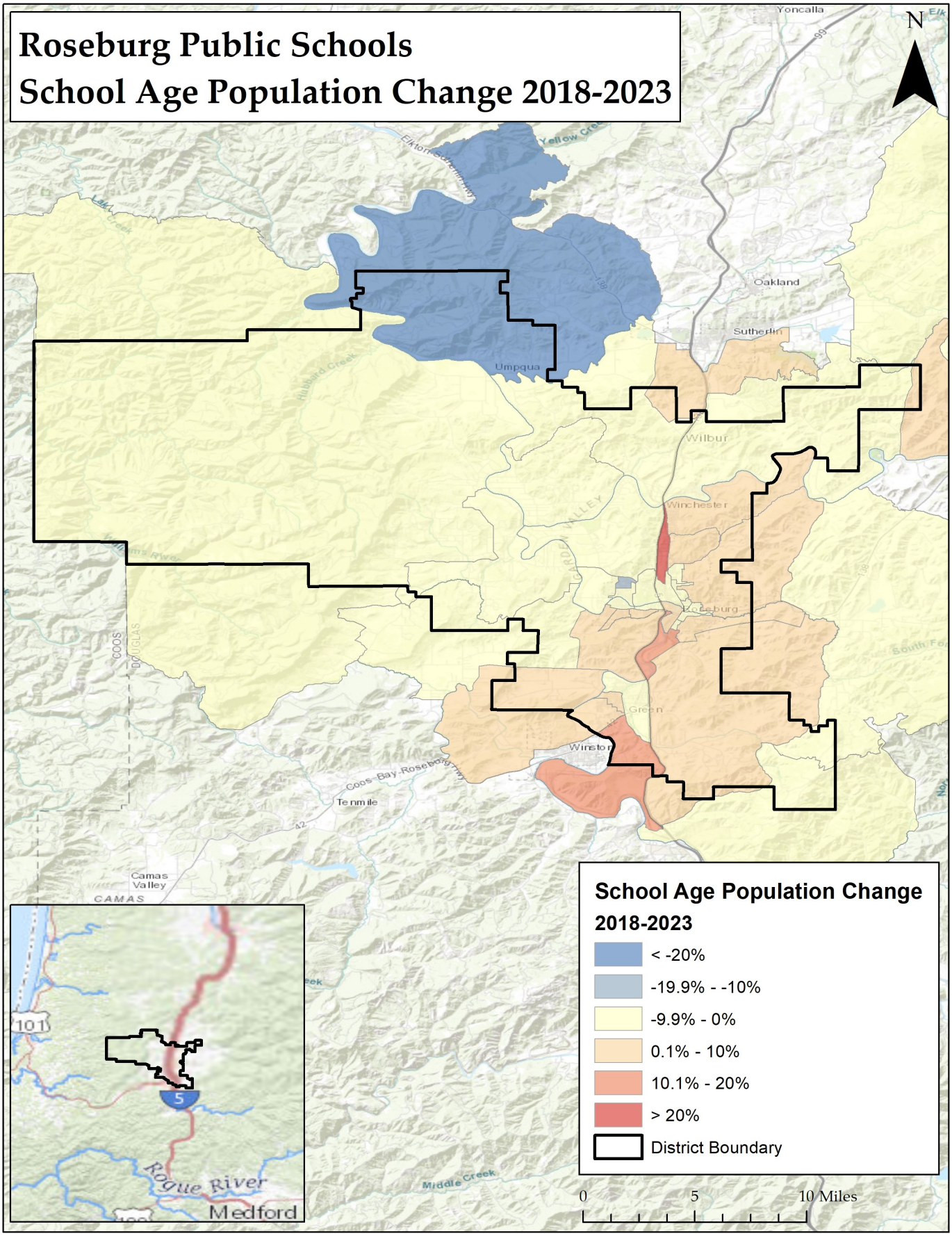


ROSEBURG PUBLIC SCHOOLS
ESTIMATED SCHOOL AGE POPULATION CHANGE 2018-2023

The map on the following page shows school age population change in the U.S. Census block groups within / around the Roseburg Public Schools boundary. Population changes are based on 2018 and 2023 estimates.

A block group is defined by the U.S. Census Bureau as, "a statistical division of a census tract, generally defined to contain between 600 and 3,000 people and 240 and 1,200 housing units, and the smallest geographic unit for which the Census Bureau tabulates sample data."

Roseburg Public Schools
School Age Population Change 2018-2023



HOUSING DATA

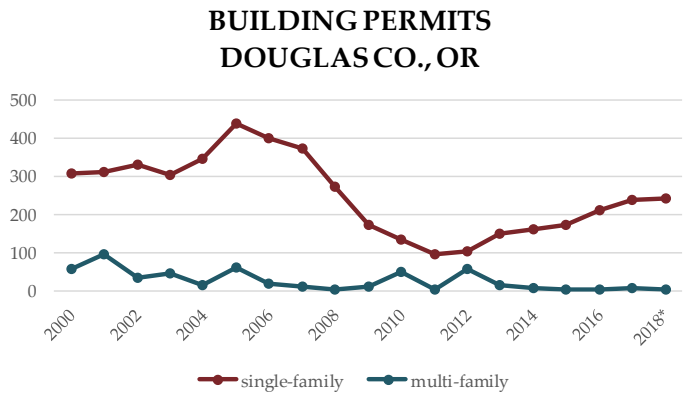
Housing development and building permits are tracked to determine their effect on student enrollment. The table and graph below illustrate the number of single- and multi-family building permits issued in Douglas County since 2000.

BUILDING PERMITS

Year	DOUGLAS CO., OR	
	single-family	multi-family
2000	305	58
2001	311	94
2002	328	32
2003	303	45
2004	346	14
2005	438	59
2006	397	18
2007	373	9
2008	272	4
2009	170	12
2010	133	48
2011	96	4
2012	102	58
2013	150	14
2014	160	6
2015	170	2
2016	211	4
2017	238	6
2018*	242	4

Source: SOCDS Building Permits Database

*preliminary through October 2018



Based on information provided by the City of Roseburg the following subdivisions are currently under construction or planned to be platted in the next year:

Active/Under Construction:

- Woodside Village —5 total lots; 4 lots available
- Obrien Heights—26 total lots; 22 lots available
- Crystal Vista—18 total lots; 11 lots available
- Eagles Rest—45 total lots; 30 lots available

Planned:

- Townsend Lane—38 total lots to begin Summer 2019
- Oregano—7 total lots to begin Summer 2019

RESIDENT LIVE BIRTH DATA

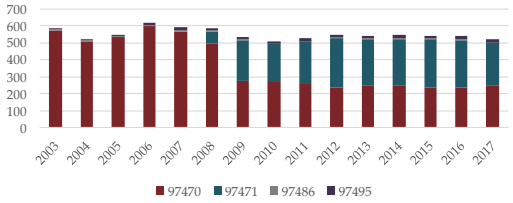
Utilization of resident live birth data is recommended when projecting future kindergarten enrollments. This data provides a helpful overall trend. Large bubbles in birth counts, either up or down, can also be planned for or anticipated by the District.

In addition, the live birth counts are used in determining a birth-to-kindergarten and birth-to-first grade survival ratio. This ratio identifies the percentage of children born in a representative area who attend kindergarten and first grade in the District five and six years later. The survival ratios for birth-to-kindergarten, birth-to-first grade, as well as grades 1-12 can be found on page 15 of this report.

Data is arranged by the residence of the mother. For example, if a mother lives in Roseburg but delivers her baby in Portland, the birth is counted in Roseburg. Live birth counts are different from live birth rates. The live birth count is simply the actual number of live births. A birth rate is the number of births per 1,000 women in a specified population group.

The table and graph includes the resident live birth counts for zip codes 97457, 97462, 97470, 97471, 97479, 97486, and 97495. Upon analysis of the map on the following page, only live birth counts for zip codes 97470, 97471, 97486, and 97495 were used in the development of the enrollment projections.

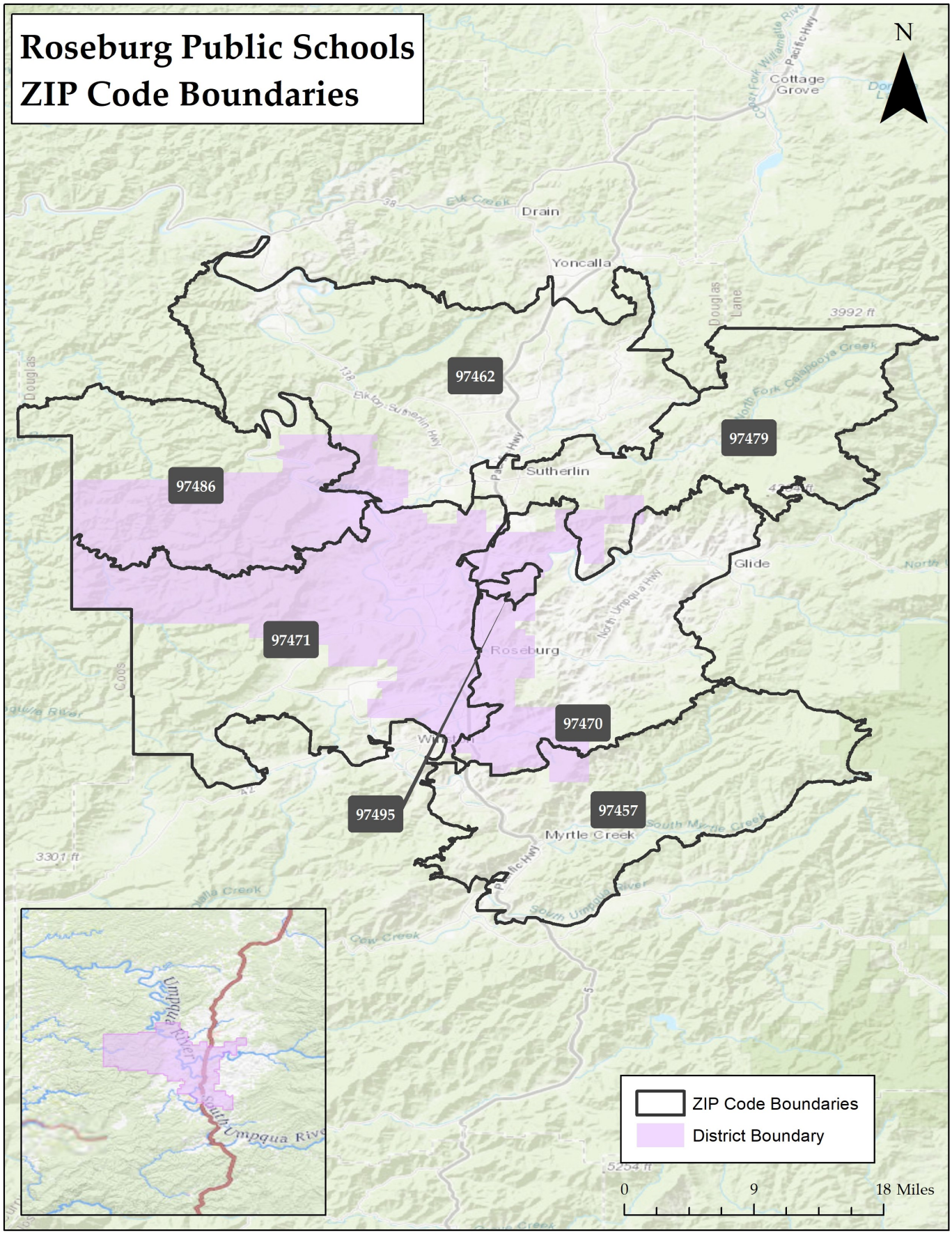
RESIDENT LIVE BIRTH COUNTS
ROSEBURG PUBLIC SCHOOLS ZIP CODES



RESIDENT LIVE BIRTH COUNTS
ROSEBURG PUBLIC SCHOOLS ZIP CODES

Year	97457	97462	97470	97471	97479	97486	97495
2003	99	23	573	-	90	5	8
2004	121	34	507	-	100	6	6
2005	114	22	535	-	99	4	7
2006	110	20	598	-	111	8	14
2007	100	25	569	-	98	3	17
2008	111	28	496	73	95	6	12
2009	105	37	274	240	96	9	9
2010	117	28	269	225	101	1	13
2011	111	31	263	244	100	4	18
2012	108	27	236	290	99	7	13
2013	86	25	250	268	85	7	14
2014	128	31	250	274	99	5	19
2015	104	28	236	287	99	5	11
2016	102	28	234	283	98	4	16
2017	116	39	252	249	90	3	17

Source: Oregon Department of Health


Roseburg Public Schools
ZIP Code Boundaries
N
Cottage Grove
Drain
Yoncalla
Sutherlin
Glide
Roseburg
Myrtle Creek
97462
97479
97486
97471
97470
97495
97457
ZIP Code Boundaries
District Boundary
0
9
18 Miles

SURVIVAL RATIOS

The chart below demonstrates the ten-year changes in enrollment as students move through the system. Percentages greater than 100 indicate that there are more students than there were in the previous grade the previous year. In other words, there was an increase in student population where new students were added to the system. Percentages less than 100 indicate that there was decline or students left the system. If the exact number of students in 1st grade during the 2010-11 school year were present in 2nd grade for the 2011-12 school year, the survival ratio would be 100 percent.

Birth-to-Kindergarten and Birth-to-First Grade: This ratio indicates the number of children born in the area who attend kindergarten and first grade in the District five and six years later. What is important to note is the trend in survival ratios, not necessarily the actual number.

Grades 8 to 9: The higher than usual percentage is a result of school district promotion policies. Often in school districts, students are promoted from 8th to 9th grade and after one year in 9th grade do not have sufficient credits to be classified as a 10th grader and are counted again as 9th graders the following year. There may also be students who are attending private or charter schools or are home schooled through grade 8 and then attend public schools for high school education.

The following table illustrates the historical survival ratios in the Roseburg Public Schools over the past ten years by grade level.

Survival Ratios - District-wide

from	to	Birth to K	K to 1	Birth to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	10 to 11	11 to 12
2009	2010	79.67%	105.58%	87.48%	99.57%	101.04%	99.34%	98.46%	101.90%	97.50%	100.99%	94.50%	95.80%	97.13%	103.73%
2010	2011	71.61%	105.29%	83.88%	104.41%	102.16%	97.74%	98.89%	100.89%	97.10%	99.60%	97.06%	101.04%	101.67%	100.91%
2011	2012	79.29%	104.05%	74.52%	101.97%	97.89%	96.82%	98.74%	97.99%	98.68%	98.93%	98.41%	96.17%	97.12%	95.28%
2012	2013	71.89%	98.72%	78.27%	101.08%	98.93%	98.49%	97.59%	98.51%	100.68%	97.99%	98.06%	95.56%	95.39%	101.27%
2013	2014	81.20%	113.74%	81.77%	104.77%	99.57%	96.54%	100.66%	100.90%	97.84%	100.45%	97.95%	94.05%	93.25%	105.05%
2014	2015	81.69%	101.39%	82.33%	99.17%	98.76%	104.95%	102.24%	98.91%	96.44%	99.56%	98.87%	98.14%	89.70%	103.85%
2015	2016	81.29%	97.35%	79.53%	103.42%	100.63%	99.79%	102.46%	100.00%	98.46%	98.85%	97.33%	97.03%	94.30%	110.44%
2016	2017	86.45%	103.26%	83.93%	102.23%	96.91%	104.59%	103.15%	98.20%	103.51%	95.76%	102.80%	98.86%	97.65%	106.80%
2017	2018	85.90%	104.66%	90.48%	104.50%	101.45%	103.64%	101.20%	101.63%	96.74%	96.19%	98.60%	89.80%	87.30%	89.64%
mean simple all years		**79.89%**	**103.78%**	**82.46%**	**102.35%**	**99.71%**	**100.21%**	**100.38%**	**99.88%**	**98.55%**	**98.70%**	**98.18%**	**96.27%**	**94.83%**	**101.89%**
std. dev. simple all years		**5.23%**	**4.73%**	**4.79%**	**2.11%**	**1.75%**	**3.32%**	**2.02%**	**1.52%**	**2.25%**	**1.78%**	**2.17%**	**3.18%**	**4.35%**	**6.22%**
mean simple 5 years		**83.31%**	**104.08%**	**83.61%**	**102.82%**	**99.46%**	**101.90%**	**101.94%**	**99.93%**	**98.60%**	**98.16%**	**99.11%**	**95.57%**	**92.44%**	**103.16%**
std. dev. simple 5 years		**2.63%**	**6.06%**	**4.15%**	**2.28%**	**1.76%**	**3.63%**	**1.00%**	**1.40%**	**2.86%**	**2.08%**	**2.15%**	**3.71%**	**4.04%**	**7.96%**
mean simple 3 years		**84.54%**	**101.76%**	**84.65%**	**103.39%**	**99.66%**	**102.68%**	**102.27%**	**99.94%**	**99.57%**	**96.93%**	**99.58%**	**95.23%**	**93.08%**	**102.29%**
std. dev. simple 3 years		**2.84%**	**3.88%**	**5.51%**	**1.14%**	**2.42%**	**2.54%**	**0.99%**	**1.72%**	**3.52%**	**1.67%**	**2.86%**	**4.79%**	**5.28%**	**11.11%**
mean simple 2 years		**86.17%**	**103.96%**	**87.20%**	**103.37%**	**99.18%**	**104.12%**	**102.17%**	**99.91%**	**100.13%**	**95.97%**	**100.70%**	**94.33%**	**92.47%**	**98.22%**
std. dev. simple 2 years		**0.39%**	**0.99%**	**4.63%**	**1.61%**	**3.21%**	**0.67%**	**1.38%**	**2.42%**	**4.79%**	**0.30%**	**2.97%**	**6.41%**	**7.32%**	**12.14%**
mean weighted all years		**83.17%**	**103.26%**	**84.50%**	**102.95%**	**99.66%**	**102.19%**	**101.53%**	**99.99%**	**98.84%**	**97.50%**	**99.19%**	**94.97%**	**92.59%**	**100.51%**
std. dev. weighted all years		**4.25%**	**4.18%**	**4.97%**	**1.87%**	**1.92%**	**3.04%**	**1.58%**	**1.53%**	**2.85%**	**1.83%**	**2.17%**	**4.07%**	**4.68%**	**8.61%**
mean weighted 5 years		**85.12%**	**103.48%**	**86.78%**	**103.50%**	**99.99%**	**103.30%**	**101.89%**	**100.38%**	**98.69%**	**96.71%**	**99.52%**	**93.57%**	**91.08%**	**97.76%**
std. dev. weighted 5 years		**2.13%**	**3.24%**	**4.69%**	**1.61%**	**2.16%**	**2.05%**	**0.97%**	**1.66%**	**3.22%**	**1.49%**	**2.20%**	**4.67%**	**5.03%**	**9.97%**
mean weighted 3 years		**85.81%**	**104.13%**	**88.90%**	**104.06%**	**100.62%**	**103.66%**	**101.59%**	**100.96%**	**98.00%**	**96.22%**	**99.29%**	**91.67%**	**89.39%**	**93.47%**
std. dev. weighted 3 years		**1.15%**	**1.80%**	**3.82%**	**1.07%**	**2.11%**	**1.05%**	**0.93%**	**1.61%**	**3.14%**	**0.68%**	**2.01%**	**4.41%**	**4.95%**	**9.00%**
mean weighted 2 years		**85.93%**	**104.59%**	**90.16%**	**104.40%**	**101.24%**	**103.69%**	**101.29%**	**101.47%**	**97.06%**	**96.17%**	**98.80%**	**90.23%**	**87.79%**	**90.46%**
std. dev. weighted 2 years		**0.16%**	**0.42%**	**1.97%**	**0.69%**	**1.37%**	**0.29%**	**0.59%**	**1.03%**	**2.04%**	**0.13%**	**1.26%**	**2.73%**	**3.12%**	**5.17%**

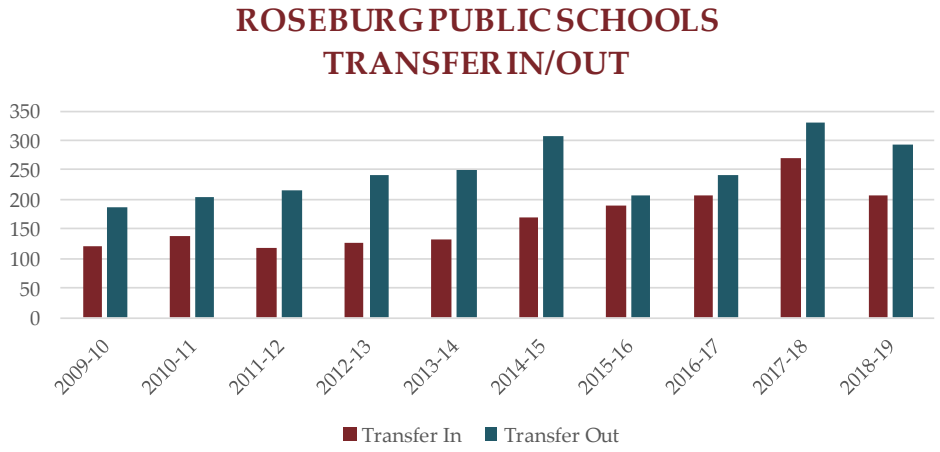
TRANSFERS IN/OUT

As illustrated in the table and graph below, the number of students transferring into the District from neighboring school districts has increased by 88 students since the 2009-10 school year. The number of students transferring out of the district has increased by 106 students since the 2009-10 school year. In the 2018-19 school year, there was a net loss of 84 students due to transfers.

Transfer In/Out

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Transfer In	120	138	117	127	132	170	191	206	271	208
Transfer Out	186	205	217	240	251	307	207	240	331	292
+/- Students	**-66**	**-67**	**-100**	**-113**	**-119**	**-137**	**-16**	**-34**	**-60**	**-84**

Source: Roseburg Public Schools



ROSEBURG PUBLIC SCHOOLS
HISTORICAL ENROLLMENT

As indicated in the table below, over the past ten years, enrollment in the Roseburg Public Schools has decreased by 398 students.

Historical Enrollment - District-wide

Grade	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
K	430	435	444	467	422	432	415	430	472	463
1	464	454	458	462	461	480	438	404	444	494
2	481	462	474	467	467	483	476	453	413	464
3	455	486	472	464	462	465	477	479	439	419
4	456	452	475	457	457	446	488	476	501	455
5	473	449	447	469	446	460	456	500	491	507
6	519	482	453	438	462	450	455	456	491	499
7	506	506	468	447	441	452	434	448	472	475
8	509	511	504	463	438	443	450	429	429	454
9	500	481	496	496	454	429	438	438	441	423
10	453	479	486	477	474	427	421	425	433	396
11	482	440	487	472	455	442	383	397	415	378
12	469	500	444	464	478	478	459	423	424	372
Grand Total	**6,197**	**6,137**	**6,108**	**6,043**	**5,917**	**5,887**	**5,790**	**5,758**	**5,865**	**5,799**

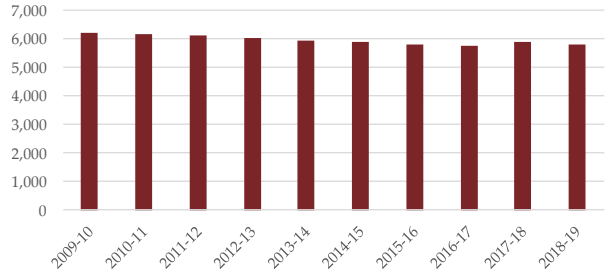
Source: Roseburg Public Schools

Historical Enrollment - District-wide

Grade	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
K - 5	2,759	2,738	2,770	2,786	2,715	2,766	2,750	2,742	2,760	2,802
6 - 8	1,534	1,499	1,425	1,348	1,341	1,345	1,339	1,333	1,392	1,428
9 - 12	1,904	1,900	1,913	1,909	1,861	1,776	1,701	1,683	1,713	1,569
Grand Total	**6,197**	**6,137**	**6,108**	**6,043**	**5,917**	**5,887**	**5,790**	**5,758**	**5,865**	**5,799**

Source: Roseburg Public Schools

HISTORICAL ENROLLMENT - DISTRICT-WIDE



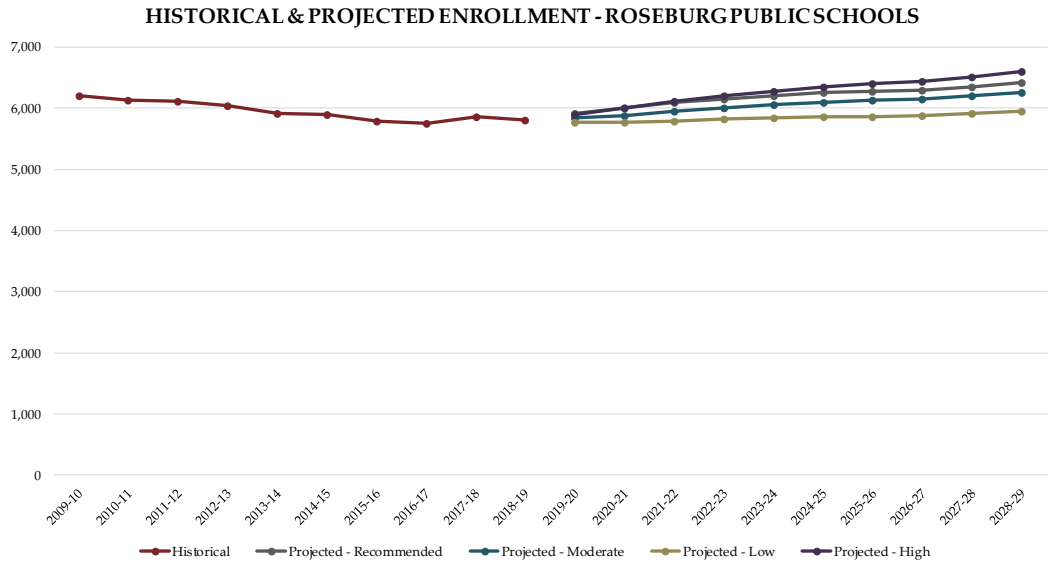
The varying shades of color in the table represent significant cohort sizes. The darker blue represents smaller cohorts, while the darker red represents larger cohorts, comparatively.

PROJECTED ENROLLMENT

Cooperative Strategies developed low, moderate, high, and recommended enrollment projections for the Roseburg Public Schools. The moderate enrollment projections are based on a selected average or weighted average of survival ratios (in this case, a 3 year weighted average). The low and high enrollment projections are developed using statistical distributional theory, providing the District with a more conservative (low) and more liberal (high) enrollment projection. The recommended enrollment projection is based on a detailed analysis of historical enrollment and resulting survival ratios over the past 10 years. Significant shifts in survival ratio patterns are realized and accounted for in determining projection ratios independently for each grade level. The recommended illustrates the most likely direction of the District based on more recent trends.

The range of enrollment projections from low (conservative) to high (liberal) are offered due to the limitations of the cohort survival method in factoring changes to policies, program offerings, and future changes in housing and migration patterns. For example, the low enrollment projection might be used if housing declines significantly more than anticipated; the high enrollment projection might be used if housing growth increases at a more rapid rate than seen in recent years.

It should be noted that actual live birth counts are available through 2017 and project kindergarten enrollment through 2022-23. To project kindergarten through 2028-29, an average of the last 3 years of live birth counts was used.



ROSEBURG PUBLIC SCHOOLS
PROJECTED ENROLLMENT—RECOMMENDED

Based on the recommended projected enrollment, the student enrollment in the Roseburg Public Schools is projected to increase from 5,799 in 2018-19 to 6,416 students in 2028-29.

Projected Enrollment - Recommended - District-wide

Grade	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
K	470	463	461	447	457	457	457	457	457	457
1	482	490	482	480	466	476	476	476	476	476
2	511	499	507	498	497	482	492	492	492	492
3	467	514	502	510	502	500	485	495	495	495
4	434	484	533	520	529	520	518	503	513	513
5	464	443	493	543	530	539	530	528	512	523
6	512	468	447	498	549	535	544	535	533	517
7	489	502	459	438	488	538	525	533	524	522
8	463	477	489	447	427	476	524	512	520	511
9	449	458	471	483	442	422	470	518	505	513
10	407	432	441	454	465	425	406	453	499	487
11	376	386	410	418	430	441	403	385	429	473
12	385	383	394	417	426	438	450	411	392	437
Grand Total	**5,909**	**5,999**	**6,089**	**6,153**	**6,208**	**6,249**	**6,280**	**6,298**	**6,347**	**6,416**

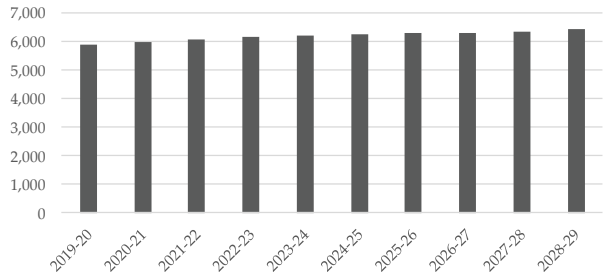
Source: Cooperative Strategies

Projected Enrollment - Recommended - District-wide

Grade	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
K - 5	2,828	2,893	2,978	2,998	2,981	2,974	2,958	2,951	2,945	2,956
6 - 8	1,464	1,447	1,395	1,383	1,464	1,549	1,593	1,580	1,577	1,550
9 - 12	1,617	1,659	1,716	1,772	1,763	1,726	1,729	1,767	1,825	1,910
Grand Total	**5,909**	**5,999**	**6,089**	**6,153**	**6,208**	**6,249**	**6,280**	**6,298**	**6,347**	**6,416**

Source: Cooperative Strategies

PROJECTED ENROLLMENT - RECOMMENDED - DISTRICT-WIDE



The varying shades of color in the table represent significant cohort sizes. The darker blue represents smaller cohorts, while the darker red represents larger cohorts, comparatively.

ROSEBURG PUBLIC SCHOOLS
PROJECTED ENROLLMENT—MODERATE

Based on the moderate projected enrollment, the student enrollment in the Roseburg Public Schools is projected to increase from 5,799 in 2018-19 to 6,262 students in 2028-29.

Projected Enrollment - Moderate - District-wide

Grade	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
K	470	463	461	447	457	457	457	457	457	457
1	482	490	482	480	466	476	476	476	476	476
2	514	502	510	501	499	484	495	495	495	495
3	467	517	505	513	504	502	487	498	498	498
4	434	484	536	523	531	523	521	505	516	516
5	462	441	492	545	532	540	531	529	513	524
6	512	467	445	496	550	537	545	536	534	518
7	489	502	457	437	486	539	526	534	525	523
8	457	471	483	440	420	468	519	506	514	506
9	451	454	467	479	437	417	465	515	502	510
10	388	413	416	428	439	401	382	426	472	461
11	354	347	369	372	383	393	358	342	381	422
12	353	331	324	345	348	358	367	335	319	356
Grand Total	**5,833**	**5,882**	**5,947**	**6,006**	**6,052**	**6,095**	**6,129**	**6,154**	**6,202**	**6,262**

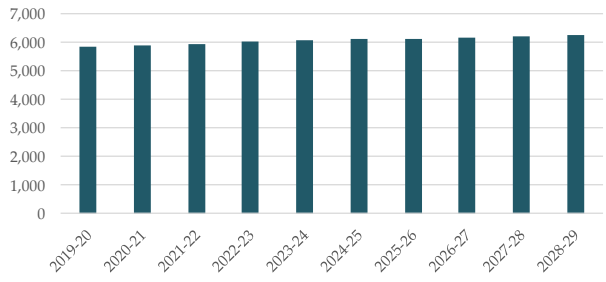
Source: Cooperative Strategies

Projected Enrollment - Moderate - District-wide

Grade	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
K - 5	2,829	2,897	2,986	3,009	2,989	2,982	2,967	2,960	2,955	2,966
6 - 8	1,458	1,440	1,385	1,373	1,456	1,544	1,590	1,576	1,573	1,547
9 - 12	1,546	1,545	1,576	1,624	1,607	1,569	1,572	1,618	1,674	1,749
Grand Total	**5,833**	**5,882**	**5,947**	**6,006**	**6,052**	**6,095**	**6,129**	**6,154**	**6,202**	**6,262**

Source: Cooperative Strategies

PROJECTED ENROLLMENT - MODERATE - DISTRICT-WIDE



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ROSEBURG PUBLIC SCHOOLS
PROJECTED ENROLLMENT—LOW

Based on the low projected enrollment, the student enrollment in the Roseburg Public Schools is projected to increase from 5,799 in 2018-19 to 5,950 students in 2028-29.

Projected Enrollment - Low - District-wide

Grade	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
K	467	460	458	444	454	454	454	454	454	454
1	478	483	475	473	459	469	469	469	469	469
2	512	495	500	492	490	476	486	486	486	486
3	462	510	494	499	490	489	474	484	484	484
4	432	477	526	510	515	506	504	489	500	500
5	460	437	483	532	516	521	512	510	495	506
6	508	461	438	484	534	517	522	513	511	496
7	482	491	446	423	467	515	499	504	496	494
8	456	462	471	427	406	448	494	479	483	475
9	447	448	455	463	421	400	441	486	471	476
10	379	401	402	408	415	377	358	396	436	422
11	345	331	349	350	356	362	329	312	345	380
12	338	309	296	312	313	318	324	294	279	308
Grand Total	**5,766**	**5,765**	**5,793**	**5,817**	**5,836**	**5,852**	**5,866**	**5,876**	**5,909**	**5,950**

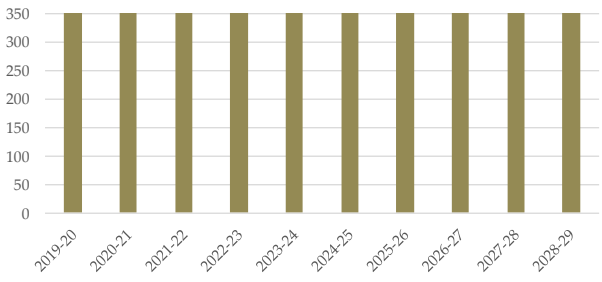
Source: Cooperative Strategies

Projected Enrollment - Low - District-wide

Grade	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
K - 5	2,811	2,862	2,936	2,950	2,924	2,915	2,899	2,892	2,888	2,899
6 - 8	1,446	1,414	1,355	1,334	1,407	1,480	1,515	1,496	1,490	1,465
9 - 12	1,509	1,489	1,502	1,533	1,505	1,457	1,452	1,488	1,531	1,586
Grand Total	**5,766**	**5,765**	**5,793**	**5,817**	**5,836**	**5,852**	**5,866**	**5,876**	**5,909**	**5,950**

Source: Cooperative Strategies

PROJECTED ENROLLMENT - LOW - DISTRICT-WIDE



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ROSEBURG PUBLIC SCHOOLS
PROJECTED ENROLLMENT—HIGH

Based on the high projected enrollment, the student enrollment in the Roseburg Public Schools is projected to increase from 5,799 in 2018-19 to 6,594 students in 2028-29.

Projected Enrollment - High - District-wide

Grade	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
K	473	465	464	450	460	460	460	460	460	460
1	486	496	488	486	472	482	482	482	482	482
2	516	508	519	510	509	493	504	504	504	504
3	471	525	516	527	518	517	501	512	512	512
4	436	491	546	537	549	540	538	522	533	533
5	464	445	501	557	548	560	551	549	532	544
6	516	472	453	509	567	557	569	560	558	541
7	496	513	469	450	506	563	554	566	557	555
8	458	479	495	453	434	488	544	535	546	537
9	455	459	480	496	454	435	489	545	536	547
10	396	426	430	449	464	425	408	458	510	502
11	363	363	390	394	412	425	389	373	420	467
12	369	354	354	381	384	401	415	380	364	410
Grand Total	**5,899**	**5,996**	**6,105**	**6,199**	**6,277**	**6,346**	**6,404**	**6,446**	**6,514**	**6,594**

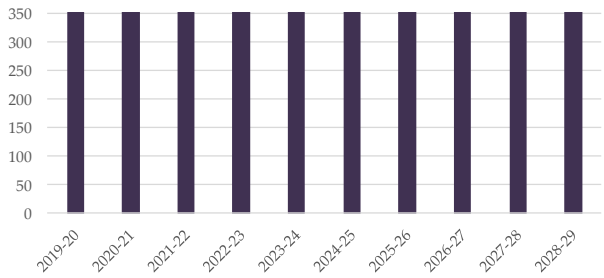
Source: Cooperative Strategies

Projected Enrollment - High - District-wide

Grade	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
K - 5	2,846	2,930	3,034	3,067	3,056	3,052	3,036	3,029	3,023	3,035
6 - 8	1,470	1,464	1,417	1,412	1,507	1,608	1,667	1,661	1,661	1,633
9 - 12	1,583	1,602	1,654	1,720	1,714	1,686	1,701	1,756	1,830	1,926
Grand Total	**5,899**	**5,996**	**6,105**	**6,199**	**6,277**	**6,346**	**6,404**	**6,446**	**6,514**	**6,594**

Source: Cooperative Strategies

PROJECTED ENROLLMENT - HIGH - DISTRICT-WIDE



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CONCLUSION

As with any projection, the District should pay close attention to live birth counts, enrollment in elementary school, open enrollment/transfers, non-public enrollment, in / out migration patterns, and any housing growth. It is recommended that this document be reviewed on an annual basis to determine how more recent growth and enrollment trends will impact the enrollment projections.

Cooperative Strategies is pleased to have had the opportunity to provide the District with enrollment projection services. We hope this document will provide the necessary information to make informed decisions about the future of the Roseburg Public Schools.

Survey Results Report

ROSEBURG PUBLIC SCHOOLS

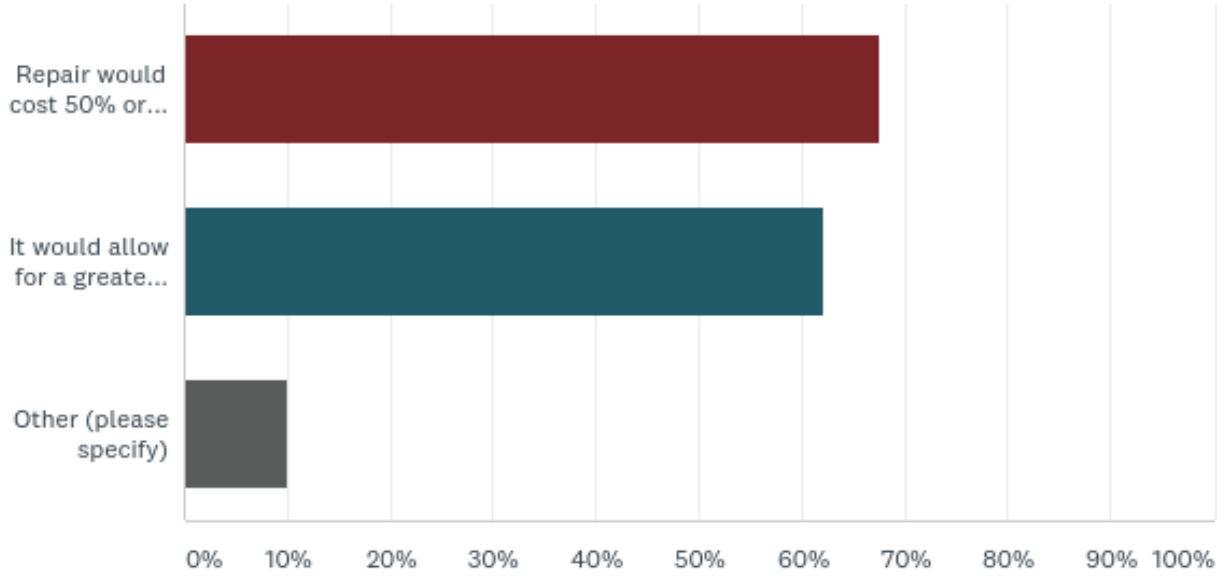
2019 FACILITIES MASTER PLAN
ONLINE SURVEY RESULTS

EXECUTIVE SUMMARY

Roseburg Public Schools hosted a web survey as a part of its 2019 Facilities Master Planning process from May 08-20, 2019. A total of 365 community members responded to the survey. Respondents expressed support for facility repairs to improve the educational experience of students, provide additional learning environments at the elementary level, including science and art rooms. Safety/Security and building modernization, such as HVAC and updated technology, were identified as the most important areas of investment to the majority of respondents, while also noting CTE, athletics, elementary school playgrounds, and maintaining small class sizes as important considerations.

QUESTION 1

Under what conditions would you support rebuilding a school versus repairing it? Check all that apply.



ANSWER CHOICES	RESPONSES	
Repair would cost 50% or greater of new construction	67.67%	247
It would allow for a greater educational experience	62.19%	227
Other (please specify)	10.14%	37
Total Respondents: 365		

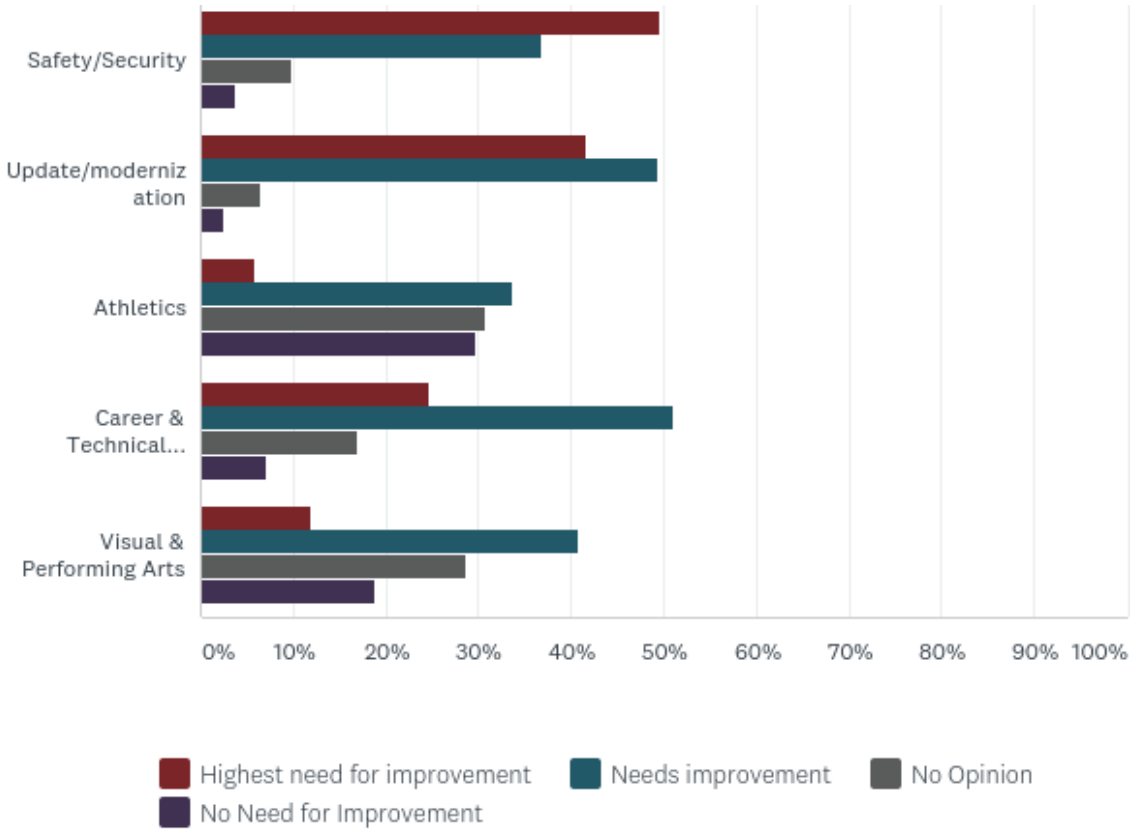
QUESTION 1

Summary of the "Other (please specify)" responses:

- Safety issues
- Air conditioning/Heating systems
- If the cost of the repair outweighs the cost of building a new school.
- Improves the quality of the learning environment

QUESTION 2

Which areas do you believe our schools require the most improvements? (Highest need for improvement, Needs improvement, No Opinion, No Need for Improvement)



Choice	HIGHEST NEED FOR IMPROVEMENT	NEEDS IMPROVEMENT	NO OPINION	NO NEED FOR IMPROVEMENT	TOTAL
Safety/Security	49.58% 175	36.83% 130	9.92% 35	3.68% 13	353
Update/modernization	41.64% 147	49.29% 174	6.52% 23	2.55% 9	353
Athletics	5.87% 20	33.72% 115	30.79% 105	29.62% 101	341
Career & Technical Education	24.78% 86	51.01% 177	17.00% 59	7.20% 25	347
Visual & Performing Arts	11.90% 40	40.77% 137	28.57% 96	18.75% 63	336

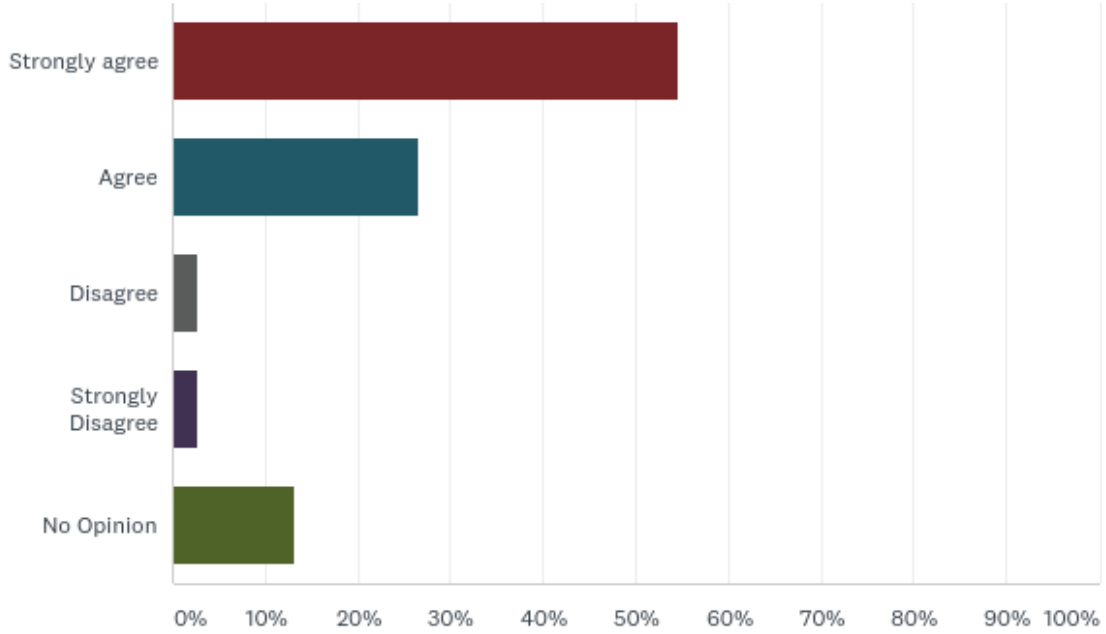
QUESTION 3

Summary of Responses: In your opinion, what is a desirable class sizes for a typical classroom in each grade level? Class size is often determined by considering the available space, the need for personalized instruction, group instruction and school budgets. Current standard class sizes for general instruction are 24 for ES, 22 for MS, and 22 for HS

- Smaller class sizes in elementary grades versus middle school and high school grades
- Class sizes 20 students or less
- The class sizes presented above are adequate
- Smaller elective class sizes
- There should be a cap on the number of students per class, grade level dependent
- Questioning the accuracy of the class size data presented in this question – 20 comments, 10 of those being teachers/students/staff of district

QUESTION 4

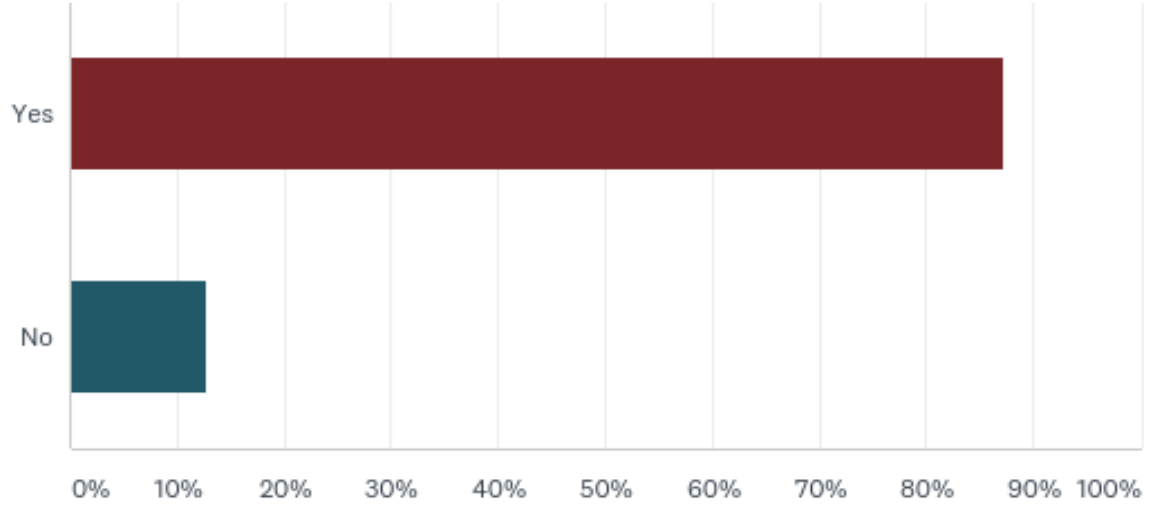
Rate your level of support for building or renovating one overflow classroom for each elementary school.



ANSWER CHOICES	RESPONSES	
Strongly agree	54.70%	198
Agree	26.52%	96
Disagree	2.76%	10
Strongly Disagree	2.76%	10
No Opinion	13.26%	48
TOTAL		362

QUESTION 5

If the overflow rooms were built in the elementary schools, would you support the classrooms being built as science or art rooms? This would allow the spaces to be used even if the school was not at capacity.



ANSWER CHOICES	RESPONSES	
Yes	87.15%	312
No	12.85%	46
TOTAL		358

QUESTION 6

Summary of Responses: Please describe any other facility needs at the elementary school level that were not addressed in this survey.

- Separate Gym/Cafeteria
- Air Conditioning/Heating systems
- Update Playgrounds
- Safety/Security
- Additional classrooms/specialized classrooms
- Healthier/better food quality

QUESTION 7

Summary of Responses: Please describe any other facility needs at the middle school level that were not addressed in this survey.

- Air Conditioning/Heating systems
- Safety/Security
- Athletic facilities/fields
- Update custodial equipment
- Preforming arts improvements/Auditorium
- Outside space for students
- More CTE (Career Technical Classrooms)

QUESTION 8

Summary of Responses: Please describe any other facility needs at the high school level that were not addressed in this survey.

- Air conditioning/Heating systems
- Improve CTE (Career Technical Education)
- Safety/Security
- Second High School
- Improve parking situation
- Enough money has been spent at the high school level, focus on the elementary and middle schools
- Refurbish gym(s)

Open-Ended Survey Responses

Appendix

Question 1:

- I wouldn't support rebuilding, unless the price was equal or greater to repair.
- If it would allow students to get around easier and allow students a better, comfortable, environment
- Elevator's should be more wheelchair available, Air conditioning would help kids be more focused, bathrooms should have doors leading into them and steps should be a bit wider
- Bathrooms are one every floor (at least one per floor). Air conditioning and better heaters.
- Some schools have become old in terms of old pipeworks, heating, structure in general, and overall look.
- new stairs, better air conditioning
- allow a space for cheerleaders to have practices
- Decisions need to be both financially beneficial calculated over the long term to bring existing facilities and infrastructure up to current and projected standards. Additionally, cost comparison for maintenance, repairs and energy efficiencies (loss) of repaired buildings vs new construction over time. Greater educational experience needs to be defined as standard of safety and educational learning environments, ensure us that what the bonds you are asking for are not for extravagant and excessive accommodations, but meet a standard of educational facilities and the needs of our local community.
- Students are not in healthy learning environments
- both of the above combined
- It's case by case. If repair cost 75% of new construction but in the end would provide an equivalent educational experience then I would support that. On the other hand a cost of 50% of new construction for 75% of the educational experience might also be worth it. Money is hard to come by with bonds often not supported.
- more teachers = fewer students in a classroom . Less overhead
- It would greatly improve safety
- Our schools are so old they need to updated with technology and security
- When a school has repeat additions.
- Under no conditions. What kind of a loaded question ???
- If the cost of repair exceeds cost of new construction
- Saftey
- If it was a health hazard.
- It depends on which school you want to repair.

- It would cost less in the long run
- Not knowing the conditions of the buildings, if it could be done similar to what happened at the high school where some buildings remained, and some were taken down and new buildings built. It seems like we could help more schools that way.
- If cost benefits of rebuilding outweigh repair. Also, if the location would move and new location would benefit the community.
- Age of the building should be a factor as well. If a building is very old and the minimal construction cost to update just parts of the building to bring it up to "par" is half of a brand new building altogether, I would vote for a new building.
- The 50% thing is great, but only if law the funding request require the establishment of a "building maintenance/ replacement fund " of sorts attached. To insure the future funding availability to care for the facility won't be a burden on future generations
- If it no longer fits the needs of the District
- Not enough room for enrolled students - need more classrooms
- HVAC system with cooling
- Community growth necessitates more students educated than space is available
- If we could have air conditioning, I would kiss the person approving a new building.
- If more space was required to house the number of students needing to be educated
- Where air conditioning, heating, and lack of mold would enhance students' learning.
- The long-term should be considered. Has a life-expectancy of the existing building been determined. If a building is maintained, no need to build a new one. The District should have a plan of ongoing maintenance and a budget to allow for improvements rather than a reactive budget for emergencies and structural have-to's because of the age of a building. Two separate needs.
- safety issues
- If at any point the facility is deemed unsafe for staff and students
- A new school would have much better environmental controls. The heritage building at Roseburg high school has no air conditioning, and the heating only works properly on one side of the building. Both situations make teaching and learning very difficult throughout the year.
- All buildings that are not structurally safe should be rebuilt, not repaired.

Question 3:

- 22 students as a base line number in the middle schools sounds great!!!!!! I can't recall when I ever had that few students in a class.
- THose number are ridiculous and unrealistic. K-2 should be 18-22, No class shoudl be more than 25 if there is an expectation of building any sort of relationship and student growth
- 24 for ES, 22 for MS, and 22 for HS
- no more than where they are now. if we can get the class sizes smaller it will create a better one on one with the teachers
- I would like to see a return of the second 8th grade history and science teachers. The loss of those has led to unusually large class sizes and the unfair requrement that a teacher teach two grade-levels of curricula with only one prep. It also creates a scheduling problem for kids on IEPs--creating huge classes for Inclusion students, who need MORE individual attention, not less. We need more elective offerings at middle school, so the elective teachers aren't overloaded with kids who couldn't get in the electives they really wanted. I would like to see a return of a foreign language class to the middle school level--that would be a great elective!
- 20-22
- K-3 capped at 18, 4-HS 22
- 20
- ES: 16-18 MS:19-20 HS:19-20
- 20
- 16-18 for ES, 20 for MS and 20 for HS
- Unfortunately with the bad choice of closing an elementary and what appears to be an open door policy to excepting out of district students. These standards are not being met now at the elementary level. If the standards where met that would be a start. However, I feel that the numbers should be lower for the ES than the MS or HS. Enabling the time to create a much more solid base to build the students education on in future years.
- I was a classroom teacher for 18 years. You have this backwards. Elementary should be 20, 24 for middle and high schools.
- 20
- 20-25
- 15-20
- Class size is pretty good for regular classes, but for electives a lot of kids sign up for one class, and sometimes there aren't enough chairs or desks, sometimes not even enough standing room, for those kids. So I would suggest making it about 23-24.
- In high school it seems as though smaller classrooms always work better for learning and teaching, a class of 15-18 would probably be the best. When classes are too large, it's hard for the teacher to speak and be sure to teach everyone what they need to know.
- 15- 20 people It will be safer when a disaster occurs.
- For my average high school class the sizes range from in the 20's to the 30's depending on which class I'm in. Honors are typically lower.
- As I see it, the current classroom size provides a decent learning environment and does not necessarily need to be changed.

- Small-medium
- 22
- 15-20 more one on one experience with students
- I think each classroom should be able to fit at least 30 kids with space to spare.
- The current standard class size is a good size for the schools
- Average class sizes should be kept at an average of 20 and below 30. If possible, it would help the teachers more if they had a smaller class so that they could focus more on the students' problems and general well being.
- 25-30 Students
- Classroom sizes are pretty good.
- 28 for Hs
- 18-19
- I feel like the the class sizes are fine 20- 25 kids is good
- the class number should be around 25 students
- 15-20 for high school,
- 15 for HS
- 22 is fine
- 20 for ES
- 20 for ES, 22 for MS, and 22 for HS
- k-2 = 20 max 3 - 8 = 22 max 9 - 12 = 24 max in General Instruction Class size is an interesting topic, which research indicates does not have a significant impact on student achievement and growth with the content areas. However what we do know is that the relationships that teachers, counselors and administrators build with students and families, and the students' own feeling that staff support and believe in them and their ability to be highly successful has an effect size of 1.62, one of the highest effect sizes of factors impacting student achievement, growth and success as a student and completing high school. Looking at our community over the past 5 years, we know our students' needs and barriers to their success are increasing in frequency and intensity. Class sizes and case loads for staff become critical in supporting quality and supportive relationships to the levels that meet our students' needs and overcome the barrier to success. Class sizes should be differentiated to the class or program as there is a large difference between a general classroom where class size of 20, 24, 26 is optimal for student learning, this number would be excessive in many specialized classes where increased instruction and support are required for student needs or safety considerations.
- Bigger class sizes mean less time with each student. Ideally, 18-20 kids in a classroom at elementary level would be better, more time with students at a younger age means a better foundation. Older students while still needing attention are better equipped to work independently and ask for help if they need it. More classroom helpers to support teachers the better
- Melrose ES has larger than standard size classes, 24 for is at the highest I'd like
- I would like to see smaller class size across the board but if we could only choose one then ES needs much smaller classes.

- Elementary School classes should be smaller - 22. Why is he standard to have the largest classes with the youngest kids? That makes no sense.
- 15
- No more than 20 in any grade level. Elementary should be even less
- 18 for ES 20 for MS 20 for HS with assistance available for kids with special needs
- Kindergarten-21 ES-22 MS-24 HS-24
- 20
- 18
- 15 - K 20 - 1/2 24 - 3/4/5 26 - 6-12
- 20
- 22
- 20
- 22-24
- Under 20
- 22
- 14
- 22
- 24 for ES, 22 for other levels
- 24
- 20 es, ms, hs
- 24
- 15-20 ES. 20 MS. 20 HS
- Kindergarten should be under 20... my son had 28 in his kindergarten class this year which is completely unexceptable
- K-2 15-18 students. 3rd-5th - no more than 24. It should be the smallest classes at the earliest grades.
- 15
- 20 or less
- 12
- No opinion
- 18 K-1 22 2-3 25 4-5
- EM:18, MS:22, HS:24
- Those numbers may be the average, but we know there are elective classes busting at the seams. We need more elective teachers and more CTE classes to help lessen the class size in Choir/PE/Art/ Tech/Drama/ etc. Creating "study hall" electives doesn't provide an actually elective opportunity for students.
- ES class sizes are too big in too many schools!!! There are classes each year that exceed 30. This is unacceptable! ES should have smaller sizes than both MS and HS.
- 22-25
- 20
- current standard or lower
- k-2 15 students 3-5 20 students 6-8 25 students 9-12 30 students
- 20 ES 22 MS 25 HS
- K-1: 20, 2-5: 24, MS: 24, HS: 24
- 18-20 Elementary
- 18-20 per class and no more!
- 18-20 per class
- Sounds good
- 20 for es
- I feel that ES classes should be smaller especially in K-3 when more 1-1 attention is needed.
- 18 ES, 20 MS, 20 HS
- No opinion other than the smaller, the

better.

- 18
- 15/20
- 28 or less
- 16-18
- 20 to 25 per class room
- I think 18 should be the highest amount of kids in a classroom
- 18 K-3, 24 for 5-6, thereafter variable depending on subject and on student needs for adult assistance
- 18 to 20
- A good class size would be 18-20 for Elementary. More than that, children are not getting the required help.
- Elementary and middle school are over crowded- this is repulsing!
- 18 to 20 students per class if it is a normal class, but for classes when students need more one on one 12-15.
- Class sizes for early elementary should be under 20 with 18 being a target size. Older elementary, middle school and high school, and should not exceed 22. I know of many classes at the middle school and high school level that are much higher than 22. Middle school choir classes for example are much too high. Although choir classes might work well with slightly larger numbers, more than 30 students in performance classes should not be the norm.
- 24 is acceptable
- 18 for primary and 22 for intermediate. The other numbers are okay.
- ES - 20-22 MS - 20-22 HS - 25
- 20
- 22 for any class
- Elementary K-2 = 18 3-5 = 20-24 Middle and High Schools up to 30
- That is not true about 24! It's been a LONG time since I've seen 24 in a class. Almost happened this year:-) . It should be 20 max ES especially with the desire to bring DLC kids into the fold more and with all emotional difficulties that are coming our way. Middle school should begin allowing kids to seperate more according to skill and interest level. I'm clueless about high school except teachers need to remember that kids are still learning and that even college professors HELP KIDS learn desired skills and pass the class.... as do work places continue to train with patience their employees to do a better job becoming a better force for the company. If this were the case, perhaps we wouldn't have such a great need to have places like Pheonix and Rose.
- 15 ES, 20 MS & 20 HS
- It's commendable if these are the accurate numbers. I find it difficult to see where/ how you've kept HS at 22 and Ms at 22. (I've observed in classrooms with over 30.) Class size matters, as research informs us.
- 20
- Elementary 20. Especially with lrc and DLC students and no extra assistance to help with them I can't believe MS and HS standards are lower than Elementary
- 20-24 ES no more than with the current expectations to get kids to high standards and behaviors we can't teach with 25-30 students in classroom and do our job

well.

- 25
- 22 for ES, 22 for MS and 26 for HS
- 16 Pre-K, 21 K-2, 24 3-5 and 24 MS and HS
- 16-20. Smaller the class, the more controlled the classroom.
- Class size in all grades - especially K - 5 - Should absolutely be NO more than 20 students.
- 20-22 for general ed. The SPED classes are way too large, especially at the high school and elementary levels.
- I agree with the current standards, BUT we need to be diligent to adapt where the standards are exceeded
- Class size should be weighted based on needs of learner's and behsiorSl support needs as well has high needs disabilities requiring the most modification (blind, deaf, non-Englisg speakers
- 18
- 18 to 20
- Those standard number sizes are perfect but need to be firmly capped.
- No more than 15 for ES. Provides more individual opportunities with teacher. Also easier to manage the increasingly common behaviorally challenged kids and provide better focus in social learning for them. Could provide an improved ability for the behaviorally challenged kids to have self control in MS and HS
- ES should be lower. These students need more support, and are not as independent as older students. It's nice these are the standards, but we know class sizes are often considerably larger.
- I believe these are good goals.
- 20 ES 24 MS 24 HS
- 20 for ES 22 for MS 22 for HS
- 24 sounds right at all levels
- 20
- All classes need to be at 22-25 at the middle school level. Problem is, although your numbers show this to be the case, reality is many classes are over 40, while others are at 8. We need more elective teachers as it is usually the encore classes that are huge.
- Class sizes are currently much larger than these numbers! Many children, teens have Behavioral Health issues and/or come from abuse/neglected families. They require more attention than kids without these issues so they do better is smaller classes and teachers are able to teach instead of spend all their time progressive disciplining!
- 24 for ES
- 25 is good. 20 years of education experience and I have taught classes ranging from 10 to 80 in public schools. To me 25 is the sweet spot. For k-1. Think it is around 20.
- 18
- 20 all
- 20
- 20 for ES, 20 for MS and 20 for HS I know for a fact student size at RHS in some classes are as high as 35
- 15
- 20-22 ES 18-20 MS 18-20 HS Teachers at the middle and high school levels need to

have at least one prep period, and all me & ha students must have a study hall where a teacher can assist them with work.

- 20 for ES 24 for MS 20 for HS
- 20 max
- 20 or less
- Our current class sizes are above average. I believe for our community we would need to actually meet the recommended numbers before seeing if they need to go amaller.
- Our current class sizes are above average. I believe for our community we would need to actually meet the recommended numbers before seeing if they need to go amaller.
- 20 across the board
- 22
- 20 for Elementary
- 20 for es 25 ms, 25 hs
- The class sizes are fine.
- 22
- 20
- 24 is too many kids for any given kindergarten class. Also ideal class size should-n't be set in stone. As we know academic needs should be taken in consideration each year for every class & size based upon those needs. Flexibility in class sizes would help create ideal learning environments. At the high school level in core classes it would be great to see 16-18 kids.
- 20
- Of course the smaller the better.. With money always a concern 20 would be a good target.
- ES 20 MS 16 HS 16
- K-2 currently caps at 22 before outside students are considered. 3-5 are capped at 25. Going just by numbers does not allow for behavioral issues with students who should be on behavioral plans.
- 20
- 12 for ES, 15 for MS, 18 for HS
- We have 34 in Algebra. That is too many! ~!~!! 22
- 20 for all grades
- 20
- 24, 22, 22 but observe these
- Class sizes for k-3rd should be at 20 or less.
- 20 should be max. Especially for elementary age when they are more prone to needing one on one time.
- 20-22 ES, 22MS, 22HS Not to exceed 25
- Current standard class sizes.
- 20
- 22,18,18
- The sizes above seem appropriate, if that's what is actually happening. I can't imagine it is.
- Smaller in ES
- 15-18 for ES, 20 for MS, and 22 for HS. I think class sizes are far too large, these days. We should be talking about adding an extra teacher to each classroom, also.
- 15-18
- 22
- 18
- Kinder should be 20 or less. No more than 25 for grades 1-5.

- 18-20 for ES, 20 for MS, 22 for HS
- 20 and below.
- I would like to see a twenty four average in all academic classes
- 12-16for ES, 16-18 for MS and HS
- 20 ES; 18 MS; 22 HS
- Each of my students in elementary are in classroom over 26 students. In my opinion, no more than 20 should be in ES, MS or HS.
- 20 per class is a desirable size.
- 20 ES 20-25 MS 20-25 HS
- Kindergarten 15 1st 20 2nd 22 3 23 4th 24 5th 25 6th 26 7th 27 8th-12th 28 Of course there are many exceptions (science labs, welding stations, choir, piano, etc.)
- If we could stick with those numbers, that would be wonderful. Unfortunately, most class sizes are much larger. Melrose class size is way too big!
- 20
- 16
- Those numbers may be the general rule, but we've seen class sizes have more students than these number.
- ES - 24 22 -24 for middles school...I teach middle school and this is NOT our class sizes (up to 32 or more in some of my classes) HS - 22 -24
- I think ES needs to be lower than MS and HS! I think primary grades should be cut off at 20 and no more that 25 in intermediate grades. MS and HS can have bigger classes-up to 30 in some areas. I think core classes at those levels should max at 25.
- 24 or fewer in core education classes, 30 or fewer for elective classes
- Kinder: no more than 18 First: 22 Second: 22 Third: 24 Fourth: 25 Fifth: 25
- ES 20-22, MS 22, HS 22
- ideally classes would be close to 20 students with at least a part time aid.
- K - 2: 20 3 - 5: 24
- 10-15
- 22 ES, 22 MS, 22 HS
- 20 all the way across the board
- K - 18, 1st - 20, 2nd - 22, 3rd - 22, 4th - 24, 5th, - 24, MS - 25 HS - 25
- K-2nd 20 students 3-5 25 students Middle- high school 25 students
- Because younger students need more personalized instruction I would say that they should have between 16-18 students in ES; as students get older they need less personalized instruction, MS should have 22 and HS should have 24
- No more than 18 per class, especially in kindergarten.
- 24
- Where does the "Current standard class size data come from"? This data is inaccurate for my building. Class sizes are typically over 30. These would be desirable class sizes: 22 for ES, 22 for MS, and 22 for HS
- I'd say between 16 and 24 are great numbers.
- 20 across the board
- 18 for ES , 20 for MS, 22 for HS
- What % of our classes fit those numbers? My smallest class is 32
- 22

- 22
- Kindergarten: no more than 15-20 Other numbers seem to be appropriate. However, research shows improved academic outcomes with smaller student to teacher ratios.
- (K-2) 15 kids (3-5) 20 (6-8) 24 (9-12) 28
- I think smaller class sizes for elementary school, so I would argue 22-25 for elementary (K-5), 25-28 for middle and high school.
- those class sizes are satisfactory
- 20,20,20
- 16 es, 22 md, 25 hs
- 20 would be a desirable class size and no more then 25
- 22 - The standard class sizes are not typical of my class sizes. Most are over 30.
- 18 ES 20-25 MS 20-25 HS
- 20-25
- 20 ES, 20 MS, 20 HS
- Current stated average group size seems ideal
- 20 for all
- 18-20 students tops no matter the grade level. It gives teachers more availability to teach and give 1 on 1 time where needed
- 20 for elementary, MS, HS
- 15 students for K2 20 students for 3-5 25 students for middle grades & high school.
- 20 for ES 22 is acceptable for MS and HS
- K-2nd- 21 3rd-5th- 25
- This depends on the course. In a typical "lecture style" arrangement of a "core" subject (history, math, english, etc.) about 20 would be ideal. However, many of these subjects (despite the implications of this question) have larger numbers than this. On the flip side there are many subjects (band and choir for example) that want large class sizes.
- under 20 for K-2, 20-22 for 3-5, 22 for MS, 22 for HS
- Wow - I am concerned that the classroom size for ES is larger than that for middle and high. I think research says that optimal classroom size for primary students is 18 or fewer students. In order to meet the needs in small groups for each student, I think 20 or fewer students would be great. Right now, my highest readers do not receive the support they need due to not having too many students.
- These numbers are not accurate. Class sizes in middle school exceed 30 students. Appropriate class size should be max of 20
- 18 for ES, 20 for MS & HS
- I think elementary should be capped at 20 students, with a goal of 15. Middle and high school should be capped at 25 with a goal of 20. Teachers will be so much better able to teach, grade, and care for students when class sizes are smaller.
- 20
- I believe smaller class sizes for elementary should be considered
- Current numbers seem good.
- Primary (k-2) - <20 Intermediate (3-5) - 20-24 MS, HS - >30 With the consistent increase in the need to individualize instruction based on behavioral and in

structional needs, and the limited amount of support staff, elementary class sizes must stay small. With elementary being grouped solely by age based grade levels, the variation of instructional levels and concentration of difficult behaviors is quite high. This forces teachers, who already teach all subjects in self-contained classes, to teach at many different levels for each subject while also handling ever increasing instances of behavioral issues. The only way for these teachers to be effective is to keep class sizes low enough to allow them to have personal and meaningful instruction time with each student instead of being forced to choose how to best reach the average needs of the group at the cost of individual needs. In MS or HS, students must be able to be grouped more by need and level which allows for them to be placed in larger or smaller classes to suit the individual needs. In this case class sizes should be able to vary greatly to meet the needs of the students but should never exceed the point where students feel known and are reached individually by the teacher.

- 15-20 students
- 24 is too high for ES! K-2 especially should be capped lower than that, ideally no more than 20. I am shocked that ES has a higher number than MS and HS.
- 20 or under for elementary, the above is fine for ms and hs
- 20-22
- K-2= 18 3-5= 24 6- 12= 25
- 22 for all levels
- 20
- K-1 : 20, 2-5: 25, 6-8: 27, HS: max 30.
- 18-20
- As a high school employee, 22 seems like a reasonable standard class size, depending on the class. Obviously, it would be great to have smaller class sizes for both the strategies classes AND the honors classes.
- With the huge influx of high needs, high behavior students, I think ES should be no more than 20. It seems off that MS and HS would have a lower class size than ES.
- 18-22 Elementary 22-25 Secondary
- 20 for ES, 25 for MS and HS
- 18
- 20
- 15 for K, 25 for 1-5 ES, 25 for MS, 25 for HS.
- Should be atandardavroas all schools at minimum. Preferred would be a lower teacher to student ratio at the lowest grades and increasing with student age (ex: 1:20 ES, 1:22 MS and 1:24 HS)
- N/A - In order to build my program, I want high numbers in the classroom and I don't think that information is helpful for what you're looking for. Based on previous experiences, I would say the "standard" size is not the "typical" size in elementary - I often had classes of 30+ and I think they need to be at most 24, the lower the better for student outcomes.
- 20 ES
- 20-22
- This is a complex question to answer and to ask "the public" who are not professional educators. As we are experiencing more students with poor emotional regulation who are coming to school with l

- imited educational experience the scale would slide even across the elementary. Kindergartens should be the smallest with 12 students per classroom, but even that classroom would need some flexible options to support students with a higher level of need. 5th grades could be larger then that (say 18-20), but would benefit from the opportunity of guided group activities. In my experience, educational systems with small class size housed in a larger school with more flexible opportunities produce solid outcomes. For example, if you have 3-4 classes in a grade level you are more likely to have 6-8 students at the same instructional level who would benefit from group work (elementary level). One must also consider the environment in which these classes occur to ensure they allow for regulation. (Space, light, temperature, reduced clutter)
- 24ES 25MS 25MS
- My opinion is that the standard class sizes listed above sound amazing, and utterly unlike the (substantially larger) class sizes we actually have.
- 18-20
- Kindergarten-20 or less Other Elementary- No more than 25 Middle School- No more than 25 High School- No more than 25
- 22 is a tiny class in our middle schools If classes were at 22 that would be great but they are usually 28-34 here at Fremont
- 16-18 for primary grades
- 22 ES 22 MA 25 HS
- 22-24 students per class
- 20-25 max
- I think the class sizes we implement now are adequate.
- 18 ES 20 MS 24 HS
- Middle School, no more than 24 students in each classroom
- 24 ES, 24 MS, 24HS
- 20
- Class size can't be determined by a number only. The student population in a classroom, the SEL development, the combination of behaviors in a classroom, and the support that a classroom and its teacher has should all be variables that help determine an adequate size.
- 20 for ES, 20 for MS, and 20 for HS
- 18-20 for ES, 22 for MS and HS
- 20 or less for Kinder 22 for 1-5
- 20ES, 22MS, 22-24HS
- 20-22 for all grades
- 20-24
- 20 Es 20 MS 20 HS
- I feel there should be a cap 24 students in every classroom.
- Class size should not be over 25 regardless of the age.
- I believe a class size of 20-25 is appropriate.
- Primary: 16, Intermediate: 20. MS 25, HS 30
- 24-26
- I feel that no classroom should have more than 20 kids across all grade levels
- 20
- 22
- 20-22 However facts be known, there are

- a surplus of elementary classes approaching 30, many at 25. Middle school classes are very much at 25 or more. Many high school classes are at 34 and 36 in some cases. I thought the reason for closing Rose Elementary a few years ago was to balance class sizes? Your current standard class size estimates above are very misleading to what is actually happening in the classrooms.
- ES no more than 20 and preferably 15 in Kindergarten, MS 22 and HS no more than 25
- 20 or less for elementary 25 for middle school 25 for high school
- 25
- Those numbers are good. The problem occurs because these are "averages". Very large classes and very small classes average to those numbers. There needs to be a "cap" so that the extremes are "closer" to the average.
- sounds good
- Elementary should be under 24. Kindergarten should be closer to 20.
- mid 20's is ok but also need to keep an eye on the students in the class and if there are any issues that need to be separated
- Any class size over 20 - 24 in the elementary is too large. The teacher to student ratio is foundational in building relationships and providing the instruction that each child needs.
- Kinder under 20 1-2 22 students 3-5 24-27 middle not to exceed 30 High school not to exceed 30
- Currently okay.
- K- 15 Elementary - 20 Middle School - 25 High School - 25 Alternative Education - 20 Special Education - 10
- ES 24 MS 20 HS 25
- 20 ES, 25 MS, 25 HS
- 20-25
- 20
- 18 ES 22 MS 22 HS
- 22 Elementary 24 Middle School 26 High School
- It would be great if we had the standard. My classes are 7-10 students higher than the standard stated. I would say that the ideal size for a middle school science class that runs labs 2-3 days weekly would be 18-22.
- 20 ES 20 MS 25 HS
- Elementary needs to be lower, 18 or so. Best practices for MS and HS would be at 20<.
- 20 for ES, 22 for MS and 22 for HS
- less than 20 in ES
- 22-24
- 22
- 22
- No more than 25
- 26
- 20 for KG, 22 for ES, 22 for MS, 25 for HS
- There is not enough information in this question to answer accurately. Class size has way too many factors to just assign an arbitrary number.
- 20 students
- Less than 20.
- 25

- 22-25 max
- 22 across all ages should be the maximum
- 25 max, and less (15) for classes with students with higher needs for support
- 18-20 max for all classes/grades.
- 15
- Twenty for high school
- In my opinion, i have never seen class sizes that small, those numbers sound perfect but i highly doubt you will find them in anywhere but rural communities. From my own experience, class sizes range more from 26 to 34 students, so when you say 24 - 22, i say perfect, if a teacher cant handle that small a class i would start looking to teachers who teach in bigger cities for help
- Current Standards seem okay
- 18-22
- 20-22 for ES; 22-24 for MS; 26-28 for HS
- The only class that I have fewer than 25 students in at Roseburg high school is my Writing strategies class. My court English classes are all 25 and above. I would love to have a core class of only 22 students.
- I can't believe that would be the class size for HS. It seems likely that it would be an average of heavily loaded core classes and lighter electives or specialty classes.
- 20-25 is perfect
- Good
- No more than 20 students per class and no more than 15 students for strategies classes.
- 24
- 20 ES 25 MS and HS
- k-5 20 Middle 25 High School 25
- 18 for ES, 20 for MS and 35 for HS
- No change is needed
- 20
- ES 20, MS 22, HS 24
- 20 20 20
- 18 for elementary, 20 for midd sch, 20 for hi sch
- 22 ES 24 MS 24 HS
- 20
- 20 for all levels
- class sizes OK

Question 6:

- Gym updated
- More bathroooms are needed as our student population includes a growing number of health concerns.
- Each school needs a dedicated gym separate from the cafeteria.
- Some schools need a music room or a gym.
- The Elementary Schools don't have air conditioning and while it only matters for a few months, those months can be horrible.
- With temperatures rising and the school not having air conditioning units it makes it extremely uncomfortable for teachers and students to focus, especially during state testing months. Air Conditioning units should be put into classrooms gradually each year to offset costs of installation.
- Unknown as I do not have children in elementary school. I do think that band, choir, arts, possibly even foreign language would be valuable to add to curriculum. This would require new facilities.
- I don't know
- No opinion
- I'm not in elementary, so I can't really give a valid opinion.
- No Comment
- Green Elementary's building is super old, as well as Sunnyslope
- No Opinion
- No opinion
- N/A
- no opinion
- N/A
- NA
- focus on the highschools
- i do not remember
- Elementary schools like Eastwood need a separate gym for indoor PE and recess that will not interfere with lunches.
- Full-size gyms, Tracks, Baseball fields, Better sound systems for assemblies,
- Facilities should include space within that allows community support organizations to assist our students such as mental health support, office space confidential meetings to occur that could include case management (DHS, Community wrap around). Additionally, quality physical education space that doubles for community programs, activities and athletic program practices. Our facilities and schools are the center of our communities, and define our community. A child's involvement in mentally and physically healthy activities, encouragement to take appropriate risks in supervised activities is critical to their success, especially when we look at the numbers of young students who do not have an opportunity in their neighborhood (school) community
- Technology for each classroom. Currently grade levels share pads or chrome books and the technology is outpacing the need. The ability to upgrade equipment and the connective ability to access the internet are a huge part of being able to survive in today's workplace. Students should have access in all classes including fine and performing arts to technology.

- I do believe most of our elementary schools need their heating and cooling updated.
- Melrose needs an actual cafeteria and gymnasium!
- Indoor gyms
- heating control in classrooms and A/C in all classrooms.
- I dont know enough yet to surmise
- Playground equipment needs a huge improvement. Many of the elementary schools don't have heating and cooling systems for the classrooms and could really use some improvement towards that area.
- Class size is the biggest issue. Many schools have a need for more classrooms, but no where to put them, even if additional teachers were added to the budget.
- Air conditioning
- Broader special education classes, courses, and opportunities. With the increase in autism, aspergers, ADHD/ADD, etc., we need more qualified teachers, aids, and counselors that are taught how to help these students flourish and not be left behind. They shouldn't be stuck in one general special ed class for the rest of their schooling.
- Safety. The majority seem very open and accessible in lock down situations
- Better food need to be had the school food makes the kids feel sick and upsets their stomachs they need to be able to focus on their studies not having stomach aches and in healthy food every day
- N/a
- N/a
- N/a
- Improved and more bathrooms
- The playgrounds at all of the elementary schools are in disrepair and not large enough to accommodate the number of students who use it at each recess.
- N/a
- Better ways to deal with bulling and some form of counseling for both the child being bullied and the bully themself.
- Separate gym spaces from cafeteria space. Fencing and security needs.
- Gym and Cafeteria at elementary schools. General maintenance of facilities and grounds. Rid the classrooms of mold smells. Updated flooring. Some classrooms are really hot. That is not conducive to learning. Playgrounds that are rotting and could use updated equipment. Do they have enough equipment for the size of the school.
- Playgrounds: We know the importance of play and getting exercise. I would support elementary schools being updated/modernized.
- Some Elementary Schools need to be fenced for student safety.
- Air Conditioning is needed! It is too hot to teach and to learn! Safety: the cross walks/bus pick up/parent pick up situations aren't safe at Hucrest. There needs to be official cross walk duty people in front of Hucrest. Kids are funneled out the front doors and the large mass of parents/kids make the space too crowded and not safe. An alternative should be thought of. EX: parents could wait under the covered area or at the side parking lot

and kids could be taught to go out the side doors. This would free up the con

- gestion near the front parking lot and the bus zone. Elementary classes need new desks. Many of the desks are older than OLD. They are breaking and awful. More under cover areas are needed at the Elementary. Kids are forced to have indoor recess when it's raining because there isn't enough space for all the kids to go when it is recess time. More school safety cameras/video. ES need locks on the exterior doors that are safer and updated. Ones that provide more security when intruders or safety issues arise. Exterior Doors would unlock with badges rather than unlock with keys. This would allow exterior doors always be locked. Students use a badges when they move from an exterior classroom to and interior location in the building during class times. During passing times, the doors are unlocked. Other school districts have this system in place. All it takes is a bit of research into what other districts do and we can put it into place in Roseburg.
- ES need to have a gym and a cafeteria. Having one space for both limits what schools can do.
- I am not that familiar with specific needs at the elementary level
- Does Athletics include middle school fields and tracks which are atrocious? There needs to be space for furniture to be stored at the sites in case more is needed. Are we concerned about mold in buildings?
- Cleanliness and overall outside appearance...landscaping kept up. Why improve if we can't keep them looking nice?
- Eliminating RED flooring in Elementary classrooms (NOT conducive to "calming" environment.)
- Why not open Rose Elementary back up and re-draw our boundaries? This would take care of class size, more space for a "science room," and the need to build onto existing buildings.
- Why don't we open Rose Elementary back up and create smaller classrooms? That way there would not need to be any further building projects.
- Plumbing, Electrical, And HVAC are still way behind in upgrading our facilities...
- Communication and bullying
- I feel that with so many hot days in our school year, some form of AC system should be looked into. Even if it were ceiling fans. A second problem I have seen is parking at many of the school and after school traffic being an issue in the neighborhoods.
- More field trips, more art!!!!!
- Air conditioning
- Hucrest: A student/staff bathroom by classrooms/playground out back. Offices/spaces for the PE teacher, CDS/TOSA, custodians that aren't make-shift in some funky room that is a bathroom, storage, and clothing closet in one. These are professionals that should have a space that meets their needs. CDS needs a space to work with children in small/large groups.
- Updated playground equipment/playgrounds
- Safety and security are the most im

portant items at this point.

- I think schools should have rooms in addition to classrooms for specialized instruction, and should have rooms designated for staff to meet
- Safety, The Security at all Elementary schools are low. Specifically those on a main road.
- NA
- Not sure
- I am concerned about aging plumbing and electrical infrastructure.
- I believe every school should have some level of temperature control. Teachers and students should not have to work in the classrooms that are in the 50s or in the 80s. Teachers should be able to go into their classrooms early in the morning, stay late in the evening or go in on the weekends and not have numb fingers and toes because many classrooms do not have any sort of temperature control.
- covered play areas for the wet season
- none
- Air conditioning. Our buildings are old and are extremely warm during the first few months and last few months of school.
- Class size and security biggest needs
- Air conditioning! Teachers & kids get grumpy in the stuffy hot rooms we have and a lot of allergens make life difficult as well. It matters for everyone's learning, not just K, DLC, DNC, and stinky 5th graders:-)
- I'm heartened to see the above question regarding planning ahead for the day (very soon) the District will be overflowing with children eager to learn and be safe.
- Air conditioning needed
- Heat and AC systems are not in consistent working condition. All rooms need AC. Student do not focus as well if rooms are too hot or cold Pe snd cafeteria facilities need to be separate because breakfast and lunch set up take time away from gym availability for classes Playgrounds need to be handicap accessible especially for schools with DLC and physically handicapped students .
- site safety, classroom flip locks that actually work, site managers that actually do their jobs and make sure campuses are looking nice at all times.
- No opinion
- Hucrest is absolutely open; are all doors locked during the day? I also am surprised by the fields: there are dangerous holes in them and along the track. Some gardening and trees would enhance the track areas and provide shade. The track itself needs repair so kids don't twist an ankle.
- Closed campus! The elementary schools especial GREEN is wide open and exposed to the public. They need security systems and measures taken. Blinds are window. A sound system that works in all classrooms. Fences and gates in the front of the school. This is crucial for the safety of the students and teachers.
- I don't like the overflow rooms being used for science or art because they will be set up for those things and then the need as an overflow will occur and they'll be taken away. Make a dedicated room for those and make another room

as the overflow.

- Physical Education, Music and adequacy of lunch room and preparation spaces.
- Our school is at capacity. There is great need for more behavioral support in all buildings and space to provide that support.
- The playgrounds need to be updated a be made safe. They should have shade structures over the metal structures.
- Kids need to be safe and learn. Parking, pick up lines, building needs, etc are needed
- Elementary schools need air conditioning. When temperatures rise over 80° in a room, optimal learning is not happening.
- Handicap accessible ramp at Winchester school. It's not just students that may need it but parents and staff as well. I was temporarily handicapped due to an ankle fracture and required assistance getting done the very unsafe pathway because I was unable to use stairs. My childs class was in the lower rooms.
- Not sure...
- Cooling for classrooms. Fixing issues with leaks and mold. Addressing plumbing issues such as rust in pipes.
- Eastwood needs an outside play structure that is covered. It is the largest elementary school but only has a gym/ cafeteria as compared to other elementary schools. There is not enough time in the day for the students to have PE and setup for breakfast and lunch. There is also very limited space for the students to play outside when it is raining.
- resource officer
- Adequate heat and air conditioning is desperately needed. And having the entire fenced for security with on way in and 1 way our
- 15 years ago the high school got many new rooms and the elementary schools got rid of a grade, leaving room within their schools. The middle level has received little to nothing in the last 15 years. We have no new rooms, still have the same population, while many of the old rooms that use to have teachers in them now support SPED classes. Where are the thoughts on how to improve the middle schools, at least take them back to what we had in the early 2000's? Fremont is still short 5 teachers from 2008 and the wellness department has the same number of teachers, but their responsibilities have doubled.
- Special needs teachers for behavioral health so teachers can teach!!!
- More storage and shelving for curriculum, blacktop repair, gymnasium update, multi-purpose room
- We need to get air conditioning in the schools that don't have it. We have children with medical needs and disabilities that are not being addressed due to not having AC. As we retrofit this must be a priority to make facilities last as long as possible.
- Playground improvements
- Safer, more organized pick up at Hucrest Elementary. Many kids almost get hit daily, cars illegally park, speed, block driveways, park in driveways, blocking intersections and cross walks and damage property. Seems that the safety of the children and the respect for the neighbor

hood isn't important.

- Gym
- The pick up/drop off at elementary schools must be addressed (specifically Hucrest). It is extremely dangerous, especially in the afternoons. My kids don't have to cross the street until they are far from Hucrest but I can't even drive down Klein during drop off or pick up for fear of hitting a car or a person.
- Breezeways, instead of enclosed buildings with hallways, (e.g., Winchester Elem.) are not safe.
- Individual desks instead of tables for kindergarten. More individual one on one help for students in crisis
- N/a
- We need more adults able to help with individual student needs. Our community is made of children that suffer numerous family issues. With more TOSA"s on duty more families could benefit.
- We need more adults able to help with individual student needs. Our community is made of children that suffer numerous family issues. With more TOSA"s on duty more families could benefit.
- Art room and technology
- Where would the funds for these additions come from? By not receiving the whole picture, it is hard to give accurate opinions.
- School aides in ES every teacher should have a full time aide. This age requires keeping kids engaged and active to stay focused.
- Food doesn't seem suitable for children.
- Need security at the entrances to the school, guards or electronic monitoring and cameras with video recording.
- Additional cafeteria/gym space. Art room or Lab
- My ultimate concern is getting healthy food to these children at lunch. I would pay higher taxes if i knew it would go towards healthier food.
- Air conditioning Sign in for guests that does a background check
- Most Elementary schools have no way to keep unwanted intruders out of the buildings. There are no cameras at many schools and most playgrounds are being overrun by vandals. Needles and human waste are regularly found on our campuses. The money allotted to our football field God make major improvements for all schools. Did you all know that our elementary schools have no air conditioning. Our kids swelter in terrible temperatures at the beginning and end of every school year. Some have to purchase drinking fountains with booster club funds. District office and the high school both have a/c. When will our littles get what they need?
- Unknown
- More equipment for recess - especially for rainy day
- Restrooms and water areas.
- Mental health at each school
- Safety officers at elementary schools
- Classroom with folding dividers as walls should be UPDATED to walls. Noises from the other rooms are heard and make learning in the adjoining classroom difficult.

- Air conditioning! It's hard for the kids to focus when they are hot!
- Not all schools have adequate restrooms accessible from the playground, very few outlets in classrooms, yet extensive electronic needs...
- It would also be nice to see our Firgrove front office remolded. This space is very limited and imposes an issue with signing children in and out. I think parents as well as the awesome staff at Firgrove would greatly benefit and appreciate a more spacious area.
- None.
- Safety! Safety! Safety! We need more secure buildings and grounds.
- I believe each classroom needs efficient AC and heating. It's hard for kids to be expected to learn when they come in from recess to a blazing hot classroom and they are uncomfortable. An adult wouldn't find it satisfactory so we should expect our students to.
- None
- Air conditioning in all classrooms. It gets so hot that it is hard to teach and hard for the kids to learn
- Winchester Elementary is bordered by an empty lot that drug using transients inhabit. They frequently walk the fence line during recesses.
- The elementary schools desperately need new heating/ac, more parking and updated plumbing.
- N/A
- If the schools are being modernized, there are a few schools that could do with adequate ventilation, especially Green Elementary. The rooms get very hot when the weather warms up and the teachers have to supply their own fans to cool off the students
- Plumbing and electrical are outdated at my school and A/C is non existent.
- Air conditioning in elementary classrooms, private bathrooms for DLC classrooms and collaborative meeting spaces.
- Adequate restrooms at elementary schools
- Unknown
- A/C Demolish and rebuild antiquated schools Safe and secure classroom doors and systems and Fencing
- Separate gyms and cafeteria at each elementary. Especially with mandated physical education instruction increasing instructional time.
- AC and working heaters!!!
- Cleaner water (some faucets are rust color water), A/C in classrooms (especially in 2nd level rooms)
- Cafeterias updated to be healthy options and healthy environment - pleasant and safe.
- I think our buildings are dirty! Kid bathrooms stink and are dirty, adult bathrooms are grimy and gross, floors look terrible, the outside appearance is overgrown and lots of weeds. I know that there is only 1 person on each shift, but I still think it could be cleaned better.
- Heating that works consistently in the Winter, and the addition Air Conditioning in the buildings.
- safe and secure campuses are a must!
- Fenced campuses

- making sure they have proper heating and AC.
- In most of the elementary schools, all available classrooms are being used so when a grade is at capacity, if there's no classroom available to add another class at that grade level, it isn't possible. Our kindergarten classes have been huge. The students are coming to us not ready for kindergarten so huge behavior/social problems. Having 25-30 students makes it extremely difficult.
- Air conditioning for classrooms- especially in older buildings. A private restroom for behavior/high needs students that IS NOT a staff restroom. When several portables are added to a school due to increase in student population, considerations for additional parking, cafeteria seating, restrooms, playground equipment should be made.
- Eastwood needs a new heating system, there is no reason that my child should have to use a small space heater in the classroom to stay warm.
- The schools need adequate air conditioning as during the hot months, the classroom temperature sometimes reaches 90 degrees or higher.
- SAFETY!!!
- Fir Grove is a germ factory. Building needs antimicrobial improvements and better sanitation.
- Each Elementary School needs it's own Gym. Cafeterias doubling as Gymnasiums and multipurpose rooms are inadequate. This needs to be fixed as a top priority!
- More for high needs children/special needs
- Playground safety
- Many elementary schools groundskeeping seem to be lacking appeal.
- Eastwood could use a dedicated gymnasium and an undercover play area, both could be used in foul weather. Currently, our cafeteria doubles as a gym which is problematic when it is time for lunch/breakfast or programs. Level playgrounds with updated equipment and a track would be awesome also.
- Many of our elementary sites could use another gym. I'm not sure that there is space to build one, but it would be great to have a cafeteria and a gym at each building. Also, new playgrounds at each of the elementary buildings.
- Very limited cafeteria/multi purpose space in some schools
- Security
- Their are a lot of behavioral issues in elementary schools that are not being dealt with properly. This issue really takes away from the 20 other students in the class because teachers have to focus so much of their time on those two or three behavior issues.
- More Outside grounds maintenance
- N/a
- Fencing needs to go all around the school property so that little kids don't have the opportunity to wander off.
- Proper room for storage at each site. Specified space for each class room, and an area for storing school items such as desks, chairs, etc. Many things are discarded or ruined because of an inade

quate on-site storage facility

- Gym for Eastwood Elementary and air conditioning for Eastwood
- Music classes and good working instruments are needed
- We do not have air conditioning. Our rooms are far too small for the 28 kids we have in each classroom.
- If my school adds a pre-school class, we would need an a additional classroom for reading groups, special guests, dental program, etc.
- I am unaware of any as I do not teach at the elementary schools.
- none
- Right now, many of the classrooms at Winchester Elementary have partitions dividing the classrooms. It would be great if we could have a permanent wall built (with a door) between the classrooms. It is very loud throughout the day, and my students have mentioned many times that it can be hard to focus when we are working quietly and the other class may be doing an activity - or vice versa.
- The playgrounds and equip need some love and attention.
- Updated custodial equiptment
- Calming spaces that allow students who are struggling with behaviors in class to learn skills to help them get back to a place where they can be effective learners.
- I have worked at Sunnyslope Elementary for almost 20 years. Our playground is not equitable to other elementary schools. We have already had 2 slides removed for safety reasons, but nothing was brought in to replace them. There is not enough equipment for the students to all safely play on, this leads to behavior issues at recess time. Our parent club works very hard to raise money, but we do not make enough money to get new playground equipment as other schools are able to do. Please help our kids have an equitable recess experience!!!!
- N/A
- We really need more gymnasium/ cafeteria space- there are very few ways to schedule the many classes that do not interfere with those rooms.
- CAMERAS. Better security options. More IAs available for students. Special Needs specialists available (more than one).
- Separate gyms at the sites that do not have them.
- Unsure, I work at RHS and have not spent any time at the elementary schools.
- I think all Elementary schools should have a separate gym and cafeteria area. I also think it is critical that each school has a space that is not a designated classroom to use as needed.
- Playgrounds need to have a safer ground cover (no pea gravel) and updated equipment for the students that is safe. Too many children come to the office with injuries from recess.
- Not sure of needs in Elementary.
- Not familiar with elementary school facilities
- Bathrooms need to be considered for remodel and safety. Fencing and signage at sites regarding safety and public access.

- Athletic fields and facilities at ALL ES need improvements
- Not all elementary schools have a dedicated space for music and/or PE. One music room (Sunnyslope) is a renovated locker room with showers and toilets still in the room. I don't think this is safe for students and I think it shows that the priorities at that school are not a well-rounded education. Music is forced on Sunnyslope's administrators and they did the bare minimum to meet the board's expectations on having a dedicated music room. The room is too small for any of the classes at Sunnyslope and, last year, DLC did not receive music education because of the terrible scheduling and because there was concern about them being safe in that music room. At Green, the cafeteria is where PE is held, so students are often running laps in the same place that had milk spills all over the floor 10 minutes earlier. The custodians do an amazing job of trying to have everything out of the way for PE Classes and making sure it is safe for students to be running in there after breakfast and lunch, but that isn't their job. Thier job is to clean spills that occur in the lunchroom, yes, but rushing to clean things so a class can be held in there is not a recipe for success and safety. No one that rushes to get something done is going to do it well 100% of the time, and I can just see someone getting hurt. It seems like the district randomly decided to have music and PE all year but gave no thought into classrooms and scheduling to make that work.
- n/a
- N/a
- One overflow classroom would not be enough, already many schools are using any overflow space they have. I don't disagree with having an art or science space, but that should be the purpose of those spaces. Generally a space like that isn't able to be flexibly used for small group math, reading, or writing. In many buildings even the additional professionals don't have enough space to do their jobs. ELL, School Psych, Speech, hearing/vision often share small spaces or large flexible space, neither of which is conducive to providing appropriate services to our most sensitive populations. Each building should be considered separately to meet it's own needs as each is already unique.
- Separate Gym/Cafeteria at each facility
- none
- new pipes etc. for clean drinking water for our students and for staff. Although our water tested clean for lead, it is running out of the pipes in all classrooms a light brown color!
- Fencing at Winchester. The campus is very open...have had a couple of problems with homeless using the campus.
- Cafeteria kitchens need to be upgraded and enlarged in some of the elementary school. All elementary campuses need to have the ability to be locked down for safety of the facilities and for the schools who have elementary students who are runners.
- NA
- I am addressing only the facility needs at Eastwood that school is so overcrowded. The largest or second largest school in

the district with the least amount of space. We may be adding the preschool classes to Eastwood which would be welcomed but as of now are only being seen as another space issue. Eastwood DESPERATELY needs additional gym space. If every person in this district came each day and watched 420 students try to eat lunch in a timely manner while the PE teacher is waiting to use the gym maybe they would understand the challenge Eastwood faces.

- More classroom space for overflow and staff for those rooms
- Air conditioning for classrooms. Enough classroom space for each building. Space for sensory or behavioral needs.
- Parking and playground infrastructures Technology needs and maintenance Heating and AC systems day-to-day maintenance needs met in timely manner
- I do not know.
- Improved Playground areas that allow accessibility for all. Fenced school yards for safety.
- Air-conditioning, some classrooms get up to 90* which is not an ideal learning environment.
- HVAC. It is time to update heating and add cooling to all schools
- We need enough staff to keep our schools clean, air conditioning so our staff and students can learn in an environment conducive to learning and upgraded chairs and desks.
- *Student pick up areas can be extremely dangerous as cars do not follow the directions of the school staff. Can the areas be renovated to improve the traffic flow? *We are running out of parking spaces. *Playground equipment is old and no longer fits the needs of increasing enrollment. *The pavement on playgrounds is cracked and buckling.
- providing air conditioning for each school would be outstanding
- Gymnasium space for those schools with only a cafeteria.
- None that I'm aware of.
- Gyms at elementary schools that do not have them or double their cafeteria as a gym. This was a supposed reason to close some schools a few years ago, which was a total political and bunk reason, however it has never been addressed. Roofing so that it does not leak in elementary schools. Locker room updates at the middle schools. Seismic updates as so many buildings are out of code in our area. Green Elementary updates, period. They were in trouble many years ago. Fix Green or build them a new school. Please do not think about floating the idea of shutting down another rural school. Our community has been through this once before and it was awful. There are many other avenues that can be taken rather than pursuing this option.
- Make sure we are accomodating special needs classrooms and space for mental health/behavioral and Pre-K classrooms.
- Elementary schools NEED a designated cafeteria AND gym. They also NEED a covered area or areas where students can play outside during inclement weather.
- Floor replacements and Drainage issues
- Air conditioning More secure campus with cameras and possibly fences

- Air conditioning! The combined effects of 80+ degree classrooms and behaviors at the beginning of the year, and toward the end of the year, creates unmanageable students.
- Safety on the playground is also a huge concern. The ability for any person to walk onto the campus to have access to students is concerning
- No opinion
- Specially designed therapeutic spaces for students to decompress & grow socially/emotionally.
- N/A
- Elementary schools need gyms, tracks, athletic fields and covered play areas as well as updated heating and air conditioning systems.
- Students need a safe temperature to attend school. Classrooms have temperatures of the low 50's in winter and 110 in the spring and summer.
- None that I can see.
- climate control in every classroom.
- Over fill classroom temporary fix. Need to look at a 25 year forecast of growth in Roseburg. The neighborhood elementary model is outdated. Need to combine resources and consolidate to 3 large/super elementary schools. K-5. One MS 6-9 grade and One HS 10-12. Go from 12-13 buildings to maintain to 5.
- Air conditioning, larger classrooms
- NA
- All schools need air conditioning. At our elementary school our main building does not have air and kids get nose bleeds and dizzy in the classrooms. Sometimes the classroom getup to 90 degrees. Teachers would probably stay and work longer at the end of the day
- Cafeteria should be separated from the gym. No classrooms with curtains in between. All classrooms should be inside a building for safety.
- N/a
- Gyms at every elementary school. Bathrooms for every special education site - DLC, sensory room for every elementary school and a site at MS and HS for sped students
- More storage space. Heating and cooling systems.
- There is no air conditioner or good method for cooling down the classroom which can get quite uncomfortable for the teachers and students
- Office staff needs to have kinder approach/welcoming.
- Safety updates, both structurally/seismic but also to keep unwanted visitors off of school property. This is done much better at the higher levels.
- HVAC is a huge issue. It needs to be addressed. If this means rebuilding a school so that it is energy efficient then do it.
- Every elementary school needs to either be re-built, with the exception, perhaps, of Hucrest and Sunnyslope, and Fullerton IV. Green is inadequate in every way except for the cafeteria. The windows are extremely outdated, the classrooms are small, the halls are narrow. All of the schools need a gym and a cafeteria, an adequate stage and sound system, security measures at all entrances and within individual classrooms.
- Covered play areas; air conditioning

Question 7:

- Na
- not sure
- We need an auditorium for performances, so the lunch room/gym can operate fully, and the drama class and band can have their own practice/performance space. We need more hard-wired computers for the tech teachers, instead of wireless. We need "connected classrooms to have soundproof doors--the noise from a neighboring classroom tht is NOT testing is too much for the classroom full kids who ARE testing (ex: JoLane rooms 28/30).
- Wood shop, metal shop facilities as intro to HS CTE
- I don't have kids at that age yet.
- 24/7 Security officer
- Both Jo Lane and Fremont are enclosed facilities that need an upgrade for locked doors for security purposes.
- Unknown - do not have children in middle school.
- I don't know
- No opinion
- Some middle schools don't have teachers that care enough, or students that are caring enough to put in effort.
- No comment
- There aren't enough bathrooms
- No Opinion
- No opinion
- N/A
- The middle school needs teachers who can focus on their class amidst the chaos of rebellion in the students' lives and even with such large classrooms.
- no opinion.
- N/A
- NA
- focus on the highschool
- larger buildings
- Updated locker rooms to include stalls with doors and/or changing rooms
- Replace gym floors. Update locker rooms. Better wireless infrastructure as technology proliferates.
- Same as elementary
- The schools do the best they have with what they have. Comparing local facilities to other schools and districts our middle schools are not as well equipped as others.
- Na
- I do believe that Fremont needs their heating and cooling updated. I do not know about Jolane.
- Auditorium for band and choir performances
- N/A
- I dont know
- Class size is still the biggest issue.
- Air conditioning and vocational elective rooms
- Na
- Same as previous answer, we need more trained, qualified staff to assist special ed students to ensure they're getting the education and support they need.
- Healthy better quality food
- N/a
- N/a

- N/a
- There are classrooms without proper ventilation and space for the number of students using them
- N/a
- none
- Update the structures. Track replacement, field needs, electives classrooms.
- Middle school athletic facilities!!!! This was addressed, but I just wanted to state it again.
- Non-wireless computer labs so that the classes can function properly. Air Conditioning! More school safety cameras/video. MS needs locks on the exterior doors that are safer and updated. Ones that provide more security when intruders or safety issues arise. Exterior Doors would unlock with badges rather than unlock with keys. This would allow exterior doors always be locked. Students use a badges when they move from an exterior classroom to and interior location in the building during class times. During passing times, the doors are unlocked. Other school districts have this system in place. All it takes is a bit of research into what other districts do and we can put it into place in Roseburg.
- Air conditioning
- Additional bathrooms on the east side of Fremont school
- Mold in ceilings
- Unknown
- No opinion!
- Same as elementary
- I don't have kids in middle school yet so I don't have valid information to make suggestions.
- More electives offered for each grade level!
- Air Conditioning
- ?
- Not aware
- Fremont needs to have a lot of updates. We need more room's. The school is bursting at the seam's. The windows in some of the classroom's do not open very good and they are very hard to close. It takes several people to close them. Also pieces of the windows are broke so they do not stay up and the rooms get very warm in the spring and summer when we come back to class. It is very hard on the kids when it gets that warm in the rm.
- Again, most important is safety and security
- Middle schools need safe athletic facilities for all students to participate, and facilities for students to learn pre-employment skills and conduct experiments
- More elective opportunities and sports for ALL 6-8th grade kids
- NA
- Need to have more technology (computer carts per classroom) this would help with testing and projects students need to be doing. There is just not enough to go around.
- Both middle schools are old, and it shows. Classes do not have great heating and cooling systems, if they at present at all. The older buildings send the message that students education is not a priority.

- non that I am aware of
- none
- n/a
- I'm heartened to see the above question regarding planning ahead for the day (very soon) the District will be overflowing with children eager to learn and be safe. Class size matters, positive interactions and attention from adults matters. Please keep in the publics' forethought, It's not just about structures. It's the future. Kids. Engagement/Inquiry, connections and Safety safety safety.
- safety
- No opinion
- I'm not familiar with the middle schools
- ?
- Security, PE outdoor facility condition
- Unsure
- None yet
- Middle school classrooms need air conditioning.
- Unknown
- Not sure
- JoLane is wide open. Easy access for anyone to get onto campus and nobody knowing that they are there.
- resource officer
- see above question #6
- Not as familiar with current situation, but imagine it would be similar to previous question.
- Those that don't have air conditioning need to get it.
- I feel ms should have playground
- Hallways
- There needs to be stricter rules and enforcement regarding vaping. My 6th grader has asked about vaping pot because it happens on a daily basis at school.
- Fremont does not have enough rooms to accommodate classes. Many rooms are in need of repair. Windows won't open or close or leak when it rains. Ceiling leaks. Boiler needs work. All schools need air conditioning!
- More of an adult supervision presence. Again more adults to help monitor and be examples for student expectations. Adults to encourage the behaviors we desire.
- More of an adult supervision presence. Again more adults to help monitor and be examples for student expectations. Adults to encourage the behaviors we desire.
- Smaller schools so the teachers actually know my kid
- N/A
- Locks are not properly operating.
- Safer student drop-off and pick-up methods.
- I believe the middle school is on desperate need of providing an area where ALL students can be indoor during their lunchtime. Having to be outside during the winter months is not favorable.
- HEALTHY LUNCHES!
- Air conditioning. Security for am drop off, and building entrance points. A resource officer on site.
- Unk

- Unknown
- Newer lockers
- Security
- Same as elem
- Safety officers at middle schools
- NA
- N/a
- Ventilation and cooling systems
- No opinion
- The middle schools are the worst in athletic facilities. Security also seems to be a concern.
- NA
- No opinion
- none
- Not sure
- N/A
- NA
- I am not familiar enough to have an opinion
- Classrooms added for programs that have been added or expanded.
- Security and Modernization Track and Field facilities for PE/Althletics repaired
- none
- no opinion
- *Safe social common area for students to "hang out" prior, after, and during non-academic school time. *Quality video for monitoring and documenting. *Common area (gym) to house all students at one time - w/bleachers. *Air conditioning *Filtered drinking fountains (many) *Direct wire computer labs (so connection isn't so slow) *If we could bring back Home Economics - kitchen lab, sinks, refrigerators, sewing machines, etc. *Updated wood shop/ metal shop equipment *Updated art departments *Appropriate tiered choir & band rooms *Exhume hood for science rooms, lab counters for access to work, updated science equipment *Natural bright light for hallways and classrooms *Outdoor garden/greenhouse area
- N/a
- n/a
- Athletic facilities at the middle school are terrible. Both need new tracks, football field is filled with holes, and the gym floors need to be redone. The schools themselves are outdated and need to be updated and could use AC
- security measures
- Eastwood also needs outdoor play space away from other students, it isn't fair that the 2nd graders should have to play right outside of the 4th grade classrooms and distract them from learning.
- IDK
- I don't know.
- Technology room needs to be wired for the 21st century All rooms need air conditioning Safety for the whole campus.
- Middle schools need a separate area for the performing arts. Music coming from the performing arts fill the hallways and distract from other classes in session. An actual health room and a public school nurse are needed at the middle school level. Putting sick children in the counseling center and asking the secretary to serve their medical needs is unacceptable. Increase the number of chrome

books available for the students in middle school to use. We live in a technological age. Give students appropriate access to technology in the classrooms.

- N/a
- Joseph Lane's football field and track is in disrepair to the point that it is a huge safety issue. There are many holes in the field and track itself, making it easy for students to injure themselves while playing football or running track.
- Fremont track...a real one
- I think the middle schools could use a playground structure, too. They have limited play structures.
- No track facilities at either school, no lights on fields, fields should be turfed.
- Security
- I'm sure they deal with the same issues stated above
- Air Conditioning, Wiring for technology, Security,
- More outside grounds maintenance and custodians that actually clean
- Bathrooms may need updated
- Bring back woodworking and cooking classes.
- unknown
- Air conditioning in all classrooms
- We need more working instruments and cases for them that aren't broken
- N/a
- Lack of adequate climate control- air conditioning. Interferes with the learning process.
- NA
- I am unaware of any as I do not teach at the middle schools.
- none
- More technology needed and air conditioning. It gets above 90 and below 40 at times
- No opinion
- Updated custodial equiptment
- Calming spaces that allow students who are struggling with behaviors in class to learn skills to help them get back to a place where they can be effective learners.
- When I travel to other middle schools for sports, I was sad at how our middle schools are pretty outdated compared to the Eugene schools. Most of their schools have amazing gyms with Rock Walls and other fun activities for their students. The outdoor track and field is also not in the same condition as other schools that I have been to.
- N/A
- There is no where for the students to enjoy being outside- they are all crammed into a tiny fenced in area with no room to move- they still need to move and stretch.
- None.
- The band and choir rooms at both JoLane and Fremont MS very much need to be updated. The spaces are too small for the large programs that each school has.
- I am not familiar enough with the middle schools yet to say.
- Security is a HUGE issue! Parking is an issue at all secondary schools.

- Not sure
- Not familiar with middle school facilities.
- Play area for SPED students
- Tracks at both sites need to be all weather and repaired.
- Athletic facilities and fields at ALL MS need improvements
- The lack of air conditioning at Fremont is horrible. At the beginning and end of the year, students are miserable and it causes more behaviors to deal with, while still trying to teach them as much as we can before the year is up or trying to teach them routines at the beginning of the year. My room has windows that are very high up, there is no breeze, and I was never provided with any type of fans - so I bought my own. It seems crazy to me that, in this day and age, we can't have even portable air conditioners in our classrooms. The high today is supposed to be 93 degrees. I have no air conditioning and no breeze in my room, we're getting close to the end of the school year so kids are already excited and having more behaviors, and I have 80 students in my 7th period class. I can handle 80 kids (and manage to teach them quite well) on a cold day. Wish me luck today and make tomorrow better by improving our cooling systems.
- n/a
- N/a
- Other then general size, I think the middle schools are in an adequate situation. Possibly easier to access and supervise open spaces for socialization. More options for physical activity at break times.
- I don't know
- The gym floor at Fremont, the football field surface at Fremont, the track at Fremont are all substandard. The weight room at Fremont is too small for any PE class to use due to class sizes versus facility size.
- drop of lanes are very slow...Restructure of JoLane parking lot
- The grounds at both middle schools need to be able to be secured. Fencing needs to be placed around both schools, so that the grounds can be locked when needed. This would help with safety . Also, if there are problems with facilities being torn up, they could be locked. People in general do not respect the school facilities as they have in years past. It is now the time to make all the schools to the point that they can be locked down, to help prevent vandalism when people are tearing things up.
- NA
- I think Jo Lane middle school needs so much work outside. The school looks to be in such poor condition. Paint and landscaping would be a vast improvement.
- Classroom
- Air conditioned classrooms
- heating and AC replacement
- No.
- N/A
- No opinion
- HVAC. Update heating and cooling at both schools. Athletic facilities need to be improved. Field and track are becoming a safety issue.

- We need enough staff to keep our schools clean on a daily basis. Sadly air conditioning does not exist in any of our schools. It is miserable in our classrooms for two months in both Fall and Spring. We also need upgraded desks and chairs.
- N/A
- Upgrades! Turf and track, equipment.
- Not sure.
- Space made available to focus more on skilled trades. I feel that people will be in short supply in the near future.
- See above
- We need to ensure the middle school students are prepared to attend high school and need to offer
- Fremont's stage is completely dilapidated. The curtains are a rusty orange color and are torn and duct taped together. At the very least we need new curtains for the stage. At best, we would have a new performance area/facility.
- n/a
- unknown
- More security is needed because these students are starting to think it is ok to do whatever they want
- Security.
- Modernization
- No Opinion
- Athletic spaces, locker rooms, security measures.
- N/A
- Roseburg should build two more middle schools to lower the overall number of students in a building. Our Jr highs are to big
- Safety and security. Health aspects---asbestos in buildings and ceiling issues with this toxic material falling out when ceiling in despair and needing to be repaired.
- Climate control (air conditioning) in every classroom.
- Tracks and turf
- N/A
- na
- NA
- The Tracks at the Middle Schools
- Whole new building for Fremont.
- see #6
- N/A
- There is no air conditioning or good method is cooling down the room and the classrooms can get quite uncomfortable
- Middle school needs additional classrooms to house programs and electives while leaving the option for smaller class sizes. This is, of course, dependent on staffing, but there is currently a restructuring of classrooms to accommodate SPED and the new Shop classes coming. The schools are cold in the winter and hot in the spring, and the ceilings have water damage.
- No opinion
- Middle school tracks and outdoor athletic facilities could use upgrading.
- HVAC
- It needs to be rebuilt. It's old and overused.
- The district waste too much money on repairs instead of correcting the issue

- Don't know, teach at the high school.
- update, track
- NA
- tracks for both student and community use
- New middle schools are a must, horrible security issues, run down buildings with no temperature control. Leaking roofs, broken plumbing, lead and asbestos still in some areas, crowded hallways, crowded classrooms, the list goes on.
- HVAC concerns
- No
- none
- Tracks
- safety is important
- Fremont Track
- All athletic fields are not maintained properly and are liability issues for the district. Jolane Middle School floods in the locker room with moderate rainfall.
- Lunchtime recreational facilities
- I am not at middle school.

Question 8:

- Na
- update voctech building
- More CTE facilities and classes
- I don't have kids at that age yet.
- 24/7 Security officer
- The high school needs air conditioning in all buildings. Also, not enough space for everyone to eat in the cafeteria. Would be nice to have quiet eating spaces available for those who need a break from noise.
- Addressed in earlier.
- The Heritage and Commons buildings should be up to state standers. The stairs shouldn't be falling apart, there should be air conditioning, and windows.
- High schoolers really just need more time to be able to decide on their career choices, and they need more hands on and face to face opportunities with the subjects that could help them with their career; also something to help them find what could be possibilities with their skill levels and what talents they hold.
- Auxilary gym
- Roseburg High School needs to take safety precautions(security and updates).
- The heritage building is an awful building to have to be in because its always too cold or way too hot. There is no air conditioner, and in the summer it gets way past 90 degrees in there. The extreme temperatures make taking tests, writing, reading, and working on anything an extreme challenge. The heaters are also out dated and make weird noises when in use. The windows do not open easily and noises echo through the entire building. Even when the door is shut on the second floor, you can still hear the gym and other classes. Learning in these classrooms is difficult and is almost impossible. Not everything the teachers need to teach gets taught because of the noises and heat. The heat also makes people cranky and leads to trouble with teachers and students.
- Generally, I would say that the Roseburg High School Heritage building could use renovation and be structurally modernized. This could most likely also apply to the Commons building.
- The heritage needs ventilation and more bathrooms, as well as new stairs. The upstairs Gym is a hazard in case of an earthquake. The Commons building is just a nightmare.
- The Auxiliary Gym can be improved, and the practice field next to the football field can use improvement.
- THE HERITAGE!!!!!!!!!!! It"s really hard to concentrate in 90 degree weather. we have no air conditioning. the heating is really loud. The commons stairs are really unsafe. all the buildings need to be safer
- N/A
- The high school needs better buildings that can withstand earthquakes
- High schools need the Arts department to be more well known rather than just focusing on the Athletics department.
- The Heritage building is in need major updates. Classes reach very high temperatures and a fan does't cool down the whole room. Air conditioning would be nice. I also believe that the buildings on campus should be retrofitted to better withstand an earthquake.

- There is saftey issues, classrooms get too hot or too cold, The bathrooms in the commons are nasty, need another field and athletic stuff
- Like literally everything
- Needs to have more comfort in classrooms like heat and air conditioning, better windows and drinking fountains. My english and health classrooms are either really hot or cold from lack of heat and air conditioning, the stairs are taped together. People trip often, the elevator is sketchy and creaks. The floors are also uneven. Taking important tests can be rough when it's 90 degrees inside.
- NA
- Some classrooms get extremely hot when the weather outside is hot. The elevator in the oldest building is very janky.
- Better air conditioning and/or temperature control.
- treat the cheerleaders like a sport and give them an area to practice that isn't the cafeteria and they won't get kicked out of
- heritage is too old and out of date there is no airflow
- none needed
- Safety, security, quality learning environments, reduced class sizes, and quality athletic facilities supporting all programs. Within the high school there are ever increasing reports of crimes, drugs and general welfare concerns of transients, drug users, and criminals that continuously encroach onto our campus and into the lives of our students. Buildings need better secure entrances, surveillance systems, and an increase in security/ police presence including after hours. Our students need quality learning environments in every classroom. Some classrooms typically get in excess of 90 degrees F during hot months. During these months, we are seeing an increase in low quality air index days, meaning ventilation and air circulation are currently impossible. Additionally, quality of structures and ability of structures to withstand or protect our students and staff in projected natural disaster are unacceptable. We know that should a significant event happens, multiple buildings are a liability and risk. Systems and utilities in these builds are beyond capacity (and useful life) and cannot be updated to meet the needs of current technology, state standards and curriculum requirements our staff is required to teach. Many of the facilities our athletic programs practice and compete on are inferior and unsafe. The school district needs increased control over the facilities or build facilities that our programs use in partnership. Specifically, Sunshine park is dangerous and not maintained by the city. As parents, we have supplied soil, materials and labor to bring the JV/ Freshman field up to a safe and playable surface to only have our work destroyed by community programs. Softball and baseball are at a disadvantage competitively due to inferior facilities. The programs need all weather, playable surfaces as we see for football, soccer and lacrosse, where they can practice and compete daily and throughout all weather.
- Comparing the facilities to others in the state despite recent upgrades the local schools still lag behind what is available at other facilities.

- N/A
- Turf field for sports other than football and improved tennis courts
- Adequate parking for students
- I dont know
- Class size
- Na
- Same as previous question.
- Healthy better quality food then they have now
- N/a
- N/a
- N/a
- The heating and cooling system is completely inadequate and interfere with the teachers instruction while running. The windows are not effective in cooling the room. There are WAY more students in the classroom than the 22 mentioned. More like 40+
- N/a
- Renovate the heritage while keeping the historic look and value.
- HVAC in the heritage
- I am unfamiliar with any facility needs at the high school level
- Unknown
- No opinion
- Heritage should have been replaced a long time ago. Historic or not.
- Better security
- I don't have kids in high school, I don't have valid information to make suggestions.
- NA
- Air Conditioning
- It's too big....should've built 2??
- Better/more complete bell/intercom capabilities Better/more efficient heating/ cooling of buildings
- The H.S. is pretty good since they had the remodel and new buildings put up.
- Safety and security
- No opinion
- on site sports facilities would be ideal for the students and support from community
- The focus should not be high school- rather elementary
- Not sure
- In many building there are leaky roofs or inadequate seals around windows. Many classrooms are in need of new desks or tables.
- Climate control and earthquake retrofit of Heritage Building or replacement if that is no financially feasible.
- Increase in CTE classrooms for hands on learning. Updated Technology
- n/a
- Safety safety safety.
- safety; homeless people should not be able to go in and out of the buildings unnoticed.
- No opinion
- RHS seems amazing. Glide also seems really well kept up
- ?
- Class sizes are too big and there aren't enough classrooms. Should be doors between the SPED classes so that the teach

er/students can move from one class to the other without going into the hall

- Longer term space/property utilization plan. Retention of the Jackson/ Winchester HS site for long term community needs!
- Unsure
- technology and more accessibility for students that are disabled.
- None yet
- High school classrooms need air conditioning. The campus should be closed to all visitors.
- Unknown
- Not sure
- RHS campus is beautiful and seems to work just fine.
- i don't know
- Trade school learning!! Not everyone will go to college. Let's teach a usable trade that will help them get a paycheck outside of McDonalds, pot dispensaries, and panhandling and go after the dieing trades and life skills that will get them furthest in life.
- The high school has decent facilities in my opinion, but we need to expand and reinvigorate CTE options.
- Another hs should be added.
- Not downing the need for after school activities just seems there are so many of them. Some don't finish until 9:00pm or later. My chief concern above was safety and security. RHS has a problem with displaced persons lurking around. I can think of several crimes that were committed after hours by displaced/homeless individuals over the past few years.
- Classrooms
- I don't have any personal experience here, but have had multiple people I know personally pull their kids from RHS to go to smaller schools (glide, Sutherlin and Douglas) due to the fact that if a student gets behind there is no access to resources to help them get back on track.
- Expand the understanding of the high schools to mean more then just Roseburg high school. Include rose students in board meetings. Include rose students so.parents and students feel like everyone is equal not different because of a school name.
- Expand the understanding of the high schools to mean more then just Roseburg high school. Include rose students in board meetings. Include rose students so.parents and students feel like everyone is equal not different because of a school name.
- No opinion-no child has attended hush school
- Need to split into two high schools
- N/A
- Ventilation in some parts of the school aren't safe for students to breathe in.
- Student security / safety.
- No opinion
- A security officer for am and lunch times, safety check for entrances and exits.
- Soecial need classes are secluded from rest of school.
- Unknown
- Need more classrooms
- Old elevators in the Heritage.

- Same as elem
- Parking, more safe available on campus spaces. Parking garage or new lot on adjoining property
- NA
- N/a
- NA
- No opinion
- Need a second high school in general, this one has too many kids and therefore not enough individual attention. Should have bought the old RHS building and made an East RHS and West RHS. Now maybe just build one on the north end of Winchester? Then split the kids up into both schools
- The lack of parking at the high school mus be addressed. The locker room, particularly the girls' locker room, is an antiquated mess.
- NA
- No opinion
- fix the heritage
- More parking, better traffic flow at peak times.
- There are many classrooms that are falling apart/dated.
- A single point of entry, with security personnel after hours and all other entrances locked/closed.
- NA
- I am not familiar enough to have an opinion
- Unknown
- Parking for all HS drivers and visitors Old Main Reno. Climate Control Safe and secure doors/locks throughout. Turnstile entry reversible during class time, auto locks
- More vocational and technical facilities and education.
- no opinion
- Not sure what their needs are specifically. Part of the campus is already very updated, especially compared to the middle school buildings or some of the elementary buildings.
- N/a
- n/a
- The heritage heating needs to be upgraded and they need to put AC in the building as well. It is unsafe to still use radiator heat. The heating and cooling in the votech also needs to be addressed as some classrooms run hot and others are cold which makes it difficult for students to focus when they are uncomfortable. Heating and cooling is also a problem in the locker rooms. The Athletic Training room should also have AC as it is a heath concern during warm weather so anyone with heath illnesses can't be taken care of in the one location that they should be. The door to the training room is also not wide enough for a wheelchair and should be addressed, not to mention the need for more space to take care of the number of athletes we have.
- security measures
- I don't know anything about the high school's facilities. My kids are not there yet.
- IDK
- All doors need to be locked quickly from the inside without a key. This has been

promised, but it still hasn't happened in the Main building.

- SAFETY!!!
- Expand the number and nature of elective courses offered to high school students.
- The Heritage building at HS is a wreck, floods in basement, roof leaking anytime it rains hard, no temperature/cooling control.
- N/a
- none
- The high school has used most of the money, let's look at some of the other schools
- I'm not sure what the high school needs. Sorry!
- Security
- Not sure
- Other than the arts (newspaper, year book, actual art classes) being underfunded I cannot think of anything else
- unknown
- Air conditioning in all classrooms
- N/a
- NA
- More storage space for the arts programs are strongly needed. Choir, Band, and Theater all have very limited space for materials and continue to outgrow the original designs of the high school.
- none
- Every child in middle and high school should have one to one access to technology
- No opinion
- The Heritage Building at RHS is in dire need of changes. The windows in some classrooms are dangerous and fall out of their tracks. The stairs are uneven and people trip on them daily. There is inconsistent hearing and no cooling, which makes these 90 degree days ridiculously hot. There aren't enough outlets in classrooms to plug in electronic equipment safely. The floor in multiple classrooms is noticeably sunken and weak. It feels that you will fall through the floor when you stand in certain places. The building facade is beautiful—but the interior is so deteriorated that it is becoming a safety hazard for students and staff.
- the ventilation/heating/cooling system seems to be inefficient i would like to see additional security/police presence both during and after school
- Updated custodial equiptment
- Calming spaces that allow students who are struggling with behaviors in class to learn skills to help them get back to a place where they can be effective learners.
- I am worried about the safety of the high school. There are so many buildings which creates easier access for a school shooting to occur again. I think that each of the buildings needs to have a security system that lets you be buzzed in with an access card.
- N/A
- The heat of the classrooms in the warmer months is unbearable- and absolutely no way for the teacher to cool it down. The HVAC system is completely inadequate in all of the buildings on campus.

- Heritage building is falling apart. It seems there's no reason to update. Instead, it needs rebuilt with classroom controlled heat and air
- The VoTech and Heritage buildings are wildly outdated and much in need of updating. These buildings have little or no air conditioning and the rooms are much too warm in the summer months. Sound travels from the hallways into the classrooms, causing distractions during learning. Also, the facilities available for athletics are either non existent or off-campus. A 6A school should have at least two full-sized football fields for all the groups that need to utilize that space. It would be great to have baseball fields on campus, or at least closer, than what we have access to currently. It would be nice to see the district's rental houses along Finlay Ave be knocked down and turned into additional athletic fields/areas. Additionally, it would be nice to have the sound and lighting systems in the Rose Theater be updated. With how fast technology advances in those areas, they are already antiquated and not compatible with today's new technology. As a community space that serves more than just the drama department, updates in this area would effect the entire campus in a positive manner.
- I am not familiar enough with the middle schools yet to say.
- Security is a HUGE issue. The buildings and gates have locks, but are not used. Lack of parking is an big issue
- Heritage building needs many updates, especially heating and cooling system updates.
- HVAC in Heritage, Commons. Walls in between World Language classrooms.
- NONE
- N/A
- n/a
- N/a
- The high school has some isolated locations that could use some work. Some classrooms are very hot/cold and are isolated so not much can be done to moderate the temperature. Some of the same challenges regarding room for professionals to work also apply to the high school. There is intense competition for spaces for ELL, drug/alcohol, school psych, speech and other services.
- I don't know
- none
- We need to have more security features at the high school. We have had several situations with people who do not belong getting into buildings during school and after school hours. One thing that could be done is make another entrance lobby at the back of the Arts Building, so adding another set of doors to the entrance by the staff room, like the entrance to the main building, but the interior set of doors would be locked. Putting a window through the staff room wall that is between the two sets of doors. This would mean that a person could get in the first set of doors, but could not get into the school until the person buzzed them in. Another option would be to do the door IDs, so you would have a barcode on all ID cards that would need to be scanned to open the door. Currently, we have the doors locked and students who come in late or who have had a

schedule change after school starts and could not get a parking space change are in the triangle lot. They come to the Arts Bldg. door and then bang on it or text a friend to open it, which then allows for anyone that is there to get in, which can cause issues. With the ID card swipe, you could easily go into the system and suspend their privilege to enter while they are suspended or expelled. A security partition with a door in the main, so that people cannot just walk in and go through the building, or locking the inside set of doors that are here, now, and putting an intercom system in between the two doors, which a person would have to buzz in and tell who they are and their business for being here. Then they could be buzzed in. I know that people do not like these solutions because we all remember when schools were the center of the communities and considered safe places that people would protect, but we live in a different world and they are no longer safe. Air conditioning in the Heritage building and a new heating/ cooling system in the CTE building. Internet out to the Football field, so that we can put more cameras out there for the grandstands, transition house, and greenhouse. Update the quality of the cameras that are on campus already.

- Heritage - explained previously Technical building - same reasons
- I think the high school has done a nice job of updating the facility. In my opinion the elementary schools are the schools that need most of the attention.
- Career and life skills
- Air conditioned classrooms
- I would love to see more options for clothing closets and food banks in all of the schools to support our most needy students. It has been shown that it improves attendance and executive functioning and can cut down on first hour needs for all of the student populations.
- no opinion
- HVAC. Need to add cooling. Safety and security updates both structural as well as technical.
- Same as above
- N/A
- Updated CTE spaces
- Space made available to focus more on skilled trades. I feel that people will be in short supply in the near future. Maybe space and training for soft skills such as money management, job interviews, resumes, etc.
- Seismic updates to Heritage and Commons and VoTech.
- Students need to feel safe, secure and at the same time feel a sense of belonging and ownership. We need to provide students with an atmosphere that meets these needs, as well as one where they can receive an education that leads to their success after they graduate, be that in a post-secondary education atmosphere or entering the workforce.
- n/a
- unknown
- SECURITY! Consider closing the campus. Glide High School chains their parking lots closed at the beginning of school and no one is allowed to go to their cars or leave campus without a written and verified note. The high school has activities early in the morning and well into the night. Perhaps 24/7 sec

urity measures need to be take.

- Safety, auto locks, etc.
- Security measures.
- Roof leaks (CTE building, Arts building) Ventilation system for welding area so students aren't inhaling welding fumes in other classrooms Improved technology infrastructure needed throughout the school A/C and Heating systems need fixed in every building Intercom system needs fixed in several classrooms Alarm systems need fixed in the CTE building There are doors in the CTE building that do not close when it is hot outside
- Childcare Center play yard and Center expansion.
- Roseburg should build a second High school to lower the overall size of the high school.
- I think the money has been spent at the high school, so it is time to do the middle schools.
- Climate control in every classroom if they don't already have it.
- Long term plan for Heritage building, no earth quake ready. No water on second floor currently. Air conditioning. Roof leaks and has to be failing. Cracks up and down the chimney, has to be compromised.
- N/A
- na
- NA
- IDK
- see #6
- N/A
- N/A
- No opinion
- N/A
- Heritage building is in need of serious updating. No A/C units with broken windows does not create a classroom environment that is optimal for learning. Also, the heating in general is in need of a serious overhaul as the heating system is both noisy and ineffective.
- The Heritage building at the high school is in terrible shape. There is no AC, windows are falling out, floors are sinking, the heat in the winter is either off or blasting (depending on which room you are in), the pipes (?) make noise to a point that the kids can't concentrate.
- Less focus on the athletic facilities. Also, other buildings in the district are in dire need of attention the high school is the newest building around!
- The high school needs an additional gymnasium, the Heritage Building needs to be torn down and replaced with an adequately heated and cooled buildings. The Commons Building needs to be fitted with windows in all classrooms, and the heating and cooling in that building need an upgrade.
- The Heritage building severely needs updating, whether it be through repair or rebuilding.
- The heritage building is not safe. The stairs are not up to code; because the tread is so short and the steps so narrow, there is an accident nearly every day. Windows do not open. The heating system does not work reliably. There is no insulation. There is no air-conditioning; classrooms in which students are com

pleting high stakes reading and writing testing get to 90+ degrees. There is no water or bathrooms on the second floor. The building is nearly 100 years old and definitely not earth quake safe.

- It is good
- Heritage desperately needs A/C -- it was 85 to 87 degrees in the first floor classrooms this afternoon. Try getting kids to learn when they are in a HOT smelly classroom.
- air conditioning
- NA
- professional security
- Facilities are improved at RHS compared to Middle and Elementary.
- Daily "flow" of students between class rooms
- Need to tear down heritage building because it is too old and it needs to be rebuilt to update heating and various other problems that it has
- none
- More cte
- safety for staff and children is important
- AC in older buildings
- lunches could be improved. I hear we may get a coffee stand. Why not allow Subway to come back in? Or another somewhat healthy offering?

Facility Condition Assessments

PHYSICAL CONDITION ASSESSMENT

District Name: Douglas County SD 4
Site Name: Eastwood ES
Building Name: Main
Building ID: 19912692092

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Level 1	Level 2	Level 3	Type (as applicable)	% of Building or Number	LEVEL OF ACTION									% of System or Finish	Automated Budget Estimate	Notes
						None		Minor		Moderate		Major		Replace		
A SUBSTRUCTURE																
	A10 Foundations															
		A1010 Standard Foundations		20%	x	None		Minor		Moderate		Major		Replace		$0	Library has a crawlspace, modular 6-plex classroom has wood foundation
		A1020 Special Foundations			o	None		Minor		Moderate		Major		Replace		$0	
		A1030 Slab on Grade		80%		None		Minor		Moderate	x	Major		Replace	5%	$19,462	Slab by music room/community room has shifted and sunk down - the cafeteria floor also has an issue with a long crack down the middle of the floor. Further investigation is needed
	A20 Basement Construction															
		A2010 Basement Excavation	NOT USED			None		Minor		Moderate		Major		Replace			
		A2020 Basement Walls			o	None		Minor		Moderate		Major		Replace		$0	
B SHELL																
	B10 Superstructure															
		B1010 Floor Construction	Wood	20%	x	None		Minor		Moderate		Major		Replace		$0	Library has a crawlspace, modular 6-plex classroom has wood flooring - no observed issues
			Steel		o	None		Minor		Moderate		Major		Replace		$0	
			Concrete	80%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		B1020 Roof Construction	Wood	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
			Steel		o	None		Minor		Moderate		Major		Replace		$0	
			Concrete		o	None		Minor		Moderate		Major		Replace		$0	
	B20 Exterior Enclosure															
		B2010 Exterior Walls	Concrete Formed / Tilt	16%	x	None		Minor		Moderate		Major		Replace		$0	
			Masonry	30%		None		Minor	x	Moderate		Major		Replace	6%	$4,379	Minor paint needed on building C
			Framed w/Panel Siding	54%		None		Minor		Moderate	x	Major		Replace	1%	$2,189	Minor patch and paint needed on building D
			Framed w/Stucco		o	None		Minor		Moderate		Major		Replace		$0	
			Framed w/Masonry Veneer		o	None		Minor		Moderate		Major		Replace		$0	
		B2020 Exterior Windows	Wood	24%		None		Minor		Moderate	x	Major		Replace	100%	$116,772	95 single pane wood windows were counted that need to be replaced
			Aluminum/Steel	76%		None		Minor	x	Moderate		Major		Replace	7%	$10,785	22 of the 294 aluminum/metal double pane windows were fogged or damaged.
			Clad		o	None		Minor		Moderate		Major		Replace		$0	
			Curtain Wall		o	None		Minor		Moderate		Major		Replace		$0	
		B2030 Exterior Doors	Wood	2	x	None		Minor		Moderate		Major		Replace		$0	All exterior wood doors were in good working order
			Hollow Metal	31	x	None		Minor		Moderate		Major		Replace		$0	All exterior metal doors were in good working order
			Storefront		o	None		Minor		Moderate		Major		Replace		$0	
	B30 Roofing															
		B3010 Roof Coverings	Asphalt Shingle	100%		None		Minor		Moderate		Major	x	Replace	61%	$173,131	Covered walkways have major ponding and need to be replaced. Roofs on buildings A,B,D,E,H are worn and cracking. - Percentage adjusted to reflect more accurate costs
			Built-Up		o	None		Minor		Moderate		Major		Replace		$0	
			Single Ply		o	None		Minor		Moderate		Major		Replace		$0	
			Metal		o	None		Minor		Moderate		Major		Replace		$0	
			Concrete Tile		o	None		Minor		Moderate		Major		Replace		$0	
		B3020 Roof Openings	Skylights		o	None		Minor		Moderate		Major		Replace		$0	
			Access Hatch		o	None		Minor		Moderate		Major		Replace		$0	
C INTERIORS																
	C10 Interior Construction															
		C1010 Partitions	Framed	47%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
			Masonry	53%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues

	C1020 Interior Doors	Wood	39	x	None		Minor		Moderate		Major		Replace		$0	All interior wood doors were in good working order
		Hollow Metal	21	x	None		Minor		Moderate		Major		Replace		$0	All interior metal doors were in good working order
	C1030 Fittings	NOT USED			None		Minor		Moderate		Major		Replace			
	C20 Stairs															
	C2010 Stair Construction	Wood		o	None		Minor		Moderate		Major		Replace		$0	
		Metal		o	None		Minor		Moderate		Major		Replace		$0	
		Concrete		o	None		Minor		Moderate		Major		Replace		$0	
	C2020 Stair Finishes	Concrete Fill		o	None		Minor		Moderate		Major		Replace		$0	
		Resilient		o	None		Minor		Moderate		Major		Replace		$0	
	C30 Interior Finishes															
	C3010 Wall Finishes	Paint on Masonry	53.4%		None	x	Minor		Moderate		Major		Replace	4%	$1,299	Minor touch up paint needed in a few areas
		Wallboard	45.1%		None		Minor	x	Moderate		Major		Replace	8%	$4,389	Minor patch and paint needed throughout
		Wainscot	0.4%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Ceramic Tile	1.1%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	C3020 Floor Finishes	Carpet / Soft Surface	16.4%		None		Minor		Moderate		Major	x	Replace	12%	$4,668	Carpet is worn in music and community room
		Resilient Tile	74.5%		None	x	Minor		Moderate		Major		Replace	5%	$3,776	Sporadic cracked tiles throughout
		Resilient Sheet	2.6%		None		Minor		Moderate		Major	x	Replace	100%	$12,000	Kitchen has damaged resilient sheet flooring that needs to be replaced. Entire floor would need to be replaced. Cost adjusted up to accurately reflect estimated cost
		Polished Concrete	2.4%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Ceramic Tile	3.8%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Liquid Applied	0.4%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Wood Sports Floor		o	None		Minor		Moderate		Major		Replace		$0	
	C3030 Ceiling Finishes	Wallboard	20%		None		Minor		Moderate		Major	x	Replace	1%	$689	Water infiltration in workroom
		Lay-In Ceiling Tile	57%		None	x	Minor		Moderate		Major		Replace	2%	$693	Stained tiles in multiple areas
		Glued-Up Ceiling Tile	24%		None	x	Minor		Moderate		Major		Replace	3%	$540	Damaged / Stained tiles in multiple areas
		Painted Structure		o	None		Minor		Moderate		Major		Replace		$0	
D	**SERVICES**															
	D10 Conveying															
	D1010 Elevators & Lifts			o	None		Minor		Moderate		Major		Replace		$0	
	D1020 Escalators & Moving Walks			o	None		Minor		Moderate		Major		Replace		$0	
	D1090 Other Conveying Systems			o	None		Minor		Moderate		Major		Replace		$0	
	D20 Plumbing															
	D2010 Plumbing Fixtures		100%		None		Minor	x	Moderate		Major		Replace	0.5%	$811	1 of 108 fixtures was non-functional
	D2020 Domestic Water Distribution		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D2030 Sanitary Waste		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D2040 Rain Water Drainage			o	None		Minor		Moderate		Major		Replace		$0	
	D2090 Other Plumbing Systems	NOT USED			None		Minor		Moderate		Major		Replace			
	D30 HVAC															
	D3010 Energy Supply		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D3020 Heat Generating Systems	Boiler		o	None		Minor		Moderate		Major		Replace		$0	
		Air Handler	60%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Furnace		o	None		Minor		Moderate		Major		Replace		$0	
		Heat Exchanger	40%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D3030 Cooling Generating Systems	Component of air handler	100%	x	None		Minor		Moderate		Major		Replace		$0	6 plex has AC as do modulars
		Stand alone chiller		o	None		Minor		Moderate		Major		Replace		$0	
	D3040 Distribution Systems	Ductwork	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Hot water return & supply	100%		None		Minor		Moderate		Major	x	Replace	100%	$202,730	original install - starting do deteriorate - hydronic system beyond its useful life
	D3050 Terminal & Package Units	Above ceiling VAV unit		o	None		Minor		Moderate		Major		Replace		$0	
		In-room ventilator unit		o	None		Minor		Moderate		Major		Replace		$0	
		In-room radiant unit		o	None		Minor		Moderate		Major		Replace		$0	
	D3060 Controls & Instrumentation		100%		None		Minor		Moderate		Major	x	Replace	50%	$40,546	Have a service contract, however system routinely does not function as intended.
	D3070 Systems Testing & Balancing		100%		None		Minor		Moderate		Major	x	Replace	100%	$40,546	Almost all zones need rebalancing
	D3090 Other HVAC Systems & Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
	D40 Fire Protection															
	D4010 Sprinklers			o	None		Minor		Moderate		Major		Replace		$0	
	D4020 Standpipes			o	None		Minor		Moderate		Major		Replace		$0	

System	Component	Amount	None	Minor	Moderate	Major	Replace	%	Cost	Notes
D4030 Fire Protection Specialties			o						$0	
D4090 Other Fire Protection Systems	NOT USED									
D50 Electrical										
D5010 Electrical Service & Distribution		100%			x			20%	$24,328	Outdated may not meet current code.
D5020 Lighting and Branch Wiring		100%				x		1%	$2,433	2 light fixtures damaged in community room
D5030 Communications & Security	Voice / Data System	100%	x						$0	No observed issues
	Clock / Intercom System	100%				x		75%	$76,024	Major systematic issues throughout
	Closed Circuit Surveillance	100%					x	100%	$44,601	Closed Circuit Surveillance needed at this school
	Access Control System		o						$0	
	Intrusion Alarm System	20%	x						$0	Offices and computer labs, no observed issues
	Fire Alarm / Detection	100%					x	100%	$91,229	Old pull system, need to replace/update
	Lighting Control System	20%	x						$0	No observed issues
D5090 Other Electrical Systems	NOT USED									
E EQUIPMENT & FURNISHINGS										
E10 Equipment										
E1010 Commercial Equipment	Food Service	100%	x						$0	No observed issues
	Vocational		o						$0	
E1020 Institutional Equipment	Science		o						$0	
	Art		o						$0	
	Stage Performance		o						$0	
	Restroom Accessories/Stalls	100%			x			1%	$3,041	Restrooms are not ADA compliant in building C
E1030 Vehicular Equipment	NOT USED									
E1090 Other Equipment	NOT USED									
E20 Furnishings										
E2010 Fixed Furnishings		100%	x						$0	
E2020 Movable Furnishings		100%	x						$0	
F SPECIAL CONSTRUCTION & DEMOLITION - NOT USED										
G BUILDING SITE WORK										
G10 Site Preparation	NOT USED									
G20 Site Improvements										
G2010 Roadways		12,428				x		17%	$24,797	Roadways had some areas that were alligatoring that need to be replaced
G2020 Parking Lots		37,805		x				26%	$31,464	Minor cracking observed
G2030 Pedestrian Paving		65,917				x		2%	$16,880	Damaged walkways identified over entire site
G2040 Site Development		2,421	x						$0	No observed issues
G2050 Landscaping		130,922	x						$0	Entire site is irrigated - no observed issues
G30 Site Mechanical Utilities										
G3010 Water Supply	Domestic	100%					x	100%	$40,546	System is beyond its useful life and should be replaced
	Fire		o						$0	
G3020 Sanitary Sewer		100%					x	100%	$40,546	System is beyond its useful life and should be replaced
G3030 Storm Sewer		100%			x			20%	$8,109	One may be backing up or spill out is blocked
G3040 Heating Distribution		100%	x						$0	No observed issues
G3050 Cooling Distribution		100%	x						$0	No observed issues
G3060 Fuel Distribution		100%	x						$0	No observed issues
G3090 Other Site Mechanical Utilities	NOT USED									
G40 Site Electrical Utilities										
G4010 Electrical Distribution	Service	100%	x						$0	No observed issues
	Generator		o						$0	
G4020 Site Lighting		100%	x						$0	No observed issues
G4030 Site Communications & Security		100%	x						$0	No observed issues
G4090 Other Site Electrical Utilities	NOT USED									
G90 Other Site Construction	NOT USED									

OTHER

Description of System	Unit of Measure	Quantity	Unit Budget	Extended	Notes
				$0	
				$0	
				$0	

				$0	
				$0	
				$0	
				$0	

Physical Condition Budget Sub-Total	**$1,043,403**
Budgeted Development Costs	**$396,493**
Physical Condition Budget TOTAL	**$1,439,896**
Replacement Budget	**$15,863,100**
Facility Condition Index (FCI)	**9.1%**

PHYSICAL CONDITION ASSESSMENT

District Name: Douglas County SD 4
Site Name: Fir Grove ES
Building Name: Main
Building ID: 19912702156

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Level 1	Level 2	Level 3	Type (as applicable)	% of Building or Number	LEVEL OF ACTION										% of System or Finish	Automated Budget Estimate	Notes
						None		Minor		Moderate		Major		Replace			
A SUBSTRUCTURE																	
	A10 Foundations																
		A1010 Standard Foundations		10%	x	None		Minor		Moderate		Major		Replace		$0	Modulars have wood foundation - no observed issues
		A1020 Special Foundations			o	None		Minor		Moderate		Major		Replace		$0	
		A1030 Slab on Grade		90%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	A20 Basement Construction																
		A2010 Basement Excavation	NOT USED			None		Minor		Moderate		Major		Replace			
		A2020 Basement Walls			o	None		Minor		Moderate		Major		Replace		$0	
B SHELL																	
	B10 Superstructure																
		B1010 Floor Construction	Wood	10%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
			Steel		o	None		Minor		Moderate		Major		Replace		$0	
			Concrete	90%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		B1020 Roof Construction	Wood	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
			Steel		o	None		Minor		Moderate		Major		Replace		$0	
			Concrete		o	None		Minor		Moderate		Major		Replace		$0	
	B20 Exterior Enclosure																
		B2010 Exterior Walls	Concrete Formed / Tilt		o	None		Minor		Moderate		Major		Replace		$0	
			Masonry		o	None		Minor		Moderate		Major		Replace		$0	
			Framed w/Panel Siding	100%		None		Minor	x	Moderate		Major		Replace	8%	$15,718	Minor paint needed on each building
			Framed w/Stucco		o	None		Minor		Moderate		Major		Replace		$0	
			Framed w/Masonry Veneer		o	None		Minor		Moderate		Major		Replace		$0	
		B2020 Exterior Windows	Wood	18%		None		Minor		Moderate	x	Major		Replace	100%	$70,732	73 single pane wood windows need to be replaced
			Aluminum/Steel	81%		None		Minor	x	Moderate		Major		Replace	2%	$2,652	5 of the 338 aluminum/steel windows were fogged and in need of replacement
			Clad	1%		None		Minor		Moderate	x	Major		Replace	100%	$2,292	5 single pane clad windows need to be replaced
			Curtain Wall		o	None		Minor		Moderate		Major		Replace		$0	
		B2030 Exterior Doors	Wood	31	x	None		Minor		Moderate		Major		Replace		$0	All wood doors were in good condition and operating appropriately
			Hollow Metal	30	x	None		Minor		Moderate		Major		Replace		$0	All metal doors were in good condition and operating appropriately
			Storefront		o	None		Minor		Moderate		Major		Replace		$0	
	B30 Roofing																
		B3010 Roof Coverings	Asphalt Shingle	100%		None		Minor		Moderate		Major	x	Replace	54%	$250,000	All walkway roof coverings had cracks and ponding water. The majority of roofs were worn and had cracks on them. Cost was adjusted up to reflect more accurate cost estimate
			Built-Up		o	None		Minor		Moderate		Major		Replace		$0	
			Single Ply		o	None		Minor		Moderate		Major		Replace		$0	
			Metal		o	None		Minor		Moderate		Major		Replace		$0	
			Concrete Tile		o	None		Minor		Moderate		Major		Replace		$0	
		B3020 Roof Openings	Skylights		o	None		Minor		Moderate		Major		Replace		$0	
			Access Hatch		o	None		Minor		Moderate		Major		Replace		$0	
C INTERIORS																	
	C10 Interior Construction																
		C1010 Partitions	Framed	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
			Masonry		o	None		Minor		Moderate		Major		Replace		$0	
		C1020 Interior Doors	Wood	27		None		Minor		Moderate		Major		Replace		$0	All interior wood doors were in good working order
			Hollow Metal	4		None		Minor		Moderate		Major		Replace		$0	All interior metal doors were in good working order
		C1030 Fittings	NOT USED			None		Minor		Moderate		Major		Replace			
	C20 Stairs																
		C2010 Stair Construction	Wood		o	None		Minor		Moderate		Major		Replace		$0	No stairs were observed in any of the interior buildings
			Metal		o	None		Minor		Moderate		Major		Replace		$0	
			Concrete		o	None		Minor		Moderate		Major		Replace		$0	
		C2020 Stair Finishes	Concrete Fill		o	None		Minor		Moderate		Major		Replace		$0	

System	Component	Qty %	None	Minor	Moderate	Major	Replace	Repair %	Cost	Comments
	Resilient		o						$0	
C30 Interior Finishes										
C3010 Wall Finishes	Paint on Masonry		o						$0	
	Wallboard	99%		x				7%	$3,404	Minor paint touch up and wall patching needed throughout
	Wainscot		0						$0	
	Ceramic Tile	1%		x				8%	$500	Grout is damaged in boys and girls restroom - cost increased to accurately reflect actual costs.
C3020 Floor Finishes	Carpet / Soft Surface	28%					x	13%	$6,973	Worn carpet observed in building 4 & 8
	Resilient Tile	58%		x				4%	$1,899	Small number of cracked tiles observed throughout
	Resilient Sheet	6%					x	6%	$707	Minor damage observed SPED classroom
	Polished Concrete	3%		x				8%	$196	Minor surface damage observed in two storage areas
	Ceramic Tile	5%		x				1%	$82	Ceramic tile damaged in boys restroom
	Liquid Applied		o						$0	
	Wood Sports Floor		o						$0	
C3030 Ceiling Finishes	Wallboard	25%			x			2%	$409	Minor patch and paint needed in three areas
	Lay-In Ceiling Tile	22%		x				5%	$540	Stained tiles observed in several classrooms
	Glued-Up Ceiling Tile	53%		x				4%	$1,284	Damaged/Stained/Missing tiles found in several areas
	Painted Structure		o						$0	
D SERVICES										
D10 Conveying										
D1010 Elevators & Lifts			o						$0	
D1020 Escalators & Moving Walks			o						$0	
D1090 Other Conveying Systems			o						$0	
D20 Plumbing										
D2010 Plumbing Fixtures		100%			x			1%	$200	1 out of 93 fixtures was not functioning - cost adjusted down to accurately reflect costs
D2020 Domestic Water Distribution		100%	x						$0	No observed issues
D2030 Sanitary Waste		100%	x						$0	No observed issues
D2040 Rain Water Drainage		100%	x						$0	
D2090 Other Plumbing Systems	NOT USED									
D30 HVAC										
D3010 Energy Supply		100%	x						$0	No observed issues
D3020 Heat Generating Systems	Boiler		o						$0	
	Air Handler		o						$0	
	Furnace	100%	x						$0	Gas furnaces, no observed issues
	Heat Exchanger		o						$0	
D3030 Cooling Generating Systems	Component of air handler	100%	x						$0	Gas pack units on roof with A/C unit in special needs and library areas - no observed issues
	Stand alone chiller		o						$0	
D3040 Distribution Systems	Ductwork	100%	x						$0	No observed issues
	Hot water return & supply	100%	x						$0	No observed issues
D3050 Terminal & Package Units	Above ceiling VAV unit		o						$0	
	In-room ventilator unit		o						$0	
	In-room radiant unit		o						$0	
D3060 Controls & Instrumentation		100%				x		100%	$32,746	Old and experiencing major issues
D3070 Systems Testing & Balancing		100%	x						$0	No observed issues
D3090 Other HVAC Systems & Equipment	NOT USED									
D40 Fire Protection										
D4010 Sprinklers			o						$0	
D4020 Standpipes			o						$0	
D4030 Fire Protection Specialties			o						$0	
D4090 Other Fire Protection Systems	NOT USED									
D50 Electrical										
D5010 Electrical Service & Distribution		100%				x		20%	$36,676	Older panels - some are maxed out requiring upgrades Some complaints from staff about not having enough outlets
D5020 Lighting and Branch Wiring		100%				x		1.25%	$2,456	Four light fixtures need to be replaced - two were damaged, and two had water infiltration
D5030 Communications & Security	Voice / Data System	100%	x						$0	No observed issues
	Clock / Intercom System	100%	x						$0	No observed issues
	Closed Circuit Surveillance	100%					x	100%	$36,021	All are being decommissioned and need to be replaced
	Access Control System		o						$0	

PHYSICAL CONDITION ASSESSMENT

		Intrusion Alarm System	20%	x	None		Minor		Moderate		Major		Replace		$0	Admin and IT areas - no observed issues
		Fire Alarm / Detection	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Lighting Control System		o	None		Minor		Moderate		Major		Replace		$0	
	D5090 Other Electrical Systems	NOT USED			None		Minor		Moderate		Major		Replace			
E EQUIPMENT & FURNISHINGS																
	E10 Equipment															
	E1010 Commercial Equipment	Food Service	100%	x	None		Minor		Moderate		Major		Replace		$0	1 stove appears to be very old, but functioning
		Vocational		o	None		Minor		Moderate		Major		Replace		$0	
	E1020 Institutional Equipment	Science		o	None		Minor		Moderate		Major		Replace		$0	
		Art		o	None		Minor		Moderate		Major		Replace		$0	
		Stage Performance		o	None		Minor		Moderate		Major		Replace		$0	
		Restroom Accessories/Stalls	100%	x	None		Minor		Moderate		Major		Replace		$0	All stalls and hardware were in good working order
	E1030 Vehicular Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
	E1090 Other Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
	E20 Furnishings															
	E2010 Fixed Furnishings		100%		None		Minor	x	Moderate		Major		Replace	5%	$4,912	Worn casework found in several classrooms, along with a few damaged cabinet doors that need to be fixed/replaced
	E2020 Movable Furnishings		100%		None		Minor		Moderate		Major	x	Replace	1.5%	$8,841	One classroom had extremely outdated furniture that should be replaced.
F SPECIAL CONSTRUCTION & DEMOLITION - NOT USED																
G BUILDING SITE WORK																
	G10 Site Preparation	NOT USED														
	G20 Site Improvements															
	G2010 Roadways		4,000	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	G2020 Parking Lots		23,000	x	None		Minor		Moderate	x	Major		Replace	100%	$220,869	Needs to be replaced
	G2030 Pedestrian Paving		16,181		None		Minor		Moderate	x	Major		Replace	14%	$29,005	Pedestrian pathways cracked in multiple areas
	G2040 Site Development		2,719	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	G2050 Landscaping		169,271	x	None		Minor		Moderate		Major		Replace		$0	Whole site with river irrigation, no observed issues
	G30 Site Mechanical Utilities															
	G3010 Water Supply	Domestic	100%		None		Minor		Moderate		Major	x	Replace	100%	$32,746	System is beyond its useful life and should be replaced
		Fire		o	None		Minor		Moderate		Major		Replace		$0	
	G3020 Sanitary Sewer		100%		None		Minor		Moderate		Major	x	Replace	100%	$32,746	System is beyond its useful life and should be replaced
	G3030 Storm Sewer		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	G3040 Heating Distribution		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	G3050 Cooling Distribution		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	G3060 Fuel Distribution		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	G3090 Other Site Mechanical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
	G40 Site Electrical Utilities															
	G4010 Electrical Distribution	Service	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Generator		o	None		Minor		Moderate		Major		Replace		$0	
	G4020 Site Lighting		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	G4030 Site Communications & Security		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	G4090 Other Site Electrical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
	G90 Other Site Construction	NOT USED														

OTHER

Description of System	Unit of Measure	Quantity	Unit Budget	Extended	Notes
				$0	
				$0	
				$0	
				$0	
				$0	
				$0	
				$0	

Physical Condition Budget Sub-Total **$794,610**

Budgeted Development Costs **$301,952**

PHYSICAL CONDITION ASSESSMENT

Physical Condition Budget TOTAL	**$1,096,561**
Replacement Budget	**$12,811,541**
Facility Condition Index (FCI)	**8.6%**

PHYSICAL CONDITION ASSESSMENT

District Name: Roseburg SD
Site Name: Fullerton ES
Building Name: 0
Building ID: 0

REMINDER: FILL OUT ALL INFORMATION ON '*BASE INFORMATION SHEET*' BEFORE ENTERING DATA ON THIS SHEET
An unused cell or system that should not receive direct user input
An automatically populated cell from user input elsewhere in the file - do not overwrite

Level 1	Level 2	Level 3	Type (as applicable)	% of Building or Number	LEVEL OF ACTION									% of System or Finish	Automated Budget Estimate	Notes
						None		Minor		Moderate		Major		Replace			
A SUBSTRUCTURE																
	A10 Foundations															
		A1010 Standard Foundations				None		Minor		Moderate		Major		Replace		$0	
		A1020 Special Foundations				None		Minor		Moderate		Major		Replace		$0	
		A1030 Slab on Grade		100%	x	None		Minor		Moderate		Major		Replace		$0	
	A20 Basement Construction															
		A2010 Basement Excavation	NOT USED			None		Minor		Moderate		Major		Replace			
		A2020 Basement Walls				None		Minor		Moderate		Major		Replace		$0	
B SHELL																
	B10 Superstructure															
		B1010 Floor Construction	Wood			None		Minor		Moderate		Major		Replace		$0	
			Steel			None		Minor		Moderate		Major		Replace		$0	
			Concrete			None		Minor		Moderate		Major		Replace		$0	
		B1020 Roof Construction	Wood	100%		None		Minor		Moderate	x	Major		Replace	20%	$143,440	Roof decks in Rooms #22, #7, #4.
			Steel			None		Minor		Moderate		Major		Replace		$0	
			Concrete			None		Minor		Moderate		Major		Replace		$0	
	B20 Exterior Enclosure															
		B2010 Exterior Walls	Concrete Formed / Tilt			None		Minor		Moderate		Major		Replace		$0	
			Masonry	60%	x	None		Minor		Moderate		Major		Replace		$0	
			Framed w/Panel Siding	40%		None		Minor		Moderate	x	Major		Replace	30%	$57,376	The wood boards are deteriorating in parts and need to be replaced before re-painting.
			Framed w/Stucco			None		Minor		Moderate		Major		Replace		$0	
			Framed w/Masonry Veneer			None		Minor		Moderate		Major		Replace		$0	
		B2020 Exterior Windows	Wood			None		Minor		Moderate		Major		Replace		$0	
			Aluminum/Steel	100%		None		Minor		Moderate	x	Major		Replace	100%	$382,507	Single pane original steel and aluminum windows. Not energy efficient. Operation is difficult.
			Clad			None		Minor		Moderate		Major		Replace		$0	
			Curtain Wall			None		Minor		Moderate		Major		Replace		$0	
		B2030 Exterior Doors	Wood	24		None		Minor		Moderate	x	Major		Replace	100%	$25,608	All doors are original, present signs of damage and rot specially on the bottom and the hardware does not comply with accessibility requirements.
			Hollow Metal	14		None		Minor		Moderate	x	Major		Replace	100%	$12,697	All doors are original, present signs of rust and the hardware does not comply with accessibility requirements.
			Storefront			None		Minor		Moderate		Major		Replace		$0	
	B30 Roofing															
		B3010 Roof Coverings	Asphalt Shingle			None		Minor		Moderate		Major		Replace		$0	
			Built-Up	100%		None		Minor		Moderate		Major	x	Replace	20%	$95,627	Roof at the west part of the gym and on top of rooms #22, #7 were not replaced on the last renovation and have reported leaks.
			Single Ply			None		Minor		Moderate		Major		Replace		$0	
			Metal			None		Minor		Moderate		Major		Replace		$0	
			Concrete Tile			None		Minor		Moderate		Major		Replace		$0	
		B3020 Roof Openings	Skylights			None		Minor		Moderate		Major		Replace		$0	
			Access Hatch			None		Minor		Moderate		Major		Replace		$0	
C INTERIORS																
	C10 Interior Construction															
		C1010 Partitions	Framed	40%	x	None		Minor		Moderate		Major		Replace		$0	
			Masonry	60%	x	None		Minor		Moderate		Major		Replace		$0	

Item	Component	Qty	None	Minor	Moderate	Major	Replace	%	Cost	Comments
C1020 Interior Doors	Wood	8			x				$0	Hardware does not meet accessibility requirements.
	Hollow Metal								$0	
C1030 Fittings	NOT USED									
<u>C20 Stairs</u>										
C2010 Stair Construction	Wood								$0	
	Metal								$0	
	Concrete								$0	
C2020 Stair Finishes	Concrete Fill								$0	
	Resilient								$0	
<u>C30 Interior Finishes</u>										
C3010 Wall Finishes	Paint on Masonry	95%		x				100%	$68,134	Wall surfaces need re-painting.
	Wallboard								$0	
	Wainscot								$0	
	Ceramic Tile	5%							$0	
C3020 Floor Finishes	Carpet / Soft Surface	30%					x	50%	$41,956	
	Resilient Tile	65%					x	70%	$119,653	9x9 possibly ACT. The tile in the Gym is VCTs are cracked.
	Resilient Sheet								$0	
	Polished Concrete								$0	
	Ceramic Tile	5%	x						$0	
	Liquid Applied								$0	
	Wood Sports Floor								$0	
C3030 Ceiling Finishes	Wallboard								$0	
	Lay-In Ceiling Tile	30%		x				20%	$4,303	Some tiles are stained or damaged.
	Glued-Up Ceiling Tile	70%		x				10%	$6,192	Some tiles are stained or damaged.
	Painted Structure								$0	
D SERVICES										
<u>D10 Conveying</u>										
D1010 Elevators & Lifts									$0	
D1020 Escalators & Moving Walks									$0	
D1090 Other Conveying Systems									$0	
<u>D20 Plumbing</u>										
D2010 Plumbing Fixtures		100%					x	100%	$334,693	Plumbing fixtures are original, not water efficient.
D2020 Domestic Water Distribution		100%	x						$0	
D2030 Sanitary Waste		100%	x						$0	
D2040 Rain Water Drainage									$0	
D2090 Other Plumbing Systems	NOT USED									
<u>D30 HVAC</u>										
D3010 Energy Supply									$0	
D3020 Heat Generating Systems	Boiler								$0	
	Air Handler								$0	
	Furnace	100%					x	100%	$95,627	Furnaces are obsolete and parts are not longer available.
	Heat Exchanger								$0	
D3030 Cooling Generating Systems	Component of air handler	10%					x	100%	$14,344	Compressors for DX units, obsolete.
	Stand alone chiller								$0	
D3040 Distribution Systems	Ductwork	100%	x						$0	
	Hot water return & supply								$0	
D3050 Terminal & Package Units	Above ceiling VAV unit								$0	
	In-room ventilator unit	10%					X	100%	$9,563	Blowers for DX units, obsolete.
	In-room radiant unit								$0	
D3060 Controls & Instrumentation		100%					x	100%	$95,627	Pneumatic controls that are obsolete.
D3070 Systems Testing & Balancing		100%					x	100%	$47,813	
D3090 Other HVAC Systems & Equipment	NOT USED									
<u>D40 Fire Protection</u>										
D4010 Sprinklers									$0	
D4020 Standpipes									$0	
D4030 Fire Protection Specialties									$0	

System	Component	Quantity	None	Minor	Moderate	Major	Replace	%	Extended	Notes
D4090 Other Fire Protection Systems	NOT USED									
D50 Electrical										
D5010 Electrical Service & Distribution		100%					x	60%	$229,504	Most panels are original and obsolete with not extra capacity.
D5020 Lighting and Branch Wiring		100%	x						$0	Light fixtures seem to have been updated in the last 10 years.
D5030 Communications & Security	Voice / Data System	100%	x						$0	
	Clock / Intercom System	100%	x						$0	
	Closed Circuit Surveillance								$0	
	Access Control System								$0	
	Intrusion Alarm System	20%	x						$0	
	Fire Alarm / Detection	100%	x						$0	
	Lighting Control System								$0	
D5090 Other Electrical Systems	NOT USED									
E EQUIPMENT & FURNISHINGS										
E10 Equipment										
E1010 Commercial Equipment	Food Service	100%					x	100%	$95,627	The walk-in cooler has the floor caved in and the dishwasher is obsolete.
	Vocational								$0	
E1020 Institutional Equipment	Science								$0	
	Art								$0	
	Stage Performance								$0	
	Restroom Accessories/Stalls	12	x						$0	
E1030 Vehicular Equipment	NOT USED									
E1090 Other Equipment	NOT USED									
E20 Furnishings										
E2010 Fixed Furnishings		100%				x		100%	$286,880	Most cabinets are old and present damage in their surface and hardware.
E2020 Movable Furnishings		100%	x						$0	
F SPECIAL CONSTRUCTION & DEMOLITION - NOT USED										
G BUILDING SITE WORK										
G10 Site Preparation	NOT USED									
G20 Site Improvements										
G2010 Roadways									$0	
G2020 Parking Lots		20500				x		100%	$196,862	Surface is cracked and in poor condition.
G2030 Pedestrian Paving		2500							$0	concrete sidewalks are in good condition
G2040 Site Development		1000	x						$0	Fencing around playing areas is in good condition.
G2050 Landscaping		70300	x						$0	Mature landscaping in good condition.
G30 Site Mechanical Utilities										
G3010 Water Supply	Domestic	100%	x						$0	
	Fire								$0	
G3020 Sanitary Sewer		100%	x						$0	
G3030 Storm Sewer		100%	x						$0	
G3040 Heating Distribution									$0	
G3050 Cooling Distribution									$0	
G3060 Fuel Distribution									$0	
G3090 Other Site Mechanical Utilities	NOT USED									
G40 Site Electrical Utilities										
G4010 Electrical Distribution	Service	100%	x						$0	Overhead pole feed.
	Generator								$0	
G4020 Site Lighting		100%	x						$0	Lighting is functional and adequate.
G4030 Site Communications & Security		100%	x						$0	
G4090 Other Site Electrical Utilities	NOT USED									
G90 Other Site Construction	NOT USED									

OTHER

Description of System	Unit of Measure	Quantity	Unit Budget		Extended	Notes

				$0	
				$0	
				$0	
				$0	
				$0	
				$0	
				$0	

Physical Condition Budget Sub-Total	**$2,364,032**
Budgeted Development Costs	**$898,332**
Physical Condition Budget TOTAL	**$3,262,364**
Replacement Budget	**$18,706,352**

PHYSICAL CONDITION ASSESSMENT

District Name: Roseburg SD
Site Name: Green ES
Building Name: 0
Building ID: 0

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Level 1	Level 2	Level 3	Type (as applicable)	% of Building or Number	LEVEL OF ACTION									% of System or Finish	Automated Budget Estimate	Notes
						None		Minor		Moderate		Major		Replace			
A SUBSTRUCTURE																
	A10 Foundations															
		A1010 Standard Foundations		7%	x	None		Minor		Moderate		Major		Replace		$0	Portable buildings with no observed issues.
		A1020 Special Foundations				None		Minor		Moderate		Major		Replace		$0	
		A1030 Slab on Grade		93%	x	None		Minor		Moderate		Major		Replace		$0	
	A20 Basement Construction															
		A2010 Basement Excavation	NOT USED			None		Minor		Moderate		Major		Replace			
		A2020 Basement Walls				None		Minor		Moderate		Major		Replace		$0	
B SHELL																
	B10 Superstructure															
		B1010 Floor Construction	Wood	7%		None		Minor		Moderate		Major		Replace		$0	Portable buildings with no observed issues.
			Steel			None		Minor		Moderate		Major		Replace		$0	
			Concrete			None		Minor		Moderate		Major		Replace		$0	
		B1020 Roof Construction	Wood	100%	x	None		Minor		Moderate		Major		Replace		$0	Seismic upgrade project was completed in 2018.
			Steel			None		Minor		Moderate		Major		Replace		$0	
			Concrete			None		Minor		Moderate		Major		Replace		$0	
	B20 Exterior Enclosure															
		B2010 Exterior Walls	Concrete Formed / Tilt			None		Minor		Moderate		Major		Replace		$0	
			Masonry	60%	x	None		Minor		Moderate		Major		Replace		$0	No observed or reported issues.
			Framed w/Panel Siding			None		Minor		Moderate		Major		Replace		$0	
			Framed w/Stucco			None		Minor		Moderate		Major		Replace		$0	
			Framed w/Masonry Veneer	40%	x	None		Minor		Moderate		Major		Replace		$0	Portable classrooms and building siding.
		B2020 Exterior Windows	Wood			None		Minor		Moderate		Major		Replace		$0	
			Aluminum/Steel	100%	x	None		Minor		Moderate		Major		Replace		$0	Installed with the seismic upgrade project.
			Clad			None		Minor		Moderate		Major		Replace		$0	
			Curtain Wall			None		Minor		Moderate		Major		Replace		$0	
		B2030 Exterior Doors	Wood	8		None		Minor		Moderate		Major	x	Replace	100%	$12,804	Doors are original age of construction and they are beyond their useful life. Some doors were being replaced during the site visit.
			Hollow Metal	13		None		Minor		Moderate		Major	x	Replace	100%	$18,032	
			Storefront			None		Minor		Moderate		Major		Replace		$0	
	B30 Roofing															
		B3010 Roof Coverings	Asphalt Shingle	7%		None		Minor	x	Moderate		Major		Replace	100%	$6,347	At portable classrooms
			Built-Up	33%		None		Minor	x	Moderate		Major		Replace	100%	$47,877	Some leaks were observed and the system is beyond is useful life. Dated 1988 and 1996.
			Single Ply	60%	x	None		Minor		Moderate		Major		Replace		$0	PVC roofs are in good condition, newly installed in 2018.
			Metal			None		Minor		Moderate		Major		Replace		$0	
			Concrete Tile			None		Minor		Moderate		Major		Replace		$0	
		B3020 Roof Openings	Skylights			None		Minor		Moderate		Major		Replace		$0	
			Access Hatch			None		Minor		Moderate		Major		Replace		$0	
C INTERIORS																
	C10 Interior Construction															
		C1010 Partitions	Framed	60%	x	None		Minor		Moderate		Major		Replace		$0	
			Masonry	40%	x	None		Minor		Moderate		Major		Replace		$0	

	C1020 Interior Doors	Wood	64		None		Minor	x	Moderate		Major		Replace	90%	$18,438	Doors are original from the 60's and 70's beyond their useful life. The door hardware does not meet current accessibility standards.
		Hollow Metal			None		Minor		Moderate		Major		Replace		$0	
	C1030 Fittings	NOT USED			None		Minor		Moderate		Major		Replace			
C20 Stairs																
	C2010 Stair Construction	Wood			None		Minor		Moderate		Major		Replace		$0	
		Metal			None		Minor		Moderate		Major		Replace		$0	
		Concrete			None		Minor		Moderate		Major		Replace		$0	
	C2020 Stair Finishes	Concrete Fill			None		Minor		Moderate		Major		Replace		$0	
		Resilient			None		Minor		Moderate		Major		Replace		$0	
C30 Interior Finishes																
	C3010 Wall Finishes	Paint on Masonry	85%		None	x	Minor		Moderate		Major		Replace	100%	$46,245	
		Wallboard	5%		None		Minor		Moderate		Major		Replace		$0	
		Wainscot	5%		None		Minor		Moderate		Major		Replace		$0	Wood panels in the multipurpose room.
		Ceramic Tile	5%		None		Minor		Moderate		Major		Replace		$0	
	C3020 Floor Finishes	Carpet / Soft Surface	5%		None		Minor		Moderate		Major	x	Replace	100%	$10,609	
		Resilient Tile	85%	x	None		Minor		Moderate		Major		Replace		$0	
		Resilient Sheet			None		Minor		Moderate		Major		Replace		$0	
		Polished Concrete	2%		None		Minor		Moderate		Major		Replace		$0	
		Ceramic Tile	5%		None		Minor		Moderate		Major		Replace		$0	
		Liquid Applied			None		Minor		Moderate		Major		Replace		$0	
		Wood Sports Floor	3%		None		Minor		Moderate		Major		Replace		$0	Wood flooring in the stage.
	C3030 Ceiling Finishes	Wallboard			None		Minor		Moderate		Major		Replace		$0	
		Lay-In Ceiling Tile	70%		None	x	Minor		Moderate		Major		Replace	15%	$5,713	
		Glued-Up Ceiling Tile	30%		None	x	Minor		Moderate		Major		Replace	15%	$3,020	
		Painted Structure			None		Minor		Moderate		Major		Replace		$0	
D SERVICES																
D10 Conveying																
	D1010 Elevators & Lifts				None		Minor		Moderate		Major		Replace		$0	
	D1020 Escalators & Moving Walks				None		Minor		Moderate		Major		Replace		$0	
	D1090 Other Conveying Systems				None		Minor		Moderate		Major		Replace		$0	
D20 Plumbing																
	D2010 Plumbing Fixtures		100%		None		Minor		Moderate		Major	x	Replace	60%	$152,336	Older fixtures not water efficient.
	D2020 Domestic Water Distribution		100%		None	x	Minor		Moderate		Major		Replace	100%	$90,676	
	D2030 Sanitary Waste		100%		None	x	Minor		Moderate		Major		Replace	100%	$90,676	
	D2040 Rain Water Drainage				None		Minor		Moderate		Major		Replace		$0	
	D2090 Other Plumbing Systems	NOT USED			None		Minor		Moderate		Major		Replace			
D30 HVAC																
	D3010 Energy Supply		100%	x	None		Minor		Moderate		Major		Replace		$0	
	D3020 Heat Generating Systems	Boiler			None		Minor		Moderate		Major		Replace		$0	
		Air Handler			None		Minor		Moderate		Major		Replace		$0	
		Furnace	100%	x	None		Minor		Moderate		Major		Replace		$0	The steam boiler was removed in 2014 and each classroom has it own furnace for heat.
		Heat Exchanger			None		Minor		Moderate		Major		Replace		$0	
	D3030 Cooling Generating Systems	Component of air handler	30%	x	None		Minor		Moderate		Major		Replace		$0	Condenser for DX system in the office and library.
		Stand alone chiller			None		Minor		Moderate		Major		Replace		$0	
	D3040 Distribution Systems	Ductwork	100%		None		Minor		Moderate		Major		Replace		$0	
		Hot water return & supply			None		Minor		Moderate		Major		Replace		$0	
	D3050 Terminal & Package Units	Above ceiling VAV unit	20%		None		Minor		Moderate		Major	x	Replace	100%	$14,508	PTAC units at Portables. Dated to 1980, obsolete and energy inefficient.
		In-room ventilator unit	30%	x	None		Minor		Moderate		Major		Replace		$0	Ventilator for DX system in the office and library.
		In-room radiant unit	15%	x	None		Minor		Moderate		Major		Replace		$0	Reznor unit heaters in the multipurpose room.
	D3060 Controls & Instrumentation		100%		None		Minor		Moderate		Major	x	Replace	40%	$29,016	Some thermostats are obsolete.
	D3070 Systems Testing & Balancing		100%		None		Minor		Moderate		Major	x	Replace	100%	$36,271	Throughout the building.
	D3090 Other HVAC Systems & Equipment	NOT USED			None		Minor		Moderate		Major		Replace			

D40 Fire Protection																	
D4010 Sprinklers				None		Minor		Moderate		Major		Replace		$0	
D4020 Standpipes				None		Minor		Moderate		Major		Replace		$0	
D4030 Fire Protection Specialties				None		Minor		Moderate		Major		Replace		$0	
D4090 Other Fire Protection Systems	NOT USED			None		Minor		Moderate		Major		Replace			
D50 Electrical																	
D5010 Electrical Service & Distribution		100%	x	None		Minor		Moderate		Major	x	Replace	80%	$232,131	Main service is dated 1950's with 1980's feed, the parts are obsolete and difficult to obtain. A new 400A was installed for the Minisplt units in 2014. No additional capacity.
D5020 Lighting and Branch Wiring		100%	x	None		Minor		Moderate		Major		Replace		$0	
D5030 Communications & Security	Voice / Data System	100%	x	None		Minor		Moderate		Major		Replace		$0	
	Clock / Intercom System	100%		None		Minor		Moderate		Major	x	Replace	100%	$181,353	The PA system is beyond its useful life and is outdated.
	Closed Circuit Surveillance			None		Minor		Moderate		Major		Replace		$0	
	Access Control System			None		Minor		Moderate		Major		Replace		$0	
	Intrusion Alarm System			None		Minor		Moderate		Major		Replace		$0	
	Fire Alarm / Detection	100%	x	None		Minor		Moderate		Major		Replace		$0	Pull stations at every exit and fire alarm.
	Lighting Control System			None		Minor		Moderate		Major		Replace		$0	
D5090 Other Electrical Systems	NOT USED			None		Minor		Moderate		Major		Replace			
E EQUIPMENT & FURNISHINGS																	
E10 Equipment																	
E1010 Commercial Equipment	Food Service	100%		None		Minor		Moderate		Major	x	Replace	100%	$72,541	The kitchen equipment is functional but beyond its useful life. Walk-in cooler is obsolete.
	Vocational			None		Minor		Moderate		Major		Replace		$0	
E1020 Institutional Equipment	Science			None		Minor		Moderate		Major		Replace		$0	
	Art			None		Minor		Moderate		Major		Replace		$0	
	Stage Performance	600	x	None		Minor		Moderate		Major		Replace		$0	
	Restroom Accessories/Stalls	15%		None		Minor		Moderate	x	Major		Replace	33%	$21,545	Five wood stalls need to be replaced.
E1030 Vehicular Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
E1090 Other Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
E20 Furnishings																	
E2010 Fixed Furnishings		100%		None	x	Minor		Moderate		Major		Replace	100%	$54,406	Outdated with damaged surfaces.
E2020 Movable Furnishings		100%		None		Minor		Moderate	x			Replace	60%	$0	
F SPECIAL CONSTRUCTION & DEMOLITION - NOT USED																	
G BUILDING SITE WORK																	
G10 Site Preparation	NOT USED																
G20 Site Improvements																	
G2010 Roadways		15000		None	x	Minor		Moderate		Major		Replace	100%	$22,407	Crack fill and seal.
G2020 Parking Lots		30000		None	x	Minor		Moderate		Major		Replace	100%	$96,030	Crack fill and seal.
G2030 Pedestrian Paving		14000	x	None		Minor		Moderate		Major		Replace	100%	$0	
G2040 Site Development		1000	x	None		Minor		Moderate		Major		Replace		$0	
G2050 Landscaping		10000	x	None		Minor		Moderate		Major		Replace		$0	
G30 Site Mechanical Utilities																	
G3010 Water Supply	Domestic	100%	x	None		Minor		Moderate		Major		Replace		$0	
	Fire	100%	x	None		Minor		Moderate		Major		Replace		$0	
G3020 Sanitary Sewer		100%	x	None		Minor		Moderate		Major		Replace		$0	
G3030 Storm Sewer		100%		None		Minor		Moderate	x	Major		Replace	100%	$54,406	It was reported that the draining system has presented major issues in the recent past.
G3040 Heating Distribution				None		Minor		Moderate		Major		Replace		$0	
G3050 Cooling Distribution				None		Minor		Moderate		Major		Replace		$0	
G3060 Fuel Distribution		100%	x	None		Minor		Moderate		Major		Replace		$0	
G3090 Other Site Mechanical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
G40 Site Electrical Utilities																	
G4010 Electrical Distribution	Service	100%		None		Minor		Moderate		Major		Replace		$0	

PHYSICAL CONDITION ASSESSMENT

	Generator			None		Minor		Moderate		Major		Replace		$0	
G4020 Site Lighting		100%		None		Minor		Moderate		Major		Replace		$0	
G4030 Site Communications & Security				None		Minor		Moderate		Major		Replace		$0	
G4090 Other Site Electrical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
G90 Other Site Construction	NOT USED														

OTHER

Description of System	Unit of Measure	Quantity	Unit Budget	Extended	Notes
				$0	
				$0	
				$0	
				$0	
				$0	
				$0	
				$0	

Physical Condition Budget Sub-Total	**$1,317,387**
Budgeted Development Costs	**$500,607**
Physical Condition Budget TOTAL	**$1,817,994**
Replacement Budget	**$14,190,378**

PHYSICAL CONDITION ASSESSMENT

District Name: Roseburg SD
Site Name: Hucrest ES
Building Name: 0
Building ID: 0

REMINDER: FILL OUT ALL INFORMATION ON '*BASE INFORMATION SHEET*' BEFORE ENTERING DATA ON THIS SHEET
An unused cell or system that should not receive direct user input
An automatically populated cell from user input elsewhere in the file - do not overwrite

Level 1	Level 2	Level 3	Type (as applicable)	% of Building or Number	LEVEL OF ACTION									% of System or Finish	Automated Budget Estimate	Notes
						None		Minor		Moderate		Major		Replace			
A SUBSTRUCTURE																
	A10 Foundations															
		A1010 Standard Foundations		6%	x	None		Minor		Moderate		Major		Replace		$0	Portable buildings.
		A1020 Special Foundations				None		Minor		Moderate		Major		Replace		$0	
		A1030 Slab on Grade		94%	x	None		Minor		Moderate		Major		Replace		$0	
	A20 Basement Construction															
		A2010 Basement Excavation	NOT USED			None		Minor		Moderate		Major		Replace			
		A2020 Basement Walls				None		Minor		Moderate		Major		Replace		$0	
B SHELL																
	B10 Superstructure															
		B1010 Floor Construction	Wood	6%	x	None		Minor		Moderate		Major		Replace		$0	Portable buildings.
			Steel			None		Minor		Moderate		Major		Replace		$0	
			Concrete			None		Minor		Moderate		Major		Replace		$0	
		B1020 Roof Construction	Wood	100%	x	None		Minor		Moderate		Major		Replace		$0	
			Steel			None		Minor		Moderate		Major		Replace		$0	
			Concrete			None		Minor		Moderate		Major		Replace		$0	
	B20 Exterior Enclosure															
		B2010 Exterior Walls	Concrete Formed / Tilt			None		Minor		Moderate		Major		Replace		$0	
			Masonry	75%	x	None		Minor		Moderate		Major		Replace		$0	
			Framed w/Panel Siding	25%		None		Minor		Moderate	x	Major		Replace	20%	$24,962	Siding at the portable buildings in good condition. The wood panels by the gym present damage specially at the bottom.
			Framed w/Stucco			None		Minor		Moderate		Major		Replace		$0	
			Framed w/Masonry Veneer			None		Minor		Moderate		Major		Replace		$0	
		B2020 Exterior Windows	Wood			None		Minor		Moderate		Major		Replace		$0	
			Aluminum/Steel	100%	x	None		Minor		Moderate		Major		Replace		$0	
			Clad			None		Minor		Moderate		Major		Replace		$0	
			Curtain Wall			None		Minor		Moderate		Major		Replace		$0	
		B2030 Exterior Doors	Wood	4		None		Minor		Moderate		Major	x	Replace	100%	$6,402	Exterior wood doors are damaged and need replacement.
			Hollow Metal	20		None		Minor	x	Moderate		Major		Replace		$0	Door hardware is from the 60's and 70's and does not comply with accessibility standards.
			Storefront			None		Minor		Moderate		Major		Replace		$0	
	B30 Roofing															
		B3010 Roof Coverings	Asphalt Shingle	12%	x	None		Minor		Moderate		Major		Replace		$0	Shingles installed in the early 2000's.
			Built-Up	88%		None		Minor		Moderate	x	Major		Replace	100%	$307,538	Many cracks and organic growth on the roofing system. Leaks were observed on the ceiling tiles.
			Single Ply			None		Minor		Moderate		Major		Replace		$0	
			Metal			None		Minor		Moderate		Major		Replace		$0	
			Concrete Tile			None		Minor		Moderate		Major		Replace		$0	
		B3020 Roof Openings	Skylights			None		Minor		Moderate		Major		Replace		$0	
			Access Hatch			None		Minor		Moderate		Major		Replace		$0	
C INTERIORS																
	C10 Interior Construction															
		C1010 Partitions	Framed	40%	x	None		Minor		Moderate		Major		Replace		$0	
			Masonry	60%	x	None		Minor		Moderate		Major		Replace		$0	
		C1020 Interior Doors	Wood	30		None		Minor	x	Moderate		Major		Replace	100%	$9,603	Door hardware is from the 60's and 70's and does not comply with accessibility standards. Door panels present scuffing and minor impact damage.

		Hollow Metal	6		None		Minor	x	Moderate		Major		Replace	100%	$1,921	Door hardware is from the 60's and 70's and does not comply with accessibility standards. Door panels need paint.
	C1030 Fittings	NOT USED			None		Minor		Moderate		Major		Replace			
C20 Stairs																
	C2010 Stair Construction	Wood			None		Minor		Moderate		Major		Replace		$0	
		Metal			None		Minor		Moderate		Major		Replace		$0	
		Concrete			None		Minor		Moderate		Major		Replace		$0	
	C2020 Stair Finishes	Concrete Fill			None		Minor		Moderate		Major		Replace		$0	
		Resilient			None		Minor		Moderate		Major		Replace		$0	
C30 Interior Finishes																
	C3010 Wall Finishes	Paint on Masonry	80%		None	x	Minor		Moderate		Major		Replace	100%	$59,910	
		Wallboard			None		Minor		Moderate		Major		Replace		$0	
		Wainscot	20%		None	x	Minor		Moderate		Major		Replace	100%	$14,977	
		Ceramic Tile			None		Minor		Moderate		Major		Replace		$0	
	C3020 Floor Finishes	Carpet / Soft Surface			None		Minor		Moderate		Major		Replace		$0	
		Resilient Tile	85%		None		Minor		Moderate		Major	x	Replace	100%	$233,399	Most VCT is separating form the seams and many areas are cracked. There are 9x9 tiles, possibly ACT, in the classrooms that seam to be original.
		Resilient Sheet	10%	x	None		Minor		Moderate		Major		Replace		$0	
		Polished Concrete			None		Minor		Moderate		Major		Replace		$0	
		Ceramic Tile	3%	x	None		Minor		Moderate		Major		Replace		$0	
		Liquid Applied	2%	x	None		Minor		Moderate		Major		Replace		$0	
		Wood Sports Floor			None		Minor		Moderate		Major		Replace		$0	
	C3030 Ceiling Finishes	Wallboard			None		Minor		Moderate		Major		Replace		$0	
		Lay-In Ceiling Tile	30%		None	x	Minor		Moderate		Major		Replace	20%	$4,493	Some panels present damage or stains.
		Glued-Up Ceiling Tile	70%		None	x	Minor		Moderate		Major		Replace	20%	$12,931	Some panels present damage or stains.
		Painted Structure			None		Minor		Moderate		Major		Replace		$0	
D SERVICES																
D10 Conveying																
	D1010 Elevators & Lifts				None		Minor		Moderate		Major		Replace		$0	
	D1020 Escalators & Moving Walks				None		Minor		Moderate		Major		Replace		$0	
	D1090 Other Conveying Systems				None		Minor		Moderate		Major		Replace		$0	
D20 Plumbing																
	D2010 Plumbing Fixtures		100%		None		Minor		Moderate		Major	x	Replace	60%	$209,685	Many plumbing fixtures have been updated, but there remain original fixtures that need to be replaced, in particular in the staff restrooms and classroom sinks.
	D2020 Domestic Water Distribution		100%		None		Minor		Moderate		Major		Replace		$0	The system had minor repairs as needed, but there are not issues reported.
	D2030 Sanitary Waste		100%		None		Minor		Moderate		Major		Replace		$0	The system had minor repairs as needed, but there are not issues reported.
	D2040 Rain Water Drainage				None		Minor		Moderate		Major		Replace		$0	
	D2090 Other Plumbing Systems	NOT USED			None		Minor		Moderate		Major		Replace			
D30 HVAC																
	D3010 Energy Supply				None		Minor		Moderate		Major		Replace		$0	
	D3020 Heat Generating Systems	Boiler	100%		None		Minor		Moderate		Major	x	Replace	100%	$199,700	Boiler is obsolete, parts are difficult to obtain.
		Air Handler			None		Minor		Moderate		Major		Replace		$0	
		Furnace			None		Minor		Moderate		Major		Replace		$0	
		Heat Exchanger			None		Minor		Moderate		Major		Replace		$0	
	D3030 Cooling Generating Systems	Component of air handler			None		Minor		Moderate		Major		Replace		$0	
		Stand alone chiller			None		Minor		Moderate		Major		Replace		$0	
	D3040 Distribution Systems	Ductwork			None		Minor		Moderate		Major		Replace		$0	
		Hot water return & supply			None		Minor		Moderate		Major		Replace		$0	
	D3050 Terminal & Package Units	Above ceiling VAV unit	20%		None		Minor		Moderate		Major	x	Replace	100%	$19,970	The system is obsolete and not energy efficient.
		In-room ventilator unit	80%		None		Minor		Moderate		Major	x	Replace	100%	$79,880	The system is obsolete and not energy efficient.

		In-room radiant unit	100%		None		Minor		Moderate		Major	x	Replace	100%	$49,925	The system is obsolete and not energy efficient.
	D3060 Controls & Instrumentation		100%		None		Minor		Moderate		Major	x	Replace	100%	$99,850	Controls are obsolete.
	D3070 Systems Testing & Balancing		100%		None		Minor		Moderate		Major	x	Replace	100%	$49,925	
	D3090 Other HVAC Systems & Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
D40 Fire Protection																
	D4010 Sprinklers				None		Minor		Moderate		Major		Replace		$0	
	D4020 Standpipes				None		Minor		Moderate		Major		Replace		$0	
	D4030 Fire Protection Specialties				None		Minor		Moderate		Major		Replace		$0	
	D4090 Other Fire Protection Systems	NOT USED			None		Minor		Moderate		Major		Replace			
D50 Electrical																
	D5010 Electrical Service & Distribution		100%		None		Minor		Moderate		Major	x	Replace	100%	$399,399	The system is obsolete with no extra capacity. Part s are difficult to obtain.
	D5020 Lighting and Branch Wiring		100%	x	None		Minor		Moderate		Major		Replace		$0	Upgrades with T8 fixtures. Replacements and upgrades.
	D5030 Communications & Security	Voice / Data System	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Clock / Intercom System	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Closed Circuit Surveillance			None		Minor		Moderate		Major		Replace		$0	
		Access Control System			None		Minor		Moderate		Major		Replace		$0	
		Intrusion Alarm System	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Fire Alarm / Detection	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Lighting Control System			None		Minor		Moderate		Major		Replace		$0	
	D5090 Other Electrical Systems	NOT USED			None		Minor		Moderate		Major		Replace			
E EQUIPMENT & FURNISHINGS																
E10 Equipment																
	E1010 Commercial Equipment	Food Service	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Vocational			None		Minor		Moderate		Major		Replace		$0	
	E1020 Institutional Equipment	Science			None		Minor		Moderate		Major		Replace		$0	
		Art			None		Minor		Moderate		Major		Replace		$0	
		Stage Performance			None		Minor		Moderate		Major		Replace		$0	
		Restroom Accessories/Stalls	100%		None		Minor		Moderate		Major		Replace		$0	
	E1030 Vehicular Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
	E1090 Other Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
E20 Furnishings																
	E2010 Fixed Furnishings		100%		None		Minor	x	Moderate		Major		Replace	100%	$149,775	Surfaces and hardware need to be repaired.
	E2020 Movable Furnishings				None		Minor		Moderate		Major		Replace		$0	
F SPECIAL CONSTRUCTION & DEMOLITION - NOT USED																
G BUILDING SITE WORK																
G10 Site Preparation		NOT USED														
G20 Site Improvements																
	G2010 Roadways		12000		None	x	Minor		Moderate		Major		Replace	100%	$17,926	Several temperature cracks on the asphalt.
	G2020 Parking Lots		23200		None	x	Minor		Moderate		Major		Replace	100%	$74,263	Several temperature cracks on the asphalt.
	G2030 Pedestrian Paving		5000	x	None		Minor		Moderate		Major		Replace		$0	
	G2040 Site Development		1000	x	None		Minor		Moderate		Major		Replace		$0	
	G2050 Landscaping		12400	x	None		Minor		Moderate		Major		Replace		$0	Mature landscape in fair condition.
G30 Site Mechanical Utilities																
	G3010 Water Supply	Domestic	100%		None		Minor		Moderate		Major		Replace		$0	
		Fire			None		Minor		Moderate		Major		Replace		$0	
	G3020 Sanitary Sewer		100%		None		Minor		Moderate		Major		Replace		$0	
	G3030 Storm Sewer		100%		None		Minor		Moderate		Major		Replace		$0	
	G3040 Heating Distribution				None		Minor		Moderate		Major		Replace		$0	
	G3050 Cooling Distribution				None		Minor		Moderate		Major		Replace		$0	
	G3060 Fuel Distribution		100%		None		Minor		Moderate		Major		Replace		$0	
	G3090 Other Site Mechanical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
G40 Site Electrical Utilities																
	G4010 Electrical Distribution	Service	100%	x	None		Minor		Moderate		Major		Replace		$0	No reported issues. New underground service.
		Generator			None		Minor		Moderate		Major		Replace		$0	

PHYSICAL CONDITION ASSESSMENT

G4020 Site Lighting		100%	x	None		Minor		Moderate		Major		Replace		$0	It was reported that the site lighting was sufficient and working properly.
G4030 Site Communications & Security		100%	x	None		Minor		Moderate		Major		Replace		$0	
G4090 Other Site Electrical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
G90 Other Site Construction	NOT USED														

OTHER

Description of System	Unit of Measure		Quantity		Unit Budget		Extended	Notes
							$0	
							$0	
							$0	
							$0	
							$0	
							$0	
							$0	

Physical Condition Budget Sub-Total	**$2,026,433**
Budgeted Development Costs	**$770,045**
Physical Condition Budget TOTAL	**$2,796,477**
Replacement Budget	**$19,532,486**

PHYSICAL CONDITION ASSESSMENT

District Name: Roseburg SD
Site Name: Melrose ES
Building Name: 0
Building ID: 0

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An unused cell or system that should not receive direct user input
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Level 1	Level 2	Level 3	Type (as applicable)	% of Building or Number	LEVEL OF ACTION: None	Minor	Moderate	Major	Replace	% of System or Finish	Automated Budget Estimate	Notes
A SUBSTRUCTURE												
	A10 Foundations											
		A1010 Standard Foundations		10%							$0	1909 building. CMU
		A1020 Special Foundations									$0	
		A1030 Slab on Grade		90%							$0	
	A20 Basement Construction											
		A2010 Basement Excavation	NOT USED									
		A2020 Basement Walls		10%							$0	small area in 1909 building. Not used.
B SHELL												
	B10 Superstructure											
		B1010 Floor Construction	Wood	10%							$0	10% - 1909
			Steel								$0	
			Concrete	90%							$0	
		B1020 Roof Construction	Wood	100%							$0	
			Steel								$0	
			Concrete								$0	
	B20 Exterior Enclosure											
		B2010 Exterior Walls	Concrete Formed / Tilt	90%							$0	
			Masonry								$0	
			Framed w/Panel Siding	10%					x	50%	$52,016	1909 building wood siding in good condition, gym, top 1/2 wood paneling is bowing, presenting damage. District is getting an seismic upgrade that will address this issue
			Framed w/Stucco								$0	
			Framed w/Masonry Veneer								$0	
		B2020 Exterior Windows	Wood		x						$0	
			Aluminum/Steel	100%	x						$0	1980s full replacement. No sign of seal failures.
			Clad								$0	
			Curtain Wall								$0	
		B2030 Exterior Doors	Wood	85%	x						$0	Wood doors appear in good condition.
			Hollow Metal	15%				x		50%	$68	Metal door is corroded in the boiler room across from the SPED building. Other metal doors showing minor corrosion
			Storefront								$0	
	B30 Roofing											
		B3010 Roof Coverings	Asphalt Shingle	100%	x	x				25%	$10,403	
			Built-Up								$0	
			Single Ply								$0	
			Metal								$0	
			Concrete Tile								$0	
		B3020 Roof Openings	Skylights								$0	
			Access Hatch								$0	
C INTERIORS												
	C10 Interior Construction											
		C1010 Partitions	Framed		x						$0	
			Masonry		x						$0	
		C1020 Interior Doors	Wood	33%							$0	Most interior doors are accordion partitions
			Hollow Metal		x						$0	
		C1030 Fittings	NOT USED									

State of Oregon
School Facilities Assessment Template
6/2016

System	Component	Type	%	None	Minor	Moderate	Major	Replace	%	Cost	Comments
C20 Stairs											
	C2010 Stair Construction	Wood		x						$0	
		Metal		x						$0	
		Concrete		x						$0	
	C2020 Stair Finishes	Concrete Fill		x						$0	
		Resilient		x						$0	
C30 Interior Finishes											
	C3010 Wall Finishes	Paint on Masonry	95%		x				33%	$16,307	1940s building needs repainted
		Wallboard	5%		x					$0	
		Wainscot								$0	
		Ceramic Tile								$0	
	C3020 Floor Finishes	Carpet / Soft Surface	10%					x	100%	$20,286	Carpets on top of tile - 100% replacement
		Resilient Tile	90%	x				x	100%	$171,654	Tile is Asbestos.
		Resilient Sheet								$0	
		Polished Concrete								$0	
		Ceramic Tile								$0	
		Liquid Applied								$0	
		Wood Sports Floor								$0	
	C3030 Ceiling Finishes	Wallboard	10%							$0	Wood panel ceiling in office, gym
		Lay-In Ceiling Tile	60%		x				10%	$3,121	Some tiles are damaged or discolored
		Glued-Up Ceiling Tile	30%		x				100%	$19,246	Some tiles are damaged or discolored. Due to HVAC isuses with vinyl pipes in 1940s building.
		Painted Structure								$0	
D SERVICES											
D10 Conveying											
	D1010 Elevators & Lifts			x None	Minor	Moderate	Major	Replace		$0	
	D1020 Escalators & Moving Walks			x None	Minor	Moderate	Major	Replace		$0	
	D1090 Other Conveying Systems			x None	Minor	Moderate	Major	Replace		$0	
D20 Plumbing											
	D2010 Plumbing Fixtures		100%	x				x	33%	$80,105	Some fixtures beyond useful life, showing distress
	D2020 Domestic Water Distribution									$0	Aged piping that is in need of minor repairs
	D2030 Sanitary Waste									$0	
	D2040 Rain Water Drainage		100%	x						$0	
	D2090 Other Plumbing Systems	NOT USED		None	Minor	Moderate	Major	Replace			
D30 HVAC											
	D3010 Energy Supply			None	Minor	Moderate	Major	Replace		$0	
	D3020 Heat Generating Systems	Boiler		x None	Minor	Moderate	Major	Replace		$0	
		Air Handler		None	Minor	Moderate	Major	Replace		$0	
		Furnace		None	Minor	Moderate	Major	Replace		$0	
		Heat Exchanger		None	Minor	Moderate	Major	Replace		$0	
	D3030 Cooling Generating Systems	Component of air handler		None	Minor	Moderate	Major	Replace		$0	
		Stand alone chiller		None	Minor	Moderate	Major	Replace		$0	
	D3040 Distribution Systems	Ductwork	100%	x None	Minor	Moderate	Major	Replace		$0	
		Hot water return & supply		None	Minor	Moderate	Major	Replace		$0	
	D3050 Terminal & Package Units	Above ceiling VAV unit		None	Minor	Moderate	Major	Replace		$0	
		In-room ventilator unit		None	Minor	Moderate	Major	Replace		$0	
		In-room radiant unit		None	Minor	Moderate	Major	Replace		$0	
	D3060 Controls & Instrumentation			None	Minor	Moderate	Major	Replace		$0	
	D3070 Systems Testing & Balancing			None	Minor	Moderate	Major	Replace		$0	
	D3090 Other HVAC Systems & Equipment	NOT USED		None	Minor	Moderate	Major	Replace			
D40 Fire Protection											
	D4010 Sprinklers			x None	Minor	Moderate	Major	Replace		$0	no sprinkler system
	D4020 Standpipes			x None	Minor	Moderate	Major	Replace		$0	
	D4030 Fire Protection Specialties	CHECK KITCHEN		x None	Minor	Moderate	Major	Replace		$0	
	D4090 Other Fire Protection Systems	NOT USED		None	Minor	Moderate	Major	Replace			
D50 Electrical											
	D5010 Electrical Service & Distribution		100%	None	Minor	Moderate	Major	Replace		$0	
	D5020 Lighting and Branch Wiring		100%	None	Minor	Moderate	Major	Replace		$0	No lighting on gravel parking lot

D5030 Communications & Security	Voice / Data System	100%		None		Minor		Moderate		Major		Replace		$0	
	Clock / Intercom System	100%		None		Minor		Moderate		Major		Replace		$0	present but not linked
	Closed Circuit Surveillance		x	None		Minor		Moderate		Major		Replace		$0	
	Access Control System		x	None		Minor		Moderate		Major		Replace		$0	
	Intrusion Alarm System	10%		None		Minor		Moderate		Major		Replace		$0	Present in the office only
	Fire Alarm / Detection	10%		None		Minor		Moderate		Major		Replace		$0	Present in the office only
	Lighting Control System		x	None		Minor		Moderate		Major		Replace		$0	
D5090 Other Electrical Systems	NOT USED			None		Minor		Moderate		Major		Replace			
E EQUIPMENT & FURNISHINGS															
E10 Equipment															
E1010 Commercial Equipment	Food Service	100%	x	None		Minor		Moderate		Major		Replace		$0	kitchen appears in good condition
	Vocational		x	None		Minor		Moderate		Major		Replace		$0	
E1020 Institutional Equipment	Science		x	None		Minor		Moderate		Major		Replace		$0	
	Art		x	None		Minor		Moderate		Major		Replace		$0	
	Stage Performance		x	None		Minor		Moderate		Major		Replace		$0	
	Restroom Accessories/Stalls		x	None		Minor		Moderate		Major		Replace		$0	
E1030 Vehicular Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
E1090 Other Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
E20 Furnishings															
E2010 Fixed Furnishings		100%		None	x	Minor		Moderate		Major		Replace	10%	$5,202	Some surfaces and doors present damage and require replacement.
E2020 Movable Furnishings		100%		None		Minor		Moderate		Major		Replace		$0	most furniture is dated, not uniform class-class, but in decent condition
F SPECIAL CONSTRUCTION & DEMOLITION - NOT USED															
G BUILDING SITE WORK															
G10 Site Preparation	NOT USED														
G20 Site Improvements															
G2010 Roadways		10000		None		Minor		Moderate		Major		Replace		$0	Minor temperature cracking.
G2020 Parking Lots	Need to add in the gravel lot	60000		None		Minor		Moderate		Major		Replace		$0	Minor temperature cracking.
G2030 Pedestrian Paving	should be similar to other scho	38000		None		Minor		Moderate		Major		Replace		$0	Minor-moderate cracking. Large central courtyard, play courts are paved.
G2040 Site Development		2000		None		Minor		Moderate		Major		Replace		$0	
G2050 Landscaping		180000		None		Minor		Moderate		Major		Replace		$0	
G30 Site Mechanical Utilities															
G3010 Water Supply	Domestic	100%		None		Minor		Moderate		Major		Replace		$0	good condition
	Fire			None		Minor		Moderate		Major		Replace		$0	
G3020 Sanitary Sewer			x	None		Minor		Moderate		Major	x	Replace		$0	
G3030 Storm Sewer		100%		None		Minor		Moderate		Major		Replace		$0	
G3040 Heating Distribution	% facility with radiant heat	100%		None		Minor		Moderate		Major		Replace		$0	gas heat
G3050 Cooling Distribution	% facility with AC	30%		None		Minor		Moderate		Major		Replace		$0	main building, SPED & Library have AC
G3060 Fuel Distribution	gas?	100%		None		Minor		Moderate		Major		Replace		$0	
G3090 Other Site Mechanical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
G40 Site Electrical Utilities															
G4010 Electrical Distribution	Service	100%		None		Minor		Moderate		Major		Replace		$0	
	Generator			None		Minor		Moderate		Major		Replace		$0	
G4020 Site Lighting		100%		None		Minor		Moderate		Major		Replace		$0	sufficient outside classrooms
G4030 Site Communications & Security		100%		None		Minor		Moderate		Major		Replace		$0	
G4090 Other Site Electrical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
G90 Other Site Construction	NOT USED														

OTHER

Description of System	Unit of Measure	Quantity	Unit Budget	Extended	Notes
Ductwork open, exposed through roof (see daylight) in boiler room near CR 11 (across from SPED)	square feet	10	250	$2,500	Repair will require roof and ceiling patches
School has its own septic tank. Water runs to a pump hpouse that is pumped all around campus, uphilld, and out to a leach fi	linear feet	1,000	500	$500,000	Septic system needs replaced; smell is constant, original to construction.
				$0	
				$0	
				$0	

				$0	
				$0	

Physical Condition Budget Sub-Total	**$880,908**
Budgeted Development Costs	**$334,745**
Physical Condition Budget TOTAL	**$1,215,653**
Replacement Budget	**$13,567,125**

PHYSICAL CONDITION ASSESSMENT

District Name: Roseburg SD
Site Name: Sunnyslope ES
Building Name: 0
Building ID: 0

REMINDER: FILL OUT ALL INFORMATION ON '*BASE INFORMATION SHEET*' BEFORE ENTERING DATA ON THIS SHEET
An unused cell or system that should not receive direct user input
An automatically populated cell from user input elsewhere in the file - do not overwrite

Level 1	Level 2	Level 3	Type (as applicable)	% of Building or Number	LEVEL OF ACTION									% of System or Finish	Automated Budget Estimate	Notes
						None		Minor		Moderate		Major		Replace			
A SUBSTRUCTURE																
	A10 Foundations															
		A1010 Standard Foundations		5%	x	None		Minor		Moderate		Major		Replace		$0	Portable building.
		A1020 Special Foundations				None		Minor		Moderate		Major		Replace		$0	
		A1030 Slab on Grade		95%	x	None		Minor		Moderate		Major		Replace		$0	
	A20 Basement Construction															
		A2010 Basement Excavation	NOT USED			None		Minor		Moderate		Major		Replace			
		A2020 Basement Walls				None		Minor		Moderate		Major		Replace		$0	
B SHELL																
	B10 Superstructure															
		B1010 Floor Construction	Wood	5%		None		Minor		Moderate		Major		Replace		$0	Portable building.
			Steel			None		Minor		Moderate		Major		Replace		$0	
			Concrete			None		Minor		Moderate		Major		Replace		$0	
		B1020 Roof Construction	Wood	100%	x	None		Minor		Moderate		Major	x	Replace		$0	
			Steel			None		Minor		Moderate		Major		Replace		$0	
			Concrete			None		Minor		Moderate		Major		Replace		$0	
	B20 Exterior Enclosure															
		B2010 Exterior Walls	Concrete Formed / Tilt			None		Minor		Moderate		Major		Replace		$0	
			Masonry	95%	x	None		Minor		Moderate		Major		Replace		$0	
			Framed w/Panel Siding	5%	x	None		Minor		Moderate		Major	x	Replace	100%	$75,175	Cedar shingles are damaged and soft.
			Framed w/Stucco			None		Minor		Moderate		Major		Replace		$0	
			Framed w/Masonry Veneer			None		Minor		Moderate		Major		Replace		$0	
		B2020 Exterior Windows	Wood			None		Minor		Moderate		Major		Replace		$0	
			Aluminum/Steel	100%		None		Minor		Moderate		Major	x	Replace	20%	$130,304	About 20% of the windows are steel original and beyond their expected useful life.
			Clad			None		Minor		Moderate		Major		Replace		$0	
			Curtain Wall			None		Minor		Moderate		Major		Replace		$0	
		B2030 Exterior Doors	Wood			None		Minor		Moderate		Major		Replace		$0	
			Hollow Metal	36		None		Minor		Moderate	x	Major		Replace	60%	$19,590	Most hardware is obsolete, original to the building construction date.
			Storefront			None		Minor		Moderate		Major		Replace		$0	
	B30 Roofing															
		B3010 Roof Coverings	Asphalt Shingle	10%		None	x	Minor		Moderate		Major		Replace	20%	$1,203	Flashing is damaged on top of the sloped shingle roof.
			Built-Up	90%		None		Minor		Moderate		Major		Replace		$0	Mod Bit roof installed in 2000 in fair condition.
			Single Ply			None		Minor		Moderate		Major		Replace		$0	
			Metal			None		Minor		Moderate		Major		Replace		$0	
			Concrete Tile			None		Minor		Moderate		Major	x	Replace		$0	
		B3020 Roof Openings	Skylights	200	x	None		Minor		Moderate		Major		Replace		$0	
			Access Hatch	1	1	None		Minor		Moderate		Major		Replace		$0	
C INTERIORS																
	C10 Interior Construction															
		C1010 Partitions	Framed	60%	x	None		Minor		Moderate		Major		Replace		$0	
			Masonry	40%	x	None		Minor		Moderate		Major		Replace		$0	
		C1020 Interior Doors	Wood	55		None		Minor	x	Moderate		Major		Replace	50%	$8,803	Hardware is obsolete and require replacement.
			Hollow Metal	10		None		Minor	x	Moderate		Major		Replace	50%	$1,601	Hardware is obsolete and require replacement.
		C1030 Fittings	NOT USED			None		Minor		Moderate		Major		Replace			

C20 Stairs															
	C2010 Stair Construction	Wood			None		Minor		Moderate		Major		Replace		$0	
		Metal	44	x	None		Minor		Moderate		Major		Replace		$0	Staircase to mechanical room.
		Concrete			None		Minor		Moderate		Major		Replace		$0	
	C2020 Stair Finishes	Concrete Fill	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Resilient			None		Minor		Moderate		Major		Replace		$0	
C30 Interior Finishes															
	C3010 Wall Finishes	Paint on Masonry	80%	x	None	x	Minor		Moderate		Major		Replace	100%	$60,140	
		Wallboard	15%	x	None		Minor		Moderate		Major		Replace		$0	
		Wainscot			None		Minor		Moderate		Major		Replace		$0	
		Ceramic Tile	5%	x	None		Minor		Moderate		Major		Replace		$0	
	C3020 Floor Finishes	Carpet / Soft Surface	80%		None		Minor		Moderate		Major		Replace		$0	Carpets are in good condition.
		Resilient Tile	15%		None		Minor		Moderate		Major	x	Replace	60%	$24,808	Portions of the VCT are original and cracked.
		Resilient Sheet			None		Minor		Moderate		Major		Replace		$0	
		Polished Concrete			None		Minor		Moderate		Major		Replace		$0	
		Ceramic Tile	4%		None		Minor		Moderate		Major		Replace		$0	Ceramic tile and grouting in good condition.
		Liquid Applied	1%		None		Minor		Moderate		Major	x	Replace		$0	Located at the mechanical room.
		Wood Sports Floor			None		Minor		Moderate		Major		Replace		$0	
	C3030 Ceiling Finishes	Wallboard	5%	x	None		Minor		Moderate		Major		Replace		$0	
		Lay-In Ceiling Tile	80%		None	x	Minor		Moderate		Major		Replace	15%	$9,021	Some tiles are damaged or discolored.
		Glued-Up Ceiling Tile	15%		None	x	Minor		Moderate		Major		Replace	20%	$2,781	Some tiles are damaged or discolored.
		Painted Structure			None		Minor		Moderate		Major		Replace		$0	
D SERVICES																
D10 Conveying																
	D1010 Elevators & Lifts				None		Minor		Moderate		Major		Replace		$0	
	D1020 Escalators & Moving Walks				None		Minor		Moderate		Major		Replace		$0	
	D1090 Other Conveying Systems				None		Minor		Moderate		Major		Replace		$0	
D20 Plumbing																
	D2010 Plumbing Fixtures		100%	x	None		Minor		Moderate		Major		Replace		$0	
	D2020 Domestic Water Distribution		100%		None	x	Minor		Moderate		Major		Replace	100%	$125,292	Aged piping that is in need of minor repairs
	D2030 Sanitary Waste		100%		None	x	Minor		Moderate		Major		Replace	100%	$125,292	Aged sewer that is in need of minor repairs
	D2040 Rain Water Drainage		100%	x	None		Minor		Moderate		Major		Replace		$0	
	D2090 Other Plumbing Systems	NOT USED			None		Minor		Moderate		Major		Replace			
D30 HVAC																
	D3010 Energy Supply		100%	x	None		Minor		Moderate		Major		Replace		$0	
	D3020 Heat Generating Systems	Boiler			None		Minor		Moderate		Major		Replace		$0	
		Air Handler	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Furnace			None		Minor		Moderate		Major		Replace		$0	
		Heat Exchanger			None		Minor		Moderate		Major		Replace		$0	
	D3030 Cooling Generating Systems	Component of air handler	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Stand alone chiller			None		Minor		Moderate		Major		Replace		$0	
	D3040 Distribution Systems	Ductwork	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Hot water return & supply			None		Minor		Moderate		Major		Replace		$0	
	D3050 Terminal & Package Units	Above ceiling VAV unit	90%		None		Minor		Moderate		Major		Replace		$0	
		In-room ventilator unit	10%		None		Minor		Moderate		Major		Replace		$0	
		In-room radiant unit	10%	x	None		Minor		Moderate		Major		Replace		$0	Unit heater in the mechanical room.
	D3060 Controls & Instrumentation		100%	x	None		Minor		Moderate		Major		Replace		$0	Pneumatic controls with no reported issues.
	D3070 Systems Testing & Balancing		100%	x	None		Minor		Moderate		Major		Replace		$0	
	D3090 Other HVAC Systems & Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
D40 Fire Protection																
	D4010 Sprinklers				None		Minor		Moderate		Major		Replace		$0	
	D4020 Standpipes				None		Minor		Moderate		Major		Replace		$0	
	D4030 Fire Protection Specialties				None		Minor		Moderate		Major		Replace		$0	
	D4090 Other Fire Protection Systems	NOT USED			None		Minor		Moderate		Major		Replace			
D50 Electrical																
	D5010 Electrical Service & Distribution		100%	x	None		Minor		Moderate		Major		Replace		$0	
	D5020 Lighting and Branch Wiring		100%	x	None		Minor		Moderate		Major		Replace		$0	
	D5030 Communications & Security	Voice / Data System	100%	x	None		Minor		Moderate		Major		Replace		$0	

		Clock / Intercom System	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Closed Circuit Surveillance	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Access Control System			None		Minor		Moderate		Major		Replace		$0	
		Intrusion Alarm System	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Fire Alarm / Detection	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Lighting Control System			None		Minor		Moderate		Major		Replace		$0	
	D5090 Other Electrical Systems	NOT USED			None		Minor		Moderate		Major		Replace			
E EQUIPMENT & FURNISHINGS																
	E10 Equipment															
	E1010 Commercial Equipment	Food Service	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Vocational			None		Minor		Moderate		Major		Replace		$0	
	E1020 Institutional Equipment	Science			None		Minor		Moderate		Major		Replace		$0	
		Art			None		Minor		Moderate		Major		Replace		$0	
		Stage Performance			None		Minor		Moderate		Major		Replace		$0	
		Restroom Accessories/Stalls	100%	x	None		Minor		Moderate		Major		Replace		$0	
	E1030 Vehicular Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
	E1090 Other Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
	E20 Furnishings															
	E2010 Fixed Furnishings		100%		None		Minor	x	Moderate		Major		Replace	80%	$120,281	Some surfaces and doors present damage and require replacement.
	E2020 Movable Furnishings		100%	x	None		Minor		Moderate		Major		Replace		$0	
F SPECIAL CONSTRUCTION & DEMOLITION - NOT USED																
G BUILDING SITE WORK																
	G10 Site Preparation	NOT USED														
	G20 Site Improvements															
	G2010 Roadways		6200		None	x	Minor		Moderate		Major		Replace	100%	$9,262	Minor temperature cracking.
	G2020 Parking Lots		51756		None	x	Minor		Moderate		Major		Replace	100%	$165,671	Minor temperature cracking.
	G2030 Pedestrian Paving		3500	x	None		Minor		Moderate		Major		Replace		$0	
	G2040 Site Development		600	x	None		Minor		Moderate		Major		Replace		$0	
	G2050 Landscaping		10000	x	None		Minor		Moderate		Major		Replace		$0	
	G30 Site Mechanical Utilities															
	G3010 Water Supply	Domestic	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Fire			None		Minor		Moderate		Major		Replace		$0	
	G3020 Sanitary Sewer		100%	x	None		Minor		Moderate		Major		Replace		$0	
	G3030 Storm Sewer		100%	x	None		Minor		Moderate		Major		Replace		$0	
	G3040 Heating Distribution				None		Minor		Moderate		Major		Replace		$0	
	G3050 Cooling Distribution				None		Minor		Moderate		Major		Replace		$0	
	G3060 Fuel Distribution		100%		None		Minor		Moderate		Major		Replace		$0	
	G3090 Other Site Mechanical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
	G40 Site Electrical Utilities															
	G4010 Electrical Distribution	Service	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Generator			None		Minor		Moderate		Major		Replace		$0	
	G4020 Site Lighting		100%	x	None		Minor		Moderate		Major		Replace		$0	
	G4030 Site Communications & Security				None		Minor		Moderate		Major		Replace		$0	
	G4090 Other Site Electrical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
	G90 Other Site Construction	NOT USED														

OTHER

Description of System	Unit of Measure	Quantity	Unit Budget	Extended	Notes
				$0	
				$0	
				$0	
				$0	
				$0	
				$0	
				$0	

Physical Condition Budget Sub-Total	**$879,225**
Budgeted Development Costs	**$334,105**
Physical Condition Budget TOTAL	**$1,213,330**
Replacement Budget	**$19,607,627**

PHYSICAL CONDITION ASSESSMENT

District Name: Douglas County SD 4
Site Name: Winchester ES
Building Name: Main
Building ID: 19912772123

REMINDER: FILL OUT ALL INFORMATION ON '*BASE INFORMATION SHEET*' BEFORE ENTERING DATA ON THIS SHEET
An unused cell or system that should not receive direct user input
An automatically populated cell from user input elsewhere in the file - do not overwrite

Level 1	Level 2	Level 3	Type (as applicable)	% of Building or Number	LEVEL OF ACTION									% of System or Finish	Automated Budget Estimate	Notes
						None		Minor		Moderate		Major		Replace			
A SUBSTRUCTURE																
	A10 Foundations															
		A1010 Standard Foundations		100%	x	None		Minor		Moderate		Major		Replace		$0	Wood spread footers - no observed issues
		A1020 Special Foundations			o	None		Minor		Moderate		Major		Replace		$0	
		A1030 Slab on Grade			o	None		Minor		Moderate		Major		Replace		$0	
	A20 Basement Construction															
		A2010 Basement Excavation	NOT USED			None		Minor		Moderate		Major		Replace			
		A2020 Basement Walls		30%	x	None		Minor		Moderate		Major		Replace		$0	Building C and D have a basement, no observed issues
B SHELL																
	B10 Superstructure															
		B1010 Floor Construction	Wood	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
			Steel		o	None		Minor		Moderate		Major		Replace		$0	
			Concrete		o	None		Minor		Moderate		Major		Replace		$0	
		B1020 Roof Construction	Wood	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
			Steel		o	None		Minor		Moderate		Major		Replace		$0	
			Concrete		o	None		Minor		Moderate		Major		Replace		$0	
	B20 Exterior Enclosure															
		B2010 Exterior Walls	Concrete Formed / Tilt		o	None		Minor		Moderate		Major		Replace		$0	
			Masonry	2%	x	None		Minor		Moderate		Major		Replace		$0	All masonry walls were in good shape
			Framed w/Panel Siding	98%		None		Minor	x	Moderate		Major		Replace	9%	$24,537	Minor painting needed on 7 of the buildings. The gym had some panels that need to be replaced.
			Framed w/Stucco		o	None		Minor		Moderate		Major		Replace		$0	
			Framed w/Masonry Veneer		o	None		Minor		Moderate		Major		Replace		$0	
		B2020 Exterior Windows	Wood	12%		None		Minor		Moderate	x	Major		Replace	100%	$66,766	54 single pane wood windows were counted. The structural integrity was not compromised.
			Aluminum/Steel	88%		None		Minor	x	Moderate		Major		Replace	11%	$22,441	27 double pane windows were fogged up with damaged seals. 18 were single pane that require replacement. Overall, 405 aluminum/steel windows were counted.
			Clad		o	None		Minor		Moderate		Major		Replace		$0	
			Curtain Wall		o	None		Minor		Moderate		Major		Replace		$0	
		B2030 Exterior Doors	Wood	24		None		Minor		Moderate	x	Major		Replace	8%	$2,049	2 of the wood doors on the gym need to be replaced.
			Hollow Metal	41	x	None		Minor		Moderate		Major		Replace		$0	All metal doors were in good shape.
			Storefront		o	None		Minor		Moderate		Major		Replace		$0	
	B30 Roofing															
		B3010 Roof Coverings	Asphalt Shingle	75%		None		Minor		Moderate		Major	x	Replace	75%	$182,564	All covered walkways have major ponding / leaks and need to be replaced. Issues observed on multiple roofs - cost adjusted up to provide a more accurate estimate
			Built-Up	25%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
			Single Ply		o	None		Minor		Moderate		Major		Replace		$0	
			Metal		o	None		Minor		Moderate		Major		Replace		$0	
			Concrete Tile		o	None		Minor		Moderate		Major		Replace		$0	
		B3020 Roof Openings	Skylights		o	None		Minor		Moderate		Major		Replace		$0	
			Access Hatch		o	None		Minor		Moderate		Major		Replace		$0	
C INTERIORS																
	C10 Interior Construction															
		C1010 Partitions	Framed	97%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
			Masonry	3%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		C1020 Interior Doors	Wood	48	x	None		Minor		Moderate		Major		Replace		$0	All interior wood doors were in functioning properly
			Hollow Metal	7	x	None		Minor		Moderate		Major		Replace		$0	All interior metal doors were in good operating order
		C1030 Fittings	NOT USED			None		Minor		Moderate		Major		Replace			
	C20 Stairs															
		C2010 Stair Construction	Wood	100	x	None		Minor		Moderate		Major		Replace		$0	All stairs were in good condition with no observed structural integrity issues

PHYSICAL CONDITION ASSESSMENT

		Metal		o	None		Minor		Moderate		Major		Replace		$0	
		Concrete		o	None		Minor		Moderate		Major		Replace		$0	
	C2020 Stair Finishes	Concrete Fill		o	None		Minor		Moderate		Major		Replace		$0	
		Resilient	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	C30 Interior Finishes															
	C3010 Wall Finishes	Paint on Masonry	1%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Wallboard	97%		None		Minor	x	Moderate		Major		Replace	11%	$14,842	Moderate patch and paint was needed throughout
		Wainscot		o	None		Minor		Moderate		Major		Replace		$0	
		Ceramic Tile	2%		None	x	Minor		Moderate		Major		Replace	1%	$300	Minor grout damage noted in boys restroom - cost adjusted up reflect more accurate costs
	C3020 Floor Finishes	Carpet / Soft Surface	37%		None		Minor		Moderate		Major	x	Replace	21%	$21,075	Carpet is severely worn in small spots throughout. Major areas that need to be replaced include the Library / Media center and offices next to that area.
		Resilient Tile	50%		None		Minor		Moderate	x	Major		Replace	18%	$20,864	There were several spots throughout where the majority of the space needed to be replaced - mainly in the cafeteria and a few classrooms.
		Resilient Sheet	3%		None		Minor		Moderate		Major	x	Replace	16%	$1,335	Minimal replacement needed in a classroom and the kitchen
		Polished Concrete	7%		None	x	Minor		Moderate		Major		Replace	22%	$1,785	Damaged surface in custodian closets, boiler rooms and storage areas.
		Ceramic Tile	3%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Liquid Applied		o	None		Minor		Moderate		Major		Replace		$0	
		Wood Sports Floor		o	None		Minor		Moderate		Major		Replace		$0	
	C3030 Ceiling Finishes	Wallboard	22%		None		Minor	x	Moderate		Major		Replace	26%	$6,630	Patch and paint needed primarily in the gym area (wood paneling).
		Lay-In Ceiling Tile	54%		None	x	Minor		Moderate		Major		Replace	7%	$2,629	Stained and damaged tiles observed throughout.
		Glued-Up Ceiling Tile	23%		None	x	Minor		Moderate		Major		Replace	2%	$395	Small portion of glue up tiles damaged in 4 different areas.
		Painted Structure		o	None		Minor		Moderate		Major		Replace		$0	
D	**SERVICES**															
	D10 Conveying															
	D1010 Elevators & Lifts			o	None		Minor		Moderate		Major		Replace		$0	
	D1020 Escalators & Moving Walks			o	None		Minor		Moderate		Major		Replace		$0	
	D1090 Other Conveying Systems			o	None		Minor		Moderate		Major		Replace		$0	
	D20 Plumbing															
	D2010 Plumbing Fixtures		100%		None		Minor	x	Moderate		Major		Replace	1.77%	$3,283	2 of 113 fixtures were not functioning.
	D2020 Domestic Water Distribution		100%		None		Minor		Moderate		Major	x	Replace	80%	$111,277	A majority of the system is beyond its useful life and should be replaced
	D2030 Sanitary Waste		100%		None		Minor		Moderate		Major	x	Replace	80%	$111,277	A majority of the system is beyond its useful life and should be replaced
	D2040 Rain Water Drainage		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D2090 Other Plumbing Systems	NOT USED			None		Minor		Moderate		Major		Replace			
	D30 HVAC															
	D3010 Energy Supply		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D3020 Heat Generating Systems	Boiler	10%	x	None		Minor		Moderate		Major		Replace		$0	Main building - no issues observed.
		Air Handler	90%	x	None		Minor		Moderate		Major		Replace		$0	Modulars - no issues noted.
		Furnace		o	None		Minor		Moderate		Major		Replace		$0	
		Heat Exchanger		o	None		Minor		Moderate		Major		Replace		$0	
	D3030 Cooling Generating Systems	Component of air handler	50%	x	None		Minor		Moderate		Major		Replace		$0	Half of the buildings have cooling
		Stand alone chiller		o	None		Minor		Moderate		Major		Replace		$0	
	D3040 Distribution Systems	Ductwork	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Hot water return & supply	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D3050 Terminal & Package Units	Above ceiling VAV unit		o	None		Minor		Moderate		Major		Replace		$0	
		In-room ventilator unit		o	None		Minor		Moderate		Major		Replace		$0	
		In-room radiant unit		o	None		Minor		Moderate		Major		Replace		$0	
	D3060 Controls & Instrumentation		100%		None		Minor		Moderate	x	Major		Replace	50%	$23,183	The system is obsolete and experiencing some issues across the facility
	D3070 Systems Testing & Balancing		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D3090 Other HVAC Systems & Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
	D40 Fire Protection															
	D4010 Sprinklers			o	None		Minor		Moderate		Major		Replace		$0	
	D4020 Standpipes			o	None		Minor		Moderate		Major		Replace		$0	
	D4030 Fire Protection Specialties			o	None		Minor		Moderate		Major		Replace		$0	

PHYSICAL CONDITION ASSESSMENT

D4090 Other Fire Protection Systems	NOT USED			None		Minor		Moderate		Major		Replace		
D50 Electrical														
D5010 Electrical Service & Distribution		100%	x	None		Minor		Moderate		Major		Replace	$0	No observed issues
D5020 Lighting and Branch Wiring		100%	x	None		Minor		Moderate		Major		Replace	$0	No observed issues
D5030 Communications & Security	Voice / Data System	100%	x	None		Minor		Moderate		Major		Replace	$0	No observed issues
	Clock / Intercom System	100%		None		Minor		Moderate	x	Major		Replace	100% $115,914	System is obsolete and experiencing issues in multiple areas - needs to be replaced
	Closed Circuit Surveillance	100%		None		Minor		Moderate		Major	x	Replace	100% $51,002	System is being decommissioned and needs to be replaced.
	Access Control System		o	None		Minor		Moderate		Major		Replace	$0	
	Intrusion Alarm System	25%	x	None		Minor		Moderate		Major		Replace	$0	Admin and IT areas, No observed issues
	Fire Alarm / Detection	100%		None		Minor		Moderate		Major	x	Replace	100% $104,322	New system needs to be installed
	Lighting Control System		o	None		Minor		Moderate		Major		Replace	$0	
D5090 Other Electrical Systems	NOT USED			None		Minor		Moderate		Major		Replace		
E EQUIPMENT & FURNISHINGS														
E10 Equipment														
E1010 Commercial Equipment	Food Service	100%	x	None		Minor		Moderate		Major		Replace	$0	No observed issues
	Vocational		o	None		Minor		Moderate		Major		Replace	$0	
E1020 Institutional Equipment	Science		o	None		Minor		Moderate		Major		Replace	$0	
	Art		o	None		Minor		Moderate		Major		Replace	$0	
	Stage Performance		o	None		Minor		Moderate		Major		Replace	$0	
	Restroom Accessories/Stalls	100%		None		Minor	x	Moderate		Major		Replace	2% $6,955	3 stall doors are not functioning properly in girls restroom and do not meet ADA. ADA not being met in boys restroom.
E1030 Vehicular Equipment	NOT USED			None		Minor		Moderate		Major		Replace		
E1090 Other Equipment	NOT USED			None		Minor		Moderate		Major		Replace		
E20 Furnishings														
E2010 Fixed Furnishings		100%		None	x	Minor		Moderate		Major		Replace	25% $17,387	Casework is worn in various areas - mainly in classrooms.
E2020 Movable Furnishings		100%		None		Minor		Moderate		Major	x	Replace	1% $8,346	Outdated furniture needed in 1 classroom.
F SPECIAL CONSTRUCTION & DEMOLITION - NOT USED														
G BUILDING SITE WORK														
G10 Site Preparation	NOT USED													
G20 Site Improvements														
G2010 Roadways		2,470		None	x	Minor		Moderate		Major		Replace	5% $184	Minor cracking on roadways
G2020 Parking Lots		26,220		None	x	Minor		Moderate		Major		Replace	25% $20,983	Minor cracks observed in parking lot areas
G2030 Pedestrian Paving		53,838		None		Minor		Moderate	x	Major		Replace	30% $206,803	Multiple sections of the pedestrian walkway are damaged and need to be replaced
G2040 Site Development		2,229	x	None		Minor		Moderate		Major		Replace	$0	No observed issues
G2050 Landscaping		164,329	x	None		Minor		Moderate		Major		Replace	$0	Entire site is irrigated, no observed issues
G30 Site Mechanical Utilities														
G3010 Water Supply	Domestic	100%		None		Minor		Moderate		Major	x	Replace	75% $34,774	Finding rust in system when it gets turned off and turned back on
	Fire		o	None		Minor		Moderate		Major		Replace	$0	
G3020 Sanitary Sewer		100%		None		Minor		Moderate		Major	x	Replace	75% $34,774	A majority of the system is beyond its useful life and should be replaced
G3030 Storm Sewer		100%	x	None		Minor		Moderate		Major		Replace	$0	No observed issues
G3040 Heating Distribution		100%	x	None		Minor		Moderate		Major		Replace	$0	No observed issues
G3050 Cooling Distribution		100%	x	None		Minor		Moderate		Major		Replace	$0	No observed issues
G3060 Fuel Distribution		100%	x	None		Minor		Moderate		Major		Replace	$0	No observed issues
G3090 Other Site Mechanical Utilities	NOT USED			None		Minor		Moderate		Major		Replace		
G40 Site Electrical Utilities														
G4010 Electrical Distribution	Service	100%	x	None		Minor		Moderate		Major		Replace	$0	No observed issues
	Generator		o	None		Minor		Moderate		Major		Replace	$0	
G4020 Site Lighting		100%		None		Minor	x	Moderate		Major		Replace	10% $6,955	Some lights were non functional
G4030 Site Communications & Security		100%	x	None		Minor		Moderate		Major		Replace	$0	No observed issues
G4090 Other Site Electrical Utilities	NOT USED			None		Minor		Moderate		Major		Replace		
G90 Other Site Construction	NOT USED													

OTHER

Description of System	Unit of Measure	Quantity	Unit Budget	Extended	Notes
New play surfaces needed by basketball courts and surrounding areas	SF	22,000	$ 4.00	$88,000	
				$0	

				$0	
				$0	
				$0	
				$0	
				$0	

Physical Condition Budget Sub-Total	**$1,313,628**
Budgeted Development Costs	**$499,179**
Physical Condition Budget TOTAL	**$1,812,807**
Replacement Budget	**$18,139,872**
Facility Condition Index (FCI)	**10.0%**

PHYSICAL CONDITION ASSESSMENT

District Name: Douglas County SD 4
Site Name: Joseph Lane MS
Building Name: Main
Building ID: 19912792167

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An unused cell or system that should not receive direct user input
An automatically populated cell from user input elsewhere in the file - do not overwrite

Level 1	Level 2	Level 3	Type (as applicable)	% of Building or Number		LEVEL OF ACTION: None		Minor		Moderate		Major		Replace	% of System or Finish	Automated Budget Estimate	Notes
A SUBSTRUCTURE																	
	A10 Foundations																
		A1010 Standard Foundations		60%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		A1020 Special Foundations			o	None		Minor		Moderate		Major		Replace		$0	
		A1030 Slab on Grade		40%		None		Minor		Moderate	x	Major		Replace	4%	$20,180	Major heaving and separating along west side of building D. Significant crack on corner of building due to settling issues. Can be fixed with TerraFirma foundation system
	A20 Basement Construction																
		A2010 Basement Excavation	NOT USED			None		Minor		Moderate		Major		Replace			
		A2020 Basement Walls		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
B SHELL																	
	B10 Superstructure																
		B1010 Floor Construction	Wood	60%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
			Steel		o	None		Minor		Moderate		Major		Replace		$0	
			Concrete	40%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		B1020 Roof Construction	Wood	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
			Steel		o	None		Minor		Moderate		Major		Replace		$0	
			Concrete		o	None		Minor		Moderate		Major		Replace		$0	
	B20 Exterior Enclosure																
		B2010 Exterior Walls	Concrete Formed / Tilt		o	None		Minor		Moderate		Major		Replace		$0	
			Masonry	55%		None		Minor	x	Moderate		Major		Replace	9%	$31,216	Exterior masonry walls need paint in multiple areas
			Framed w/Panel Siding	45%		None		Minor	x	Moderate		Major		Replace	19%	$53,918	Exterior siding needs paint in multiple areas
			Framed w/Stucco		o	None		Minor		Moderate		Major		Replace		$0	
			Framed w/Masonry Veneer		o	None		Minor		Moderate		Major		Replace		$0	
		B2020 Exterior Windows	Wood	2%		None		Minor		Moderate	x	Major		Replace	100%	$25,225	12 single pane windows need to be replaced (building F) - cost adjusted down
			Aluminum/Steel	98%		None		Minor		Moderate	x	Major		Replace	26%	$214,244	169 of 664 aluminum / steel windows were single pane or fogged and need to be replaced
			Clad		o	None		Minor		Moderate		Major		Replace		$0	
			Curtain Wall		o	None		Minor		Moderate		Major		Replace		$0	
		B2030 Exterior Doors	Wood	1	x	None		Minor		Moderate		Major		Replace		$0	All exterior wood doors were in good condition
			Hollow Metal	63	x	None		Minor		Moderate		Major		Replace		$0	All exterior metal doors were in good condition
			Storefront		o	None		Minor		Moderate		Major		Replace		$0	
	B30 Roofing																
		B3010 Roof Coverings	Asphalt Shingle	97%		None		Minor		Moderate		Major	x	Replace	35%	$249,779	Minor to Major issues found on every shingle and torch down roof. Standing water was on multiple roofs and all walkways. Numerous flashing and cracks found on torch down roofs and shingle roof system is showing sings of wear. Adjusted cost up to more accurately reflect cost estimate
			Built-Up		o	None		Minor		Moderate		Major		Replace		$0	
			Single Ply	3%	x	None		Minor		Moderate		Major		Replace		$0	Roofs on modulars are in good shape
			Metal		o	None		Minor		Moderate		Major		Replace		$0	
			Concrete Tile		o	None		Minor		Moderate		Major		Replace		$0	
		B3020 Roof Openings	Skylights		o	None		Minor		Moderate		Major		Replace		$0	
			Access Hatch		o	None		Minor		Moderate		Major		Replace		$0	
C INTERIORS																	
	C10 Interior Construction																
		C1010 Partitions	Framed	91%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
			Masonry	9%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		C1020 Interior Doors	Wood	132		None		Minor	x	Moderate		Major		Replace	0.8%	$320	Door hardware was non-functional on one door.
			Hollow Metal	20	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		C1030 Fittings	NOT USED			None		Minor		Moderate		Major		Replace			
	C20 Stairs																
		C2010 Stair Construction	Wood	3	x	None		Minor		Moderate		Major		Replace		$0	No observed issues

		Metal		o	None		Minor		Moderate		Major		Replace		$0	
		Concrete	1	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	C2020 Stair Finishes	Concrete Fill	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Resilient	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	C30 Interior Finishes															
	C3010 Wall Finishes	Paint on Masonry	9%		None	x	Minor		Moderate		Major		Replace	18%	$2,554	Paint needed in multiple areas
		Wallboard	87%		None	x	Minor	x	Moderate		Major		Replace	9%	$38,268	Patch and paint needed throughout
		Wainscot		o	None		Minor		Moderate		Major		Replace		$0	
		Ceramic Tile	4%		None	x	Minor		Moderate		Major		Replace	6%	$252	Minor grout damage found in 3 restrooms and locker rooms - cost adjusted up
	C3020 Floor Finishes	Carpet / Soft Surface	23%		None		Minor		Moderate		Major	x	Replace	7%	$9,899	Worn and stained carpet found in multiple rooms
		Resilient Tile	42%		None	x	Minor		Moderate		Major		Replace	10%	$11,036	Tiles were found cracked and lifting in multiple areas
		Resilient Sheet	11%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Polished Concrete	12%		None		Minor		Moderate		Major	x	Replace	43%	$40,675	Lower Gym & Storage area, and Locker room's flooring needs to be replaced
		Ceramic Tile	5%		None	x	Minor		Moderate		Major		Replace	1%	$263	Damaged grout in boys and girls restroom
		Liquid Applied		o	None		Minor		Moderate		Major		Replace		$0	
		Wood Sports Floor	8%		None		Minor	x	Moderate		Major		Replace	2%	$1,051	Wood flooring in custodial need to be repaired / refinished
	C3030 Ceiling Finishes	Wallboard	13%		None		Minor	x	Moderate		Major		Replace	6%	$2,097	Patch and paint needed in lower gym & storage area
		Lay-In Ceiling Tile	15%		None	x	Minor		Moderate		Major		Replace	5%	$1,198	Stained tiles found in multiple areas
		Glued-Up Ceiling Tile	69%		None	x	Minor		Moderate		Major		Replace	5%	$6,737	Stained and damaged tiles found in multiple areas
		Painted Structure	1%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
D	**SERVICES**															
	D10 Conveying															
	D1010 Elevators & Lifts			o	None		Minor		Moderate		Major		Replace		$0	
	D1020 Escalators & Moving Walks			o	None		Minor		Moderate		Major		Replace		$0	
	D1090 Other Conveying Systems			o	None		Minor		Moderate		Major		Replace		$0	
	D20 Plumbing															
	D2010 Plumbing Fixtures		100%		None		Minor	x	Moderate		Major		Replace	20%	$84,083	Could not test ~55 fixtures as they were tagged out due to lead being found in water. 4 fixtures were found not to work - district is finding lead in ~50% of fixtures tested
	D2020 Domestic Water Distribution		100%	x	None		Minor		Moderate		Major	x	Replace	70%	$220,718	Lead has spread throughout a majority of the school and should be replaced
	D2030 Sanitary Waste		100%	x	None		Minor		Moderate		Major	x	Replace	100%	$315,311	System is beyond its useful life and should be replaced
	D2040 Rain Water Drainage			o	None		Minor		Moderate		Major		Replace		$0	
	D2090 Other Plumbing Systems	NOT USED			None		Minor		Moderate		Major		Replace			
	D30 HVAC															
	D3010 Energy Supply		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D3020 Heat Generating Systems	Boiler	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Air Handler		o	None		Minor		Moderate		Major		Replace		$0	
		Furnace		o	None		Minor		Moderate		Major		Replace		$0	
		Heat Exchanger		o	None		Minor		Moderate		Major		Replace		$0	
	D3030 Cooling Generating Systems	Component of air handler	100%	x	None		Minor		Moderate		Major		Replace		$0	Library - no cooling - staff complaining
		Stand alone chiller	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D3040 Distribution Systems	Ductwork	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Hot water return & supply	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D3050 Terminal & Package Units	Above ceiling VAV unit		o	None		Minor		Moderate		Major		Replace		$0	
		In-room ventilator unit		o	None		Minor		Moderate		Major		Replace		$0	
		In-room radiant unit		o	None		Minor		Moderate		Major		Replace		$0	
	D3060 Controls & Instrumentation		100%	x	None		Minor		Moderate	x	Major		Replace	100%	$105,104	Systematic issues throughout and system is obsolete
	D3070 Systems Testing & Balancing		100%	x	None		Minor		Moderate		Major	x	Replace	25%	$26,276	Some zones need to be re-balanced
	D3090 Other HVAC Systems & Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
	D40 Fire Protection															
	D4010 Sprinklers			o	None		Minor		Moderate		Major		Replace		$0	
	D4020 Standpipes			o	None		Minor		Moderate		Major		Replace		$0	
	D4030 Fire Protection Specialties			o	None		Minor		Moderate		Major		Replace		$0	
	D4090 Other Fire Protection Systems	NOT USED			None		Minor		Moderate		Major		Replace			
	D50 Electrical															
	D5010 Electrical Service & Distribution		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D5020 Lighting and Branch Wiring		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D5030 Communications & Security	Voice / Data System	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Clock / Intercom System	100%		None		Minor		Moderate		Major	x	Replace	50%	$262,759	System is obsolete and experiencing issues across the school.

	Closed Circuit Surveillance	100%		None		Minor		Moderate		Major	x	Replace	100%	$115,614	Cameras are being decommissioned and need to be replaced.
	Access Control System		o	None		Minor		Moderate		Major		Replace		$0	
	Intrusion Alarm System	20%	x	None		Minor		Moderate		Major		Replace		$0	Admin and IT areas - no observed issues
	Fire Alarm / Detection	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	Lighting Control System		o	None		Minor		Moderate		Major		Replace		$0	
D5090 Other Electrical Systems	NOT USED			None		Minor		Moderate		Major		Replace			
E EQUIPMENT & FURNISHINGS															
E10 Equipment															
E1010 Commercial Equipment	Food Service	100%	x	None		Minor		Moderate		Major		Replace		$0	All equipment is in good working order
	Vocational		o	None		Minor		Moderate		Major		Replace		$0	
E1020 Institutional Equipment	Science	3272		None		Minor	x	Moderate		Major		Replace	100%	$2,618	Rooms had eyewash station, but no fume hoods
	Art	4352	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	Stage Performance		o	None		Minor		Moderate		Major		Replace		$0	No performance stage or auditorium
	Restroom Accessories/Stalls	100%	x	None		Minor		Moderate		Major		Replace		$0	ADA and restroom partitions were good throughout
E1030 Vehicular Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
E1090 Other Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
E20 Furnishings															
E2010 Fixed Furnishings		100%		None		Minor		Moderate		Major	x	Replace	20%	$252,249	Bleachers in gym are old and worn and could be replaced- they are still functional - very few problems, standalone set works fine Main locker rooms: many damaged lockers & benches need to be replaced - Lower gym lockers: all lockers need to be replaced - been on replaced list for 3 years - Majority of lockers in
E2020 Movable Furnishings		100%		None		Minor		Moderate		Major	x	Replace	0.1%	$1,892	One of the cafeteria tables is damaged and needs to be replaced
F SPECIAL CONSTRUCTION & DEMOLITION - NOT USED															
G BUILDING SITE WORK															
G10 Site Preparation	NOT USED														
G20 Site Improvements															
G2010 Roadways		14,348		None	x	Minor		Moderate	x	Major		Replace	4%	$7,593	areas
G2020 Parking Lots		76,800		None	x	Minor		Moderate		Major		Replace	23%	$56,542	Minor cracks observed in all three parking areas
G2030 Pedestrian Paving		26,749		None		Minor		Moderate	x	Major		Replace	16%	$54,799	Damaged walkways identified over entire site
G2040 Site Development		2,714	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
G2050 Landscaping		477,088	x	None		Minor		Moderate		Major		Replace		$0	Entire site is irrigated - no observed issues
G30 Site Mechanical Utilities															
G3010 Water Supply	Domestic	100%		None		Minor		Moderate		Major	x	Replace	75%	$78,828	A majority of the system is beyond its useful life and should be replaced
	Fire		o	None		Minor		Moderate		Major		Replace		$0	
G3020 Sanitary Sewer		100%		None		Minor		Moderate		Major	x	Replace	75%	$78,828	A majority of the system is beyond its useful life and should be replaced
G3030 Storm Sewer		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
G3040 Heating Distribution		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
G3050 Cooling Distribution		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
G3060 Fuel Distribution		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
G3090 Other Site Mechanical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
G40 Site Electrical Utilities															
G4010 Electrical Distribution	Service	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	Generator		o	None		Minor		Moderate		Major		Replace		$0	
G4020 Site Lighting		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
G4030 Site Communications & Security		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
G4090 Other Site Electrical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
G90 Other Site Construction	NOT USED														

OTHER

Description of System	Unit of Measure	Quantity	Unit Budget	Extended	Notes
				$0	
				$0	
				$0	
				$0	
				$0	
				$0	

				$0	

Physical Condition Budget Sub-Total	**$2,372,128**	**$2,362,650**
Budgeted Development Costs	**$901,408**	**$897,807**
Physical Condition Budget TOTAL	**$3,273,536**	**$3,260,458**
Replacement Budget	**$43,363,431**	**$41,120,495**
Facility Condition Index (FCI)	**7.5%**	**7.9%**

PHYSICAL CONDITION ASSESSMENT

District Name: Douglas County SD 4
Site Name: John C Fremont MS
Building Name: Main
Building ID: 19912782162

REMINDER: FILL OUT ALL INFORMATION ON '*BASE INFORMATION SHEET*' BEFORE ENTERING DATA ON THIS SHEET
An unused cell or system that should not receive direct user input
An automatically populated cell from user input elsewhere in the file - do not overwrite

Level 1	Level 2	Level 3	Type (as applicable)	% of Building or Number	LEVEL OF ACTION: None	Minor	Moderate	Major	Replace	% of System or Finish	Automated Budget Estimate	Notes
A SUBSTRUCTURE												
	A10 Foundations											
		A1010 Standard Foundations			o None	Minor	Moderate	Major	Replace		$0	
		A1020 Special Foundations			o None	Minor	Moderate	Major	Replace		$0	
		A1030 Slab on Grade		100%	None	Minor	Moderate	x Major	Replace	1%	$13,572	Boys restroom in building B is sunk down in far corner
	A20 Basement Construction											
		A2010 Basement Excavation	NOT USED		None	Minor	Moderate	Major	Replace			
		A2020 Basement Walls			o None	Minor	Moderate	Major	Replace		$0	
B SHELL												
	B10 Superstructure											
		B1010 Floor Construction	Wood		o None	Minor	Moderate	Major	Replace		$0	
			Steel		o None	Minor	Moderate	Major	Replace		$0	
			Concrete	100%	x None	Minor	Moderate	Major	Replace		$0	No observed issues
		B1020 Roof Construction	Wood	100%	x None	Minor	Moderate	Major	Replace		$0	No observed issues
			Steel		o None	Minor	Moderate	Major	Replace		$0	
			Concrete		o None	Minor	Moderate	Major	Replace		$0	
	B20 Exterior Enclosure											
		B2010 Exterior Walls	Concrete Formed / Tilt	66%	None	Minor	x Moderate	Major	Replace	22%	$63,667	Paint needed on the all exterior concrete walls
			Masonry		o None	Minor	Moderate	Major	Replace		$0	
			Framed w/Panel Siding	34%	None	Minor	Moderate	x Major	Replace	20%	$74,541	Patch and paint needed in multiple areas
			Framed w/Stucco		o None	Minor	Moderate	Major	Replace		$0	
			Framed w/Masonry Veneer		o None	Minor	Moderate	Major	Replace		$0	
		B2020 Exterior Windows	Wood	1%	None	Minor	x Moderate	Major	Replace	100%	$5,130	All 5 single pane wood windows need to be replaced
			Aluminum/Steel	99%	None	Minor	Moderate	x Major	Replace	9%	$82,005	89 of the 960 aluminum / steel windows are single pane, fogged, or have damaged sashes/frames that need to be repaired or replaced
			Clad		o None	Minor	Moderate	Major	Replace		$0	
			Curtain Wall		o None	Minor	Moderate	Major	Replace		$0	
		B2030 Exterior Doors	Wood	2	x None	Minor	Moderate	Major	Replace		$0	All exterior wood doors are in good condition
			Hollow Metal	64	None	Minor	Moderate	x Major	Replace	2%	$1,161	A door on the east side of building C needs to be replaced - door and hardware only
			Storefront		o None	Minor	Moderate	Major	Replace		$0	
	B30 Roofing											
		B3010 Roof Coverings	Asphalt Shingle	96%	None	Minor	Moderate	Major	x Replace	35%	$257,019	Minor damage on buildings F, J, H, B, G, & I - Major damage on building A South walkway needs to be replaced - major ponding and damaged torch down - cost adjusted up to reflect more accurate estimate
			Built-Up		o None	Minor	Moderate	Major	Replace		$0	
			Single Ply	4%	x None	Minor	Moderate	Major	Replace		$0	No observed issues
			Metal		o None	Minor	Moderate	Major	Replace		$0	
			Concrete Tile		o None	Minor	Moderate	Major	Replace		$0	
		B3020 Roof Openings	Skylights		o None	Minor	Moderate	Major	Replace		$0	
			Access Hatch		o None	Minor	Moderate	Major	Replace		$0	
C INTERIORS												
	C10 Interior Construction											
		C1010 Partitions	Framed	78%	x None	Minor	Moderate	Major	Replace		$0	One crack observed above a door in a classroom
			Masonry	22%	x None	Minor	Moderate	Major	Replace		$0	No observed issues
		C1020 Interior Doors	Wood	107	x None	Minor	Moderate	Major	Replace		$0	No observed issues
			Hollow Metal	81	None	Minor	Moderate	x Major	Replace	1%	$648	One door was damaged that needs new glass
		C1030 Fittings	NOT USED		None	Minor	Moderate	Major	Replace			
	C20 Stairs											
		C2010 Stair Construction	Wood		o None	Minor	Moderate	Major	Replace		$0	None
			Metal		o None	Minor	Moderate	Major	Replace		$0	None
			Concrete		o None	Minor	Moderate	Major	Replace		$0	None
		C2020 Stair Finishes	Concrete Fill		o None	Minor	Moderate	Major	Replace		$0	None
			Resilient		o None	Minor	Moderate	Major	Replace		$0	None
	C30 Interior Finishes											
		C3010 Wall Finishes	Paint on Masonry	20.6%	None	x Minor	Moderate	Major	Replace	26%	$8,807	Paint needed in multiple areas - buildings F & J

		Wallboard	77.4%		None		Minor	x	Moderate		Major		Replace	12%	$30,544	Patch and paint needed in numerous areas throughout
		Wainscot	0.02%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Ceramic Tile	2%		None	x	Minor		Moderate		Major		Replace	3%	$600	Minor grout damage in two restrooms - cost adjusted up
	C3020 Floor Finishes	Carpet / Soft Surface	12%		None		Minor		Moderate		Major	x	Replace	7%	$5,387	Worn carpet in weight room, library and faculty room
		Resilient Tile	58%		None		Minor		Moderate		Major	x	Replace	31%	$108,403	Sporadic lifting and cracked tiles throughout - some very large cracks across entire floor in building E - floor is shrinking and swelling - some rooms need all tile replaced
		Resilient Sheet	9%		None		Minor		Moderate		Major	x	Replace	2%	$1,184	Minor damage observed in three areas
		Polished Concrete	8%		None	x	Minor		Moderate		Major		Replace	23%	$5,042	Minor damage observed in four areas
		Ceramic Tile	4%		None		Minor		Moderate		Major	x	Replace	7%	$5,525	Tile needs repair in two restrooms and in girls locker room
		Liquid Applied		o	None		Minor		Moderate		Major		Replace		$0	
		Wood Sports Floor	7%		None		Minor		Moderate		Major	x	Replace	50%	$115,594	Major damage in some areas of gym floor - not recommended for repair, needs to be replaced
	C3030 Ceiling Finishes	Wallboard	15%		None	x	Minor		Moderate		Major		Replace	4%	$987	Minor paint needed in a few rooms
		Lay-In Ceiling Tile	6%		None	x	Minor		Moderate		Major		Replace	10%	$987	Water stained tiles found in four rooms
		Glued-Up Ceiling Tile	77%		None	x	Minor		Moderate		Major		Replace	7%	$10,931	Water damage found in multiple areas. Sagging and bulging tiles found in multiple areas. Major water damage in north hallway.
		Painted Structure		o	None		Minor		Moderate		Major		Replace		$0	
D	**SERVICES**															
	D10 Conveying															
	D1010 Elevators & Lifts			o	None		Minor		Moderate		Major		Replace		$0	
	D1020 Escalators & Moving Walks			o	None		Minor		Moderate		Major		Replace		$0	
	D1090 Other Conveying Systems			o	None		Minor		Moderate		Major		Replace		$0	
	D20 Plumbing															
	D2010 Plumbing Fixtures		100%	x	None		Minor		Moderate		Major		Replace		$0	210 fixtures were counted and all were in good working order
	D2020 Domestic Water Distribution		100%		None		Minor		Moderate		Major	x	Replace	65%	$213,758	A majority of the system is beyond its useful life and should be replaced
	D2030 Sanitary Waste		100%		None		Minor		Moderate		Major	x	Replace	65%	$213,758	A majority of the system is beyond its useful life and should be replaced
	D2040 Rain Water Drainage			o	None		Minor		Moderate		Major		Replace		$0	
	D2090 Other Plumbing Systems	NOT USED			None		Minor		Moderate		Major		Replace			
	D30 HVAC															
	D3010 Energy Supply		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D3020 Heat Generating Systems	Boiler	100%	x	None		Minor		Moderate		Major		Replace		$0	3 boilers - no observed issues
		Air Handler		o	None		Minor		Moderate		Major		Replace		$0	
		Furnace		o	None		Minor		Moderate		Major		Replace		$0	
		Heat Exchanger		o	None		Minor		Moderate		Major		Replace		$0	
	D3030 Cooling Generating Systems	Component of air handler		o	None		Minor		Moderate		Major		Replace		$0	
		Stand alone chiller	5%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D3040 Distribution Systems	Ductwork	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Hot water return & supply	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D3050 Terminal & Package Units	Above ceiling VAV unit		o	None		Minor		Moderate		Major		Replace		$0	
		In-room ventilator unit		o	None		Minor		Moderate		Major		Replace		$0	
		In-room radiant unit		o	None		Minor		Moderate		Major		Replace		$0	
	D3060 Controls & Instrumentation		100%		None		Minor		Moderate	x	Major		Replace	100%	$109,619	System has major issues and needs to be replaced
	D3070 Systems Testing & Balancing		100%		None		Minor		Moderate		Major	x	Replace	20%	$21,924	Complaints from staff of major issues depending on the time of year - building E on the west side - heat trap issues with classrooms at 90+
	D3090 Other HVAC Systems & Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
	D40 Fire Protection															
	D4010 Sprinklers		100%		None		Minor		Moderate		Major	x	Replace	50%	$205,536	Issues observed with dry system that leaks during its yearly test
	D4020 Standpipes		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D4030 Fire Protection Specialties			o	None		Minor		Moderate		Major		Replace		$0	
	D4090 Other Fire Protection Systems	NOT USED			None		Minor		Moderate		Major		Replace			
	D50 Electrical															
	D5010 Electrical Service & Distribution		100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
	D5020 Lighting and Branch Wiring		100%		None		Minor		Moderate	x	Major		Replace	1%	$8,024	8 light fixtures in the kitchen are damaged or not working
	D5030 Communications & Security	Voice / Data System	100%	x	None		Minor		Moderate		Major		Replace		$0	No observed issues
		Clock / Intercom System	100%		None		Minor		Moderate	x	Major		Replace	25%	$68,512	Master control panel is obsolete and system does not work consistently across the facility
		Closed Circuit Surveillance	100%		None		Minor		Moderate		Major	x	Replace	100%	$120,581	Camera's are decommissioned and need to be replaced.
		Access Control System		o	None		Minor		Moderate		Major		Replace		$0	
		Intrusion Alarm System	20%	x	None		Minor		Moderate		Major		Replace		$0	Admin and IT areas - No observed issues
		Fire Alarm / Detection	100%		None		Minor		Moderate		Major	x	Replace	100%	$147,986	System is beyond its useful life and should be replaced - cost adjusted down
		Lighting Control System	20%	x	None		Minor		Moderate		Major		Replace		$0	Exterior lighting sensors - No observed issues

System	Component	Quantity	None	Minor	Moderate	Major	Replace	%	Budget	Notes
D5090 Other Electrical Systems	NOT USED		None	Minor	Moderate	Major	Replace			
E EQUIPMENT & FURNISHINGS										
E10 Equipment										
E1010 Commercial Equipment	Food Service	100%	x None	Minor	Moderate	Major	Replace		$0	No observed issues - staff complained about warming rack not working very well
	Vocational		o None	Minor	Moderate	Major	Replace		$0	
E1020 Institutional Equipment	Science	7800	x None	Minor	Moderate	Major	Replace		$0	No observed issues
	Art	4474	x None	Minor	Moderate	Major	Replace		$0	No observed issues
	Stage Performance		o None	Minor	Moderate	Major	Replace		$0	
	Restroom Accessories/Stalls	100%	None	Minor	Moderate	x Major	Replace	0.10%	$1,315	One stall is damaged in boys locker room
E1030 Vehicular Equipment	NOT USED		None	Minor	Moderate	Major	Replace			
E1090 Other Equipment	NOT USED		None	Minor	Moderate	Major	Replace			
E20 Furnishings										
E2010 Fixed Furnishings		100%	None	Minor	Moderate	Major	x Replace	10%	$131,543	Some lockers are beyond their useful life, casework in a few classrooms is damaged and worn, gym bleachers are worn and damaged
E2020 Movable Furnishings		100%	None	Minor	Moderate	Major	x Replace	1%	$9,866	Desks in one classroom are beyond their useful life
F SPECIAL CONSTRUCTION & DEMOLITION - NOT USED										
G BUILDING SITE WORK										
G10 Site Preparation	NOT USED									
G20 Site Improvements										
G2010 Roadways		3,040	None	x Minor	Moderate	Major	Replace	5%	$1,500	Minor cracks on north roadway - cost adjusted up
G2020 Parking Lots		41,468	None	Minor	Moderate	x Major	Replace	30.0%	$119,465	Cracks and alligatoring found in all parking areas East parking lot is in rough shape
G2030 Pedestrian Paving		40,851	None	Minor	Moderate	x Major	Replace	14%	$73,228	Broken and cracked sections of pedestrian pavement found around entire site
G2040 Site Development		173	x None	Minor	Moderate	Major	Replace		$0	No observed issues
G2050 Landscaping		375,063	x None	Minor	Moderate	Major	Replace		$0	Entire site is irrigated - No observed issues
G30 Site Mechanical Utilities										
G3010 Water Supply	Domestic	100%	None	Minor	Moderate	Major	x Replace	75%	$82,214	Main has not been able to shut off completely. Also, a majority of the system is beyond its useful life and should be replaced
	Fire	100%	None	Minor	Moderate	Major	x Replace	50%	$137,024	Have had issues in the past and requires upgrades
G3020 Sanitary Sewer		100%	None	Minor	Moderate	Major	x Replace	75%	$82,214	A majority of the system is beyond its useful life and should be replaced
G3030 Storm Sewer		100%	x None	Minor	Moderate	Major	Replace		$0	No observed issues
G3040 Heating Distribution		100%	x None	Minor	Moderate	Major	Replace		$0	No observed issues
G3050 Cooling Distribution		100%	x None	Minor	Moderate	Major	Replace		$0	No observed issues
G3060 Fuel Distribution		100%	x None	Minor	Moderate	Major	Replace		$0	No observed issues
G3090 Other Site Mechanical Utilities	NOT USED		None	Minor	Moderate	Major	Replace			
G40 Site Electrical Utilities										
G4010 Electrical Distribution	Service	100%	x None	Minor	Moderate	Major	Replace		$0	No observed issues
	Generator		o None	Minor	Moderate	Major	Replace		$0	
G4020 Site Lighting		100%	x None	Minor	Moderate	Major	Replace		$0	No observed issues
G4030 Site Communications & Security		100%	x None	Minor	Moderate	Major	Replace		$0	No observed issues
G4090 Other Site Electrical Utilities	NOT USED		None	Minor	Moderate	Major	Replace			
G90 Other Site Construction	NOT USED									

OTHER

Description of System	Unit of Measure	Quantity	Unit Budget	Extended	Notes
				$0	
				$0	
				$0	
				$0	
				$0	
				$0	
				$0	

Physical Condition Budget Sub-Total	**$2,539,801**
Budgeted Development Costs	**$965,124**
Physical Condition Budget TOTAL	**$3,504,926**
Replacement Budget	**$45,226,442**
Facility Condition Index (FCI)	**7.7%**

PHYSICAL CONDITION ASSESSMENT

District Name: Roseburg SD
Site Name: Roseburg HS
Building Name: 0
Building ID: 0

REMINDER: FILL OUT ALL INFORMATION ON '*BASE INFORMATION SHEET*' BEFORE ENTERING DATA ON THIS SHEET
An unused cell or system that should not receive direct user input
An automatically populated cell from user input elsewhere in the file - do not overwrite

Level 1	Level 2	Level 3	Type (as applicable)	% of Building or Number	LEVEL OF ACTION									% of System or Finish	Automated Budget Estimate	Notes
						None		Minor		Moderate		Major		Replace			
A SUBSTRUCTURE																
	A10 Foundations															
		A1010 Standard Foundations		13%	x	None		Minor		Moderate		Major		Replace		$0	Heritage building.
		A1020 Special Foundations				None		Minor		Moderate		Major		Replace		$0	
		A1030 Slab on Grade		97%	x	None		Minor		Moderate		Major		Replace		$0	All buildings have good structural integrity, no cracks or settlement was observed.
	A20 Basement Construction																
		A2010 Basement Excavation	NOT USED			None		Minor		Moderate		Major		Replace			
		A2020 Basement Walls		13%		None		Minor		Moderate		Major		Replace		$0	Heritage building has a half basement.
B SHELL																
	B10 Superstructure															
		B1010 Floor Construction	Wood			None		Minor		Moderate		Major		Replace		$0	
			Steel	68%	x	None		Minor		Moderate		Major		Replace		$0	The main and arts building have a metal structure.
			Concrete	32%	x	None		Minor		Moderate		Major		Replace		$0	
		B1020 Roof Construction	Wood			None		Minor		Moderate		Major		Replace		$0	
			Steel	68%	x	None		Minor		Moderate		Major		Replace		$0	
			Concrete	32%	x	None		Minor		Moderate		Major		Replace		$0	
	B20 Exterior Enclosure															
		B2010 Exterior Walls	Concrete Formed / Tilt	16%	x	None		Minor		Moderate		Major		Replace		$0	VoTech building.
			Masonry	72%		None		Minor	x	Moderate		Major		Replace	15%	$202,133	Paint is needed in the commons building.
			Framed w/Panel Siding			None		Minor		Moderate		Major		Replace		$0	
			Framed w/Stucco	12%		None		Minor		Moderate		Major		Replace		$0	
			Framed w/Masonry Veneer			None		Minor		Moderate		Major		Replace		$0	
		B2020 Exterior Windows	Wood			None		Minor		Moderate		Major		Replace		$0	
			Aluminum/Steel	100%		None		Minor		Moderate		Major	x	Replace	35%	$1,419,301	Windows at the Commons, VoTech and some at the Heritage buildings.
			Clad			None		Minor		Moderate		Major		Replace		$0	
			Curtain Wall	30%	x	None		Minor		Moderate		Major		Replace		$0	At the Main building and Arts building.
		B2030 Exterior Doors	Wood	6		None		Minor		Moderate		Major	x	Replace	100%	$9,603	The exterior wood doors are in poor condition.
			Hollow Metal	95		None		Minor		Moderate	x	Major		Replace	20%	$17,232	Exterior doors at the older buildings, specially at the commons and the Technical building are damaged and in need of replacement. Most hardware does not comply with accessibility standards.
			Storefront	14	x	None		Minor		Moderate		Major		Replace		$0	
	B30 Roofing																
		B3010 Roof Coverings	Asphalt Shingle			None		Minor		Moderate		Major		Replace		$0	
			Built-Up	95%		None		Minor		Moderate	x	Major		Replace	31%	$643,052	Vo Tech Building and Commons Building systems are beyond their expected life and in danger of failing. Replacement should be scheduled.
			Single Ply	5%	x	None		Minor		Moderate		Major		Replace		$0	Heritage building has a portion of TPO roofing installed in 2015.
			Metal			None		Minor		Moderate		Major		Replace		$0	
			Concrete Tile			None		Minor		Moderate		Major		Replace		$0	
		B3020 Roof Openings	Skylights			None		Minor		Moderate		Major		Replace		$0	
			Access Hatch	7	x	None		Minor		Moderate		Major		Replace		$0	
C INTERIORS																
	C10 Interior Construction															
		C1010 Partitions	Framed	90%	x	None		Minor		Moderate		Major		Replace		$0	

		Masonry	10%	x	None		Minor		Moderate		Major		Replace		$0	
	C1020 Interior Doors	Wood	168		None		Minor		Moderate	x	Major		Replace	24%	$38,719	Doors at the commons and VoTech are damaged and the hardware is not accessible.
		Hollow Metal	40		None		Minor		Moderate	x	Major		Replace	50%	$16,005	Doors at the commons and VoTech are damaged and the hardware is not accessible.
	C1030 Fittings	NOT USED			None		Minor		Moderate		Major		Replace			
C20 Stairs																
	C2010 Stair Construction	Wood			None		Minor		Moderate		Major		Replace		$0	
		Metal	148	x	None		Minor		Moderate		Major		Replace		$0	
		Concrete	160	x	None		Minor		Moderate		Major		Replace		$0	
	C2020 Stair Finishes	Concrete Fill	40%	x	None		Minor		Moderate		Major		Replace		$0	
		Resilient	60%	x	None		Minor		Moderate		Major		Replace		$0	
C30 Interior Finishes																
	C3010 Wall Finishes	Paint on Masonry			None		Minor		Moderate		Major		Replace		$0	
		Wallboard			None		Minor		Moderate		Major		Replace		$0	
		Wainscot			None		Minor		Moderate		Major		Replace		$0	
		Ceramic Tile			None		Minor		Moderate		Major		Replace		$0	
100%	C3020 Floor Finishes	Carpet / Soft Surface	10%		None		Minor		Moderate		Major	x	Replace	90%	$164,233	Most carpet is showing signs of wear.
		Resilient Tile	73%		None		Minor		Moderate		Major	x	Replace	40%	$500,966	There are still 9x9 tiles throughout the campus and many VCT tiles are cracked with separated seams. Specially in the Commons building and Vo Tech Building.
		Resilient Sheet	2%	x	None		Minor		Moderate		Major		Replace		$0	Portions of the hallway and a few classrooms.
		Polished Concrete	2%	x	None		Minor		Moderate		Major		Replace		$0	Some class rooms and vocational areas.
		Ceramic Tile	3%	x	None		Minor		Moderate		Major		Replace		$0	Bathrooms.
		Liquid Applied	2%		None		Minor		Moderate		Major	x	Replace	100%	$99,819	Basement of the heritage building, in poor condition.
		Wood Sports Floor	8%	x	None		Minor		Moderate		Major		Replace		$0	Gymnasiums, in good condition.
100%	C3030 Ceiling Finishes	Wallboard	2%		None		Minor		Moderate		Major		Replace		$0	
		Lay-In Ceiling Tile	63%		None		Minor		Moderate		Major	x	Replace	36%	$360,808	Mostly the ceilings at the Commons building, and the Vo Tech building.
		Glued-Up Ceiling Tile	30%		None	x	Minor		Moderate		Major		Replace	20%	$34,625	Small portions of the glued ceilings present stains and damage, but most are in overall good condition.
		Painted Structure	5%		None		Minor		Moderate		Major	x	Replace	16%	$6,239	portions of the structure need a coat of paint in particular in the VoTech building.
D SERVICES																
D10 Conveying																
	D1010 Elevators & Lifts		13		None	x	Minor		Moderate		Major		Replace	20%	$16,645	Some improvements need to be done at the Commons elevator.
	D1020 Escalators & Moving Walks				None		Minor		Moderate		Major		Replace		$0	
	D1090 Other Conveying Systems				None		Minor		Moderate		Major		Replace		$0	
D20 Plumbing																
	D2010 Plumbing Fixtures		100%		None		Minor		Moderate		Major	x	Replace	38%	$829,745	While the majority of fixtures have been replaced through the years, many old outdated and non-water efficient fixtures remain in the site.
	D2020 Domestic Water Distribution		100%		None	x	Minor		Moderate		Major		Replace	38%	$296,338	piping at the Heritage and Commons buildings is original and will need minor repairs.
	D2030 Sanitary Waste		100%		None	x	Minor		Moderate		Major		Replace	38%	$296,338	piping at the Heritage and Commons buildings is original and will need minor repairs.
	D2040 Rain Water Drainage		100%		None		Minor		Moderate		Major		Replace		$0	
	D2090 Other Plumbing Systems	NOT USED			None		Minor		Moderate		Major		Replace			
D30 HVAC																
	D3010 Energy Supply		100%		None		Minor		Moderate		Major		Replace		$0	No reported issues. Feeding gas boilers and RTU's.

PHYSICAL CONDITION ASSESSMENT

	D3020 Heat Generating Systems	Boiler	48%		None		Minor		Moderate		Major	x	Replace	100%	$598,914	The boilers that serve the Stu Gym and the Heritage buildings were installed in 1987 and are obsolete. Replacement parts are difficult to obtain.
		Air Handler	42%		None		Minor		Moderate		Major	x	Replace	90%	$353,733	Most AHU's are obsolete.
		Furnace			None		Minor		Moderate		Major		Replace		$0	
		Heat Exchanger			None		Minor		Moderate		Major		Replace		$0	
	D3030 Cooling Generating Systems	Component of air handler			None		Minor		Moderate		Major		Replace		$0	
		Stand alone chiller			None		Minor		Moderate		Major		Replace		$0	
	D3040 Distribution Systems	Ductwork	100%		None		Minor		Moderate		Major	x	Replace	31%	$193,399	Commons and VoTech buildings.
		Hot water return & supply			None		Minor		Moderate		Major		Replace		$0	
	D3050 Terminal & Package Units	Above ceiling VAV unit	50%		None		Minor		Moderate		Major		Replace		$0	
		In-room ventilator unit			None		Minor		Moderate		Major		Replace		$0	
		In-room radiant unit	10%		None		Minor		Moderate		Major		Replace		$0	High open spaces
	D3060 Controls & Instrumentation				None		Minor		Moderate		Major		Replace		$0	
	D3070 Systems Testing & Balancing		100%		None		Minor		Moderate		Major		Replace	31%	$0	Commons and VoTech buildings.
	D3090 Other HVAC Systems & Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
	D40 Fire Protection															
	D4010 Sprinklers		48%	x	None		Minor		Moderate		Major		Replace		$0	Main and Arts buildings.
	D4020 Standpipes		48%	x	None		Minor		Moderate		Major		Replace		$0	Main and Arts buildings.
	D4030 Fire Protection Specialties				None		Minor		Moderate		Major		Replace		$0	
	D4090 Other Fire Protection Systems	NOT USED			None		Minor		Moderate		Major		Replace			
	D50 Electrical															
	D5010 Electrical Service & Distribution		100%		None		Minor		Moderate		Major	x	Replace	52%	$1,297,646	Most electrical services are original with the exception of the Main and Arts building. With no extra capacity for major projects.
	D5020 Lighting and Branch Wiring		100%		None		Minor		Moderate		Major	x	Replace	20%	$748,642	The Commons building needs new lighting and wiring. Wiring on the Heritage building it does not meet code standards and is mostly original.
	D5030 Communications & Security	Voice / Data System	80%		None		Minor		Moderate		Major		Replace		$0	
		Clock / Intercom System	80%		None		Minor		Moderate		Major		Replace		$0	
		Closed Circuit Surveillance			None		Minor		Moderate		Major		Replace		$0	
		Access Control System			None		Minor		Moderate		Major		Replace		$0	
		Intrusion Alarm System	48%	x	None		Minor		Moderate		Major		Replace		$0	Main and Arts buildings.
		Fire Alarm / Detection	100%	x	None		Minor		Moderate		Major		Replace		$0	
		Lighting Control System	48%	x	None		Minor		Moderate		Major		Replace		$0	Main and Arts buildings.
	D5090 Other Electrical Systems	NOT USED			None		Minor		Moderate		Major		Replace			
E	**EQUIPMENT & FURNISHINGS**															
	E10 Equipment															
	E1010 Commercial Equipment	Food Service	20%	x	None		Minor		Moderate		Major		Replace		$0	
		Vocational	16%		None	x	Minor		Moderate		Major		Replace	100%	$19,964	
	E1020 Institutional Equipment	Science	31200	x	None		Minor		Moderate		Major		Replace		$0	
		Art	37000	x	None		Minor		Moderate		Major		Replace		$0	
		Stage Performance	6600	x	None		Minor		Moderate		Major		Replace		$0	
		Restroom Accessories/Stalls	100%		None		Minor	x	Moderate		Major		Replace	33%	$772,037	Commons and VoTech buildings.
	E1030 Vehicular Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
	E1090 Other Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
	E20 Furnishings															
	E2010 Fixed Furnishings		100%		None		Minor		Moderate	x	Major		Replace	33%	$617,630	Commons and VoTech buildings.
	E2020 Movable Furnishings		100%	x	None		Minor		Moderate		Major		Replace		$0	
F	**SPECIAL CONSTRUCTION & DEMOLITION - NOT USED**															
G	**BUILDING SITE WORK**															
	G10 Site Preparation	NOT USED														
	G20 Site Improvements															
	G2010 Roadways		42390	x	None		Minor		Moderate		Major		Replace		$0	
	G2020 Parking Lots		141426	x	None		Minor		Moderate		Major		Replace		$0	

PHYSICAL CONDITION ASSESSMENT

G2030 Pedestrian Paving		75000	x	None		Minor		Moderate		Major		Replace		$0	
G2040 Site Development		2500	x	None		Minor		Moderate		Major		Replace		$0	
G2050 Landscaping		45000	x	None		Minor		Moderate		Major		Replace		$0	
G30 Site Mechanical Utilities															
G3010 Water Supply	Domestic	100%	x	None		Minor		Moderate		Major		Replace		$0	
	Fire	100%	x	None		Minor		Moderate		Major		Replace		$0	
G3020 Sanitary Sewer		100%	x	None		Minor		Moderate		Major		Replace		$0	
G3030 Storm Sewer		100%	x	None		Minor		Moderate		Major		Replace		$0	
G3040 Heating Distribution				None		Minor		Moderate		Major		Replace		$0	
G3050 Cooling Distribution				None		Minor		Moderate		Major		Replace		$0	
G3060 Fuel Distribution				None		Minor		Moderate		Major		Replace		$0	
G3090 Other Site Mechanical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
G40 Site Electrical Utilities															
G4010 Electrical Distribution	Service	100%	x	None		Minor		Moderate		Major		Replace		$0	
	Generator	48%	x	None		Minor		Moderate		Major		Replace		$0	100A 3 phase for the Main and Arts buildings.
G4020 Site Lighting		100%	x	None		Minor		Moderate		Major		Replace		$0	
G4030 Site Communications & Security		100%	x	None		Minor		Moderate		Major		Replace		$0	
G4090 Other Site Electrical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
G90 Other Site Construction	NOT USED														

OTHER

Description of System	Unit of Measure	Quantity	Unit Budget	Extended	Notes
				$0	
				$0	
				$0	
				$0	
				$0	
				$0	
				$0	

Physical Condition Budget Sub-Total	**$9,553,768**
Budgeted Development Costs	**$3,630,432**
Physical Condition Budget TOTAL	**$13,184,199**
Replacement Budget	**$137,572,651**

PHYSICAL CONDITION ASSESSMENT

District Name: Roseburg SD
Site Name: Rose Alt
Building Name: 0
Building ID: 0

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Level 1	Level 2	Level 3	Type (as applicable)	% of Building or Number	LEVEL OF ACTION: None	Minor	Moderate	Major	Replace	% of System or Finish	Automated Budget Estimate	Notes
A SUBSTRUCTURE												
	A10 Foundations											
		A1010 Standard Foundations			None	Minor	Moderate	Major	Replace		$0	
		A1020 Special Foundations			None	Minor	Moderate	Major	Replace		$0	
		A1030 Slab on Grade		100%	None	Minor	x Moderate	Major	Replace	25%	$43,680	Some cracking was observed at a few partitions, indicating differential settlement.
	A20 Basement Construction											
		A2010 Basement Excavation	NOT USED		None	Minor	Moderate	Major	Replace			
		A2020 Basement Walls			None	Minor	Moderate	Major	Replace		$0	
B SHELL												
	B10 Superstructure											
		B1010 Floor Construction	Wood		None	Minor	Moderate	Major	Replace		$0	
			Steel		None	Minor	Moderate	Major	Replace		$0	
			Concrete		None	Minor	Moderate	Major	Replace		$0	
		B1020 Roof Construction	Wood		None	Minor	Moderate	Major	Replace		$0	
			Steel	100%	x None	Minor	Moderate	Major	Replace		$0	No reported issues.
			Concrete		None	Minor	Moderate	Major	Replace		$0	
	B20 Exterior Enclosure											
		B2010 Exterior Walls	Concrete Formed / Tilt		None	Minor	Moderate	Major	Replace		$0	
			Masonry	49%	None	Minor	Moderate	Major	Replace		$0	
			Framed w/Panel Siding	21%	None	Minor	Moderate	x Major	Replace	50%	$36,691	Some of the wood panels by the kitchen are damaged and require repair.
			Framed w/Stucco	30%	None	Minor	Moderate	Major	Replace		$0	
			Framed w/Masonry Veneer		None	Minor	Moderate	Major	Replace		$0	
		B2020 Exterior Windows	Wood		None	Minor	Moderate	Major	Replace		$0	
			Aluminum/Steel	100%	None	Minor	Moderate	Major	x Replace	20%	$90,855	A few windows are still original and need replacement.
			Clad		None	Minor	Moderate	Major	Replace		$0	
			Curtain Wall		None	Minor	Moderate	Major	Replace		$0	
		B2030 Exterior Doors	Wood		None	Minor	Moderate	Major	Replace		$0	
			Hollow Metal	14	None	Minor	Moderate	x Major	Replace	100%	$12,697	Most doors are original, discolored, scuffed and with sighs of rust. Hardware is not accessible.
			Storefront		None	Minor	Moderate	Major	Replace		$0	
	B30 Roofing											
		B3010 Roof Coverings	Asphalt Shingle	20%	None	Minor	Moderate	x Major	Replace	100%	$27,955	The asphalt shingles are in poor condition.
			Built-Up	80%	None	Minor	Moderate	x Major	x Replace	100%	$475,242	Modified bitumen roof is in poor condition.
			Single Ply		None	Minor	Moderate	Major	Replace		$0	
			Metal		None	Minor	Moderate	Major	Replace		$0	
			Concrete Tile		None	Minor	Moderate	Major	Replace		$0	
		B3020 Roof Openings	Skylights		None	Minor	Moderate	Major	Replace		$0	
			Access Hatch		None	Minor	Moderate	Major	Replace		$0	
C INTERIORS												
	C10 Interior Construction											
		C1010 Partitions	Framed	60%	None	Minor	Moderate	Major	Replace		$0	
			Masonry	40%	None	Minor	Moderate	Major	Replace		$0	
		C1020 Interior Doors	Wood	30	None	Minor	x Moderate	Major	Replace	70%	$6,722	
			Hollow Metal	4	x None	Minor	Moderate	Major	Replace		$0	
		C1030 Fittings	NOT USED		None	Minor	Moderate	Major	Replace			
	C20 Stairs											

	C2010 Stair Construction	Wood			None		Minor		Moderate		Major		Replace		$0	
		Metal			None		Minor		Moderate		Major		Replace		$0	
		Concrete			None		Minor		Moderate		Major		Replace		$0	
	C2020 Stair Finishes	Concrete Fill			None		Minor		Moderate		Major		Replace		$0	
		Resilient			None		Minor		Moderate		Major		Replace		$0	
	C30 Interior Finishes															
	C3010 Wall Finishes	Paint on Masonry	95%		None	x	Minor		Moderate		Major		Replace	100%	$49,796	Wall surfaces need paint.
		Wallboard			None		Minor		Moderate		Major		Replace		$0	
		Wainscot			None		Minor		Moderate		Major		Replace		$0	
		Ceramic Tile	5%	x	None		Minor		Moderate		Major		Replace		$0	
	C3020 Floor Finishes	Carpet / Soft Surface	40%		None		Minor		Moderate		Major	x	Replace	100%	$81,770	Carpets are stained and worn.
		Resilient Tile	55%		None		Minor		Moderate		Major	x	Replace	80%	$84,565	9x9 tiles, possibly ACT, and cracked VCT
		Resilient Sheet			None		Minor		Moderate		Major		Replace		$0	
		Polished Concrete			None		Minor		Moderate		Major		Replace		$0	
		Ceramic Tile	5%	x	None		Minor		Moderate		Major		Replace		$0	
		Liquid Applied			None		Minor		Moderate		Major		Replace		$0	
		Wood Sports Floor		x	None		Minor		Moderate		Major		Replace		$0	
	C3030 Ceiling Finishes	Wallboard	50%		None	x	Minor		Moderate		Major		Replace	100%	$26,208	Ceilings need paint.
		Lay-In Ceiling Tile	30%		None	x	Minor		Moderate		Major		Replace	10%	$1,572	
		Glued-Up Ceiling Tile			None		Minor		Moderate		Major		Replace		$0	
		Painted Structure	20%		None		Minor		Moderate		Major	x	Replace	100%	$17,472	Exposed structure at the Gym need repainting
D	**SERVICES**															
	D10 Conveying															
	D1010 Elevators & Lifts				None		Minor		Moderate		Major		Replace		$0	
	D1020 Escalators & Moving Walks				None		Minor		Moderate		Major		Replace		$0	
	D1090 Other Conveying Systems				None		Minor		Moderate		Major		Replace		$0	
	D20 Plumbing															
	D2010 Plumbing Fixtures		100%		None		Minor		Moderate		Major	x	Replace	70%	$171,227	The majority of the fixtures at the lower level are original and inefficient.
	D2020 Domestic Water Distribution		100%		None		Minor		Moderate		Major		Replace		$0	
	D2030 Sanitary Waste		100%		None		Minor		Moderate		Major		Replace		$0	
	D2040 Rain Water Drainage				None		Minor		Moderate		Major		Replace		$0	
	D2090 Other Plumbing Systems	NOT USED			None		Minor		Moderate		Major		Replace			
	D30 HVAC															
	D3010 Energy Supply		100%		None		Minor		Moderate		Major		Replace		$0	
	D3020 Heat Generating Systems	Boiler	100%		None		Minor		Moderate		Major	x	Replace	100%	$139,777	The boiler is obsolete, parts are difficult to obtain.
		Air Handler			None		Minor		Moderate		Major		Replace		$0	
		Furnace			None		Minor		Moderate		Major		Replace		$0	
		Heat Exchanger			None		Minor		Moderate		Major		Replace		$0	
	D3030 Cooling Generating Systems	Component of air handler			None		Minor		Moderate		Major		Replace		$0	
		Stand alone chiller			None		Minor		Moderate		Major		Replace		$0	
	D3040 Distribution Systems	Ductwork	100%		None		Minor		Moderate		Major		Replace		$0	
		Hot water return & supply			None		Minor		Moderate		Major		Replace		$0	
	D3050 Terminal & Package Units	Above ceiling VAV unit			None		Minor		Moderate		Major		Replace		$0	
		In-room ventilator unit	100%		None		Minor		Moderate		Major	x	Replace	100%	$69,889	Inefficient and obsolete.
		In-room radiant unit			None		Minor		Moderate		Major		Replace		$0	
	D3060 Controls & Instrumentation		100%		None		Minor		Moderate		Major	x	Replace	100%	$69,889	Controls are obsolete.
	D3070 Systems Testing & Balancing				None		Minor		Moderate		Major		Replace		$0	
	D3090 Other HVAC Systems & Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
	D40 Fire Protection															
	D4010 Sprinklers				None		Minor		Moderate		Major		Replace		$0	
	D4020 Standpipes				None		Minor		Moderate		Major		Replace		$0	
	D4030 Fire Protection Specialties				None		Minor		Moderate		Major		Replace		$0	
	D4090 Other Fire Protection Systems	NOT USED			None		Minor		Moderate		Major		Replace			
	D50 Electrical															
	D5010 Electrical Service & Distribution		100%		None		Minor		Moderate		Major	x	Replace	60%	$167,732	Most panels are original and obsolete. Some Federal Pacific panels still in service at the lower section.

D5020 Lighting and Branch Wiring		100%	x	None		Minor		Moderate		Major		Replace		$0	
D5030 Communications & Security	Voice / Data System	100%	x	None		Minor		Moderate		Major		Replace		$0	
	Clock / Intercom System	100%	x	None		Minor		Moderate		Major		Replace		$0	
	Closed Circuit Surveillance			None		Minor		Moderate		Major		Replace		$0	
	Access Control System			None		Minor		Moderate		Major		Replace		$0	
	Intrusion Alarm System	100%	x	None		Minor		Moderate		Major		Replace		$0	
	Fire Alarm / Detection	100%	x	None		Minor		Moderate		Major		Replace		$0	
	Lighting Control System			None		Minor		Moderate		Major		Replace		$0	
D5090 Other Electrical Systems	NOT USED			None		Minor		Moderate		Major		Replace			
E EQUIPMENT & FURNISHINGS															
E10 Equipment															
E1010 Commercial Equipment	Food Service	100%	x	None		Minor		Moderate		Major		Replace		$0	Kitchen is only used to re-heat food, no preparation on site.
	Vocational			None		Minor		Moderate		Major		Replace		$0	
E1020 Institutional Equipment	Science			None		Minor		Moderate		Major		Replace		$0	
	Art			None		Minor		Moderate		Major		Replace		$0	
	Stage Performance			None		Minor		Moderate		Major		Replace		$0	
	Restroom Accessories/Stalls			None		Minor		Moderate		Major		Replace		$0	
E1030 Vehicular Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
E1090 Other Equipment	NOT USED			None		Minor		Moderate		Major		Replace			
E20 Furnishings															
E2010 Fixed Furnishings		100%		None		Minor	x	Moderate		Major		Replace	70%	$73,383	Most of the cabinets are original. The early education area has been renovated.
E2020 Movable Furnishings		100%		None		Minor		Moderate		Major		Replace		$0	
F SPECIAL CONSTRUCTION & DEMOLITION - NOT USED															
G BUILDING SITE WORK															
G10 Site Preparation	NOT USED														
G20 Site Improvements															
G2010 Roadways				None		Minor		Moderate		Major		Replace		$0	
G2020 Parking Lots		16000		None	x	Minor		Moderate		Major		Replace	100%	$51,216	
G2030 Pedestrian Paving		2500		None		Minor		Moderate	x	Major		Replace	80%	$25,608	portions of the concrete pedestrian surface are broken and uneven.
G2040 Site Development				None		Minor		Moderate		Major		Replace		$0	
G2050 Landscaping		9500	x	None		Minor		Moderate		Major		Replace		$0	
G30 Site Mechanical Utilities															
G3010 Water Supply	Domestic	100%		None		Minor		Moderate		Major		Replace		$0	No reported issues.
	Fire			None		Minor		Moderate		Major		Replace		$0	
G3020 Sanitary Sewer		100%		None		Minor		Moderate		Major		Replace		$0	No reported issues.
G3030 Storm Sewer		100%		None		Minor		Moderate		Major		Replace		$0	No reported issues.
G3040 Heating Distribution				None		Minor		Moderate		Major		Replace		$0	
G3050 Cooling Distribution				None		Minor		Moderate		Major		Replace		$0	
G3060 Fuel Distribution				None		Minor		Moderate		Major		Replace		$0	
G3090 Other Site Mechanical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
G40 Site Electrical Utilities															
G4010 Electrical Distribution	Service	100%	x	None		Minor		Moderate		Major		Replace		$0	No reported issues.
	Generator			None		Minor		Moderate		Major		Replace		$0	
G4020 Site Lighting		100%	x	None		Minor		Moderate		Major		Replace		$0	No reported issues.
G4030 Site Communications & Security				None		Minor		Moderate		Major		Replace		$0	
G4090 Other Site Electrical Utilities	NOT USED			None		Minor		Moderate		Major		Replace			
G90 Other Site Construction	NOT USED														

OTHER

Description of System	Unit of Measure	Quantity	Unit Budget	Extended	Notes
				$0	
				$0	
				$0	
				$0	
				$0	

				$0	
				$0	

Physical Condition Budget Sub-Total	**$1,723,947**
Budgeted Development Costs	**$655,100**
Physical Condition Budget TOTAL	**$2,379,046**
Replacement Budget	**$15,411,495**

Clean and Renewable Energy

STATE OF OREGON

2019 CLEAN & RENEWABLE ENERGY OPTIONS

Energy Trust of Oregon

The Energy Trust of Oregon is a company based in Portland that aims to provide comprehensive, sustainable energy efficiency and renewable energy solutions to its customers. Their goal is to save their customers energy while also helping them generate cleaner renewable power. They also provide a wide array of incentives and programs to customers at the residential, commercial, and industrial levels. In addition to saving customers energy and in turn money, the environment also benefits through a more efficient use of energy, less energy is being used, and reducing the amount of pollution. The following slides in this report outline several programs and incentives the District can further investigate to see if they are able to benefit from any of them.

Website: https://www.energytrust.org/

Qualifications

In order to qualify for any of the incentives or programs offered by the Energy Trust of Oregon, you must be a customer of one of the following providers:

- Pacific Power
- Portland General Electric
- NW Natural
- Cascade Natural Gas Corporation
- Avista

LED Light Upgrade

Replace existing light bulbs with energy efficient LED light bulbs

- There is an incentive of approximately 1/3 of the project cost – based on previous projects
- District will save money on electric bill annually
  - Allows the District to recoup their investment, while also upgrading lighting in the district
- LED bulbs emit very little heat, reducing energy waste
- Significantly more efficient then CFL or incandescent lights
- Commercial price per kwh in Oregon is approximately 9.2 cents
  - At this price, District saves $1,000 in electricity costs for every 10,870 kwh saved
  - https://www.pacificpower.net/about/rr/cpc.html
- Fluorescent versus LED Tubes – article is from 2014, but it still provides good insight on efficiency between the two bulbs
  - https://metrospherelight.com/blog/led-vs-fluorescent-tubes-comparison-in-energy-consumption-lighting-performance-efficiency/
- Primary Schools Incentive workbook – can qualify for incentives of $0.30-$0.50 sq. ft.
  - https://www.energytrust.org/wp-content/uploads/2016/10/nbe_tl_slworkbook.pdf

LED Light Upgrade Continued

- Sample Projects:
  - https://www.energytrust.org/incentives/existing-buildings-lighting/#tab-one
  - https://www.energytrust.org/wp-content/uploads/2017/03/130716_Hallie-Ford-Museum-of-Art-displays-collection-in-new-light.pdf

Solar Upgrade

Upgrade from traditional power to source to a Solar power source

- Solar Development Assistance program – up to $1,800 to determine the solar potential of the site
- Solar Ready Design – Up to $15,000 to build to Energy Trust solar ready standards if you can't install solar panels at the time of construction
- Solar Installment – Up to $60,000 to install a solar electric system
- https://www.energytrust.org/incentive-groups/new-buildings-individual-incentives/
- https://www.energytrust.org/incentives/solar-for-your-business/?utility=pac#tab-two

Example School District Project

Rouge River School District 35 is a school district in southwest Oregon with an enrollment of approximately 850 students. They participated in one of Energy Trust's incentive programs to replace their HVAC system. They received $164,000 towards the project and they save almost $50,000 annually on heating and electric bills now. Below is a link with a more in-depth description of this project.

- https://www.energytrust.org/success-stories/?storyID=20289

Board Presentation

COOPERATIVE STRATEGIES

COMPLETE FINANCIAL & DEMOGRAPHIC PLANNING FOR EDUCATION

ROSEBURG PUBLIC SCHOOLS

2019 FACILITIES MASTER PLAN REPORT & CONDITION SUMMARY

Facilities Master Plan

Definition of a Facilities Master Plan

- A 5-10 year plan to prioritize major capital investments towards the goal of supporting the district's educational vision
  - Considers current & desired educational programs
  - Facility condition analysis of all capital assets to identify needs for capital improvements
  - Operates under the constraints of overall budgets, capacity, and current/projected enrollments

Facilities Master Plan

Process to-date

- Facility Condition Assessments (winter 2017 & spring 2019)
- Community Survey (May 8-20, 2019)
- Options Development Meeting (May 22, 2019)

Facility Options Development

Options Development Meeting Summary

The Superintendent, COO, and members of the Facilities Department, IT Department, and District administration attended an options development meeting on May 22, 2019. In addition to their extensive knowledge of the district, the meeting participants also took into account the results from the community survey, which was open from May 8th – May 20th. The main takeaways from that survey are as follows:

- Support for modernization efforts & additional, flexible classroom at each ES
- Priorities
  - Safety/Security
  - Class Size
  - Playgrounds
  - Career Technical Education
  - Athletics (Middle School/High School)

Options Summary

Long-term (5+ years)

- Roseburg operates 518,388 square feet of elementary and middle school facilities that were constructed between 1909 -1979, averaging in the 1950s. These facilities will almost certainly need rebuilt or replaced within 10-30 years.
    - The options development committee recommends the District consider where, at what size, and in what grade configuration these schools should be rebuilt in the coming decade +
        - The committee recommends the District consider a K-8, 9-12 configuration which members believe could provide students educational and social benefits while providing operational and capital savings

Capital Improvement Plan (CIP) (0-5 years)

- The committee created educational adequacy standards for each grade level and came up with capital investment implications of those standards to promote desired teaching standards and equity districtwide
- District leadership will use the results of the Facility Condition Assessment (FCA) completed this spring to recommend near-term (0-5 year) investments in facility repairs and renovations

Vision

Future Considerations | noted by Options Development Committee

Future Economic Model

- *Students must be prepared for a service & skills-based economy—soft skills, cultural competency, and skilled trades*

Role of the Teacher 25 years+ from today:

- *The role of a teacher will continue to evolve into primarily a facilitator, who is technology-component and embeds soft skills (discipline, inter/intra-personal skills) into instruction*

Relationships:

- *The most impactful class is one where a caring and competent teacher develops a meaningful relationship with students, facilitating meaningful relationships among students as well*

Defining Safety And Security

How the committee practically defined security needs

- Security camera coverage inside and outside of the building at every school
- Keyless entry on every exterior door
- Perimeter fencing on every campus
- Updated VOIP to connect every room on campus
- Generator or battery backup system at every campus
- Single point entry security vestibules (except at Fullerton, Winchester, Green, and Eastwood)
- Tie to support spaces and community spaces—mental health

Program Needs, Wants, And Vision

Elementary School Vision | how the committee envisioned the ideal ES experience

- Stability, safety, belonging, welcoming, and a connection with a caring adult
- The ability for families to eat with their kids before, during, & after the school day
- After school daycare with consideration for programs and transportation
- Foster creativity, collaboration, and problem solving
- Mastery of content (providing flexibility as to how, when, where & with whom students master material)
- Choice and Voice or giving the child more ability to choose how they learn (age appropriate)
- Meaningful play
- Intentional mentoring
- Whole child approach—support staff
- Summer programs –AC windows

Program Needs, Wants, And Vision

Middle School Vision | how the committee envisioned the ideal MS experience

- Many opportunities to access diverse programs and have small learning communities; e.g., “neighborhoods”, and “houses”
- Foster student leadership
- Accessible space to differentiate
- Year-round, after school

Program Needs, Wants, And Vision

High School Vision | how the committee envisioned the ideal HS experience

- Welcoming, calming spaces for high needs kids
- Technology Office/Planning Room
- Spaces for community to serve kids
- Safe for all kids
- 1 hour needs space—shower, washer, dryer—home away from home
  - Restrooms, Lockers, and Green Spaces

Capital Implications Of The Vision

ES Capital Needs | how the committee defined the vision in needed spaces & equipment

- Cafeteria with stage—sized to population, separate from gym
- Classroom modernization
  - New tables, desks, and chairs
  - Natural lighting
- Flexible learning areas
- Updated playground equipment
- Dedicated PreK– E.C. classrooms
- Support staff—(4-6 offices for speech, guidance, others)
- Cool-down room/sensory
- Self contained room(s) (currently two rooms at four schools with SPED population of 728)
- Resource STEP room
- Air conditioning—approximately only 20% of the classrooms have air conditioning
- Heat—Radiant, not forced air
- Unisex bathrooms
- Electrical power upgrades—need more power to building

Capital Implications Of The Vision

MS Capital Needs | how the committee defined the vision in needed spaces & equipment

- Everything included at the elementary level
- Wireless access points in all the classrooms
- Teacher collaboration space—office/conference rooms
  - Repurpose existing computer labs (1 each school) for a teacher planning area / professional office space
- Play, multipurpose space adjacent to the cafeteria
  - Could be outdoor—should be contained
  - Kids currently hangout in the parking lot
- Redo the tracks
- Separate P.A. classrooms from regular classrooms (e.g. choir/music into English classrooms)

Capital Implications Of The Vision

HS Capital Needs | how the committee defined the vision in needed spaces & equipment

- Everything included at the middle school level
- Greenspace—baseball, softball, practice fields
- Rose School—Fitness room, 1st hour needs
- Acquisition of 700 Chromebooks
  - Frees up to repurpose for a TPA(RT size—1200 sqft.)
- Conference rooms (2+)
- Unisex locker room, and additional girls locker room
- Redundant power or backup power
- Campus-wide VOIP/Fire
- Renovate CTE space (50% new ones)

Implementing The Vision

Rough Order of Magnitude Cost Estimates | based on committee's vision

- To add keyless entry to some or all exterior doors, district-wide, it will require approximately **$8,500 per door**
- Schools that currently have a combined cafeteria/gym and need to have separate areas for each: Eastwood Elementary, Fir Grove Elementary, Fullerton Elementary, Melrose Elementary, and Green Elementary schools. To have separate areas for each it will cost approximately **$6 million**
- Schools that currently need dedicated PreK/Early Childhood classrooms and offices: Fir Grove Elementary, Fullerton Elementary, Hucrest Elementary, Melrose Elementary, and Sunnyslope Elementary schools. Eastwood Elementary School currently does not have a dedicated classroom, but one is being added in the fall. To add the 15 rooms needed, it will cost approximately **$5.3 million**
- Each building needs a sensory/cool-down room. It costs approximately $162,630 per room and there are 12 buildings in the district. In total, this would cost **$1.95 million**
- Need for electrical power upgrades and backup systems (generators) at each school will cost approximately $250,000 per school for a total of **$3 million**

Implementing The Vision

Rough Order of Magnitude Cost Estimates | based on committee's vision

- Replacement of the tracks at both middle schools: $330,000 each or **$660,000** total
- Acquisition of 700 Chromebooks at $220 per Chromebook: **$154,000**
- Replacing approximately 1,000 linear feet of the septic line at Melrose Elementary School to update/eliminate odor: **$500,000**

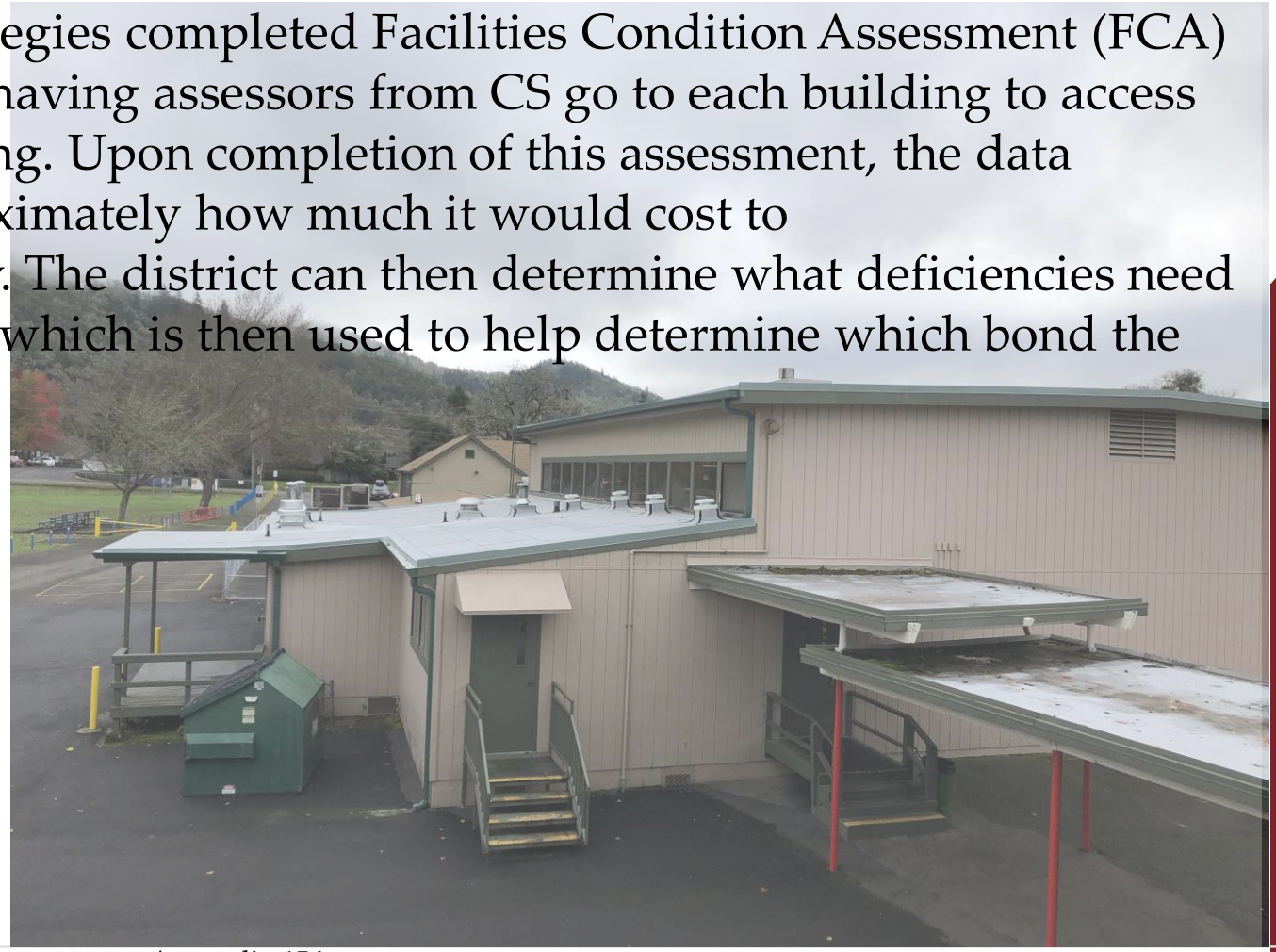
Current ROM cost estimate total* | $17,564,000 + keyless entry

**excludes condition assessment findings – see following pages for summary of facility condition assessments*

Facility Condition Assessments

Capital Improvement Plan | current facility condition needs

In the spring of 2019, Cooperative Strategies completed Facilities Condition Assessment (FCA) for each school. This process involved having assessors from CS go to each building to access the condition of each part of the building. Upon completion of this assessment, the data collected was used to determine approximately how much it would cost to replace/renovate/repair each deficiency. The district can then determine what deficiencies need can to be addressed based on funding, which is then used to help determine which bond the district should go for.



Facility Condition Summary

School	GSF	Est. Replacement Costs	Est. Repair Costs	FCI	Class-rooms	Est. Program Capacity	2013-14 enroll	2017-18 enroll	Growth/ Decline	Current Utilization
Fullerton ES	44,811	$ 18,706,352	$ 3,262,364	17%	22	502	329	367	12%	73%
Green ES	33,933	$ 14,190,378	$ 1,817,994	13%	22	502	309	250	-19%	50%
Hucrest ES	46,790	$ 19,532,486	$ 2,796,477	14%	21	479	413	426	3%	89%
Sunnyslope ES	46,970	$ 19,607,627	$ 1,213,330	6%	18	410	282	274	-3%	67%
Eastwood ES	38,000	$ 15,863,100	$ 1,439,896	9%	22	502	451	411	-9%	82%
Fir Grove ES	30,690	$ 12,811,541	$ 1,096,561	9%	15	342	290	320	10%	94%
Melrose ES	32,500	$ 13,567,125	$ 1,146,653	8%	18	410	289	348	20%	85%
Winchester ES	43,454	$ 18,139,872	$ 1,812,807	10%	25	570	350	360	3%	63%
ES TOTALS	**317,148**	**132,418,480**	**14,586,084**	**11%**	**163**	**3716**	**2713**	**2756**	**2%**	
Jo Lane MS	98,504	$ 43,363,431	$ 3,273,536	8%	40	748	664	646	-3%	86%
Fremont MS	102,736	$ 45,226,442	$ 3,504,926	8%	37	692	668	730	9%	106%
MS TOTALS	**201,240**	**88,589,873**	**6,778,462**	**8%**	**77**	**1440**	**1332**	**1376**	**3%**	
Roseburg HS	292,347	$ 137,572,651	$ 13,184,199	10%		2000	1772	1576	-11%	79%
Rose Alt	32,750	$ 15,411,495	$ 2,379,046	15%				36		
District Total	**843,485**	**373,992,499**	**36,927,792**	**10%**		**7,156**	**5,817**	**5,744**	**-1%**	**80%**

Facility Condition Summary

- Educational Adequacy enhancements | $17,564,000
- Facility Condition Assessments | $36,927,792

Current ROM cost estimate total | $54,671,792

Recommended next steps

Summer 2019	Fall 2019	Dec 2019	Winter 2020	Spring 2020	Summer/fall 2020	Nov 2020
•**Call a committee(s) to create a long-term vision for Roseburg schools** •Configuration •Programs •Locations (approx.) •Size (approx.)	•Initial voter tolerance survey	•Confirm, begin publicizing vision for future schools	•Call Nov election	•Consider redoing the voter tolerance survey	•Bond campaign	•Bond election

Facilities Master Plan

Summary

- The Facility Condition Assessment uses the Oregon Department of Education standard assessment template.

- This assessment records what an assessor can determine needs repair or replacement based on a visual inspection. The assessment findings are an evaluation of existing conditions and building types, and do not necessarily account for current building materials being used in construction at this time, which are likely much more efficient than what was installed when the buildings were built.

- The findings of this assessment should be considered a conservative estimate of needed repairs as needed renovations that cannot be assessed through visual inspection and/or components that needed replaced when they have exceeded their useful life (e.g., a 25-year roof in its 25th year).

- Furthermore, the options committee's interest in pursuing a potential K-8 strategy for future capital investments could have a significant impact on capital investment priorities. Board direction is needed to ensure near-term capital investments align with the long-term vision for Roseburg's facilities.

SCHOTT & ASSOCIATES
Ecologists & Wetlands Specialists
21018 NE Hwy 99E • P.O. Box 589 • Aurora, OR 97002 • (503) 678-6007 • FAX: (503) 678-6011

November 17, 2020

Galpin & Associates, LLC
744 Cardley Avenue., Ste 200
Medford, Oregon 97504
terry@galpinllc.com

cc: Gordon Avery, grdavery@gmail.com

Re: Wetland determination for properties located north and south of NW Troost Street, Roseburg, Douglas County, Oregon (T27S, R6W, Section 15BC, Tax Lot 200, Section 15CB Tax Lots 600-3600, Section 15 Tax Lots 801 and 102)

Dear Mr. Galpin & Mr. Avery,

Schott & Associates (S&A) was contracted to conduct a wetland determination for the properties located north and south of NW Troost Street in Roseburg, Oregon. The study site included approximately 82 acres (see attached map). Wetlands or waters within the project site may be regulated by the Oregon Department of State Lands (DSL) under the Removal-Fill Law, and by the Army Corps of Engineers (Corps) under the Clean Water Act. Work conducted in jurisdictional wetlands or waters may require permits from these agencies as well as compensatory mitigation.

Prior to visiting the site, S&A reviewed available data and information including the USDA Natural Resource Conservation Service (NRCS) soil survey for Douglas County, the National Wetland Inventory (NWI), the Oregon Explorer website for Oregon Rapid Wetland Assessment Protocol (ORWAP) & Stream Function Assessment Method (SFAM), and aerial imagery available from Google Earth.

S&A visited the site on November 3rd-5th, 2020 to assess for the presence and extent of wetlands and/or waters potentially subject to regulation by DSL and the Corps. Sample plots were established within low-lying areas most likely to collect water and support wetland characteristics and/or where wetland signatures were observed on aerial photographs.

Vegetation, soils, and hydrology data were collected according to methods described in the *1987 Manual* and the *Regional Supplement to the Corps of Engineers Delineation Manual: Western Mountains and Valleys (Version 2.0)*. Onsite streams and ditches, if present, were delineated via the ordinary high-water mark (OHWM) as indicated by top of bank, wrack or scour lines, change in vegetation communities, or gage elevation where applicable. Sample plot, ditch locations, OHWM, and wetland boundaries were recorded using a handheld Trimble GPS unit capable of sub-meter accuracy following differential correction with Pathfinder Office desktop software.

Based on soils, vegetation and hydrology data gathered during the site visit six (6) distinct wetlands and one (1) ditch were identified onsite. Onsite wetland area totaled 23.35 acres. No primary hydrological indicators of soil saturation, high water table or surface water were present during the site visit, which was to be expected given the dry season site visit. Due to the dry season delineation as well as problematic soils, it is possible that wetland boundaries could be changed after further field work, as discussed below.

1. **Soils:**
   The southeastern and northern portions of the subject property area are mapped by the Douglas County soils survey as predominantly Bashaw clay or Pengra silt loam, which are poorly to somewhat poorly drained hydric soils with characteristics of vertisols. Vertisols are predominantly (greater than or equal to 30%) clay which expand and shrink in response to moisture change and form deep wide cracks when dry.

   Bashaw clay on 0 to 1 percent slopes is a poorly drained soil with very slow permeability and high shrink-swell potential. Typical profile is black clay from 0-14 inches and very dark gray clay from 14-63 inches. Pengra is classified as a silt loam but is a very dark grayish brown silty clay loam from 7-16 inches and a dark grayish brown and olive gray clay from 16 inches. Both soils were observed in the field to be very hard and dry with dark soils and cracks consistent with vertisols. The clay creates a nearly impermeable layer which may result in a hydric soil despite not meeting any of the defined hydric soil criteria. Additionally, soils formed in dark parent materials may not exhibit easily recognizable redoximorphic features. In the absence of an approved indicator other characteristics including likely source of dark parent materials and landscape position, hydrology, vegetation etc… must be considered.

   Areas of Wetland 3 and the majority of Wetland 6 are in areas with these mapped soil series. In particular, the northern portion of Wetland 6 and the portion of Wetland 3 south of the ditch were defined by the above described soil characteristics and assumed to be hydric. To determine whether hydric soil criteria are met in some areas additional sampling may be taken using a chemical called alpha-alpha-dypyridyl (AAD). In saturated soils, this reagent will react with reduced iron indicating presence or absence of iron in the soil even without visible indications such as redoximorphic features. The soils must be at least moist or saturated for positive reactions to occur. A site check during the wet season (December-March) would help indicate if these soils meet hydric soil criteria.

2. **Hydrology:**
   Delineation fieldwork was conducted between November 3rd and November 5th, 2020. No precipitation had been recorded in November thus far. Total precipitation recorded for the month of October was 1.02 inches at the Roseburg 1.2WNW station. Normal WETS ranges were not available for Roseburg. However, current precipitation data was compared to averages for Winchester, Oregon indicating that precipitation for October was below average and below normal range for the month. Total precipitation for the year (Jan-Nov. 5, 2020) was 18.73 inches. This is 67% of average for the time period. Lack of primary or even secondary indicators due to site visits conducted during a dry time of year can result in the need for additional site visits to determine hydrology criteria, especially where other problematic conditions are present. Saturation of soils is also necessary for use of AAD as indicated above.

Wetland 1 and Wetland 2 are within areas mapped as Evans loam, 0 to 3 percent slopes which is a well-drained soil series with approximately five percent hydric inclusions. No problematic conditions were identified with reference to these wetlands.

NWI mapping indicated a palustrine emergent persistent seasonally saturated (PEM1B) wetland correlating with the location of mapped Wetland 1. Three different drainages were mapped in the southeastern portion of the site. Only the mapped ditch as depicted on the attached map was observed on site. No evidence of distinct drainage channels is evident in the aerial review dating back to 1994, via Google Earth. It is possible these have been modified historically in conjunction with agricultural use. A second PEM1B wetland was mapped in the northern portion of the site, south of Troost Road. S&A did not identify any wetlands in this location. The NWI

did not map any wetlands in the location of Wetland 3, 4, or 5. A third PEM1B wetland was mapped on the NWI correlating with the location of Wetland 6.

Onsite vegetation was characterized by a field of weedy grasses and forbs including tall fescue (*Schedonorus arundinaceus*), bent grass (*Agrostis capillaris*), and velvet grass (*Holcus lanatus*). Low lying topographic swales and depressions mapped as wetlands were dominated by similar vegetation with a high occurrence of pennyroyal mint (*Mentha pulegium*) and lesser poverty rush (*Juncus tenuis*). Soil samples that were not problematic as mentioned above and yielded matrix colors of 7.5YR 3/2 and 2.5/2 or 10YR 3/2 with common yellow-red redoximorphic concentrations occurring as soft masses. Those soil samples met the Redox Dark Surface (F6) hydric soil indicator.

All wetland work is considered preliminary until approved in writing by the appropriate agencies. It is advisable to obtain jurisdictional determinations (concurrence) from the agencies prior to conducting any work to ascertain whether onsite features are subject to DSL and/or Corps regulation. If you wish to proceed, the next task would be the completion of a formal wetland delineation report. It is recommended that an additional site visit be scheduled once the rainy season has commenced and hydrology conditions are within average ranges. This could change the size and boundaries of delineated wetlands.

A formal wetland delination report can be submitted to both DSL and the Corps for an official jurisdictional determination. It is anticipated that DSL and the Corps will claim jurisdiction on the delineated wetlands and waters.

Please check with local officials before conducting any work.

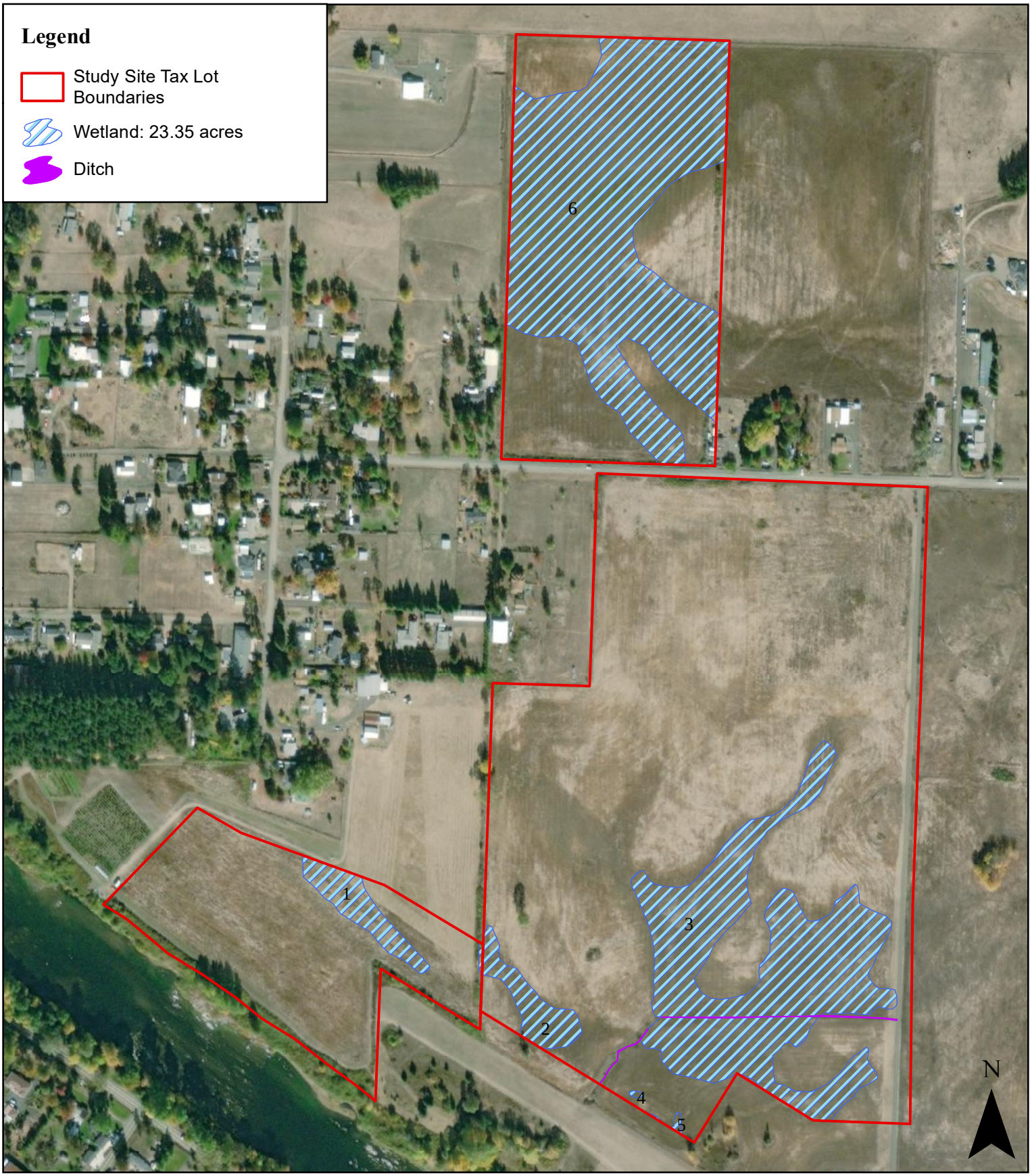
Please let me know if you have additional questions.

Sincerely,

Jodi Reed
Wetland Ecologist & Wildlife Biologist
Jodi@schottandassociates.com
503-678-6007

Attachments:

- Preliminary Wetland Determination Map
- USDA/NRCS Soil Survey Map
- NWI Wetland Inventory Map



Date: 11/6/2020

Data Source: ESRI, 2020;
Douglas County GIS Dept, 2018

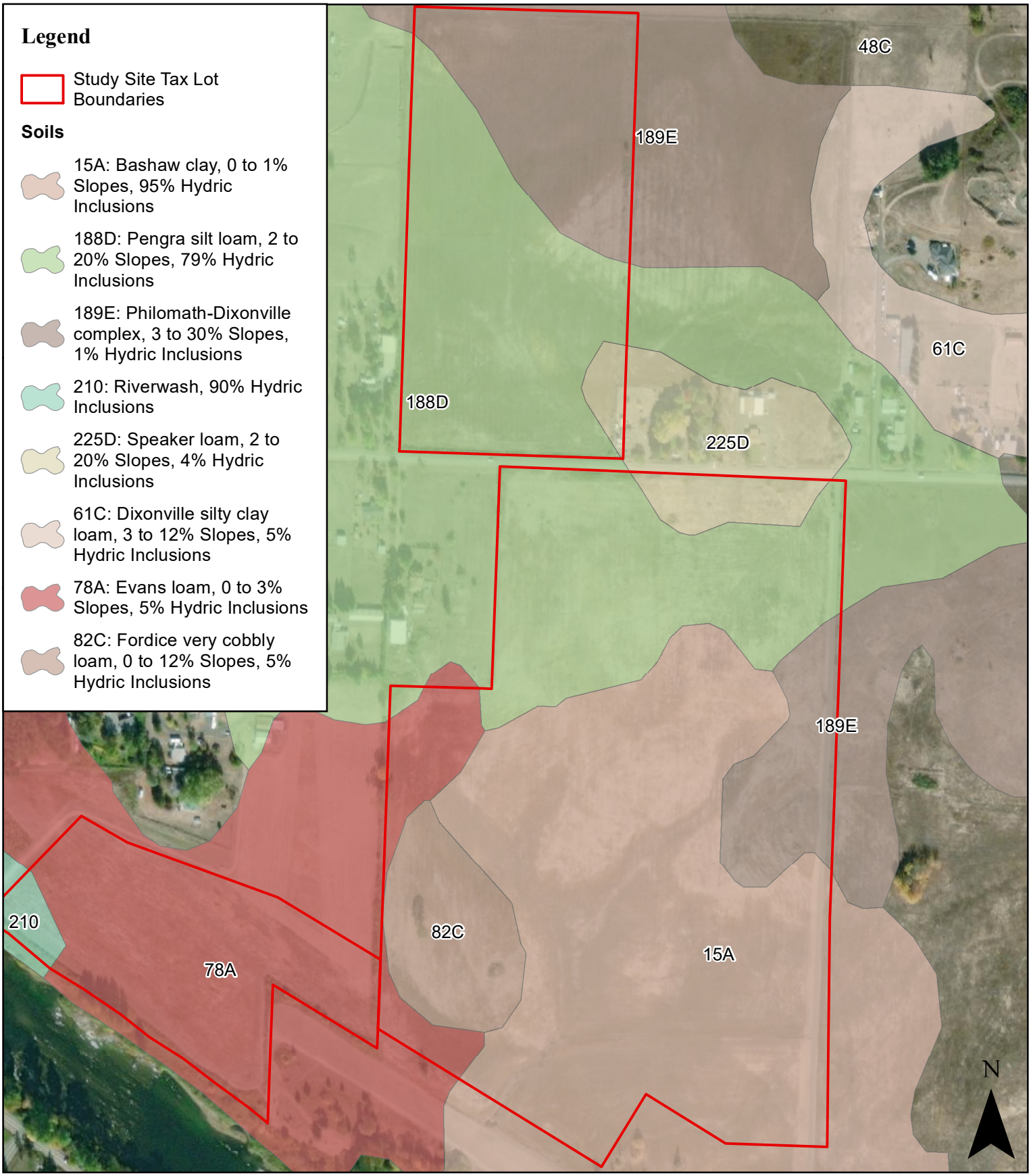
DRAFT MAP: Not an official wetland map; for planning purposes only

Wetland Determination Map

SCHOTT & ASSOCIATES, Inc.

Troost Rd Project Site: S&A # 2822

0 200 400 800 Feet



Date: 11/12/2020

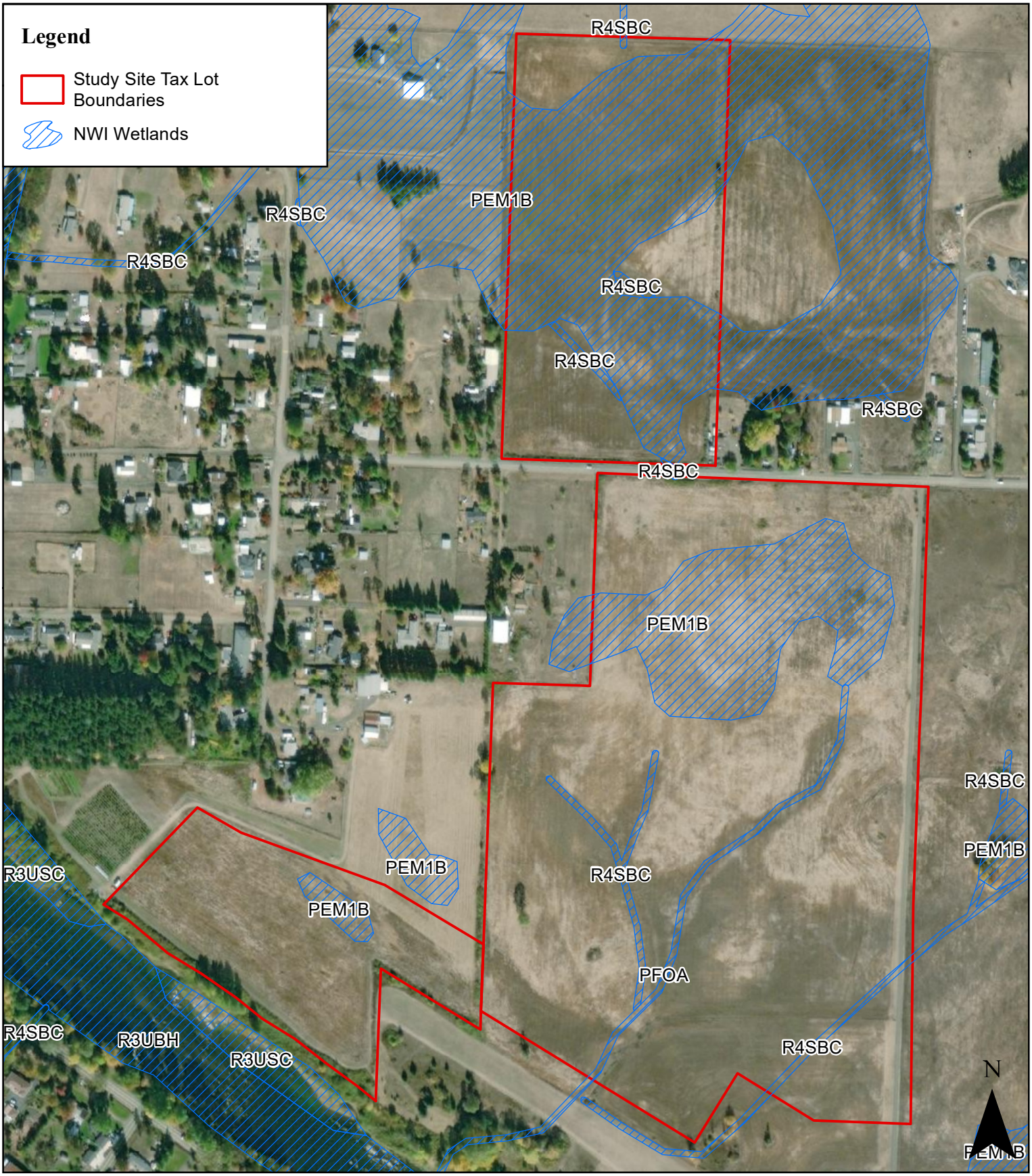
Data Source: ESRI, 2020;
Douglas County GIS Dept, 2018

USDA/NRCS Soil Survey Map of Douglas County

SCHOTT & ASSOCIATES, Inc.

Troost Rd Project Site: S&A # 2822

0 200 400 800 Feet



Date: 11/12/2020

Data Source: ESRI, 2020;
Douglas County GIS Dept, 2018

Wetland Inventory Map

SCHOTT & ASSOCIATES, Inc.

Troost Rd Project Site: S&A # 2822

0 200 400 800 Feet

civil
structural
surveying
architecture
planning

i.e. Engineering, Inc.
809 SE Pine St.
P.O. Box 1271
Roseburg, OR 97470

ieengineering.com
541.673.0166

June 30, 2021

City of Roseburg
ATTN: Ricky Hoffman
612 NW Cecil Avenue
Roseburg, OR 97470

RE: Charter Oaks Urban Growth Boundary Swap
Stormwater Feasibility

Dear Mr. Hoffman,

The City of Roseburg has contracted with i.e. Engineering, Inc. to provide a feasibility analysis of the "Charter Oaks" area of Roseburg, as depicted in Exhibits 1 and 2. The purpose of this analysis is to determine what, if any, areas of the area to be annexed into the City of Roseburg will have potential stormwater drainage concerns.

The boundary of the Charter Oaks area proposed to be annexed into the City of Roseburg was divided into two drainage basins based on aerial contours. As depicted on Exhibits 1 and 2, Charter Oaks Drive divides the Charter Oaks area into a west basin and an east basin.

The west basin drains generally to the southwest. There is an existing low point with a culvert that collects stormwater upstream of Felt Air Field and discharges on the downstream side of the landing strip. The stormwater then discharges to the South Umpqua River through an open ditch. This existing system is indicated on Exhibits 1 and 2. The existing topography of the west basin slopes gradually up in elevation to the northeast portion providing ideal conditions for a storm system to collect stormwater and discharge via the existing discharge path. Unusually deep storm pipes or structures would not be anticipated based on these conditions. The existing culvert and ditches were not analyzed for capacity.

The east basin generally drains to the east and south east. The existing topography of the east basin slopes up from the South Umpqua River to its peak along Charter Oaks Drive. Charter Oaks Drive has a low point located in the middle of the east basin and slopes upward to the north and the south. There are two potential discharge points that do not have existing structures and would be feasible options to obtain easements for discharge piping. One of these locations is located near the low point in Charter

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809 SE Pine St.
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Roseburg, OR 97470

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Oaks Drive. These two potential locations are indicated on Exhibits 1 and 2. Unusually deep storm pipes or structures would not be anticipated based on these conditions.

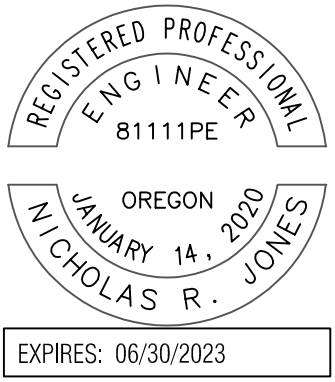
Additionally, exhibits 3 and 4 were developed to identify feasible storm trunk lines based on probable early development due to the proximity of existing public utilities. The exhibits depict three (3) potential storm trunk lines that discharge to the South Umpqua River. Unusually deep storm pipes or structures would not be anticipated based on these conditions.

Based on the analysis of the Charter Oaks area, a storm sewer system could be designed and constructed to service the entire area without requiring unusually deep storm pipes or structures, or requiring pumps.

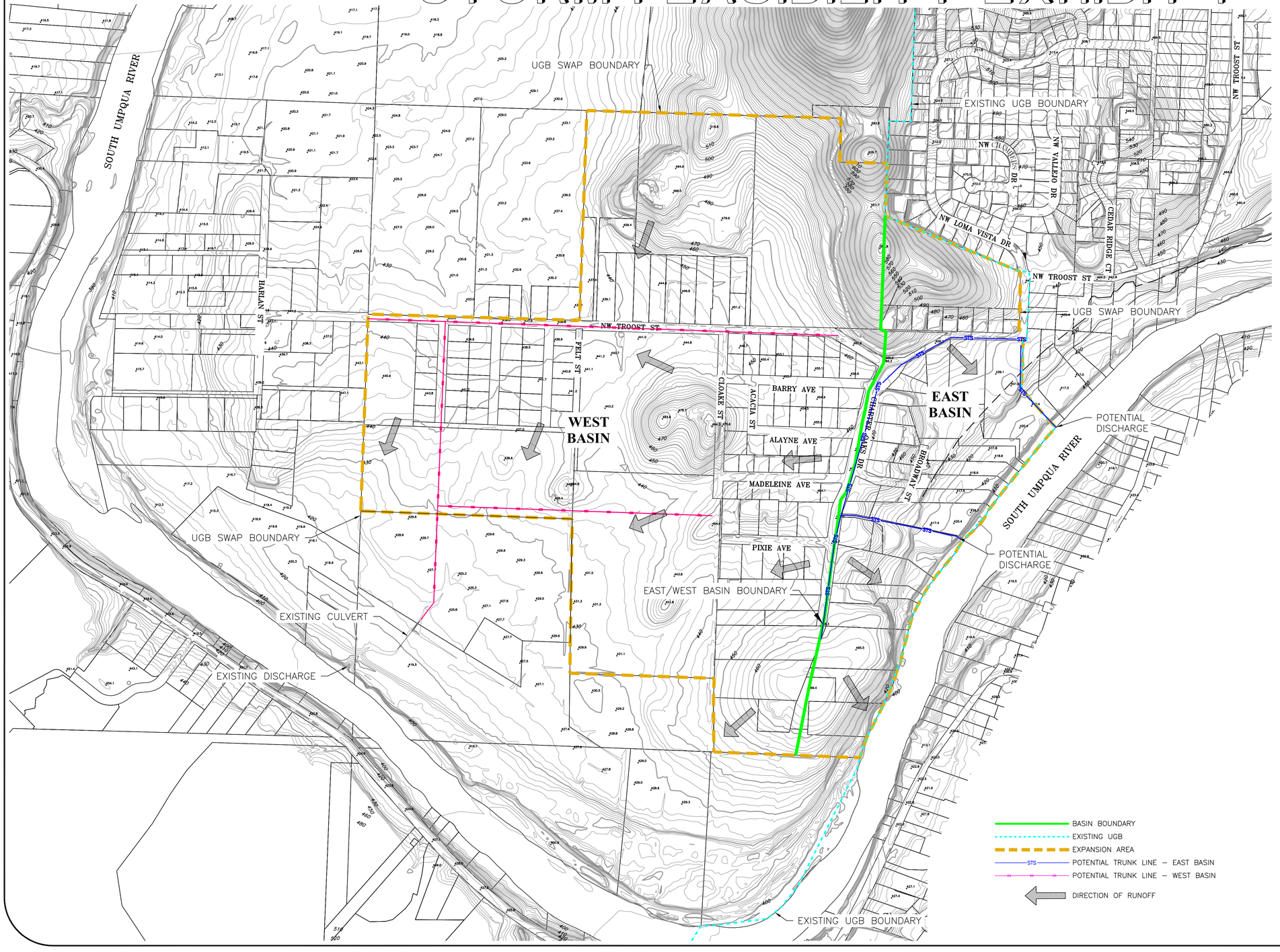
Sincerely,

Nicholas R. Jones, PE

Enclosed: Exhibits 1, 2, 3, & 4



TROOST/CHARTER OAKS EXPANSION AREA
STORM FEASIBILITY EXHIBIT 1



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Roseburg, Oregon 97470
PHONE (541) 673-0166
FAX (541) 440-9392
iemail@ieengineering.com

PROJECT NO. 0149-216
DWG BY: DTM

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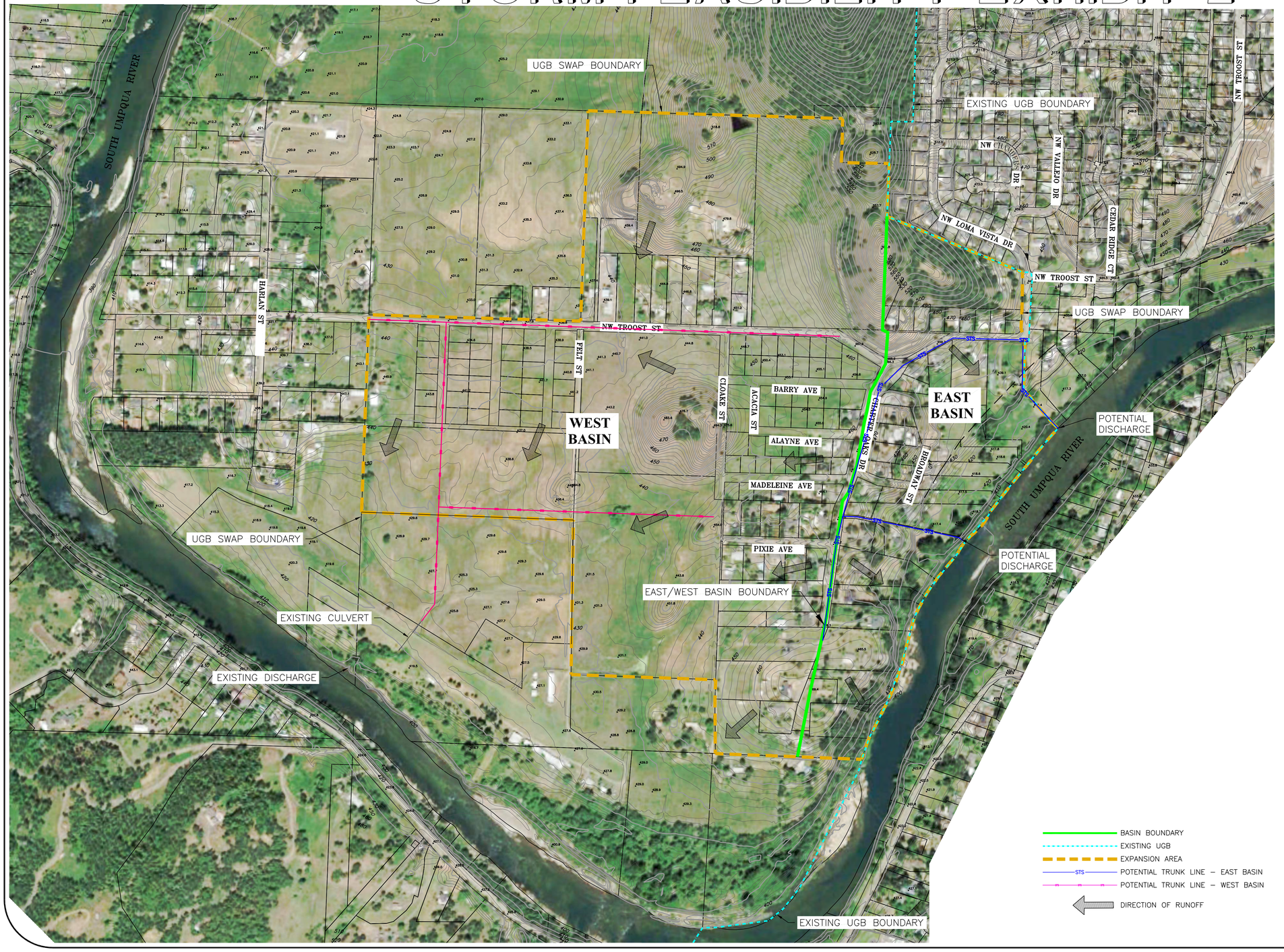
Jun 30, 2021
Nicki

TROOST/CHARTER OAKS EXPANSION AREA
STORM FEASIBILITY EXHIBIT 2



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PROJECT NO. 0149-216
DWG BY: DTM

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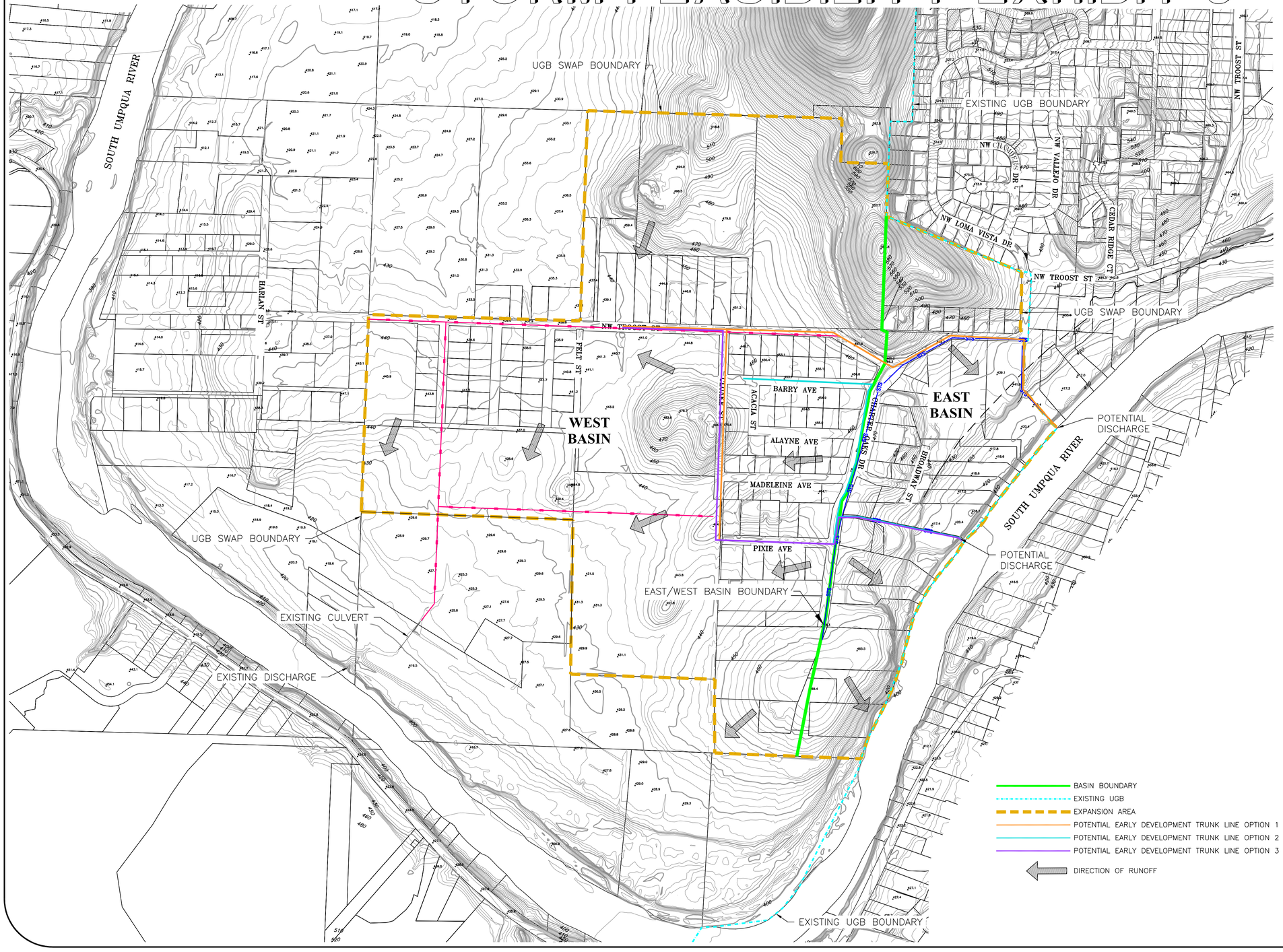
Jun 30, 2021
Nickd

TROOST/CHARTER OAKS EXPANSION AREA
STORM FEASIBILITY EXHIBIT 3



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iemail@ieengineering.com

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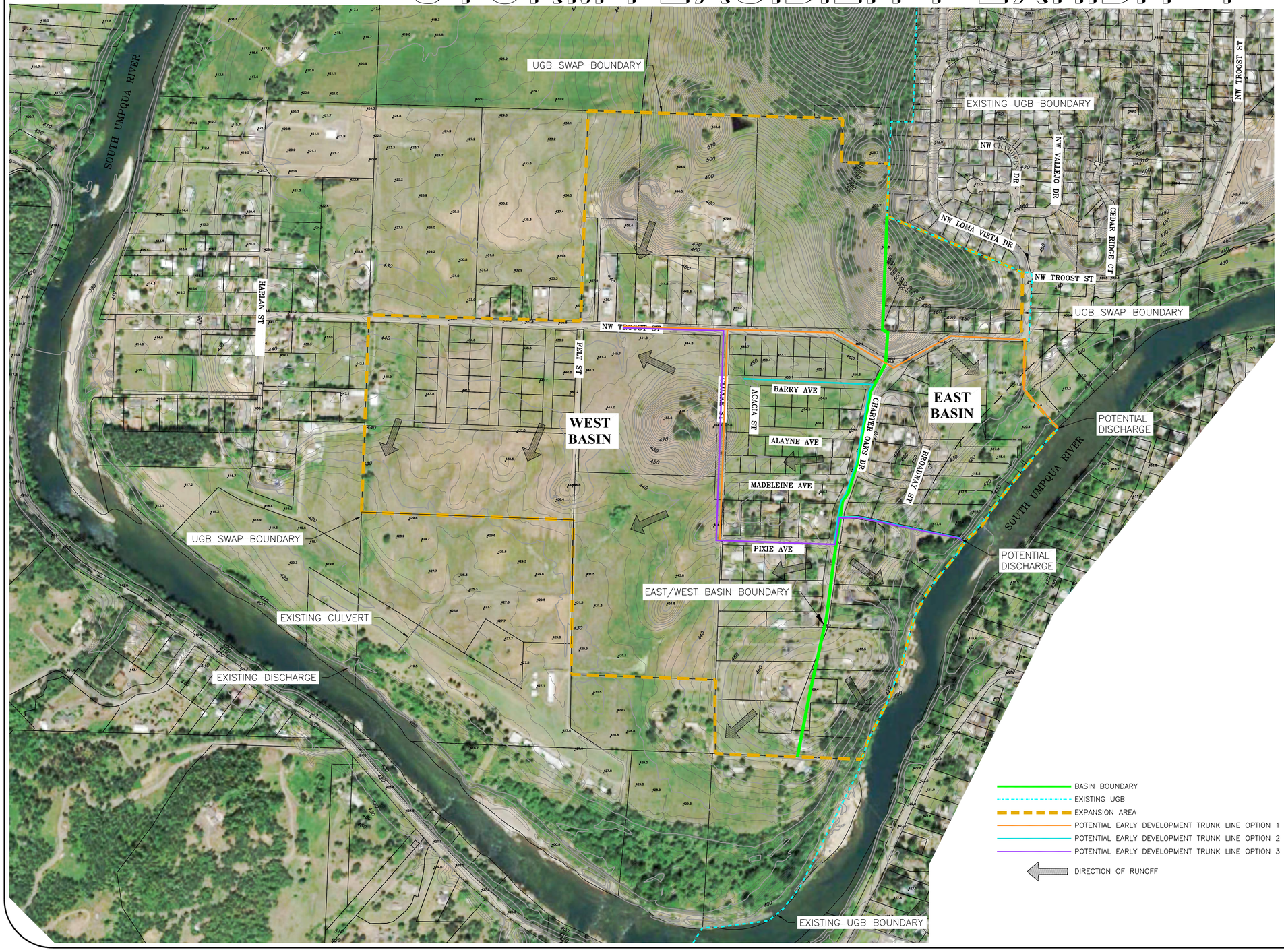
Jun 30, 2021
NickJ

TROOST/CHARTER OAKS EXPANSION AREA
STORM FEASIBILITY EXHIBIT 4



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iemail@ieengineering.com

PROJECT NO. 0149-216
DWG BY: DTM

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Jun 30, 2021
Nickd

TRANSPORTATION ANALYSIS

CITY OF ROSEBURG

URBAN GROWTH BOUNDARY SWAP

August 23, 2021

160 Madison Street, Suite A
Eugene, Oregon 97402
541.513.3376

SANDOW ENGINEERING

Urban Growth Boundary Swap Analysis

Roseburg, Oregon
August 23, 2021

Kelly Sandow PE

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

project # 5805

EXECUTIVE SUMMARY

The City of Roseburg is in the process of preparing an Urban Growth Boundary (UGB) Exchange in which approximately 222.4 acres located on the west side of the city will be added to the UGB, and approximately 290.5 acres located in the northwest and northeast areas of the city will be removed from the UGB. The UGB Exchange is an amendment to the existing City of Roseburg Comprehensive Plan. As such, the UGB exchange needs to evaluate the traffic impacts consistent with the Statewide Planning Rule Goal 12, OAR 660-12-0060 Transportation Planning Rule (TPR) requirements.

The City of Roseburg TSP was completed in 2019 evaluating transportation conditions for a 20-year planning horizon, year 2040. The TSP considered traffic impacts from buildable lands currently in the UGB. The UGB Exchange will remove residential lands that contain difficult to unbuildable slopes with lands that provide improved building conditions for building infrastructure and dwelling units.

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. Additionally, this study includes a safety and operational evaluation of Troost Street between Felt Street and Katie Drive to determine the improvements necessary to facilitate the added traffic.

FINDINGS

The analysis is prepared for roadway and traffic conditions at the year 2040 with full build out of the approximately 222.4 acres added to the UGB. The following are improvements recommendations to facilitate the added vehicles on the system. These improvements are based intersection and roadway capability to meet City's and ODOT's intersection performance standards.

- **Garden Valley Blvd at Stewart Parkway**
  The intersection at Garden Valley Blvd at Stewart Parkway is projected not meet the mobility standards for the year 2040 prior to and with the UGB expansion. The recommended improvements are to add eastbound and westbound dual left-turn lanes from Garden Valley Blvd to Stewart Parkway and dual southbound right-turn lanes from Stewart Parkway to Garden Valley Blvd consistent with the recommendations within the TSP.

- **Stewart Ave at Harvard Ave**
  The intersection of Stewart Ave at Harvard Ave is projected to operate at LOS F for the year 2040 with full build out of the UGB expansion area. The standard for this intersection is to operate at LOS E or better. As this intersection does not meet the standard improvements will be necessary. The separate left turns at this intersection could be modified to protective-permissive phasing. With this minor change, the signal will operate at a LOS E, meeting the City's LOS standards.

- **Troost St at Calkins Ave**
  The intersection of Troost St at Calkins Ave is projected to operate at the upper threshold of standard at the end of the planning horizon with the UGB swap. The UGB swap has the potential to add over 200 pm peak hour trips in the westbound left turn. Therefore, it is recommended that a separate westbound left turn lane be provided. The westbound left turn will result in the intersection operating significantly better than the standard. As the UGB expansion area gets developed, the City should monitor this intersection for possible signalization. The traffic volumes experienced at full-build out will meet the minimum threshold for warranting a traffic signal following the Federal Highway Administration Manual on Uniform Traffic Control Devices. The traffic signal will provide traffic flow and controlled pedestrian crossings as this intersection becomes more congested.

- **Garden Valley Blvd at Kline St**
  The intersection of Garden Valley Blvd at Kline St is projected to operate at a LOS E and v/c 0.81 without the UGB swap and a LOS F and v/c 0.90 with the UGB swap. To improve the LOS at this intersection, the northbound and southbound left turn signal indications should be modified from protected phasing only to protective-permissive phasing.

- **Garden Valley Blvd at I-5 Exit 125 NB Ramp**
  The intersection of Garden Valley Blvd at the I-5 Exit 125 NB ramps is projected to operate at a v/c 0.93 without the UGB swap and v/c 0.96 with the UGB swap. ODOT maintains a standard of 0.85 for ramp terminals. As per the Oregon Highway Plan, ODOT considers a change in v/c of 0.03 or less to not require mitigation. The UGB swap is shown to not have a significant effect on the intersection. Therefore, the UGB swap does not trigger mitigation for this intersection.

- **Garden Valley Blvd at I-5 Exit 125 SB Ramp**
  The intersection of Garden Valley Blvd at the I-5 Exit 125 SB ramp is projected to operate at a v/c 1.01 without the UGB swap and v/c 1.04 with the UGB swap. ODOT maintains a standard of 0.85 for ramp terminals. As per the Oregon Highway Plan, ODOT considers a change in v/c of 0.03 or less to not require mitigation. The UGB swap does not trigger mitigation for this intersection.

CONTENTS

LIST OF APPENDICES

1.0 BACKGROUND

The City of Roseburg is in the process of an Urban Growth Boundary (UGB) Amendment. As part of the Amendment, an exchange of lands will occur that removes approximately 290.5 acres of land; 91.5 acres near Daysha Drive and Shantel Street and 199 acres near Parker Road and Barager Avenue; and will bring in approximately 222.4 acres located off Troost Street and Charter Oaks Drive.

The UGB Exchange is an amendment to the existing City of Roseburg Comprehensive Plan and Transportation System Plan (TSP). As such, the UGB exchange 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 transportation impacts from the lands to be added within the UGB. A majority of the parcels added within the UGB will be zoned Single Family Residential-R7.5 with approximately 23.5 acres to be zoned Public Reserve-PR. At the maximum build out, there is potential to add up to approximately 648 homes. 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, consistent with the City of Roseburg Transportation System Plan (TSP), focusing primarily on intersection and roadway level of service. In addition to the TPR Analysis, Troost Street was evaluated for safety and operational concerns between Felt Street and Katie Drive.

1.1 SCOPE OF ANALYSIS

The traffic study is performed in accordance with the City of Roseburg, and 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 exchange is consistent with the TPR criteria. To be consistent with the TSP, the traffic impacts are evaluated for the weekday PM time period between 3:30 PM and 6:30 PM at the following locations:

- Garden Valley Blvd at NW Stewart Parkway
- NW Troost St at NW Calkins Ave
- NW Troost St at Garden Valley Blvd
- Garden Valley Blvd at NW Kline St
- Calkins Ave at Keasey St
- Stewart Parkway at Harvey Ave
- Stewart Parkway at Harvard Blvd
- Exit 124 at Harvard Ave
- Exit 125 at Garden Valley Blvd
- NW Troost St at Charter Oaks Dr
- NW Troost St at Loma Vista Dr
- NW Keasey St at NW Harvey Ave

The operational analysis is performed at the studied intersections during the weekday PM peak hour of the system for the TSP 20-year planning horizon (year 2040).

2.0 ANALYSIS STUDY AREA

2.1 UGB EXCHANGE AREA

As part of the UGB Amendment, an exchange of lands will occur that will remove 91.5 acres near Daysha Drive and Shantel Street, and 199 acres near Parker Road and Barager Avenue, and will bring in approximately 222.4 acres of land off Troost Avenue and Charter Oaks Drive.

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

Lands removed from the UGB consist of about 199 acres of Low Density Residential- R10, 14.15 acres of Multiple-Family Residential- MR29, 8.9 acres of High Density Residential- MR40, 68.5 acres of R5, the lands to be added to the UGB, and 222.4 acres to be zoned Single-Family Residential.

2.2 STUDY AREA

The intersections within the study area are evaluated for impacts associated with the UGB Exchange. All of the study area intersections are within Roseburg's jurisdiction with the exception of the Interstate-5 ramp terminals on Garden Valley Blvd and Harvard Ave. Figure 2 provides the study intersection locations, geometry, and control. Table 1 provides the studied intersection jurisdiction and control.

TABLE 1: STUDY AREA INTERSECTION

Intersection	Jurisdiction	Intersection Control
Garden Valley Blvd @ NW Stewart Parkway	City	Signal
NW Troost St @ MW Calkins Ave	City	All-Way Stop
NW Troost St @ Garden Valley Blvd	City	Signal
Garden Valley Blvd @ NW Kline St	City	Signal
Calkins Ave @ Keasey St	City	Stop Sign
Stewart Parkway @ Harvey Ave	City	Signal
Stewart Parkway @ Harvard Blvd	City	Signal
Exit 124 @ Harvard Ave	ODOT	Signal
Exit 125 @ Garden Valley Blvd	ODOT	Signal
NW Troost St @ Charter Oaks Dr	City	Stop-Control
NW Troost St @ Loma Vista Dr	City	Stop-Control
NW Keasey St @ NW Harvey Ave	City	Stop-Control

2.3 STREET NETWORK

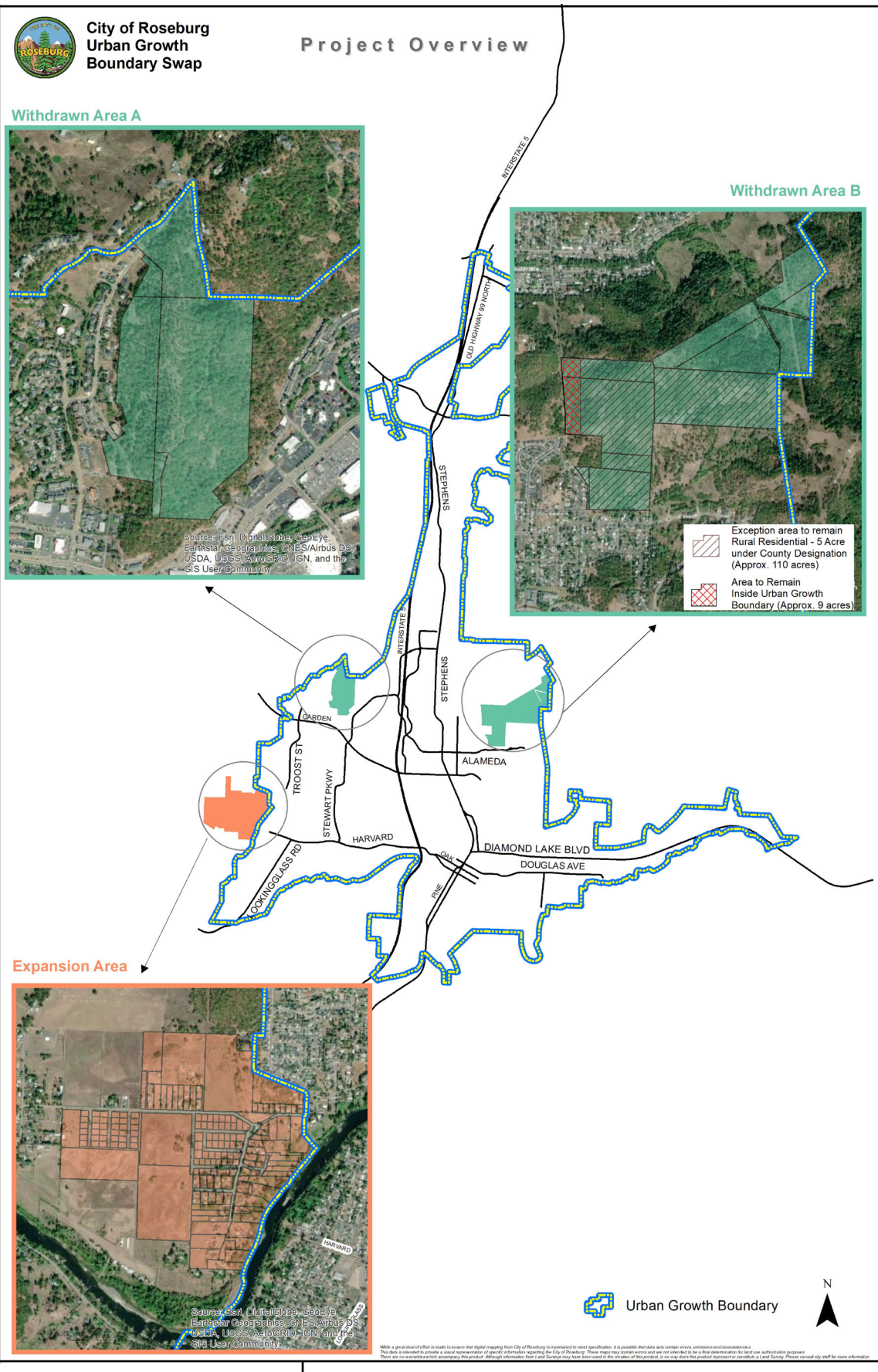
Major streets included within the study are Troost Ave, Garden Valley Blvd, Stewart Parkway and Calkins Ave. Table 2 illustrates the roadway characteristics within the study area (within existing UGB). Figure 3 provides an illustration of the adjacent street classification.

TABLE 2: ROADWAY CHARACTERISTICS WITHIN STUDY AREA

Characteristic	Troost St	Calkins Ave	Garden Valley	Stewart Parkway
Functional Classification	Major Collector	Minor Collector	Major Arterial	Major Arterial
Posted Speed	25/Basic Rule	25	20/30/35/55	35/45
Lanes per Direction	1	1	2	2
Center Left Turn Lane	No	No	Yes	no
Restrictions in the Median	No	No	No	No
Bikes Lanes Present	North of Katie	No	No	Yes
Sidewalks Present	North of Katie	Yes	Yes	North of YMCA
On-Street Parking	North of Katie	Yes	No	No

City of Roseburg
Urban Growth
Boundary Swap

Project Overview



Roseburg UGB Expansion

Figure 1: UGB Swap Areas

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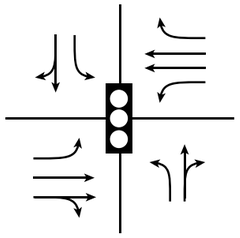
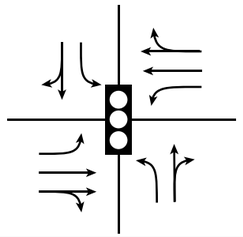
160 Madison Street Suite A Eugene, Oregon 97402 - 541.513.3376 - sandowengineering.com

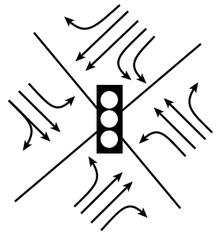
1: NW Garden Valley @ NW Troost



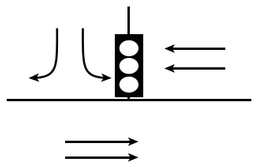
2: NW Garden Valley @ NW Kline



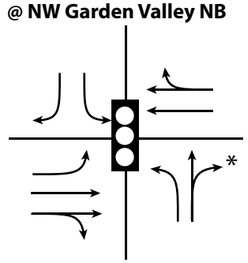
3: NW Garden Valley @ NW Stewart



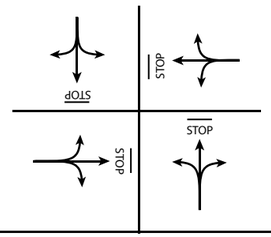
4: Exit 125 @ NW Garden Valley SB



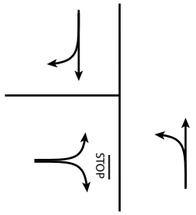
5: Exit 125 @ NW Garden Valley NB



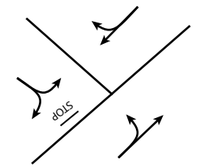
6: NW Calkins @ NW Troost



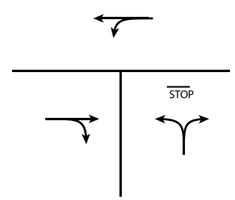
7: NW Calkins Rd @ NW Keasey St



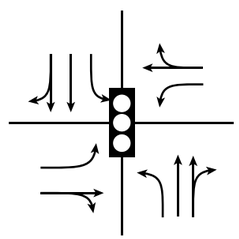
8: NW Troost @ Loma Vista



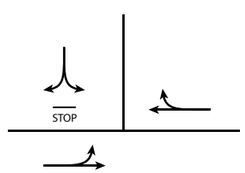
9: NW Troost @ Charter Oaks



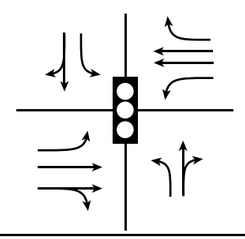
10: Stewart Pkwy @ Harvey Ave



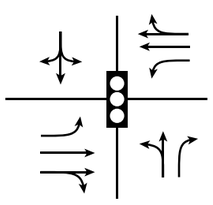
11: NW Harvey @ NW Keasey



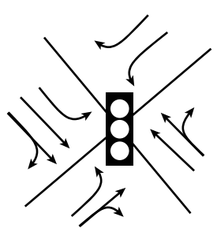
12: Harvard Ave @ NW Stewart Pkwy



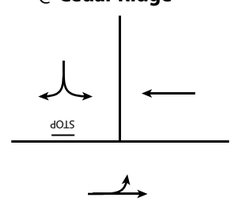
13: Harvard Ave @ SW Bellows/ Exit 124 I-5 SB



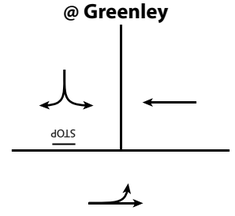
14: Exit 124 NB @ Harvard Ave



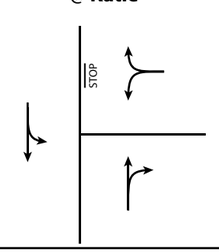
15: Troost @ Cedar Ridge



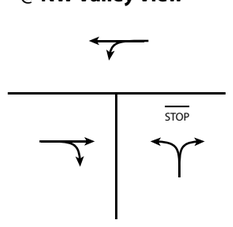
16: Toost @ Greenley



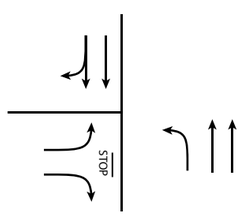
17: Troost @ Katie



18: NW Keasey @ NW Valley View



19: NW Stewart Pkwy @ NW Valley View



* ODOT will install a separate NB Right turn lane in 2023

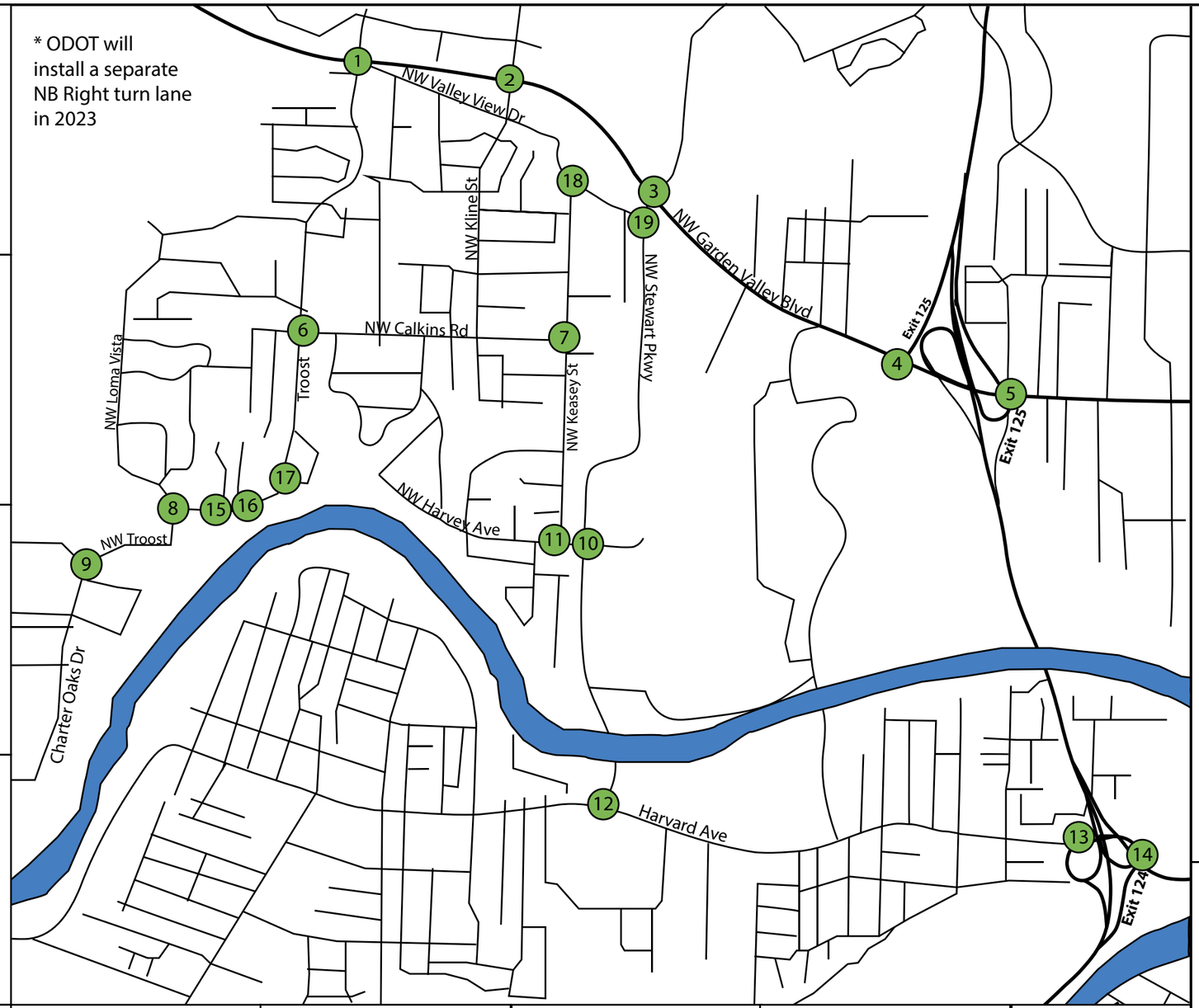


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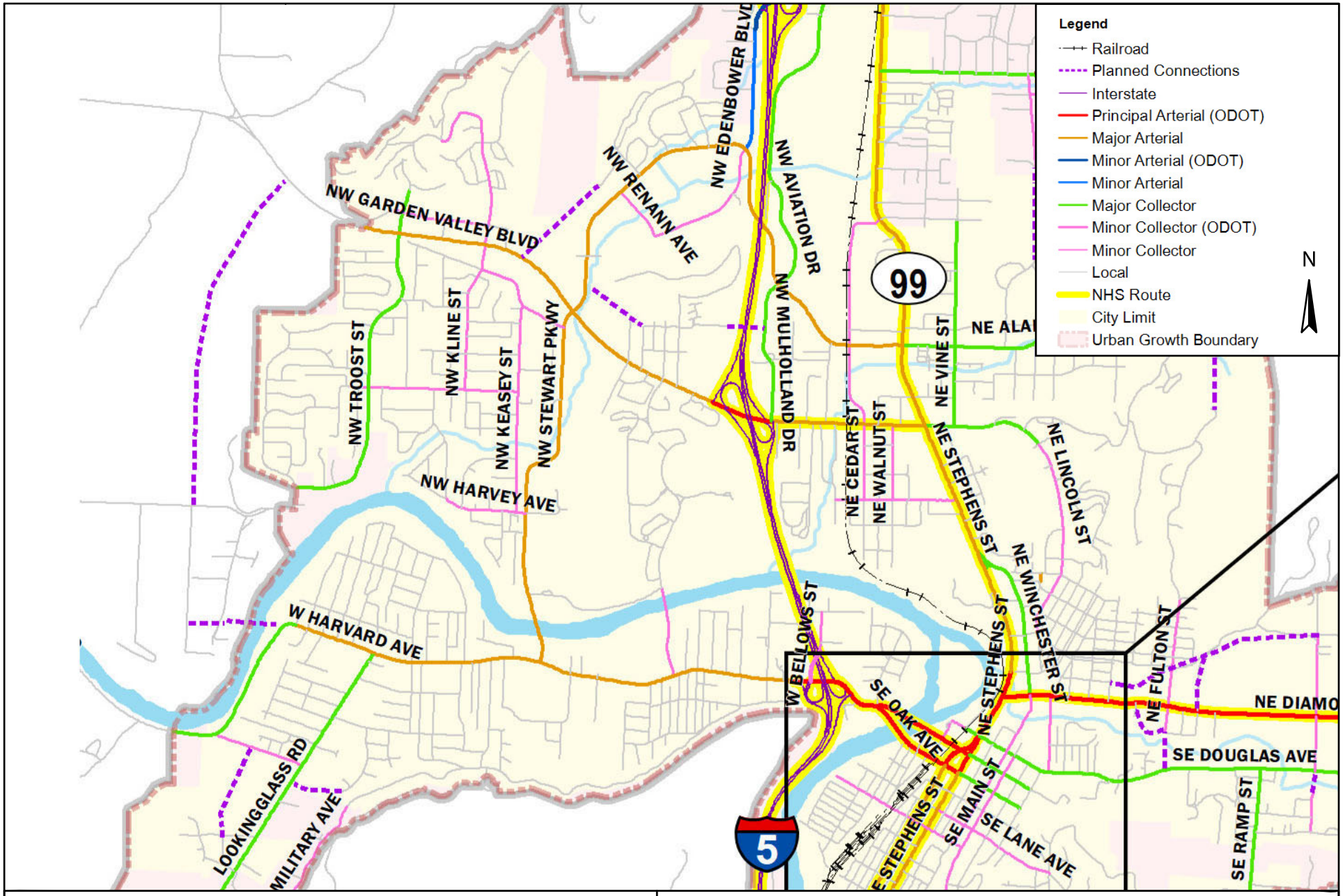
Figure 2 : Lane Configuration and Traffic Control

Roseburg UGB Expansion
Roseburg, Or



Roseburg UGB, Roseburg, Or

Figure 3: Street Classification

3.0 INTERSECTION 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 4:30 PM to 5:30 PM during the peak month of the year. The design hour traffic volumes are determined as follows.

3.1 BASE TRAFFIC VOLUMES

The base evaluation considers impacts at the 20-year planning horizon for the TSP, year 2040. The year 2040 30 HV (design hour) traffic volumes were derived within the 2019 TSP. The 2040 TSP volumes were used as the base volumes for this study.

The intersections of Troost at Charter Oaks, Troost and Loma Vista Dr, and Keasey St at Harvey St were not included in the TSP. Therefore, new traffic counts were collected for this study. The counts were collected in 2021. The counts are adjusted to account for any reductions due to the Covid-19 impacts. ODOT has been monitoring current traffic volumes and comparing them to 2019 volumes to determine impacts of Covid-19. The ODOT data illustrates up to a 14% reduction when compared to 2019 volumes for this area. Therefore, a factor of 1.14 was applied to the existing traffic counts to represent non-Covid 19 volumes. Appendix A contains the traffic volumes.

The 2021 counts are adjusted to year 2040 conditions using a growth rate consistent with the adjacent intersections within the TSP. The growth rates are 3.2% per year for the intersections on Troost Ave and 1.1% per year for the intersection of Keasey St at Harvey Ave.

The 2019 Transportation System Plan base year 2040 traffic volumes considers some growth from the areas to be removed from the UGB and the area to be included within the UGB.

Withdrawal Area A

Withdrawal Area A is located off Daysha Dr and Shantel St. The area is accessed via Kline St and Garden Valley Blvd. The area is within the Transportation Analysis Zone (TAZ), shown in Figure 4 below. The TAZ is shown to have a household growth of 326 homes within the 20-year planning horizon, see TSP Technical Memorandum #4, provided in Appendix B. The TAZ encompasses the area bounded by the UGB to the north, Withdrawal Area A to the east, Garden Valley Blvd to the south, and the UGB to the west. This TAZ encompasses an area with includes buildable residential lands beyond Withdrawal Area A.

Additional traffic volume data from the TSP Technical Memorandum #4, provided in Appendix B of this report, shows the growth in traffic volumes on Kline St just north of Garden Valley Blvd as 75 vehicles southbound and 55 vehicles northbound (130 vehicles). This is equivalent to approximately 93 single family homes and 37 trips from additional commercial/employment growth off Kline north of Garden Valley Blvd. There are approximately 25 single family vacant and buildable lots located within the TAZ and outside withdrawal area A. Additionally, there is approximately 19 acres of undeveloped land zoned for single family residential and approximately 2.73 acres of multi-family residential. It is reasonable to assume that these vacant residential lots could be developed by the year 2040.

Additionally, there is approximately 11 acres of undeveloped commercial land within the TAZ and outside the withdrawal area A. The 130-trip increase shown in the TSP would likely still occur and would be from reasonable growth outside the Withdrawal Area A but within the TAZ. Therefore, the 130 trips from Withdrawal Area A were not removed from the 2040 base volumes. This provides a conservative approach to the evaluation provided in this report.

Withdrawal Area B

Withdrawal Area B is located off Parker Rd and Barager Ave and will be primarily accessible via Alameda Ave and Newton Creek Road. Withdrawal Area B is located within two TAZs, see Figure 5. The northern TAZ is shown to have a household growth of 80 homes within the 20-year planning horizon. The southern TAZ has a household growth of 92 homes within the 20-year planning horizon. (TSP Technical Memorandum #4). Both TAZ areas encompass a buildable area substantially larger than Withdrawal Area B.

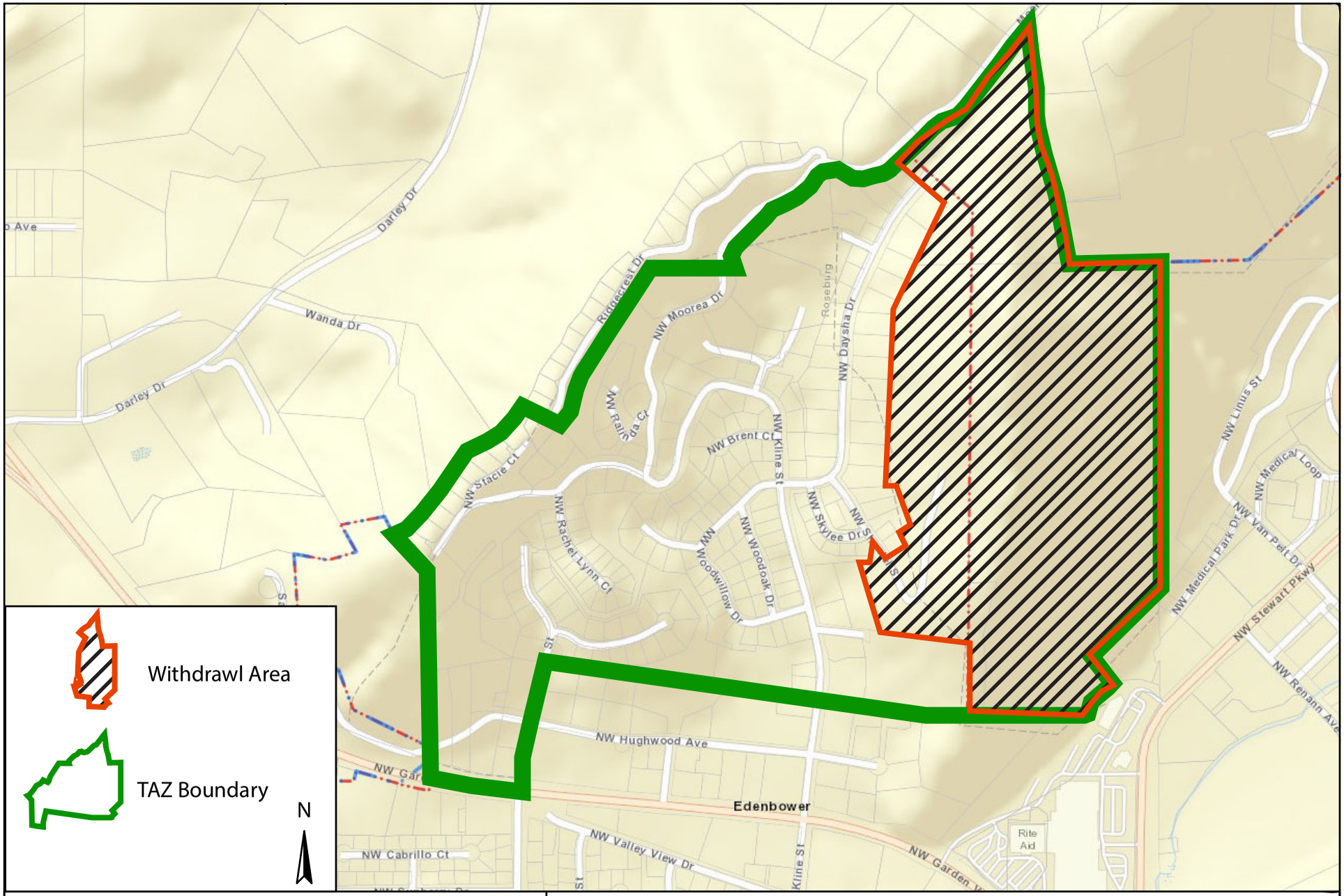
Additionally, traffic volume data from the Technical Memorandum #4, provided in Appendix B of this report, shows the growth in traffic volumes on Newton Creek Rd as 60 trips and shows no growth in traffic on Alameda Ave. There is more than 230 acres of buildable residential land within the TAZ and outside the withdrawal area A. The growth on the roadways, shown as 60 vehicle trips, equates to 60 homes. It is reasonable that this level of growth could occur outside Withdrawal Area B, but within the TAZ. The trips from Withdrawal Area B are not removed from the 2040 base traffic volumes. This provides a conservative approach to the evaluation provided in this report.

Expansion Area

The proposed expansion area is located along Troost St. The area is located within the TAZ area shown in Figure 6. The TAZ is shown to have a household growth of 140 homes within the 20-year planning horizon (TSP Technical Memorandum #4) and encompasses an area larger than the UGB Expansion Area.

Additional traffic volume data, included in Appendix B of this report, shows that the traffic volumes on Troost St have a growth rate of 85 trips just south of Calkins Ave. This is equivalent to 85 homes. At the time of the TSP development there were at least 40 vacant developable lots that could access Troost south of Calkins Ave, outside the expansion area, that could develop. Therefore, the trips from the TAZ were not modified to account for the expansion area.

The background vehicle trips for the year 2021 are shown in Figure 7 and the year 2040 are shown in Figure 8.



Roseburg UGB, Roseburg, Or

Figure 4: Withdrawl Area A

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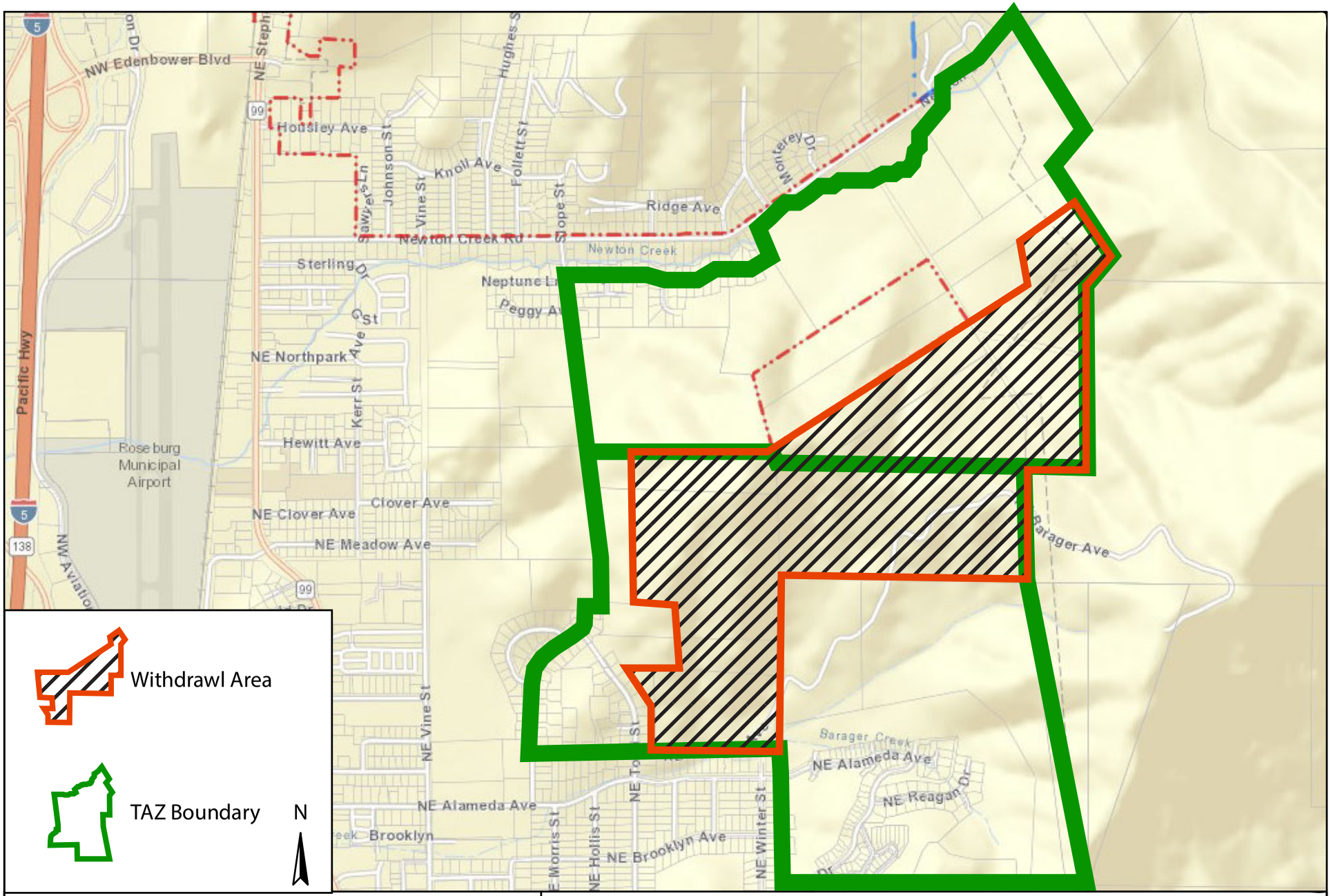

Roseburg UGB, Roseburg, Or

Figure 5: Withdrawl Area B

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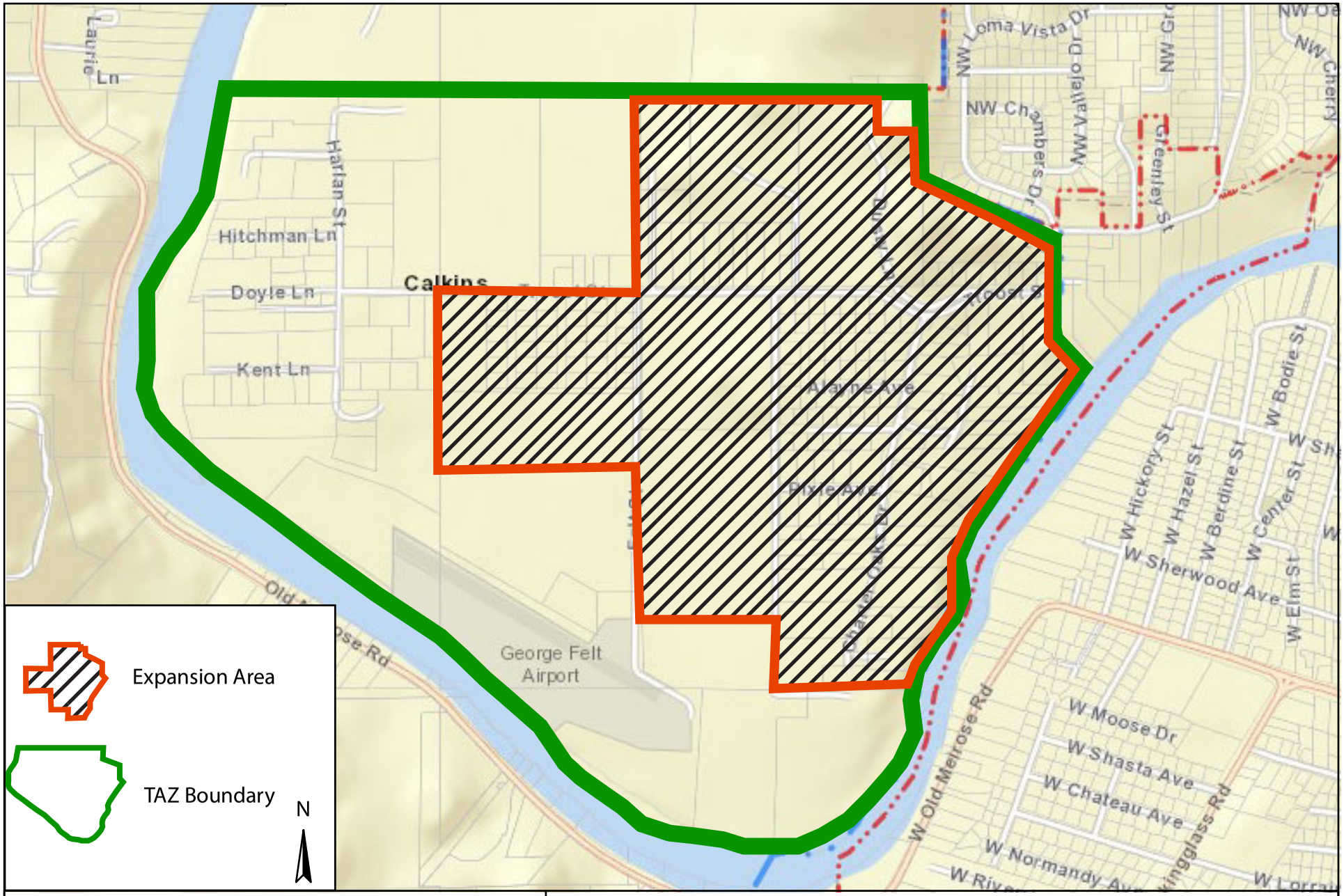

Roseburg UGB, Roseburg, Or

Figure 6: Expansion Area

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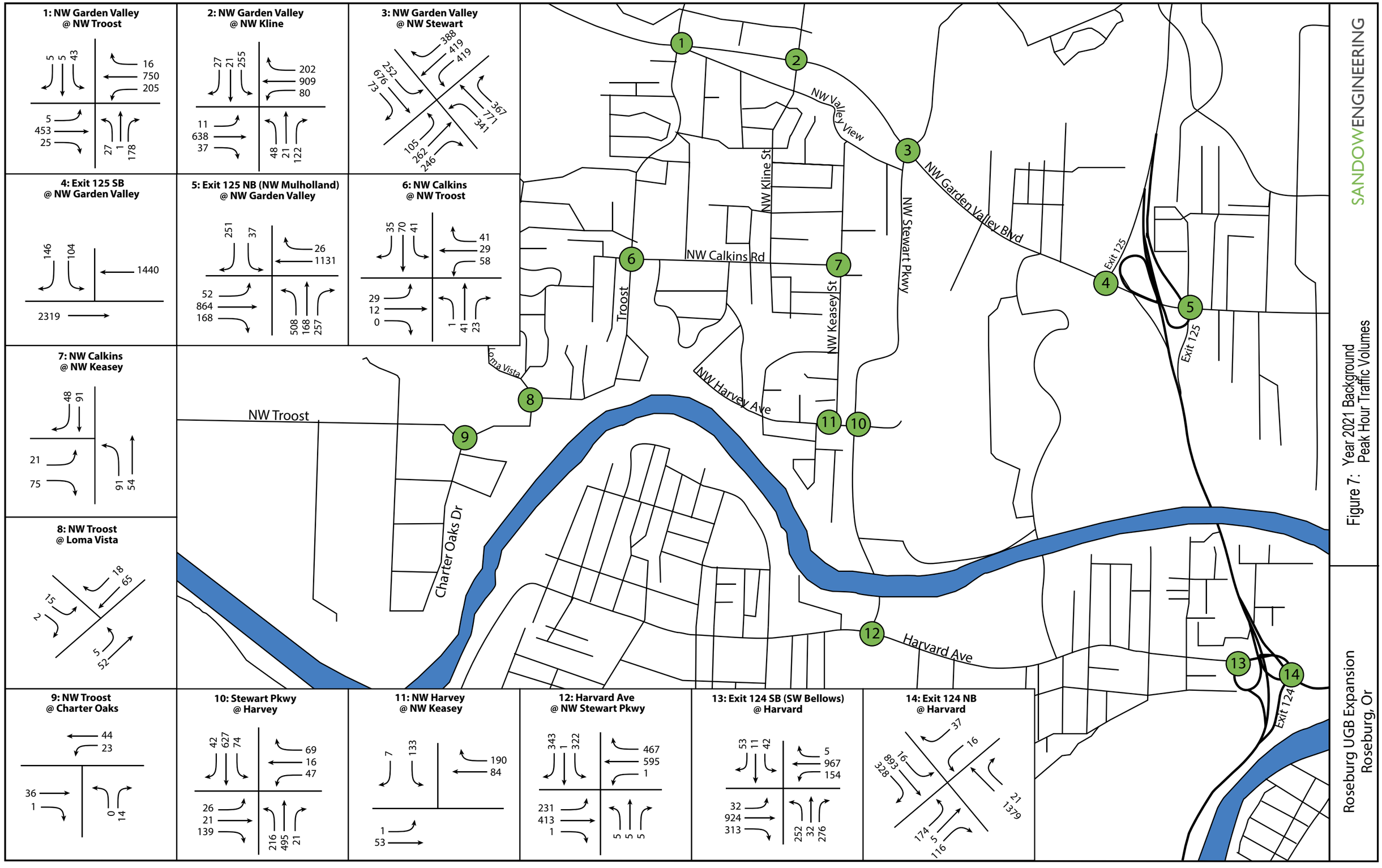

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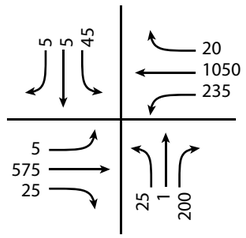
Year 2021 Background
Peak Hour Traffic Volumes

Figure 7: Roseburg UGB Expansion
Roseburg, Or

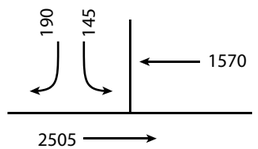
1: NW Garden Valley @ NW Troost



2: NW Garden Valley @ NW Kline

3: NW Garden Valley @ NW Stewart

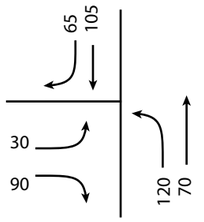
4: Exit 125 SB @ NW Garden Valley



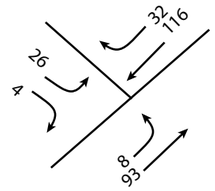
5: Exit 125 NB (NW Mulholland) @ NW Garden Valley

6: NW Calkins @ NW Troost

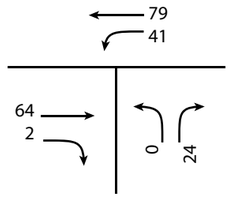
7: NW Calkins @ NW Keasey



8: NW Troost @ Loma Vista



9: NW Troost @ Charter Oaks



10: Stewart Pkwy @ Harvey

11: NW Harvey @ NW Keasey

12: Harvard Ave @ NW Stewart Pkwy

13: Exit 124 SB (SW Bellows) @ Harvard

14: Exit 124 NB @ Harvard

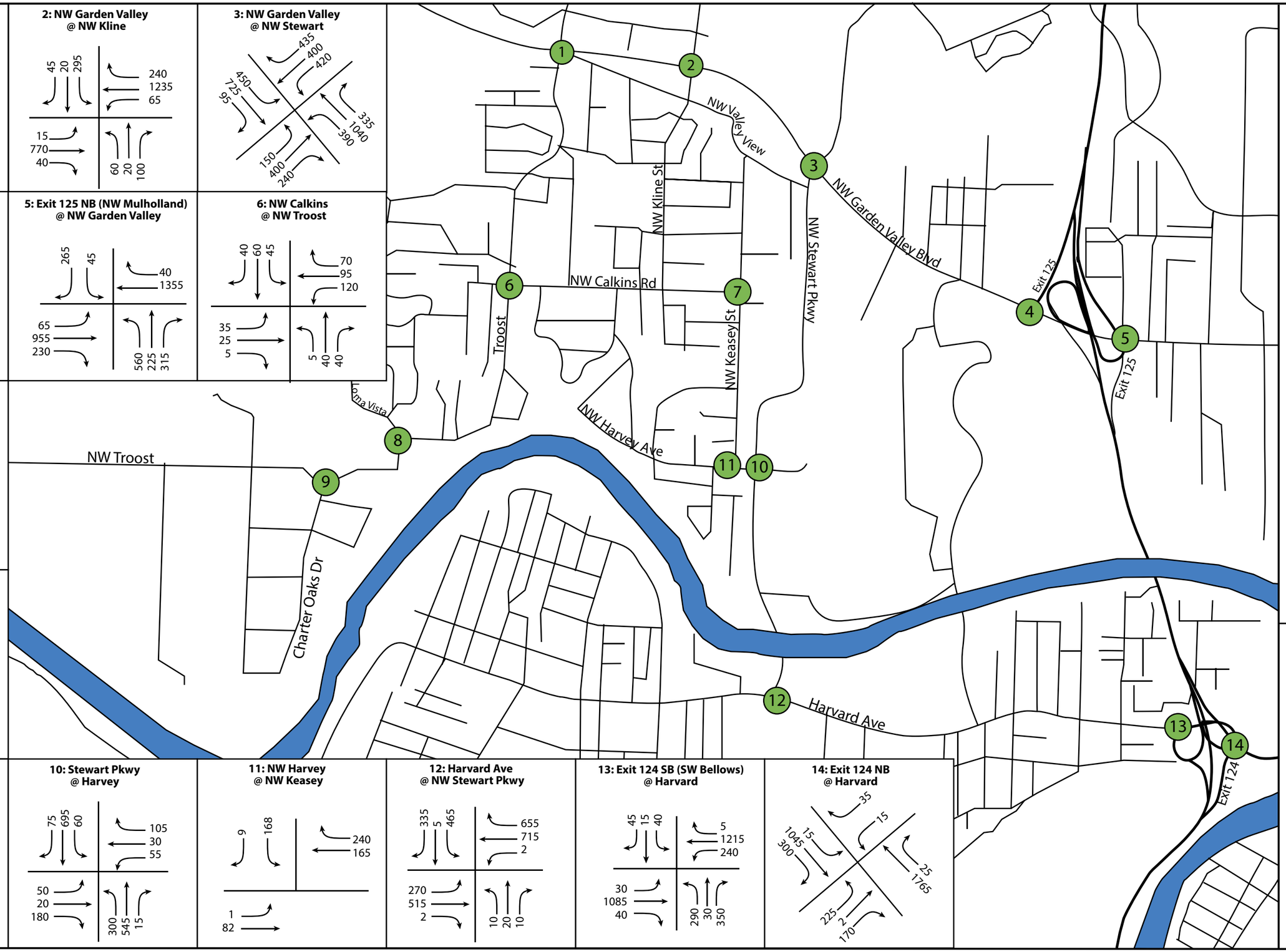


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Figure 8: Year 2040 Background Peak Hour Traffic Volumes

Roseburg UGB Expansion
Roseburg, Or

3.2 TRIPS FROM UGB EXPANSION AREA

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 City of Roseburg has determined that the maximum build out of the expansion area is estimated at approximately 648 dwelling units. This is determined by the following:

Step 1

- Total acres= 222.4 acres
- Currently developed= 17.6 acres
- Partially vacant= 87.2 acres
- Vacant= 117.6 acres
- PR zoning= 29.9 acres

Total acres with development capacity= 165.7 acres.

Step 2

- Developable acres= 165.7 acres
- Slopes less than 12%= 124.3 acres
- Slopes between 12% and 25%= 20 acres
- Slopes greater than 25%= 4.2 acres
- Flood way= 17.2 acres removed

Step 3

The properties will be zoned Single Family Residential R7.5. This means that each new lot created is a minimum of 7,500 sq ft.

- <12% slope= 124.3 acres / 7,500 sq ft= 721 D.U.
- 12%-25% slopes= 20 acres / 7,500 sq ft= 116 D.U. x 0.70= 81 D.U.
- >25% slopes = 4.2 acres / 7,500 sq ft= 24 D.U. x 0.40= 90 D.U.

Total = 811 D.U.

Subtract 20% for infrastructure

Total homes= 648

The vehicle trips to the expansion area are estimated using the ITE Trip Generation Manuals 10th Edition. The calculation uses the land use 210- Single Family Detached Housing. Table 3 contains the trip generation calculation for the PM Peak Hour.

TABLE 3: 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	648	Eqn[1]	611	63%	37%	385	226

Eqn[1] = ln(T)= 0.96ln(x)+0.20

The traffic from the development was distributed to the roadway network following existing travel patterns adjusting for reasonable origins and destinations within the City. The distribution of trips from the expansion area uses Troost St to Calkins Ave and Garden Valley Blvd where the trips distribute to the system. The trips to the system assume the following distribution patterns:

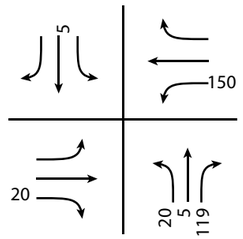
- North to Garden Valley- 52%
- East to Stewart Parkway- 29%
- South to Harvard Ave- 29%
- I-5 via Garden Valley Blvd- 10%
- I-5 via Harvard Ave- 10%

Figure 9 illustrates the traffic added from the added parcels.

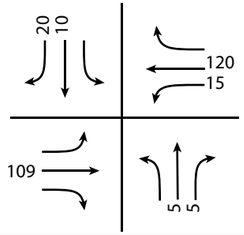
3.3 YEAR 2040 TOTAL TRAFFIC VOLUMES

The traffic from the UGB expansion area was added to the 2040 background traffic volumes resulting in the year 2040 total traffic volumes. These are the volumes used in the intersection analysis. Figure 10 illustrates the year 2040 total PM peak hour traffic volumes.

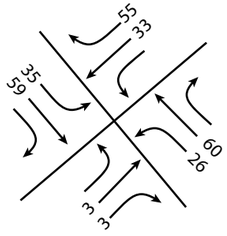
1: NW Garden Valley @ NW Troost



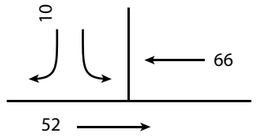
2: NW Garden Valley @ NW Kline



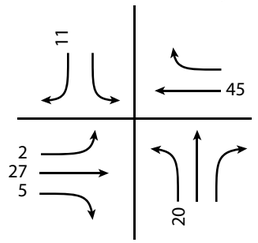
3: NW Garden Valley @ NW Stewart



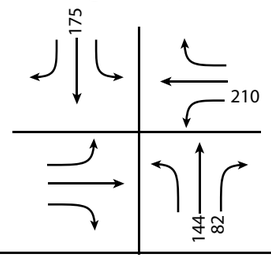
4: Exit 125 SB @ NW Garden Valley



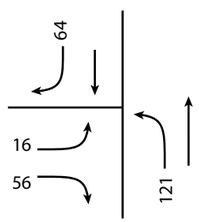
5: Exit 125 NB (NW Mulholland) @ NW Garden Valley



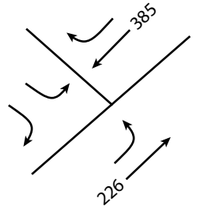
6: NW Calkins @ NW Troost



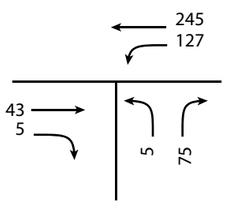
7: NW Calkins Rd @ NW Keasey St



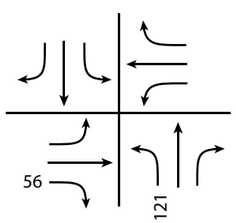
8: NW Troost @ Loma Vista



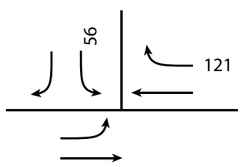
9: NW Troost @ Charter Oaks



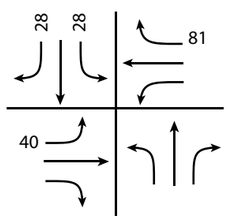
10: Stewart Pkwy @ Harvey Ave



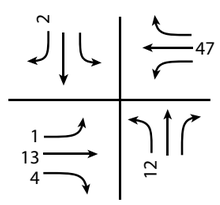
11: NW Harvey @ NW Keasey



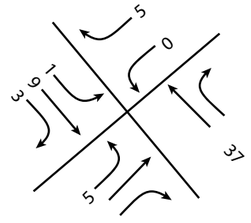
12: Harvard Ave @ NW Stewart Pkwy



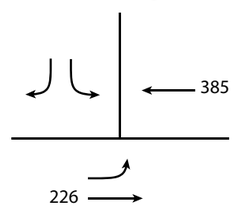
13: Exit 124 SB (SW Bellows) @ Harvard



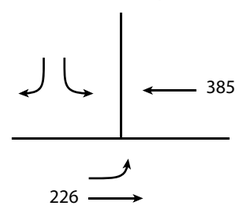
14: Exit 124 NB @ Harvard



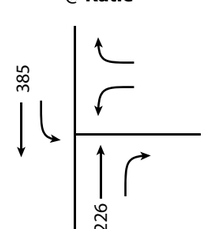
15: Troost @ Cedar Ridge



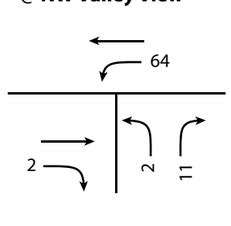
16: Toost @ Greenley



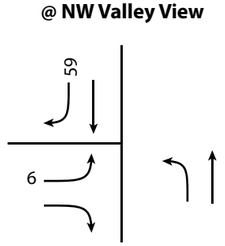
17: Troost @ Katie



18: NW Keasey @ NW Valley View



19: NW Stewart Pkwy @ NW Valley View



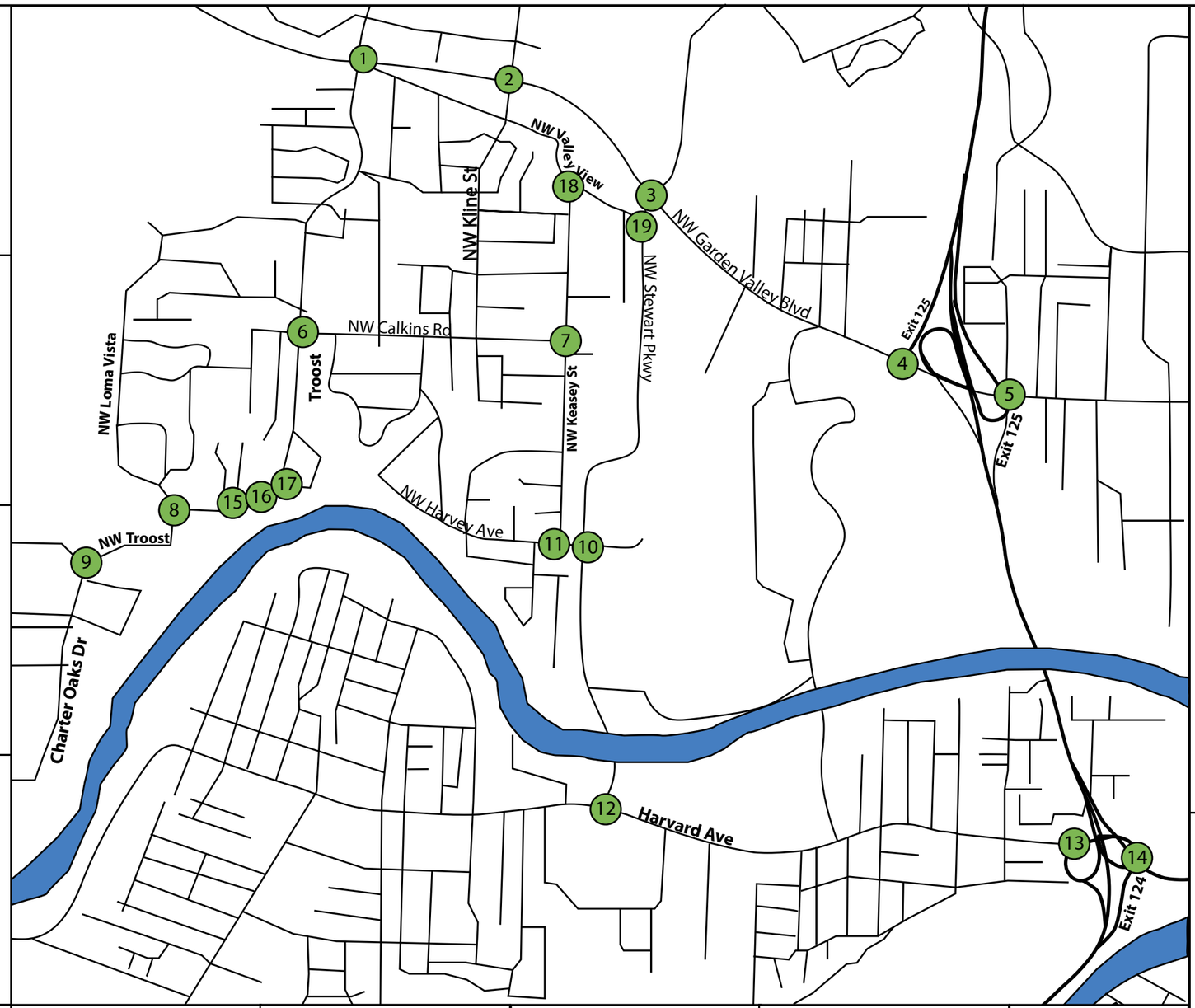


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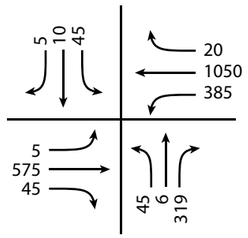
Figure 9 : Trip Distribution

Roseburg UGB Expansion
Roseburg, Or

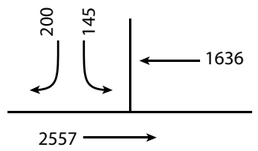
1: NW Garden Valley @ NW Troost



2: NW Garden Valley @ NW Kline

3: NW Garden Valley @ NW Stewart

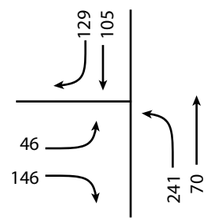
4: Exit 125 SB @ NW Garden Valley



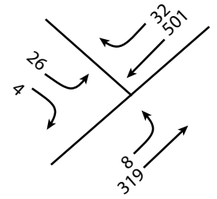
5: Exit 125 NB (NW Mulholland) @ NW Garden Valley

6: NW Calkins @ NW Troost

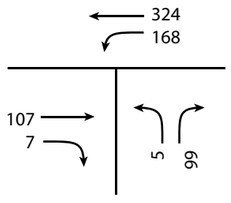
7: NW Calkins @ NW Keasey



8: NW Troost @ Loma Vista



9: NW Troost @ Charter Oaks



10: Stewart Pkwy @ Harvey

11: NW Harvey @ NW Keasey

12: Harvard Ave @ NW Stewart Pkwy

13: Exit 124 SB (SW Bellows) @ Harvard

14: Exit 124 NB @ Harvard

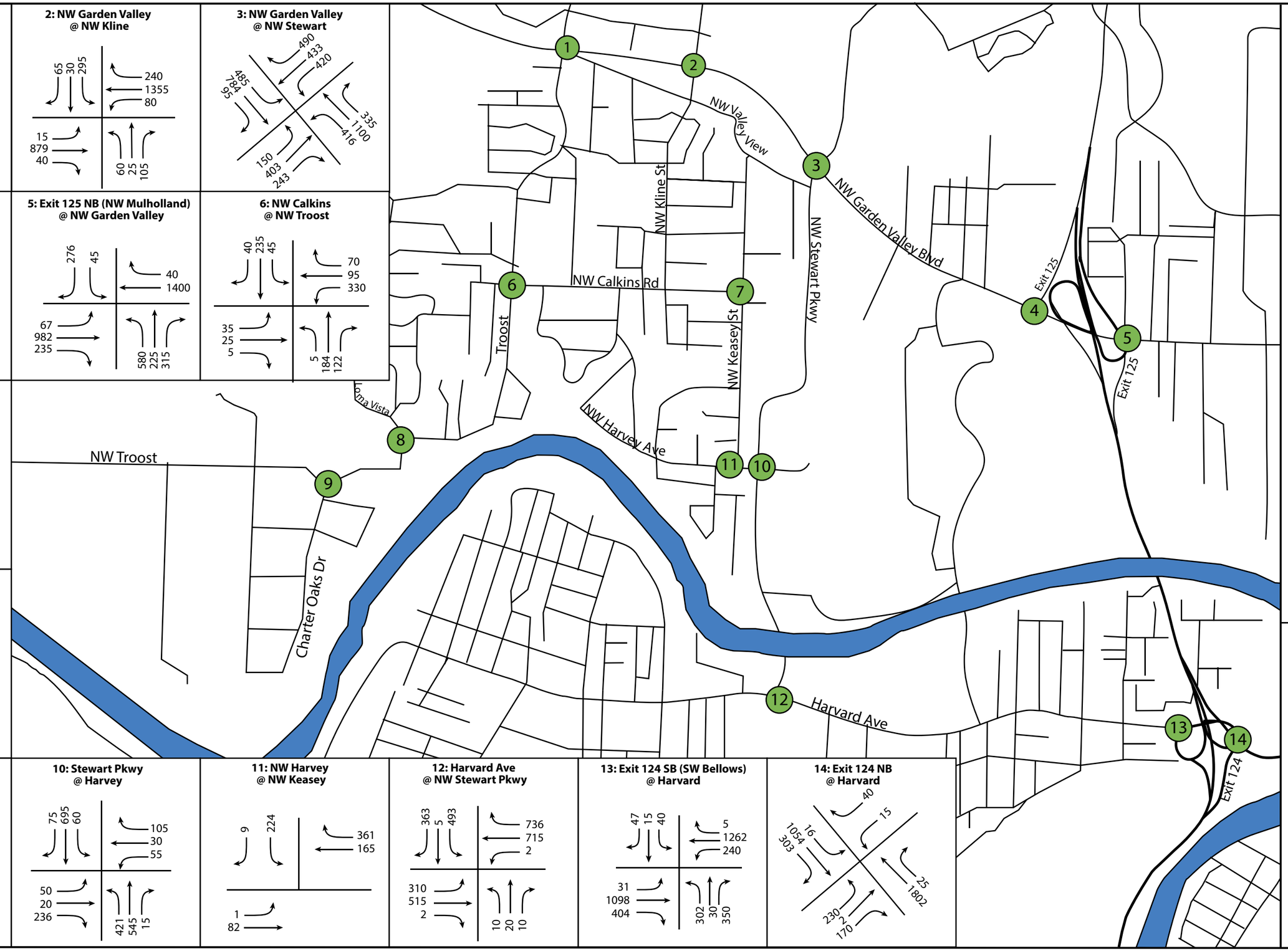


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Figure 10: Year 2040 Peak Hour Traffic Volumes with UGB Expansion

Roseburg UGB Expansion
Roseburg, Or

4.0 INTERSECTIONS IMPACTED

As shown in Figure 9, there are several intersections that will have added trips, but the levels of trips added to critical movements is considered to not be significant enough to warrant a full intersection evaluation. These intersections are:

Keasey St at Valley View

As shown in Figure 9, this intersection is estimated to have 11 trips turning right from Keasey St to Valley View Dr and 64 trips from turning left from Valley View Dr to Keasey St. The right turns are considered to not impact the intersection operation. The 64 left trips are over a 60-minute time period, with an estimate of no more than 2 vehicles arriving to make the left-turn simultaneously. There is a two-way-left-turn lane to separate the left-turn from the through movements. The opposing traffic volumes for the left-turn are low enough that there are minimal delays for a left-turn vehicle. Therefore, the impacts to this intersection are minimal and don't warrant a full intersection LOS evaluation.

Stewart Pkwy at Valley View Dr

This intersection is estimated to add 6 additional left-turns from Valley View Dr to Stewart Pkwy and 59 trips turning right from Stewart Pkwy to Valley View. The right turns do not have a significant impact on the intersection. The 6 left turns will have a minimal impact as the added trips will be on trip every 10 minutes. The traffic volumes are considered insignificant, and the impacts are minimal. Additionally, the TSP has identified improvements to this intersection Tier 2 project R3. The project is the removal of the left turn from Valley View to Stewart Parkway. Therefore, this intersection doesn't warrant a full intersection evaluation.

Troost St at Cedar Ridge, Greenley St, and Katie Dr

At each of these intersections, a significant amount of through vehicles on Troost St will be added, but no additional trips are added to the turning movements. The turning movements at each of these intersections is less than 50 vehicles. All intersections will operate well within the level of service standards. Therefore, these intersections do not warrant further intersection LOS evaluation.

5.0 INTERSECTION EVALUATION

5.1 PERFORMANCE MEASURES

The two metrics to evaluate intersections are the performance-based level of service and the capacity-based volume-to-capacity.

The Highway Capacity Manual (HCM) defined level of service (LOS) is a concept developed to quantify the degree of comfort (including such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles) afforded to drivers as they travel through an intersection or along a roadway segment. It was developed to quantify the quality of service of transportation facilities.

LOS is based on average delay, defined as the average total elapsed time from when a vehicle stops at the end of a queue until the vehicle departs from the stop line. Average delay is measured in seconds per vehicle per hour and is then translated into a grade or "level of service" for each intersection. LOS ranges from A to F, with A indicating the most desirable condition and F indicating the most unsatisfactory condition.

The LOS criteria, as defined by the Highway Capacity Manual, for intersections are provided in Table 4. For this study, the level of service intersection analysis was completed according to the Highway Capacity Manual (HCM) method implemented in SYNCHRO Version 10.

TABLE 4: HCM LEVEL OF SERVICE FOR INTERSECTIONS

	Stopped Delay per Vehicle (Seconds per Vehicle)	
Level of Service	**Unsignalized Intersections**	**Signalized Intersections**
A	≤ 10.0	≤ 10
B	> 10.0 and ≤ 15.0	> 10 and ≤ 20
C	> 15.0 and ≤ 25.0	> 20 and ≤ 35
D	> 25.0 and ≤ 35.0	> 35 and ≤ 55
E	> 35.0 and ≤ 50.0	> 55 and ≤ 80
F	> 50.0	> 80

The volume-to-capacity ratio describes the capability of an intersection to meet the volume demand based upon the maximum number of vehicles that could be served in an hour. The intersection v/c ratio for intersection uses the HCM 6 Critical v/c methodology, as required by Chapter 13 of the Analysis Procedures Manual.

The City of Roseburg has an adopted mobility targets of LOS E and v/c 0.95.

ODOT uses a volume to capacity ratio (v/c) as defined by the *1999 Oregon Highway Plan*. The Oregon Highway Plan defined v/c standard for the signalized highway ramp intersections is 0.85.

5.2 INTERSECTION ANALYSIS RESULTS – YEAR 2040

A performance and operational analysis were conducted for the studied intersections for the year 2040 traffic conditions with the full build out of the parcels being added within the UGB. The results of the analysis are illustrated in Table 5. The SYNCHRO outputs are provided in Appendix D.

TABLE 5: INTERSECTION PERFORMANCE: YEAR 2040 PM PEAK HOUR

Intersection	Mobility Standard	2040 Without UGB Swap	2040 With UGB Swap
Garden Valley Blvd at Stewart Pkwy	E 0.95	**F** **1.00**	**F** **1.05**
Harvard Ave at Stewart Pkwy	E 0.95	**E** 0.66	**F** 0.69
Stewart Pkwy at Harvey Ave	E 0.95	B 0.63	C 0.68
Troost St at Garden Valley Blvd	E 0.95	B 0.49	C 0.61
Troost St at Charter Oaks Dr	E 0.95	A 0.03	B 0.13
Troost St at Loma Vista Dr	E 0.95	B 0.04	C 0.34
Troost St at Calkins Ave	E 0.95	A 0.39	D **0.95**
Garden Valley Blvd at Kline St	E 0.95	D 0.87	D 0.92
Keasey St at Calkins Ave	E 0.95	B 0.17	B 0.35
Keasey St at Harvey Ave	E 0.95	B 0.32	C 0.45
Garden Valley Blvd at I-5 Exit 125 NB Off Ramp	0.85	**0.93**	**0.96**
Garden Valley Blvd at I-5 Exit 125 SB Off Ramp	0.85	**1.01**	**1.03**
Harvard Ave at I-5 Exit 124 NB Off Ramp	0.85	0.72	0.74
Harvard Ave at I-5 Exit 124 SB Ramps	0.85	0.78	0.81

As shown in Table 5, the intersections of Garden Valley Blvd at Stewart Pkwy, Harvard Ave at Stewart Parkway, and Garden Valley Blvd at I-5 Exit 125 NB and SB off ramps do not meet the standards. Mitigation options for these intersections are provided in Section 6.0. The intersection of Troost St at Calkins Ave will operate just at the standard. A mitigation option is provided for this intersection to ensure safe operations of the intersection.

The intersection of Troost St at Calkins Ave is projected to operate at a LOS A and a v/c 0.39 under the year 2040 background conditions, and a LOS D and v/c 0.95 with full buildout of the UGB expansion area. This intersection is an all-way stop control. With full build out of the expansion are there could be approximately 483 vehicle trips added to this intersection. This substantial number of trips added to this all way stop-controlled intersection results in a substantial worsening in LOS and v/c ratio.

5.3 INTERSECTION QUEUING ANALYSIS RESULTS - YEAR 2040

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 2040 PM peak hour existing conditions are included in Table 7. The outputs are included in Appendix G.

TABLE 7: INTERSECTION QUEUING: YEAR 2040 PM PEAK HOUR

Intersection			Available Storage (Feet)	2040 No-Build (Feet)		2040 Build (Feet)	
				Average	95th percentile	Average	95th percentile
Garden Valley Rd at Stewart Pkwy	EB	L	TWLTL	925	1250	975	1200
		T	1000+	1325	2350	1600	2500
		TR	1000+	1175	2275	1500	2525
	WB	L	TWLTL	950	1325	1000	1250
		T	1000+	2450	3700	2550	3675
		R	115	150	200	125	200
	NB	L	215	150	225	200	250
		T	215	125	225	200	350
		R	200	100	175	100	175
	SB	L	470	700	1075	775	1125
		T	955	475	1100	600	1350
		R	120	150	175	150	200
Harvard Ave at Stewart Pkwy	EB	L	TWLTL	150	150	150	150
		T	400	250	450	325	525
		TR	400	200	400	275	475
	WB	L	TWLTL	25	25	25	25
		T	510	200	350	250	400
		R	160	175	250	200	225
	NB	L	50	25	25	25	25
		TR	580	25	75	25	50
	SB	L	160	125	125	125	125
		TR	1000+	575	1250	800	1425
Stewart Pkwy at Harvey Ave	EB	L	90	50	100	50	100
		TR	90	75	100	75	125
	WB	L	300	50	100	50	100
		TR	550	75	150	75	125
	NB	L	TWLTL	125	200	175	225
		T	1000+	75	150	125	300
		TR	180	75	150	75	175
	SB	L	90	50	100	50	125
		T	1000+	250	425	325	575

		TR	1000+	150	375	250	525
NW Troost St at Garden Valley Rd	**EB**	L	TWLTL	25	50	25	50
		T	1000+	250	375	275	400
		TR	1000+	225	375	275	400
	WB	L	1000+	125	175	125	175
		T	700	200	375	250	425
		R	145	25	75	25	100
	NB	L	115	25	50	50	100
		TR	445	75	125	125	200
	SB	L	80	25	75	50	100
		TR	300	25	25	25	50
Charter Oaks Dr at Troost St	**WB**	LT	1000+	25	25	25	75
	NB	LR	680	25	50	50	75
Loma Vista Dr at Troost St	**NB**	LT	1000+	25	25	25	25
	SB	LR	220	25	50	25	50
NW Troost St at Calkins Ave	**EB**	LTR	135	25	50	50	50
	WB	LTR	180	75	100	125	225
	NB	LTR	880	50	75	75	125
	SB	LTR	185	50	100	125	200
Kline St at Garden Valley Rd	**EB**	L	210	25	75	50	125
		T	715	250	600	500	1100
		TR	715	250	600	500	1100
	WB	L	TWLTL	50	125	75	125
		T	1000+	150	350	225	425
		TR	1000+	175	375	225	450
	NB	L	TWLTL	75	150	75	150
		TR	370	100	175	125	200
	SB	L	105	100	125	100	125
		TR	270	200	550	400	850
Keasey St at Calkins Ave	**EB**	LR	870	50	75	75	100
	NB	LT	160	25	50	50	100
	SB	TR	590	0	25	25	25
Harvey Ave at Keasey St	**EB**	LT	200	25	50	25	50
	WB	TR	100	0	25	25	25
	SB	LR	265	75	125	100	175
Exit 125 NB Ramps at Garden Valley Rd	**EB**	L	130	50	75	50	100
		T	1000+	125	200	150	225
	WB	T	1000+	725	1500	1100	1800
		TR	1000+	725	1475	1100	1775

	NB	L	800	1075	1775	825	1625
		TR	1000+	875	1775	625	1525
	SB	L	TWLTL	50	75	50	75
		R	630	150	275	125	200
Garden Valley Rd at Hwy 125 SB Ramps	EB	T	290	1625	1875	825	1525
	WB	T	990	700	1350	600	1350
	SB	L	650	100	175	100	175
		R	1000+	100	175	150	325
Freeway Ave/ Willow St at i-5 NB Ramps	EB	L	100	125	200	125	200
		TR	1000+	75	100	50	100
	WB	L	100	25	50	25	50
		R	200	25	75	50	75
	NB	T	460	350	550	475	625
		TR	465	300	500	450	650
	SB	L	TWLTL	25	50	25	50
		T	680	150	275	150	275
		R	680	50	50	50	50
Harvard Ave at Bellows / I-5 SB Ramp	EB	L	TWLTL	50	125	50	125
		T	690	575	1025	425	650
		R	690	125	175	125	175
	WB	L	TWLTL	125	150	125	150
		T	705	300	375	300	325
		R	310	25	50	25	75
	NB	L	970	125	150	125	150
		T	970	150	375	150	400
		R	155	125	200	125	200
	SB	L	525	25	75	25	75
		TR	525	50	75	50	75

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

Garden Valley Road at Stewart Parkway: This intersection is anticipated to have lengthy queue for the eastbound, westbound, and southbound lanes. The UGB Exchange will increase the queue lengths for the eastbound and westbound movements. The TSP proposed improvement of dual eastbound and westbound left turn lanes will improve the queue lengths.

Stewart Parkway at Harvey Ave: The eastbound approach at this intersection is anticipated to have a queue length that extends to block Keasey St. The queue is anticipated to clear each cycle, resulting a limited impact to Keasey St.

Harvey Ave at Keasey St: The eastbound approach at the signalized intersection of Harvey Ave at Keasey St is anticipated to queue to block the intersection. The queue clears each cycle limiting the impact to Keasey St. Keasey St southbound approach will have an estimated queue length of 175 feet with the UGB exchange and 125 feet without the UGB exchange. While the

UGB exchange will add traffic to the southbound approach, the expansion will not have a significant impact over the background conditions.

6.0 INTERSECTION MITIGATION

As shown in Section 5.2, the following intersections do not meet the applicable intersection standards:

- Garden Valley Blvd at Stewart Pkwy
- Stewart Ave at Harvard Ave
- Troost St at Calkins Ave
- Garden Valley Blvd at I-5 Exit 125 NB Off Ramps
- Garden Valley Blvd at I-5 Exit 125 SB Off Ramps

Garden Valley Blvd at Stewart Parkway

The intersection at Garden Valley Blvd at Stewart Parkway is projected to operate at LOS F and v/c 1.07 without the UGB exchange and LOS F and v/c 1.14 with the UGB exchange. Additionally, the TSP has identified this intersection as not meeting the standards for the year and has recommended improvements to this intersection, Tier 2 Project R2. The improvements are to add eastbound and westbound dual left-turn lanes from Garden Valley Blvd to Stewart Parkway and dual southbound right-turn lanes from Stewart Parkway to Garden Valley Blvd. These improvements result in an LOS E and v/c 0.91 with the UGB swap. The recommended improvements in the TSP will be sufficient for the added traffic from the UGB swap.

To mitigate just the impacts of the added traffic from the UGB swap, the second southbound right turn from Stewart Pkwy to Garden Valley Blvd should be installed. With the dual southbound right turn lanes, the intersection will operate at LOS F and v/c 1.07, mitigating the impacts of the UGB swap.

Stewart Ave at Harvard Ave

The intersection of Stewart Ave at Harvard Ave is projected to operate at LOS F for the year 2040 with full build out of the UGB expansion area. The standard for this intersection is to operate at LOS E or better. As this intersection does not meet the standard improvements will be necessary. The separate left turns at this intersection could be modified to protective-permissive phasing. With this minor change, the signal will operate at a LOS E, meeting the City's LOS standards.

Troost St at Calkins Ave

The intersection of Troost St at Calkins Ave is projected to operate at the upper threshold standard at the end of the planning horizon with the UGB swap. While this intersection meets the standards, the increase in traffic volumes at this stop-controlled intersection could cause safety concerns. Therefore, improvement options were evaluated. The intersection is currently an all way stop with one lane in each direction and is projected to operate at a LOS A and a v/c 0.69 without the USB swap. The additional vehicle trips from the swap results in a LOS D and a

v/c 0.95. The intersection standard is LOS E and v/c 0.95. The UGB swap has the potential to add over 200 pm peak hour trips in the westbound left turn. Therefore, it is recommended that a separate westbound left turn lane be provided. With the separate left-turn pocket the intersection will operate at a LOS C and v/c 0.73.

The east leg of the intersection has approximately 40 feet of pavement width. There are curb-side sidewalks, on-street parking, and no bike lanes on both the north and south sides of the roadway. Calkins Ave has approximately 40 feet of pavement (curb-to-curb). The east leg can be restriped to add in the left-turn pocket. The restriping would require removal of on street parking for the length of the storage space and the taper space. The TSP has identified improvement, Tier 2 Project BP18 that proposed the installation of sharrows on Calkins Ave between Grove Lane and Keasey St. The recommended westbound left turn pocket does not negatively impact the City's TSP project on Calkins Ave.

As an alternative mitigation option, the intersection was evaluated for a traffic signal. The Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD) provide guidance to the conditions when an intersection should be signalized. MUTCD Warrant 3, peak hour warrants a traffic signal based on the ratio of PM peak hour trips on the major road and minor roads. Troost St (major road) is projected to have a PM peak hour volume of 631 and the minor street approach (Calkins Ave) of 495. The PM peak hour traffic volumes meet the Warrant 3 peak hour threshold for warranting a signal. It is recommended that this intersection be monitored, and signalization be considered as the UGB expansion area gets built out.

Garden Valley Blvd at I-5 Exit 125 NB Ramp

The intersection of Garden Valley Blvd at the I-5 Exit 125 NB ramps is projected to operate at a v/c 0.93 without the UGB swap and v/c 0.96 with the UGB swap. ODOT maintains a standard of 0.85 for ramp terminals. The TSP has also identified this intersection as failing to meet the standards. The TSP does not specify any improvements for this intersection. As per the Oregon Highway Plan, ODOT considers a change in v/c of 0.03 or less to not require mitigation. While overall, the intersection does not meet the standards, and will require improvements to meet the standards, the UGB swap is shown to not have a significant effect on the intersection. Therefore, the UGB swap does not trigger mitigation for this intersection.

Garden Valley Blvd at I-5 Exit 125 SB Ramp

The intersection of Garden Valley Blvd at the I-5 Exit 125 SB ramp is projected to operate at a v/c 1.01 without the UGB swap and v/c 1.03 with the UGB swap. ODOT maintains a standard of 0.85 for ramp terminals. The TSP does not specify any improvements for this intersection. As per the Oregon Highway Plan, ODOT considers a change in v/c of 0.03 or less to not require mitigation. While overall, the intersection does not meet the standards, and will require improvements to meet the standards, the UGB swap is shown to not have a significant effect on the intersection. Therefore, the UGB swap does not trigger mitigation for this intersection.

7.0 TROOST STREET

Troost Street will serve as the main route to/from the UGB expansion area to the greater Roseburg Area. Troost St south and west of Katie Dr is one lane in each direction with a small shoulder. There are no sidewalks, bike lanes, planter strips, or street lighting along this section. North of Katie Dr, Troost St has sidewalks, bike lanes, on-street parking, and street lighting. Troost St has a posted speed of 25 miles from Garden Valley Blvd to the terminus at Harlan St. The following provides an evaluation and recommendation for Troost St improvements to facilitate the added traffic from the UGB expansion area.

7.1 STREET CLASSIFICATION

The exiting UGB boundary is located just to the east of the intersection of Loma Vista Dr. The section of Troost St within the UGB boundary is classified as a Major Collector. The potential 648 homes in this area are estimated to add 6,480 daily trips. The total Average Daily Trips (ADT) on Troost St is estimated at 8,300 for the section between Felt St and Loma Vista Dr, and 9,000 ADT for the section between Loma Vista Dr and Katie Dr. Given the estimated ADT, Troost St should be classified as a major collector.

7.2 ROADWAY SPEED

Troost St has a posted speed of 25 mph from Garden Valley Blvd. to the terminus at Harlan St. There is a speed advisory sign of 20 mph for the curve between Katie Dr and Greenly St and 15 mph for the curves at Loma Vista Dr and Agape Ct. The roadway speed is appropriate for the geometric conditions.

7.3 INTERSECTION SIGHT DISTANCE

At this time, there are no specific new intersections or accesses proposed. The future street network will be developed as the parcels will be developed. At that time, all new intersections should be evaluated for sight distance to ensure standards are met. The existing intersections along Troost St between Felt St and Katie Dr were evaluated to determine if the line of sight is adequate.

The line of sight for drivers entering and exiting Troost St at the intersections was evaluated following the AASHTO Intersection Sight Distance (ISD) and Stopping Sight Distance (SSD) methodology. As per AASHTO the minimum standard is to meet the SSD distance and where practical, the ISD distance should be strived to be met. The SSD is the length of roadway a driver on Troost St needs to be able to see to perceive, react, and stop ahead of a driver entering or exiting an intersection. The ISD is the length of roadway a driver exiting the driveway would need to see in either direction to enter the roadway and begin accelerating to the posted speed. The posted speed is 25 mph along Troost St from 326 feet west of Charter Oaks to Garden Valley Blvd. From 326 feet west of Charter Oaks Drive to Harlan Street there is no posted speed. Therefore, Basic Rule/55 mph is assumed. As per the AASHTO Methodology, at 25 mph the ISD is 280 feet, and the SSD is 155 feet, at 55 mph the SSD is 495 feet and the ISD is 610 feet.

The ISD and SSD for the intersections along Troost St are provided in Figure 11 for Troost St at Felt St, Figure 12 for Troost St at Charter Oaks Dr, Figure 13 for Troost St at Loma Vista Dr, and Figure 14 for Troost St at Katie Dr.

Troost St at Charter Oaks Dr and Troost St at Loma Vista Dr have substantial roadway curvature. A concern is the addition of vehicle trips on Troost St approaching these intersections and needing to stop for a vehicle entering or exiting Troost St. At Loma Vista Dr, a westbound vehicle traveling towards Loma Vista can see a vehicle stopped at Loma Vista Dr from approximately 450 ahead. This is almost 3 times the minimum stopping sight distance at 25 mph and is a sufficient minimum stopping sight distance for a vehicle traveling 50 mph. An eastbound (northbound) traveling vehicle on Troost St towards Loma Vista Dr. can see a vehicle stopped at Loma Vista Dr. approximately 310 feet ahead. This is twice the stopping sight distance needed at 25 mph and is sufficient minimum stopping sight distance for a vehicle traveling 40 mph. There is adequate line of sight for safe turns into and out of Loma Vista Dr.

At Charter Oaks Drive, a westbound traveling vehicle on Troost St can see a vehicle stopped to turn into or out of Charter Oaks Dr at approximately 300 feet ahead of the intersection. This is almost twice the distance needed for speed of 25 mph and a sufficient minimum stopping sight distance for a vehicle traveling at 40 mph. The speed changes between basic rule/55 mph to 25mph approximately 425 feet west of Charter Oaks. The SSD at 25 mph is 155 feet and the ISD is 280 feet. The ISD and SSD are within the area posted as 25 mph and the sight distance needed for 25 mph. However, given the rural nature of Troost St, vehicles could approach Charter Oaks Drive from the west (eastbound) at up to 55 mph. Therefore, the SSD and ISD on Troost St to the west of Charter Oaks is evaluated at 55 mph. An eastbound traveling vehicle on Troost St towards Charter Oaks Dr. can see approximately 400 feet ahead of a stopped vehicle turning into or out of Charter Oaks Dr. This is 2.5 times the sight distance needed at the posted speed of 25 mph and is sufficient stopping sight distance for a vehicle traveling at 45 mph. There is adequate line of sight for vehicles turning into and out of Charter Oaks Dr at less than 45 mph. Therefore, it is recommended that the roadway speed west of the 25-mph sign be posted at 45 mph or less.

ISD 610'

ISD 610'

Troost St

Felt St

ISD = Intersection Sight Distance

SSD = Stopping Sight Distance

N

SSD 495'

SSD 495'

Troost St

Felt St

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Figure 11: Troost St at Felt St
Stopping Sight and Intersection Sight Distance

Roseburg UGB Expansion

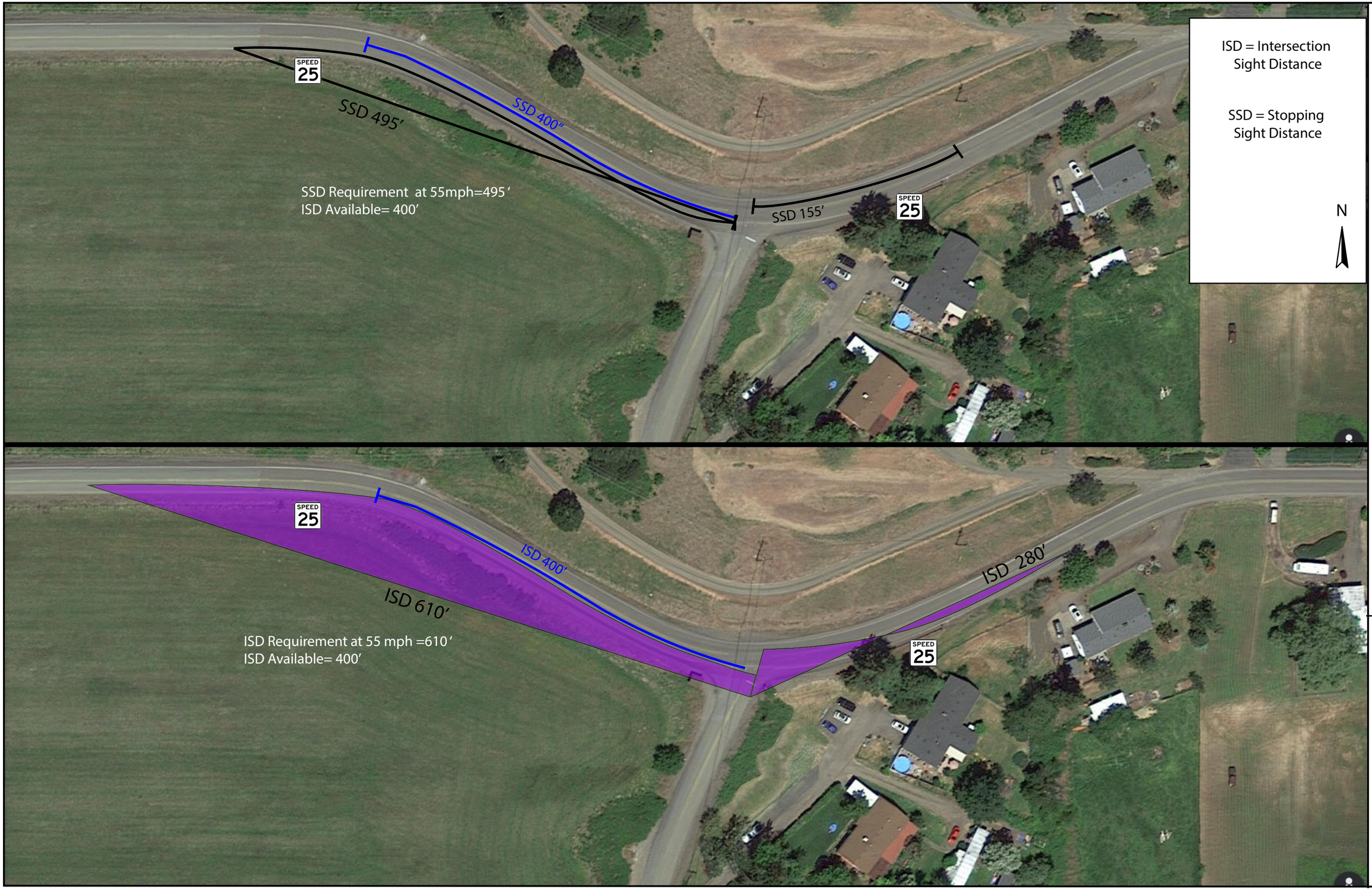

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Figure 12: Troost St at Charter Oaks Dr
Stopping Sight and Intersection Sight Distance

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Figure 13: Troost St at Loma Vista Dr
Stopping Sight and Intersection Sight Distance

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Roseburg UGB Expansion

Roseburg UGB Expansion

Figure 14: Troost St at Katie Dr
Stopping Sight Distance and Intersection Sight Distance

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7.4 CRASH ANALYSIS

A crash investigation was performed for Troost St between Felt St and Katie Dr. The analysis investigates crashes that have been reported to the state for the most recent 6 years, 6/01/2014-6/30/2019, to determine a crash rate in crashes per million vehicles on the roadway and the types of crashes that occurred. Crash data was provided by ODOT. Within the past 5 years there were no reported crashes within that section of Troost St. One crash occurred at Troost at Harlan St. This crash occurred in December of 2014 and was the result of a single vehicle colliding with vegetation. There were 3 reported crashes at Troost St at Calkins Ave. The crashes occurred in 2017, 2016, and 2014 and were a result of turning movement errors. Figure 15 below illustrates the crash locations from ODOT GIS system. As shown in the figure, there are no crashes that have occurred within the recent 6 years on Troost St between Felt St and Katie Dr.

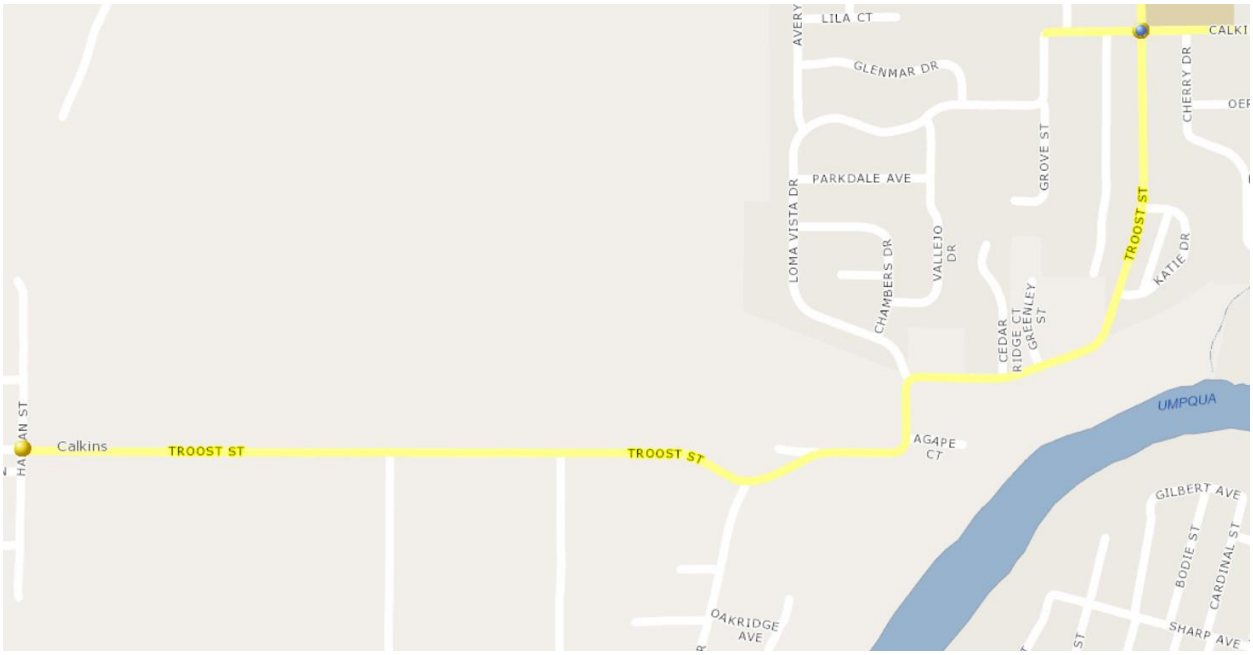

FIGURE 15- CRASH LOCATIONS

7.5 RIGHT AND LEFT TURN LANE WARRANTS

The increase in traffic volumes along Troost St will result in a reduction in the available gaps in traffic for making turns onto and from Troost St, potentially increasing delay and resulting in safety implications. Guidance as to when intersections should have right and left turn lanes installed is provided in the ODOT Analysis Procedures Manual. The criteria are traffic volume based where the turning movements are compared to the through volumes. The turning movement volumes at Felt St and Charter Oaks were estimated using the available buildable lands. The turning movements at Loma Vista Dr and Katie Dr were estimated using the existing traffic counts and estimated growth in the area. Table 8 includes the results of the evaluations. Appendix E include the worksheets.

TABLE 8: TURN LANE WARRANTS

Intersection	Right Turn	Left Turn
Troost St at Felt St	Not Met	Westbound Met
Troost St at Charter Oaks Dr	Not Met	Westbound met
Troost St at Loma Vista Dr	Not Met	Not Met
Troost St at Katie Dr	Not Met	Not Met

As illustrated in Table 8, a westbound left-turn lane should be installed at the intersection of Troost St and Felt St and Troost St and Charter Oaks Drive.

7.6 INTERSECTION RECOMMENDATION

Troost St at Felt St: Felt St at Troost St is currently stop controlled, with Felt St as the stopped movement. Troost St has a posted speed of 25 mph, and as shown in Section 7.3, the Troost Street approach meets the applicable stopping sight distance and intersection distance standards. Troost St has the potential to have a substantial amount of traffic entering and exiting from Felt St. The volume of left turns from Troost St to Felt Dr warrants a separate left turn pocket at this intersection. Figure 16 illustrates the recommended improvements at this intersection.

Troost St at Charter Oaks Dr: Troost St at Charter Oaks Dr is currently stop controlled with Charter Oaks at the stopped movement. Troost St has a posted speed of 25 mph, and as shown in Section 7.3, the Troost Street approach meets the applicable stopping sight distance and intersection distance standards. However, the speed of Troost St approximately 325 feet west of the intersection is basic rule/55 mph. It is recommended that the speed of Troost be reduced to a maximum of 45 mph at least 500 feet west of Charter Oaks Drive. However, as the area within the UGB Expansion area develops it is recommended that the speed of Troost west of Harlan St be posted at 25 mph.

Troost St has the potential to have a substantial amount of traffic entering and exiting from Charter Oaks Dr. The volume of left turns from Troost St to Charter Oaks Dr. warrants a separate left turn pocket at this intersection. However, the right of way and roadway curvature creates an awkward alignment. One recommendation for improvements is to modify the intersection to a roundabout with a 60 foot inside diameter. The roundabout will provide for safe and efficient movements through the intersection and negate the curvature of Troost St at this location. Figure 17 illustrates roundabout option for this intersection.

Another option for improvements is to realign the intersection to the west out of the curvature. This intersection could be located approximately 150 feet west of the curvature. Figure 18 provides the potential layout.

Troost Sr at Loma Vista Dr: Troost St at Charter Oaks Dr is currently stop controlled with Loma Vista Dr at the stopped movement. Troost St has a posted speed of 25 mph, and as shown in Section 7.3, the Troost Street approach meets the applicable stopping sight distance and intersection distance standards. The right of way, curvature of Troost, St and widened approach for Loma Vista Dr, results in an unconventional alignment at this intersection. This intersection could be preplaced with a roundabout. The roundabout would improve the safety and operation of the intersection and eliminate the widened and awkward Loma Vista Dr approach. Figure 19 illustrates the roundabout improvement option at this intersection.

Another option for improvements is realign this intersection to create a standard T-type intersection. The recommendation includes a free northbound right turn movement and westbound movements. All other movements will stop controlled. Figure 20 provides an illustration of this improvement option.

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Figure 16: Troost St at Felt St Improvements

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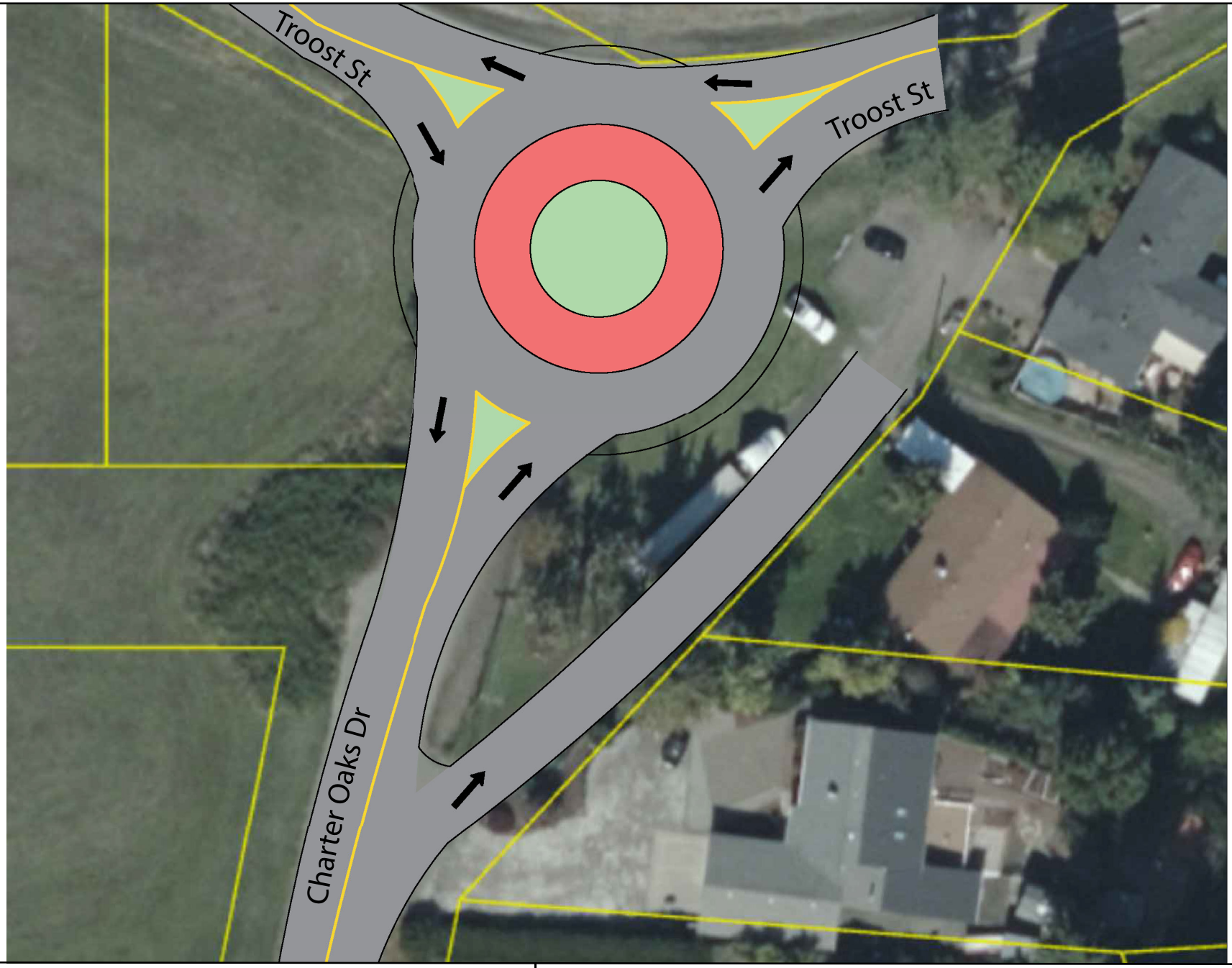

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Figure 17: Troost St at Charter Oaks Dr Improvements. (Option A)

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Figure 18: Troost St at Charter Oaks Dr Improvements. (Option B)

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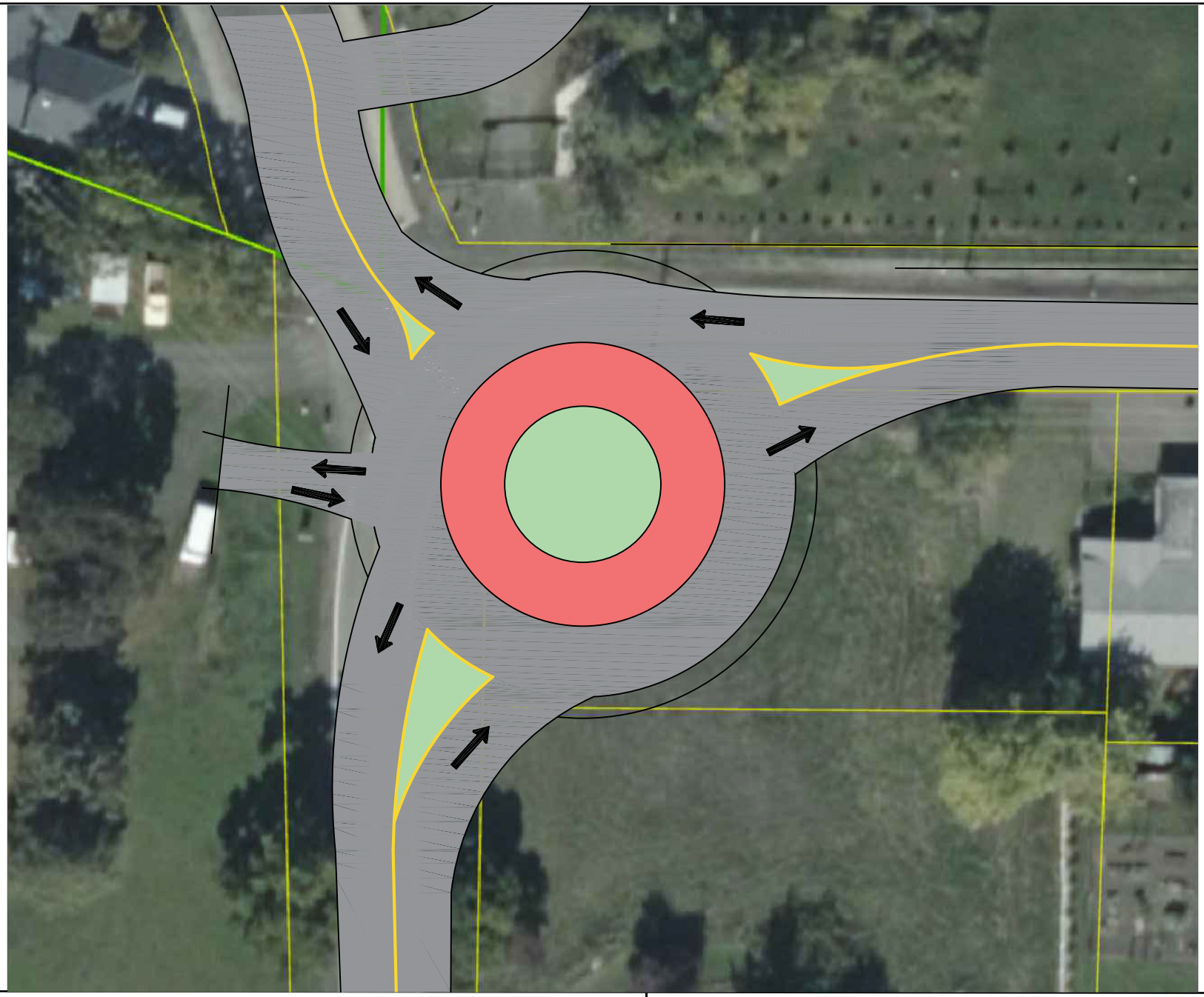

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Figure 19: Troost St Loma Vista Dr Improvements (Option A)

Roseburg UGB, Roseburg, OR

Figure 20 : Troost St at Loma Vista Dr Improvements. (Option B)

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7.7 TROOST STREET CROSS-SECTION

It is recommended that Troost Street be classified as a Major Collector, consistent with the classification of Troost St currently within the UGB. The Transportation System Plan provides a recommendation for at typical cross section for a Major Collector . Figure 19 provided the TSP Major Collector Cross Section.

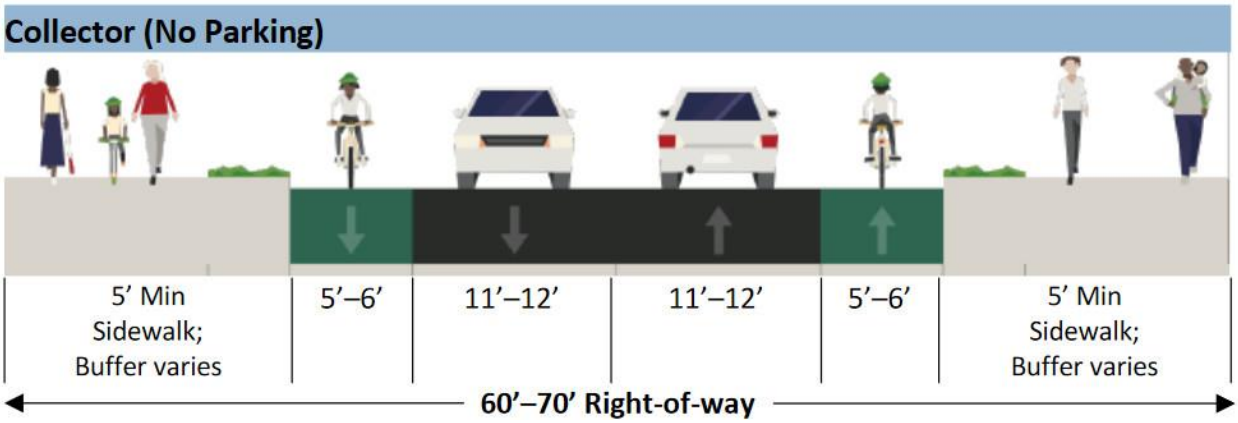

FIGURE 19– RECOMMENDED CROSS SECTION

On-Street Parking: On-Street parking is not recommended for Troost St.

Travel Lanes: One travel lane for each direction is recommended at a width of 11'-12' for this type of street. It is recommended that the lane width be minimized to help maintain the roadway speeds of 25 mph.

Bike Lanes: Six-foot bike lanes are recommended due to the higher volume of vehicles on Troost St

Sidewalks: 5-foot minimum sidewalks are recommended

Planter Strips: 5-foot minimum planter strips are recommended. Planter Strips help to reduce travel speeds and provide a buffer between pedestrians and vehicles making improving the comfort for walking.

Street Lighting: Street lighting is recommended on Troost St at the intersections with Felt St, Cloake St, Charter Oaks Dr, Loma Vista Dr, and Cedar Ridge Ct to provide adequate lighting for pedestrians crossing Troost St.

7.8 STREET ALIGNMENT AND CONNECTIVITY

The only current access to the UGB Expansion area is via Troost Street. The TSP has identified a future planned connection between Troost St and Garden Valley Blvd aligning with Cloake St and a future planned connection across South Umpqua River aligned with Harvard Ave. Both of these connections will provide necessary connectivity for this area.

There are limited options available for secondary access to this area. The lands to be added into the UGB do not provide additional route options. Therefore, the only route option within the UGB is the bridge and connection to Harvard Ave.

To create a second connection to the area, there will need to be connectivity outside of the UGB expansion area. There are a few options available. Figure 21 illustrates the options. The connections to Loma Vista will provide a secondary access that will be used as an alternate route but not a main route to the expansion area. The proposed connectivity in the TSP provides main route options to this area.

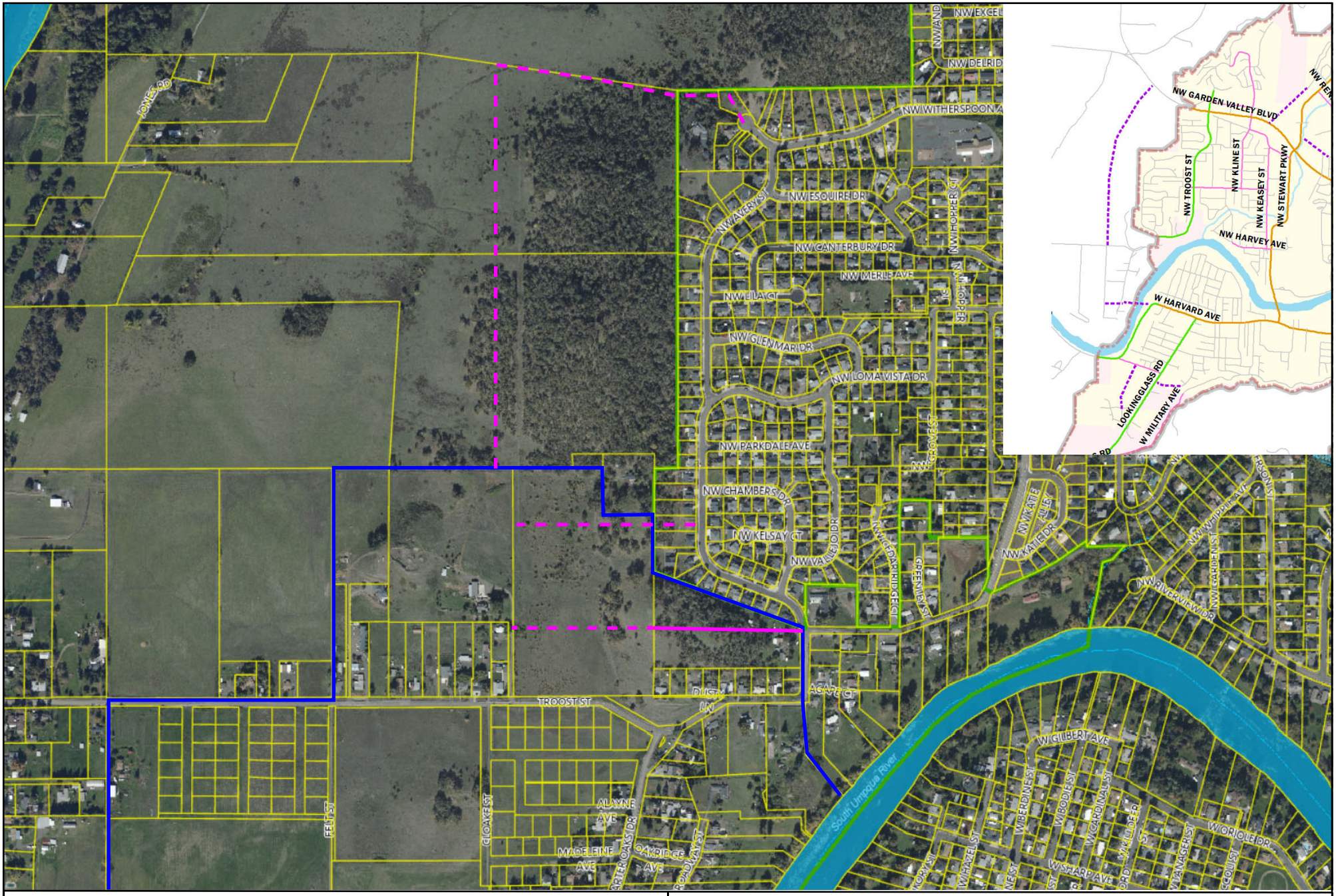

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Figure 21: Recommended Alignment/ Connectivity

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8.0 CONCLUSION

The analysis evaluates the adjacent roadway network and intersections with the added traffic from the proposed UGB swap area consistent with the requirements of TPR. The following findings are based on the information and analysis contained within this report.

FINDINGS

The analysis concludes the following findings:

- **Garden Valley Blvd at Stewart Parkway**
  The intersection at Garden Valley Blvd at Stewart Parkway is projected not meet the mobility standards for the year 2040 prior to and with the UGB expansion. The recommended improvements are to add eastbound and westbound dual left-turn lanes from Garden Valley Blvd to Stewart Parkway and dual southbound right-turn lanes from Stewart Parkway to Garden Valley Blvd consistent with the recommendations within the TSP

- **Stewart Ave at Harvard Ave**
  The intersection of Stewart Ave at Harvard Ave is projected to operate at LOS F for the year 2040 with full build out of the UGB expansion area. The standard for this intersection is to operate at LOS E or better. As this intersection does not meet the standard improvements will be necessary. The separate left turns at this intersection could be modified to protective-permissive phasing. With this minor change, the signal will operate at a LOS E, meeting the City's LOS standards.

- **Troost St at Calkins Ave**
  The intersection of Troost St at Calkins Ave is projected to operate at the upper threshold of standard at the end of the planning horizon with the UGB swap. The UGB swap has the potential to add over 200 pm peak hour trips in the westbound left turn. Therefore, it is recommended that a separate westbound left turn lane be provided. The westbound left turn will result in the intersection operating significantly better than the standard.

- **Garden Valley Blvd at I-5 Exit 125 NB Ramp**
  The intersection of Garden Valley Blvd at the I-5 Exit 125 NB ramps is projected to operate at a v/c 0.93 without the UGB swap and v/c 0.96 with the UGB swap. ODOT maintains a standard of 0.85 for ramp terminals. As per the Oregon Highway Plan, ODOT considers a change in v/c of 0.03 or less to not require mitigation. The UGB swap is shown to not have a significant effect on the intersection. Therefore, the UGB swap does not trigger mitigation for this intersection.

- **Garden Valley Blvd at I-5 Exit 125 SB Ramp**
  The intersection of Garden Valley Blvd at the I-5 Exit 125 SB ramp is projected to operate at a v/c 1.01 without the UGB swap and v/c 1.04 with the UGB swap. ODOT maintains a standard of 0.85 for ramp terminals. As per the Oregon Highway Plan, ODOT

considers a change in v/c of 0.03 or less to not require mitigation. The UGB swap does not trigger mitigation for this intersection.

APPENDIX A: TRAFFIC VOLUMES

ROSEBURG UGB EXCHANGE

SANDOW ENGINEERING

Intersection: 10: NW Troost St @ Charter Oaks Dr **City:** Roseburg, OR

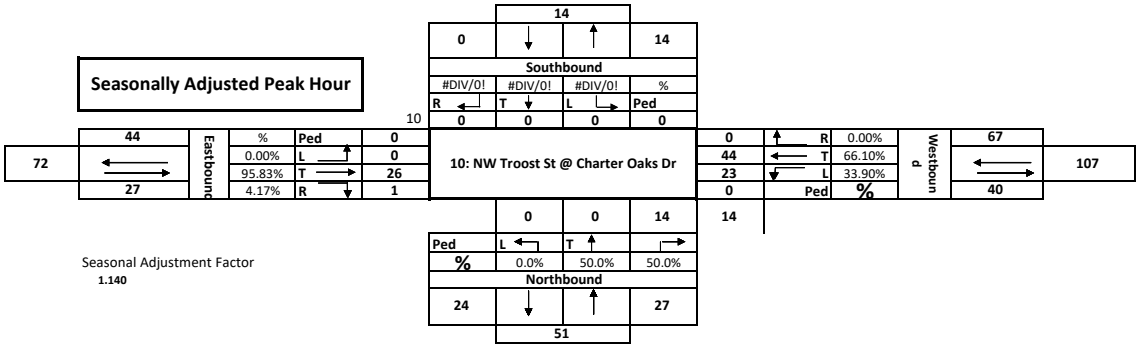
Counter: Sandow Engineering **Date:** Saturday, January 0, 1900

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
16:00	16:15	0	0	0	0	0	4	6	10	1	0	0	1	0	9	0	9	20		0	0	0	0
16:15	16:30	0	0	0	0	0	10	1	11	2	0	0	2	1	10	0	11	24		0	0	0	0
16:30	16:45	0	0	0	0	0	10	7	17	4	0	0	4	0	3	0	3	24		0	0	0	0
16:45	17:00	0	0	0	0	0	6	8	14	1	0	0	1	0	8	0	8	23	91	0	0	0	0
17:00	17:15	0	0	0	0	0	15	1	16	6	0	0	6	0	6	0	6	28	99	0	0	0	0
17:15	17:30	0	0	0	0	0	8	4	12	1	0	0	1	1	6	0	7	20	95	0	0	0	0
17:30	17:45	0	0	0	0	0	7	1	8	1	0	0	1	0	3	0	3	12	83	0	0	0	0
17:45	18:00	0	0	0	0	0	7	6	13	0	0	0	0	0	5	0	5	18	78	0	0	0	0
18:00	18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
18:15	18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
Count Period Total		**0**	**0**	**0**		**0**	**67**	**34**		**16**	**0**	**0**		**2**	**50**	**0**		**169**		**0**	**0**	**0**	0

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**0**	**0**	**0**	**0**	**0**	**39**	**20**	**59**	**12**	**0**	**0**	**12**	**1**	**23**	**0**	**24**	**95**		**0**	**0**	**0**	**0**
PHF	0.00	0.00	0.00	0.00	0.00	0.65	0.63	0.87	0.50	0.00	0.00	0.50	0.25	0.72	0.00	0.75	0.85					
Trucks	0	0	0		0	2	0		1	0	0		0	0	0							
% Trucks	0%	0%	0%		0%	5%	0%		8%	0%	0%		0%	0%	0%							


Seasonally Adjusted Peak Hour
14
0
14
Southbound
#DIV/0!
#DIV/0!
#DIV/0!
%
R
T
L
Ped
10
0
0
0
0
44
Eastbound
%
Ped
0
72
0.00%
L
0
95.83%
T
26
27
4.17%
R
1
10: NW Troost St @ Charter Oaks Dr
0
R
0.00%
44
T
66.10%
23
L
33.90%
0
Ped
%
Westboun
d
67
107
40
0
0
14
14
Ped
L
T
%
0.0%
50.0%
50.0%
Northbound
24
27
51
Seasonal Adjustment Factor
1.140

10: NW Troost St @ Charter Oaks Dr

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			
4:00 PM	0							3	6			1						9			19	
4:15 PM	0							10	1			2					1	10			24	
4:30 PM	0							9	7			3						3			22	
4:45 PM	0							6	8			1						8			23	88
5:00 PM	0							15	1			6						6			28	97
5:15 PM	0							7	4			1					1	6			19	92
5:30 PM	0							7	1			1						3			12	82
5:45 PM	0							7	6			0						5			18	77
6:00 PM	0																				0	49
6:15 PM	0																				0	30
Total	0	0	0	0		0	0	64	34		0	15	0	0		0	2	50	0			
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**28**	**22**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**1**	**30**	**0**	**0**	**88**	

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
4:00 PM						1											1	
4:15 PM																	0	
4:30 PM						1			1								2	
4:45 PM																	0	3
5:00 PM																	0	2
5:15 PM						1											1	3
5:30 PM																	0	1
5:45 PM																	0	1
6:00 PM																	0	1
6:15 PM																	0	0
Total	0	0	0		0	3	0		1	0	0		0	0	0			
Peak Hour	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**3**

Bikes

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

Intersection: 11: NW Troost St @ Loma Vista Dr **City:** Roseburg, OR

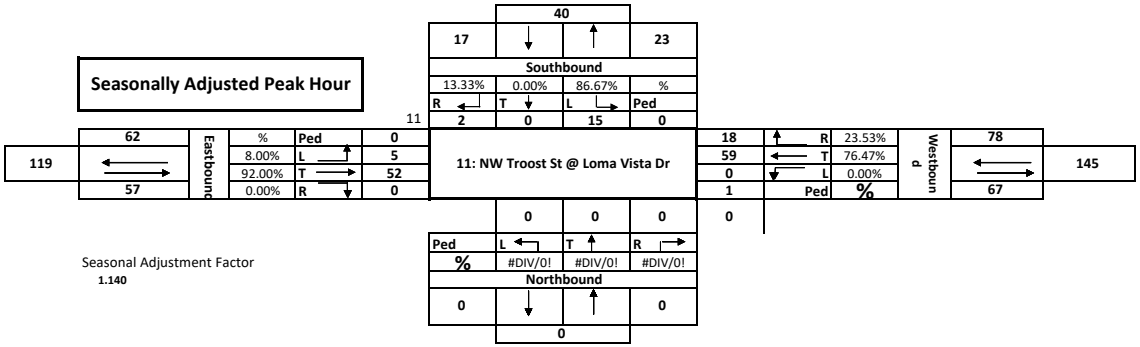
Counter: Sandow Engineering **Date:** Saturday, January 0, 1900

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
16:00	16:15	2	0	3	5	6	12	0	18	0	0	0	0	0	6	1	7	30		0	0	0	0
16:15	16:30	0	0	2	2	5	17	0	22	0	0	0	0	0	8	1	9	33		0	0	0	0
16:30	16:45	0	0	1	1	4	10	0	14	0	0	0	0	0	13	1	14	29		0	0	0	0
16:45	17:00	2	0	2	4	4	9	0	13	0	0	0	0	0	12	2	14	31	123	0	1	0	0
17:00	17:15	0	0	5	5	4	17	0	21	0	0	0	0	0	11	0	11	37	130	0	0	0	0
17:15	17:30	0	0	5	5	4	16	0	20	0	0	0	0	0	10	1	11	36	133	0	0	0	0
17:30	17:45	0	0	1	1	5	11	0	16	0	0	0	0	0	9	0	9	26	130	0	0	0	0
17:45	18:00	0	0	2	2	5	10	0	15	0	0	0	0	0	9	0	9	26	125	1	0	0	0
18:00	18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
18:15	18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
Count Period Total		**4**	**0**	**21**		**37**	**102**	**0**		**0**	**0**	**0**		**0**	**78**	**6**		**248**		**1**	**1**	**0**	0

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**2**	**0**	**13**	**15**	**16**	**52**	**0**	**68**	**0**	**0**	**0**	**0**	**0**	**46**	**4**	**50**	**133**		**0**	**1**	**0**	**0**
PHF	0.25	0.00	0.65	0.75	1.00	0.76	0.00	0.81	0.00	0.00	0.00	0.00	0.00	0.88	0.50	0.89	0.90					
Trucks	0	0	0		1	3	0		0	0	0		0	0	0							
% Trucks	0%	0%	0%		6%	6%	0%		0%	0%	0%		0%	0%	0%							


Seasonally Adjusted Peak Hour
40
17
23
Southbound
13.33%
0.00%
86.67%
%
R
T
L
Ped
11
2
0
15
0
62
Eastbound
%
Ped
0
119
8.00%
L
5
92.00%
T
52
57
0.00%
R
0
11: NW Troost St @ Loma Vista Dr
18
R
23.53%
Westbound
78
59
T
76.47%
145
0
L
0.00%
1
Ped
%
67
0
0
0
0
Ped
L
T
R
%
#DIV/0!
#DIV/0!
#DIV/0!
Northbound
0
0
0
Seasonal Adjustment Factor
1.140

11: NW Troost St @ Loma Vista Dr

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			
4:00 PM	0	2		3			6	12										6	1		30	
4:15 PM	0			2			5	15										8	1		31	
4:30 PM	0			1			4	10										13	1		29	
4:45 PM	0	2		2			3	8										12	2		29	119
5:00 PM	0			5			4	17										11			37	126
5:15 PM	0			4			4	15										10	1		34	129
5:30 PM	0			1			5	11										9			26	126
5:45 PM	1			2			5	10										9			26	123
6:00 PM	0																				0	86
6:15 PM	0																				0	52
Total	1	4	0	20		0	36	98	0		0	0	0	0		0	0	78	6			
Peak Hour	**0**	**4**	**0**	**8**	**0**	**0**	**18**	**45**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**39**	**5**	**0**	**119**	

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
4:00 PM																	0	
4:15 PM						2											2	
4:30 PM																	0	
4:45 PM					1	1											2	4
5:00 PM																	0	4
5:15 PM			1			1											2	4
5:30 PM																	0	4
5:45 PM																	0	2
6:00 PM																	0	2
6:15 PM																	0	0
Total	0	0	1		1	4	0		0	0	0		0	0	0			
Peak Hour	**0**	**0**	**0**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**4**

Bikes

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

Intersection: 12: NW Keasey St @ NW Harvey Ave **City:** Roseburg, OR

Counter: Sandow Engineering **Date:** Saturday, January 0, 1900

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
16:00	16:15	0	0	22	22	23	23	0	46	0	0	0	0	0	17	0	17	85		0	0	0	0
16:15	16:30	2	0	30	32	31	16	0	47	0	0	0	0	0	17	0	17	96		0	0	0	0
16:30	16:45	2	0	27	29	48	16	0	64	0	0	0	0	0	16	0	16	109		0	0	0	0
16:45	17:00	0	0	31	31	33	15	0	48	0	0	0	0	0	11	0	11	90	380	0	0	0	0
17:00	17:15	2	0	32	34	43	22	0	65	0	0	0	0	0	14	0	14	113	408	0	2	0	0
17:15	17:30	2	0	27	29	43	23	0	66	0	0	0	0	0	14	1	15	110	422	0	0	0	0
17:30	17:45	1	0	19	20	22	14	0	36	0	0	0	0	0	14	1	15	71	384	0	0	0	0
17:45	18:00	1	0	27	28	38	18	0	56	0	0	0	0	0	21	3	24	108	402	0	0	0	0
18:00	18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
18:15	18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
Count Period Total		**10**	**0**	**215**		**281**	**147**	**0**		**0**	**0**	**0**		**0**	**124**	**5**		**782**		**0**	**2**	**0**	0

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**6**	**0**	**117**	**123**	**167**	**76**	**0**	**243**	**0**	**0**	**0**	**0**	**0**	**55**	**1**	**56**	**422**		**0**	**2**	**0**	**0**
PHF	0.75	0.00	0.91	0.90	0.87	0.83	0.00	0.92	0.00	0.00	0.00	0.00	0.00	0.86	0.25	0.88	0.93					
Trucks	0	0	2		3	1	0		0	0	0		0	1	0							
% Trucks	0%	0%	2%		2%	1%	0%		0%	0%	0%		0%	2%	0%							

Seasonally Adjusted Peak Hour

12: NW Keasey St @ NW Harvey Ave

Seasonal Adjustment Factor
1.140

Southbound

	332		
140	↓	↑	192
4.88%	0.00%	95.12%	%
R	T	L	Ped
7	0	133	0

12

Eastbound

93	%	Ped	0
157	1.79%	L	1
	98.21%	T	63
64	0.00%	R	0

Westbound

190	R	68.72%	277	473
87	T	31.28%		
0	L	0.00%		
2	Ped	%	196	

Northbound

	0	0	0
Ped	L	T	R
%	#DIV/0!	#DIV/0!	#DIV/0!
0	↓	↑	0
	0		

0

12: NW Keasey St @ NW Harvey 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			
4:00 PM	0	0		21			22	23										16			82	
4:15 PM	0	2		30			29	16										17			94	
4:30 PM	0	2		26			48	15										16			107	
4:45 PM	0	0		31			33	15										11			90	373
5:00 PM	0	2		32			43	22										12			111	402
5:15 PM	0	2		27			43	23										13	1		109	417
5:30 PM	0	1		17			22	14										14	1		69	379
5:45 PM	0	1		27			38	18										21	3		108	397
6:00 PM	0																				0	286
6:15 PM	0																				0	177
Total	0	10	0	211		0	278	146	0		0	0	0	0		0	0	120	5			
Peak Hour	**0**	**4**	**0**	**108**	**0**	**0**	**132**	**69**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**60**	**0**	**0**	**373**	

Trucks

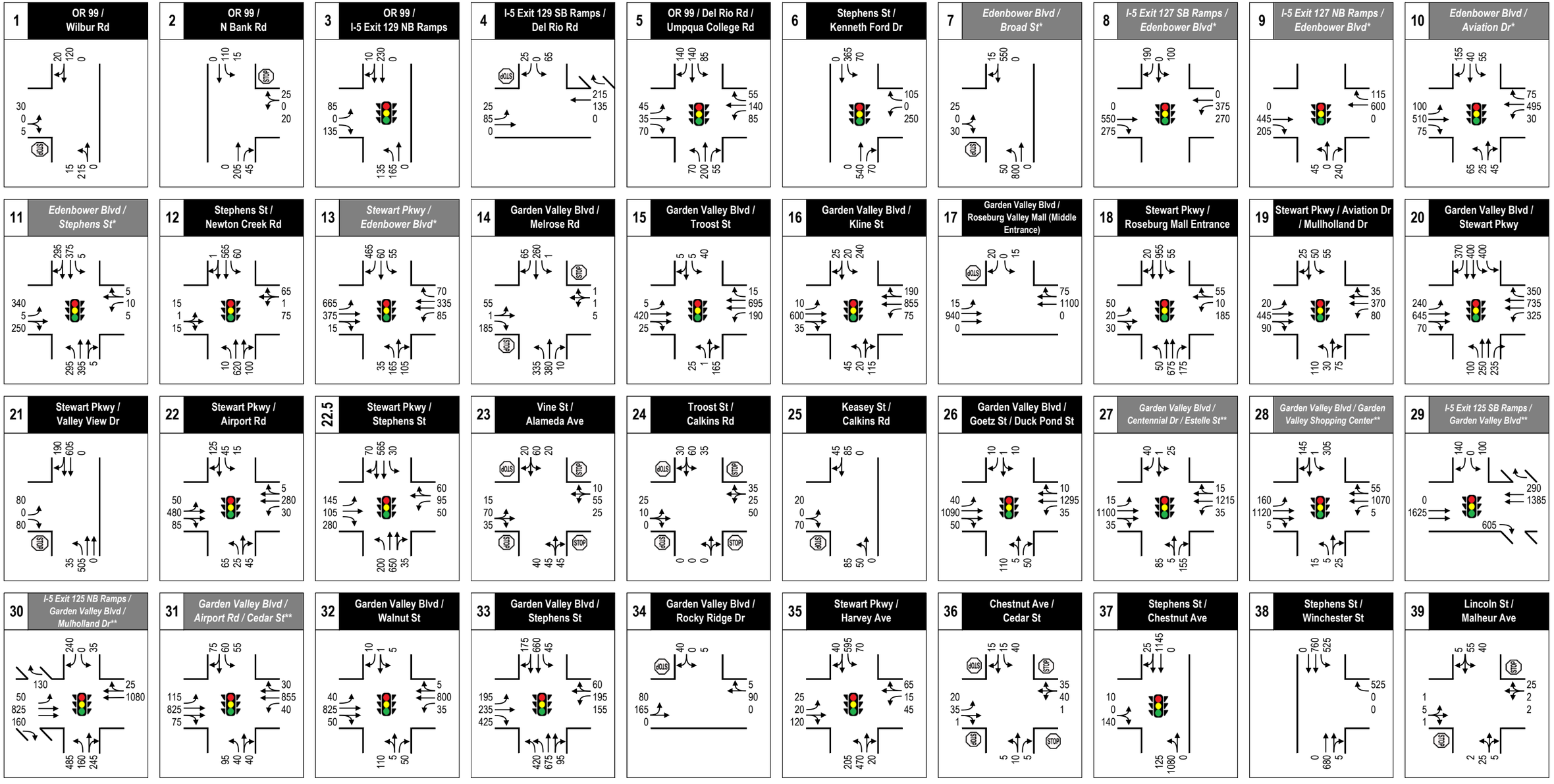
Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
4:00 PM			1		1									1			3	
4:15 PM					2												2	
4:30 PM			1			1											2	
4:45 PM																	0	7
5:00 PM														2			2	6
5:15 PM														1			1	5
5:30 PM			2														2	5
5:45 PM																	0	5
6:00 PM																	0	3
6:15 PM																	0	2
Total	0	0	4		3	1	0		0	0	0		0	4	0			
Peak Hour	**0**	**0**	**2**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**7**	**7**

Bikes

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



Legend

1 *Intersection* *, **

Intersection volumes developed from previous study or plan

* IAMP 127 (December 2014)

** IAMPs 124/125 (October 2013)

Signalized intersection

STOP controlled intersection

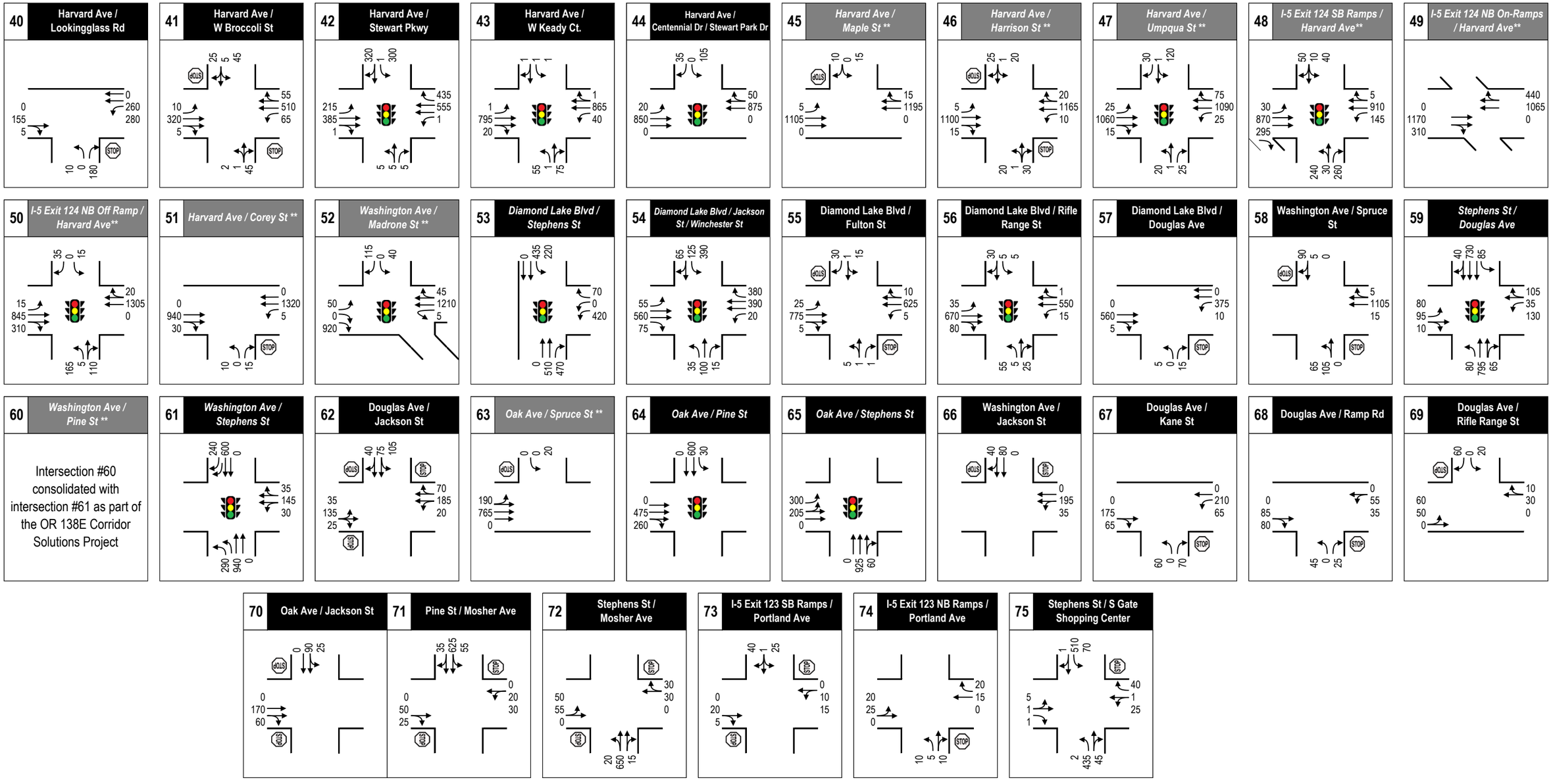
Lane configuration

Roseburg TSP

Figure 1a

Existing (2016) PM Peak Hour Turning Movement Volumes

N



Legend

1 *Intersection* *, **

* IAMP 127 (December 2014)

** IAMPs 124/125 (October 2013)

Intersection volumes developed from previous study or plan

Signalized intersection

STOP controlled intersection

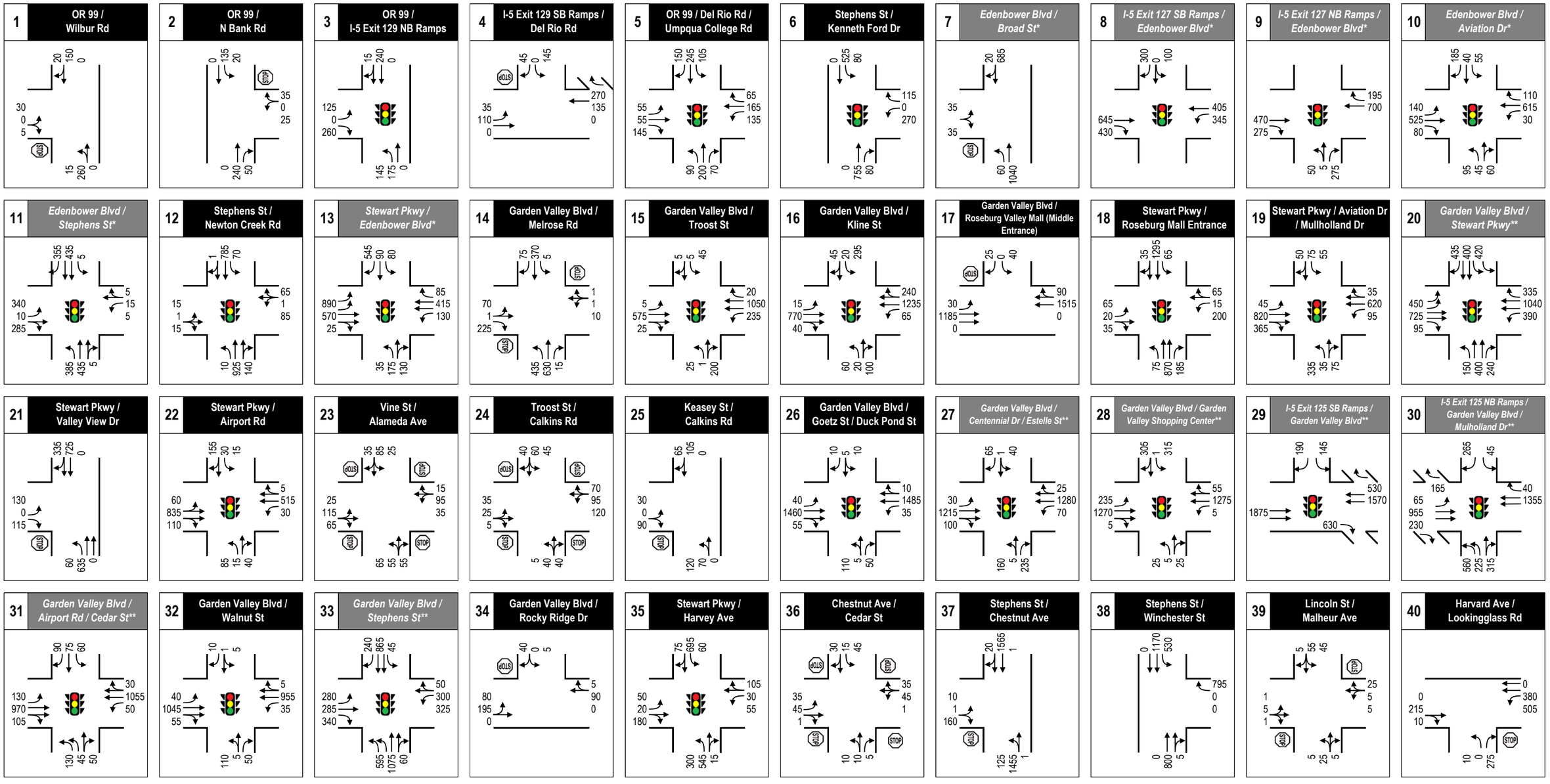
Lane configuration

Roseburg TSP

Figure 1b

Existing (2016) PM Peak Hour Turning Movement Volumes

N



Legend

1 *Intersection* *, **	Intersection volumes developed from previous study or plan
*	IAMP 127 (December 2014)
**	IAMPs 124/125 (October 2013)

Signalized intersection

STOP controlled intersection

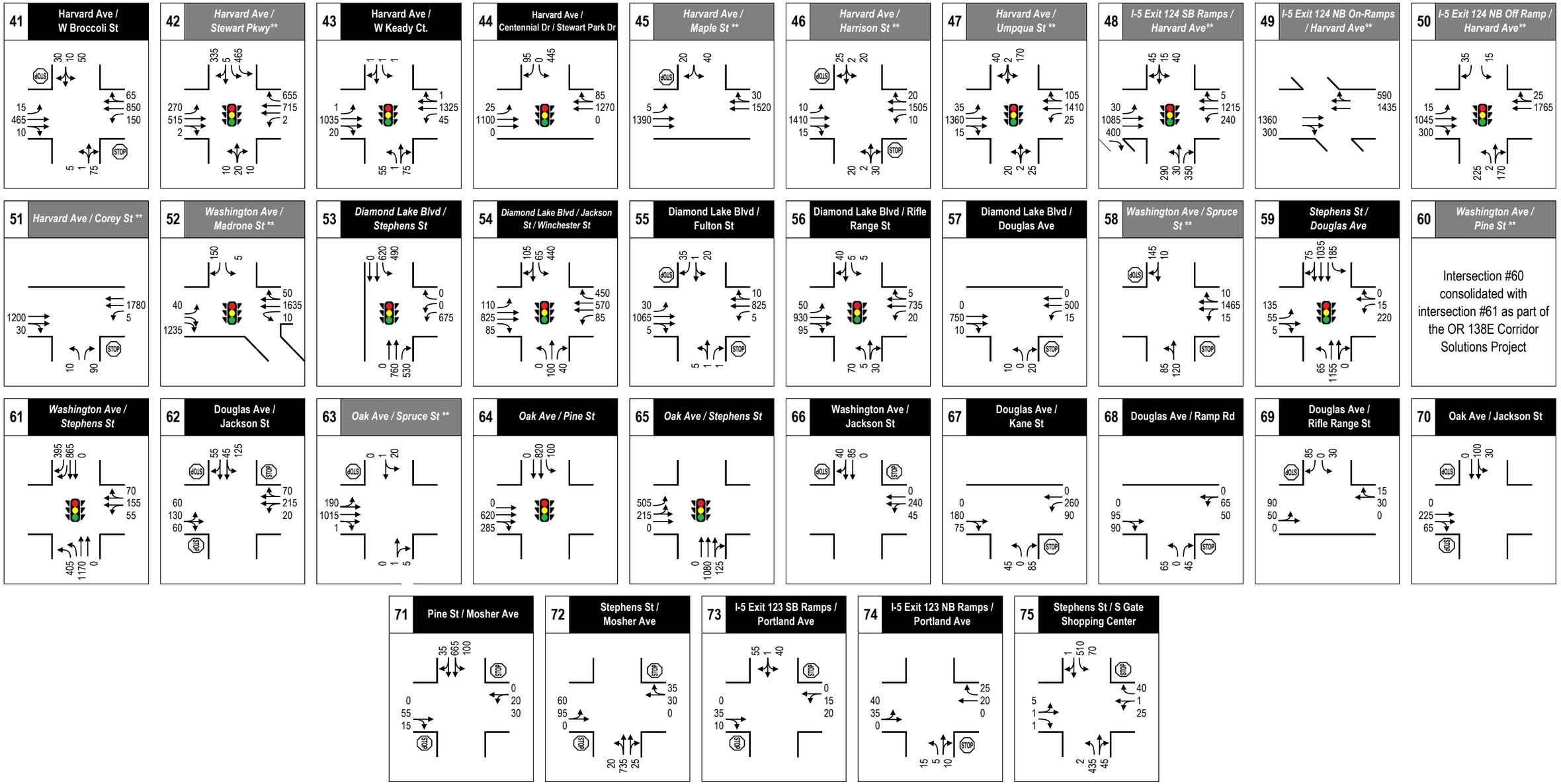
Lane configuration

Roseburg TSP

Figure 1a

Future (2040) Baseline PM Peak Hour Turning Movement Volumes

N



Legend

1 *Intersection* *, **

* IAMP 127 (December 2014)

** IAMPs 124/125 (October 2013)

Intersection volumes developed from previous study or plan

Signalized intersection

STOP controlled intersection

Lane configuration

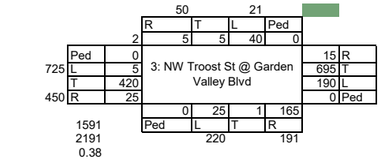
Roseburg TSP

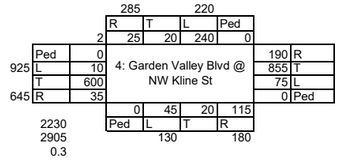
Figure 1b

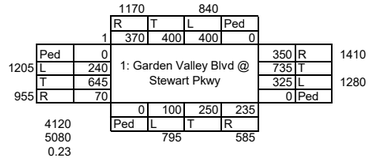
Future (2040) Baseline PM Peak Hour Turning Movement Volumes

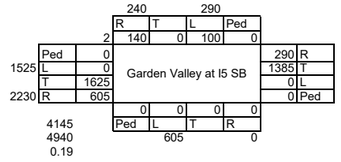
N

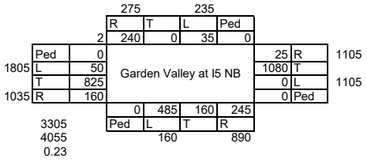
Existing 2016 PM Volumes

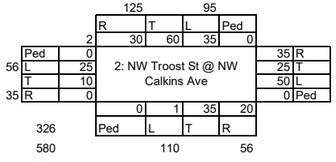


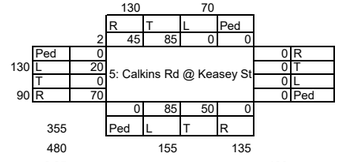


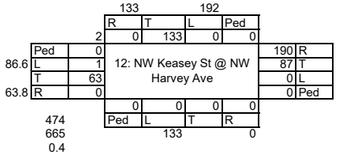


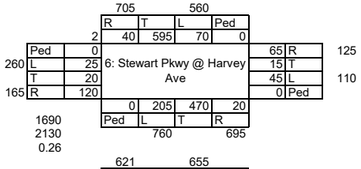


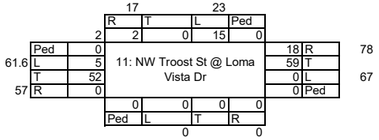


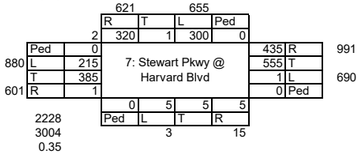


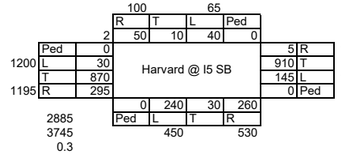


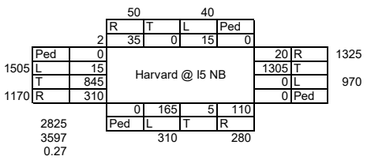


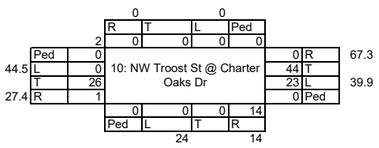








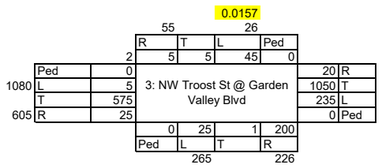


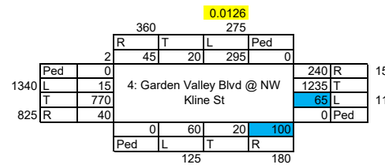


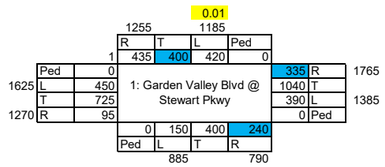
Adjustment

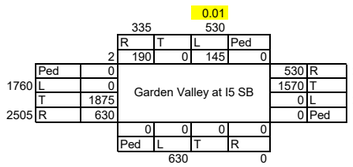
Base Year	2016	2016
Target Year	2040	2040
Years of Growth	24	24
Growth Rate Per Year	0.02	
Growth Factor	1.48	

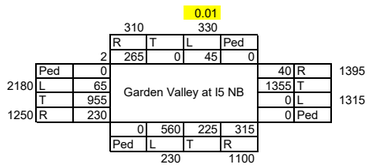
2040 PM Background Volumes

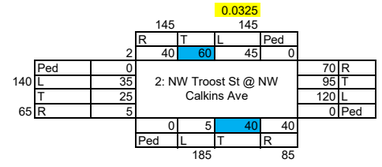


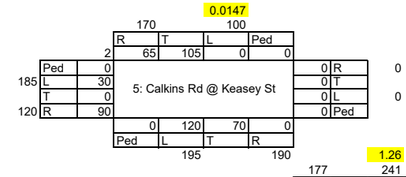


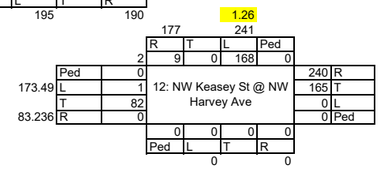


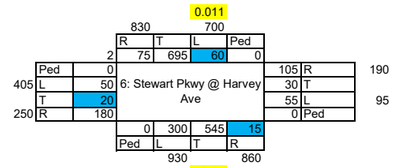


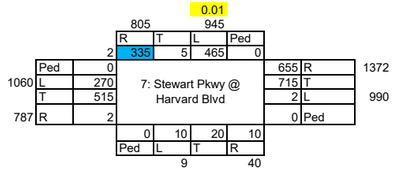


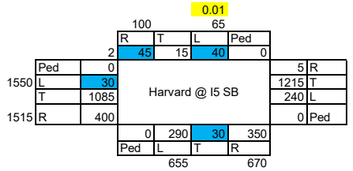


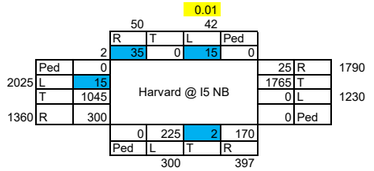


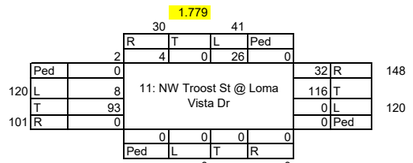


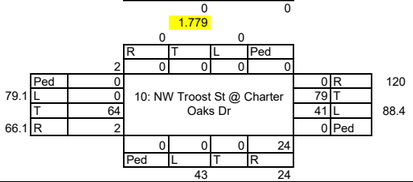






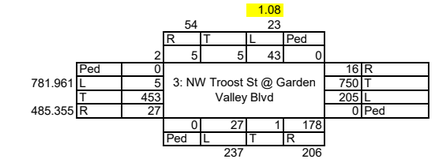


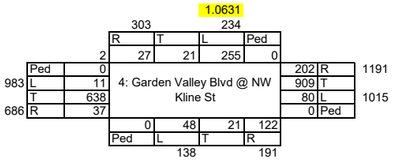


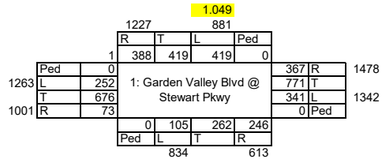


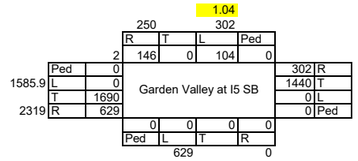
2021 PM Volumes

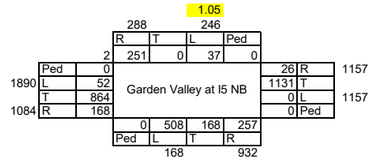
5

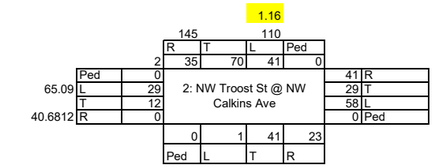


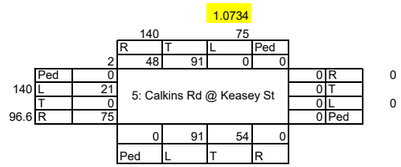


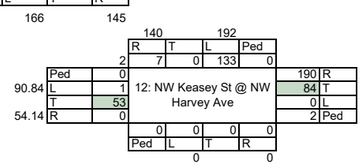


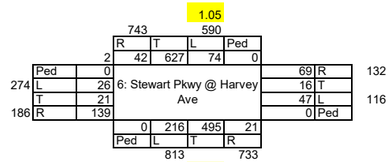


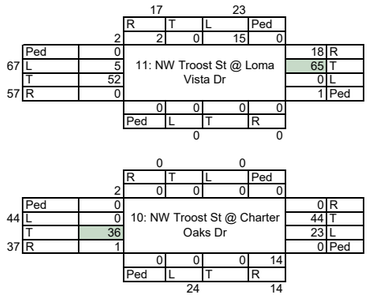


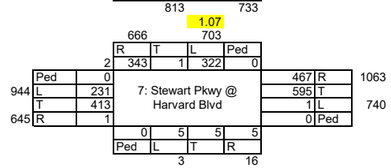


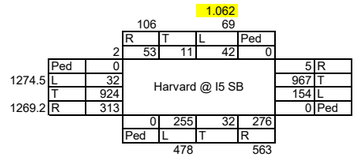


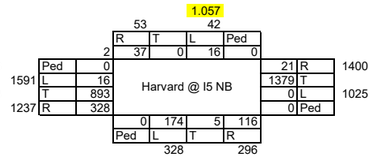












APPENDIX B: TSP TECH MEMO #4 VOLUMES

ROSEBURG UGB EXCHANGE

SANDOW ENGINEERING

Appendix C

Vehicular Volume Development and Simulation Worksheets

Existing Year 2016
Project Forecast Year 2040
Model Base Year 2010
Model Forecast Year 2035

Sidestreets not included in the regional model
Greater than 10% difference between difference and growth methods
Numbers adjusted from model to work with spreadsheet (0 growth = 1)
Previous study intersection

					Model Assignment																	
				Existing 30HV	Baseline Model	Future Ref Model	Interpolated Model	Forecasted Model	2010-2035 Model Comparison		2016-2040 Model Comparison		Post Processed Volumes Future 2040 No Build Year				Forecast Used			
Road	From	To	Direction	2016	2010	2035	2016	2040	Total Growth	Annual Growth	Total Growth	Volume Difference	Volume Difference	Volume Growth	Absolute Difference	Average		Method Used	Comments	Additional Comments
Edenbower Blvd	S of Stewart	Stewart	NB	305	400	459	414	471	14.8%	0.6%	13.7%	57	362	347	4%	354	**354**	Average of Difference and Growth		
	Stewart	S of Stewart	SB	160	127	208	146	224	63.8%	2.6%	53.1%	78	238	245	3%	241	**241**	Average of Difference and Growth		
	Stewart	N of Stewart	NB	900	1245	1594	1329	1664	28.0%	1.1%	25.2%	335	1235	1127	9%	1181	**1235**	Difference Method	Absolute difference >10% --> Used difference only	
	N of Stewart	Stewart	SB	580	638	801	677	834	25.5%	1.0%	23.1%	156	736	714	3%	725	**736**	Difference Method	Absolute difference >10% --> Used difference only	
	S of Broad	Broad	NB	850	1150	1484	1230	1551	29.0%	1.2%	26.1%	321	1171	1072	9%	1121	**1171**	Difference Method	Absolute difference >10% --> Used difference only	
	Broad	S of Broad	SB	550	617	760	655	813	26.4%	1.1%	23.8%	158	736	718	2%	727	**736**	Difference Method	Absolute difference >10% --> Used difference only	
	Broad	N of Broad	NB	855	1112	1441	1191	1507	29.6%	1.2%	26.5%	316	1141	1044	9%	1092	**1141**	Difference Method	Absolute difference >10% --> Used difference only	
	N of Broad	O/N	SB	565	615	780	655	813	26.6%	1.1%	24.2%	158	723	702	3%	713	**723**	Difference Method	Absolute difference >10% --> Used difference only	
	W of Exit 127 SB Ramps	Exit 127 SB Ramps	EB	855	1112	1441	1191	1507	29.6%	1.2%	26.5%	316	1141	1044	9%	1092	**1141**	Difference Method	Absolute difference >10% --> Used difference only	
	Exit 127 SB Ramps	W of Exit 127 SB Ra	WB	565	615	780	655	813	26.6%	1.1%	24.2%	158	723	702	3%	713	**723**	Difference Method	Absolute difference >10% --> Used difference only	
	Exit 127 SB Ramps	E of Exit 127 SB Ran	EB	650	1079	1213	1111	1240	12.4%	0.5%	11.6%	129	779	725	7%	752	**779**	Difference Method	Absolute difference >10% --> Used difference only	
	E of Exit 127 SB Ramps	Exit 127 SB Ramps	WB	645	479	581	503	601	21.3%	0.9%	19.4%	98	743	770	4%	757	**743**	Difference Method	Absolute difference >10% --> Used difference only	
	W of Exit 127 NB Ramps	Exit 127 NB Ramps	EB	650	1079	1213	1111	1240	12.4%	0.5%	11.6%	129	779	725	7%	752	**779**	Difference Method	Absolute difference >10% --> Used difference only	
	Exit 127 NB Ramps	W of Exit 127 NB Rar	WB	645	479	581	503	601	21.3%	0.9%	19.4%	98	743	770	4%	757	**743**	Difference Method	Absolute difference >10% --> Used difference only	
	Exit 127 NB Ramps	E of Exit 127 NB Ran	EB	685	801	875	819	890	9.2%	0.4%	8.7%	71	756	744	2%	750	**756**	Difference Method	Absolute difference >10% --> Used difference only	
	E of Exit 127 NB Ramps	Exit 127 NB Ramps	WB	715	503	670	543	703	33.2%	1.3%	29.5%	160	875	926	6%	901	**875**	Difference Method	To be consistent with method used for opposing direction	
	W of Aviation	Aviation	EB	685	801	875	819	890	9.2%	0.4%	8.7%	71	756	744	2%	750	**756**	Difference Method	Absolute difference >10% --> Used difference only	
	Aviation	W of Aviation	WB	715	503	670	543	703	33.2%	1.3%	29.5%	160	875	926	6%	901	**875**	Difference Method	To be consistent with method used for opposing direction	
	Aviation	E of Aviation	EB	610	776	820	787	829	5.7%	0.2%	5.4%	42	652	643	1%	647	**652**	Difference Method	Absolute difference >10% --> Used difference only	
	E of Aviation	Aviation	WB	600	493	648	530	679	31.4%	1.3%	28.1%	149	749	768	3%	759	**749**	Difference Method	Absolute difference >10% --> Used difference only	
	W of Stephens	Stephens	EB	595	776	820	787	829	5.7%	0.2%	5.4%	42	637	627	2%	632	**637**	Difference Method	Absolute difference >10% --> Used difference only	
	Stephens	W of Stephens	WB	600	493	648	530	679	31.4%	1.3%	28.1%	149	749	768	3%	759	**749**	Difference Method	Absolute difference >10% --> Used difference only	
	Stephens	E of Stephens	EB	15	1	3	1	3	200.0%	8.0%	129.7%	2	17	34	68%	26	**17**	Difference Method	Absolute difference >10% --> Used difference only	
	E of Stephens	Stephens	WB	20	1	3	1	3	200.0%	8.0%	129.7%	2	22	46	71%	34	**22**	Difference Method	Absolute difference >10% --> Used difference only	
Stewart Pkwy	N of Harvard	Harvard	SB	745	743	864	772	888	16.3%	0.7%	15.0%	116	861	857	0%	859	**859**	Average of Difference and Growth		
	Harvard	N of Harvard	NB	795	559	682	589	707	22.0%	0.9%	20.1%	118	913	955	4%	934	**934**	Average of Difference and Growth		
	S of Harvard	Harvard	NB	40	1	1	1	1	0.0%	0.0%	0.0%	0	40	40	0%	40	**40**	Average of Difference and Growth		
	Harvard	S of Harvard	SB	7	1	1	1	1	0.0%	0.0%	0.0%	0	7	7	0%	7	**7**	Average of Difference and Growth		
	S of Harvey	Harvey	NB	695	378	547	419	581	44.7%	1.8%	38.8%	162	857	964	12%	911	**857**	Difference Method		
	Harvey	S of Harvey	SB	760	481	660	524	696	37.2%	1.5%	32.8%	172	932	1009	8%	971	**932**	Difference Method	To be consistent with method used for opposing direction	
	Harvey	N of Harvey	NB	560	552	699	587	728	26.6%	1.1%	24.0%	141	701	695	1%	698	**698**	Average of Difference and Growth		
	N of Harvey	Harvey	SB	705	657	797	691	825	21.3%	0.9%	19.5%	134	839	842	0%	841	**841**	Average of Difference and Growth		
	S of Valley View	Valley View	NB	540	657	699	667	707	6.4%	0.3%	6.0%	40	580	573	1%	576	**576**	Average of Difference and Growth		
	Valley View	S of Valley View	SB	685	552	797	611	846	44.4%	1.8%	38.5%	235	920	949	3%	934	**934**	Average of Difference and Growth		
	Valley View	Garden Valley	NB	585	672	878	721	919	30.7%	1.2%	27.4%	198	783	745	5%	764	**764**	Average of Difference and Growth		
	Garden Valley	Valley View	SB	795	884	1188	957	1249	34.4%	1.4%	30.5%	292	1087	1037	5%	1062	**1062**	Average of Difference and Growth		
180	Garden Valley	Roseburg Mall	NB	900	619	836	671	879	35.1%	1.4%	31.0%	208	1108	1179	6%	1144	**1144**	Average of Difference and Growth		
	Roseburg Mall	Garden Valley	SB	1170	1005	1370	1093	1443	36.3%	1.5%	32.1%	350	1520	1545	2%	1533	**1533**	Average of Difference and Growth		
	Roseburg Mall	N of Roseburg Mall	NB	780	644	859	696	902	33.4%	1.3%	29.7%	206	986	1011	3%	999	**999**	Average of Difference and Growth		
	N of Roseburg Mall	Roseburg Mall	SB	1030	872	1252	963	1328	43.6%	1.7%	37.9%	365	1395	1420	2%	1407	**1407**	Average of Difference and Growth		
	W of Edenbower	Edenbower	EB	1055	1555	2055	1675	2155	32.2%	1.3%	28.7%	480	1535	1357	12%	1446	**1535**	Difference Method	Absolute difference >10% --> Used difference only	
	Edenbower	W of Edenbower	WB	835	769	952	813	989	23.8%	1.0%	21.6%	176	1011	1015	0%	1013	**1011**	Difference Method	Absolute difference >10% --> Used difference only	
	Edenbower	E of Edenbower	EB	535	862	1135	928	1190	31.7%	1.3%	28.3%	262	797	686	15%	742	**797**	Difference Method	Absolute difference >10% --> Used difference only	
	E of Edenbower	Edenbower	WB	490	410	574	449	607	40.0%	1.6%	35.0%	157	647	662	2%	655	**647**	Difference Method	Absolute difference >10% --> Used difference only	
	W of Aviation	Aviation	EB	555	624	1331	794	1472	113.3%	4.5%	85.5%	679	1234	1030	18%	1132	**1234**	Difference Method	Absolute difference >10% --> Used difference only	
	Aviation	W of Aviation	WB	505	580	1102	705	1206	90.0%	3.6%	71.1%	501	1006	864	15%	935	**1006**	Difference Method	Absolute difference >10% --> Used difference only	
	Aviation	E of Aviation	EB	575	523	907	615	984	73.4%	2.9%	59.9%	369	944	920	3%	932	**932**	Average of Difference and Growth		
	E of Aviation	Aviation	WB	485	309	572	372	625	85.1%	3.4%	67.8%	252	737	814	10%	776	**737**	Difference Method		
	W of Airport	Airport	EB	615	570	984	669	1067	72.6%	2.9%	59.4%	397	1012	980	3%	996	**996**	Average of Difference and Growth		
	Airport	W of Airport	WB	470	342	617	408	672	80.4%	3.2%	64.7%	264	734	774	5%	754	**754**	Average of Difference and Growth		
	Airport	Stephens	EB	540	551	942	645	1020	71.0%	2.8%	58.2%	375	915	854	7%	885	**885**	Average of Difference and Growth		
	Stephens	Airport	WB	315	334	589	395	640	76.3%	3.1%	61.9%	245	560	510	9%	535	**535**	Average of Difference and Growth		
Diamond Lake Blvd	Stephens	Jackson	EB	690	413	726	488	789	75.8%	3.0%	61.6%	300	990	1115	12%	1053	**990**	Difference Method	Absolute difference >10% --> Used difference only	TPAU STUDIED THIS INTERSECTION
	Jackson	Stephens	WB	490	424	517	446	536	21.9%	0.9%	20.0%	89	579	588	1%	584	**579**	Difference Method	To be consistent with method used for opposing direction	TPAU STUDIED THIS INTERSECTION
	Jackson	E of Jackson	EB	965	842	1198	927	1269	42.3%	1.7%	36.8%	342	1307	1321	1%	1314	**1314**	Average of Difference and Growth		TPAU STUDIED THIS INTERSECTION
	E of Jackson	Jackson	WB	790	729	989	791	1041	35.7%	1.4%	31.5%	250	1040	1039	0%	1039	**1039**	Average of Difference and Growth		TPAU STUDIED THIS INTERSECTION
	W of Fulton	Fulton	EB	805	741	1043	813	1103	40.8%	1.6%	35.6%	290	1095	1092	0%	1093	**1093**	Average of Difference and Growth		
	Fulton	W of Fulton	WB	660	583	796	634	839	36.5%	1.5%	32.2%	204	864	873	1%	869	**869**	Average of Difference and Growth		
	Fulton	E of Fulton	EB	791	757	1070	832	1133	41.3%	1.7%	36.1%	300	1091	1077	1%	1084	**1084**	Average of Difference and Growth		
	E of Fulton	Fulton	WB	640	600	819	653	863	36.5%	1.5%	32.2%	210	850	846	0%	848	**848**	Average of Difference and Growth		
	W of Rifle Range	Rifle Range	EB	785	728	1035	802	1096	42.2%	1.7%	36.8%	295	1080	1074	1%	1077	**1077**	Average of Difference and Growth		
	Rifle Range	W of Rifle Range	WB	635	545	757	596	799	38.9%	1.6%	34.2%	204	839	852	2%	845	**845**	Average of Difference and Growth		
	Rifle Range	E of Rifle Range	EB	700	608	885	674	940	45.6%	1.8%	39.4%	266	966	976	1%	971	**971**	Average of Difference and Growth		
	E of Rifle Range	Rifle Range	WB	566	474	660	519	697	39.2%	1.6%	34.4%	179	745	761	2%	753	**753**	Average of Difference and Growth		
	W of Douglas	Douglas	EB	565	358	518	396	550	44.7%	1.8%	38.7%	154	719	784	9%	751	**751**	Average of Difference and Growth		
	Douglas	W of Douglas	WB	380	326	451	356	476	38.3%	1.5%	33.7%	120	500	508	2%	504	**504**	Average of Difference and Growth		
	Douglas	E of Douglas	EB	575	358	518	396	550	44.7%	1.8%	38.7%	154	729	798	9%	763	**763**	Average of Difference and Growth		
	E of Douglas	Douglas	WB	385	326	451	356	476	38.3%	1.5%	33.7%	120	505	515	2%	510	**510**	Average of Difference and Growth		
Jackson St	Diamond Lake	S of Diamond Lake	SB	220	182	162	177	158	-11.0%	-0.4%	-10.8%	-19	201	196	2%	198	**198**	Average of Difference and Growth		TPAU STUDIED THIS INTERSECTION
	S of Diamond Lake	Diamond Lake	NB	150	178	169	176	167	-5.1%	-0.2%	-4.9%	-9	141	143	1%	142	**142**	Average of Difference and Growth		TPAU STUDIED THIS INTERSECTION
	N of Douglas	Douglas	SB	220	293	286	291	285	-2.4%	-0.1%	-2.3%	-7	213	215	1%	214	**214**	Average of Difference and Growth		Link decrease due to OR138 improvements
	Douglas	N of Douglas	NB	105	33	35	33	35	6.1%	0.2%	5.7%	2	107	111	4%	109	**109**	Average of Difference and Growth		
	Douglas	Washington	SB	120	67	63	66	62	-6.0%	-0.2%	-5.8%	-4	116	113	3%	115	**115**	Average of Difference and Growth		Model shows volumes decrease so assume no growth
	Washington	Oak	SB	115	44	53	46	55	20.5%	0.8%	18.7%	9	124	137	10%	130	**124**	Difference Method	To be consistent with method used for opposing direction	
	Oak	S of Oak	SB	150	48	58	50	60	20.8%	0.8%	19.0%	10	160	179	11%	169	**160**	Difference Method	Absolute difference >10% --> Used difference only	
Kane St	Douglas	S of Douglas	SB	130	113	187	131	202	65.5%	2.6%	54.3%	71	201	201	0%	201	**201**	Average of Difference and Growth		
	S of Douglas	Douglas	NB	130	10	10	10	10	0.0%	0.0%	0.0%	0	130	130	0%	130	**130**	Average of Difference and Growth		
Washington Ave	Main	Jackson	WB	230	240	346	265	367	44.2%	1.8%	38.3%	102	332	318	4%	325	**325**	Average of Difference and Growth		
	Jackson	Rose	WB	235	263	356	285	375	35.4%	1.4%	31.3%	89	324	309	5%	316	**316**	Average of Difference and Growth		
Douglas Ave	W of Jackson	Jackson	EB	195	7	23	11	26	228.6%	9.1%	141.7%	15	210	471	77%	341	**210**	Difference Method	Absolute difference >10% --> Used difference only	
	Jackson	W of Jackson	WB	225	185	203	189	207	9.7%	0.4%	9.1%	17	242	246	1%	244	**242**	Difference Method	To be consistent with method used for opposing direction	
	Jackson	Main	EB	240	48	48	48	48	0.0%	0.0%	0.0%	0	240	240	0%	240	**240**	Average of Difference and Growth		
	Main	Jackson	WB	275	34	35	34	35	2.9%	0.1%	2.8%	1	276	283	2%	279	**279**	Average of Difference and Growth		
	Main	Kane	EB	240	148	162	151	165	9.5%	0.4%	8.9%	13	253	261	3%	257	**253**	Difference Method	To be consistent with method used for opposing direction	
	Kane	Main	WB	270	4	4	4	4	0.0%	0.0%	0.0%	0	270	270	0%	270	**270**	Difference Method	Absolute difference >10% --> Used difference only	Model shows volumes decrease so assume no growth

Existing Year 2016
Project Forecast Year 2040
Model Base Year 2010
Model Forecast Year 2035

Sidestreets not included in the regional model
Greater than 10% difference between difference and growth methods
Numbers adjusted from model to work with spreadsheet (0 growth = 1)
Previous study intersection

					Model Assignment																
				Existing 30HV	Baseline Model	Future Ref Model	Interpolated Model	Forecasted Model	2010-2035 Model Comparison		2016-2040 Model Comparison		Post Processed Volumes Future 2040 No Build Year				Forecast Used			
Road	From	To	Direction	2016	2010	2035	2016	2040	Total Growth	Annual Growth	Total Growth	Volume Difference	Volume Difference	Volume Growth	Absolute Difference	Average		Method Used	Comments	Additional Comments
	Kane	Chadwick	EB	245	111	132	116	136	18.9%	0.8%	17.4%	20	265	288	8%	276	265	Difference Method	To be consistent with method used for opposing direction	
	Chadwick	Kane	WB	275	70	150	89	166	114.3%	4.6%	86.1%	77	352	512	37%	432	352	Difference Method	Absolute difference >10% --> Used difference only	
	W of Ramp	Ramp	EB	165	87	101	90	104	16.1%	0.6%	14.9%	13	178	190	6%	184	184	Average of Difference and Growth		
	Ramp	W of Ramp	WB	100	73	98	79	103	34.2%	1.4%	30.4%	24	124	130	5%	127	127	Average of Difference and Growth		
	Ramp	Rifle Range	EB	110	75	100	81	105	33.3%	1.3%	29.6%	24	134	143	6%	138	138	Average of Difference and Growth		
	Rifle Range	Ramp	WB	90	106	131	112	136	23.6%	0.9%	21.4%	24	114	109	4%	112	112	Average of Difference and Growth		
	Rifle Range	E of Rifle Range	EB	70	8	11	9	12	37.5%	1.5%	33.0%	3	73	93	24%	83	73	Difference Method	Absolute difference >10% --> Used difference only	
	E of Rifle Range	Rifle Range	WB	40	7	10	8	11	42.9%	1.7%	37.3%	3	43	55	25%	49	43	Difference Method	Absolute difference >10% --> Used difference only	
	Diamond Lake	S of Diamond Lake	SB	15	1	1	1	1	0.0%	0.0%	0.0%	0	15	15	0%	15	15	Average of Difference and Growth		
	S of Diamond Lake	Diamond Lake	NB	20	1	1	1	1	0.0%	0.0%	0.0%	0	20	20	0%	20	20	Average of Difference and Growth		
Fulton St	N of Diamond Lake	Diamond Lake	SB	46	16	27	19	29	68.8%	2.8%	56.7%	11	57	72	24%	64	57	Difference Method	Absolute difference >10% --> Used difference only	
	Diamond Lake	N of Diamond Lake	NB	36	17	23	18	24	35.3%	1.4%	31.2%	6	42	47	12%	45	42	Difference Method	Absolute difference >10% --> Used difference only	
	Diamond Lake	S of Diamond Lake	SB	11	14	17	15	18	20.9%	0.8%	19.1%	3	14	13	6%	13	14	Difference Method	To be consistent with method used for opposing direction	
	S of Diamond Lake	Diamond Lake	NB	7	23	27	24	27	14.3%	0.6%	13.3%	3	10	8	25%	9	10	Difference Method	Absolute difference >10% --> Used difference only	
Ramp Rd	Douglas	S of Douglas	SB	115	169	198	176	204	17.2%	0.7%	15.8%	28	143	133	7%	138	143	Difference Method	To be consistent with method used for opposing direction	
	S of Douglas	Douglas	NB	70	125	164	134	172	31.2%	1.2%	27.9%	37	107	90	18%	98	107	Difference Method	Absolute difference >10% --> Used difference only	
Rifle Range St	N of Diamond Lake	Diamond Lake	SB	40	38	54	42	57	42.1%	1.7%	36.7%	15	55	55	1%	55	55	Difference Method	To be consistent with method used for opposing direction	
	Diamond Lake	N of Diamond Lake	NB	41	56	76	61	80	35.7%	1.4%	31.6%	19	60	54	11%	57	60	Difference Method	Absolute difference >10% --> Used difference only	
	Diamond Lake	S of Diamond Lake	SB	100	99	121	104	125	22.2%	0.9%	20.3%	21	121	120	1%	121	121	Average of Difference and Growth		
	S of Diamond Lake	Diamond Lake	NB	85	67	89	72	93	32.8%	1.3%	29.2%	21	106	110	3%	108	108	Average of Difference and Growth		
	North of Douglas	Douglas	SB	80	99	121	104	125	22.2%	0.9%	20.3%	21	101	96	5%	99	99	Average of Difference and Growth		
	Douglas	N of Douglas	NB	70	67	89	72	93	32.8%	1.3%	29.2%	21	91	90	1%	91	91	Average of Difference and Growth		
Harvard Ave	W of Lookingglass	Lookingglass	EB	160	146	199	159	210	36.3%	1.5%	32.1%	51	211	211	0%	211	211	Average of Difference and Growth		
	Lookingglass	W of Lookingglass	WB	270	236	355	265	379	50.4%	2.0%	43.2%	114	384	387	1%	385	385	Average of Difference and Growth		
	Lookingglass	Broccoli	EB	335	242	383	276	411	58.3%	2.3%	49.1%	135	470	499	6%	485	485	Average of Difference and Growth		
	Broccoli	Lookingglass	WB	540	418	766	502	836	83.3%	3.3%	66.6%	334	874	900	3%	887	887	Average of Difference and Growth		
	Broccoli	E of Broccoli	EB	410	319	492	361	527	54.2%	2.2%	46.1%	166	576	599	4%	587	587	Average of Difference and Growth		
	E of Broccoli	Broccoli	WB	630	577	1025	685	1115	77.6%	3.1%	62.8%	430	1060	1026	3%	1043	1043	Average of Difference and Growth		
	W of Stewart	Stewart	EB	596	443	668	497	713	50.8%	2.0%	43.5%	216	812	855	5%	834	834	Average of Difference and Growth		
	Stewart	W of Stewart	WB	825	758	1310	890	1420	72.8%	2.9%	59.5%	530	1355	1316	3%	1335	1335	Average of Difference and Growth		
	Stewart	E of Stewart	EB	825	533	691	571	723	29.6%	1.2%	26.6%	152	977	1044	7%	1010	977	Difference Method	To be consistent with method used for opposing direction	
	E of Stewart	Stewart	WB	1071	664	1150	781	1247	73.2%	2.9%	59.8%	467	1538	1711	11%	1624	1538	Difference Method		
	W of Keady	Keady	EB	816	622	842	675	886	35.4%	1.4%	31.3%	211	1027	1071	4%	1049	1049	Average of Difference and Growth		
	Keady	W of Keady	WB	921	662	1097	766	1184	65.7%	2.6%	54.5%	418	1339	1423	6%	1381	1381	Average of Difference and Growth		
	Keady	E of Keady	EB	871	622	842	675	886	35.4%	1.4%	31.3%	211	1082	1144	6%	1113	1113	Average of Difference and Growth		
	E of Keady	Keady	WB	906	662	1097	766	1184	65.7%	2.6%	54.5%	418	1324	1400	6%	1362	1362	Average of Difference and Growth		
	W of Centennial	Centennial	EB	870	622	842	675	886	35.4%	1.4%	31.3%	211	1081	1142	5%	1112	1112	Average of Difference and Growth		
	Centennial	W of Centennial	WB	910	662	1097	766	1184	65.7%	2.6%	54.5%	418	1328	1406	6%	1367	1367	Average of Difference and Growth		
	Centennial	E of Centennial	EB	955	803	1419	951	1542	76.7%	3.1%	62.2%	591	1546	1549	0%	1548	1548	Average of Difference and Growth		
	E of Centennial	Centennial	WB	925	765	1217	873	1307	59.1%	2.4%	49.7%	434	1359	1385	2%	1372	1372	Average of Difference and Growth		
Lookingglass Rd	Harvard	S of Harvard	SB	285	193	426	249	473	120.7%	4.8%	89.9%	224	509	541	6%	525	509	Difference Method	To be consistent with method used for opposing direction	
	S of Harvard	Harvard	NB	190	107	198	129	216	85.0%	3.4%	67.8%	87	277	319	14%	298	277	Difference Method	Absolute difference >10% --> Used difference only	
Broccoli St	N of Harvard	Harvard	SB	75	27	40	30	43	49.4%	2.0%	42.4%	13	88	107	20%	97	88	Difference Method	Absolute difference >10% --> Used difference only	Model loads all onto Agate -- moved a third to Broccoli
	Harvard	N of Harvard	NB	66	30	43	33	46	46.1%	1.8%	39.8%	13	79	92	15%	86	79	Difference Method	Absolute difference >10% --> Used difference only	
	Harvard	S of Harvard	SB	75	159	258	183	278	62.3%	2.5%	52.0%	95	170	114	39%	142	170	Difference Method	Absolute difference >10% --> Used difference only	
	S of Harvard	Harvard	NB	48	77	109	85	115	41.6%	1.7%	36.3%	31	79	65	18%	72	79	Difference Method	Absolute difference >10% --> Used difference only	
Keady Ct	Harvard	S of Harvard	SB	61	61	61	61	61	0.0%	0.0%	0.0%	0	61	61	0%	61	61	Average of Difference and Growth		Serves as middle school access - growth negligable (0 in model)
	S of Harvard	Harvard	NB	131	131	131	131	131	0.0%	0.0%	0.0%	0	131	131	0%	131	131	Average of Difference and Growth		Serves as middle school access - growth negligable (0 in model)
Stewart Park Dr	N of Harvard	Harvard	SB	140	257	672	357	755	161.5%	6.5%	111.7%	398	538	296	58%	417	538	Difference Method	Absolute difference >10% --> Used difference only	
	Harvard	N of Harvard	NB	70	179	215	188	222	20.1%	0.8%	18.4%	35	105	83	23%	94	105	Difference Method	Absolute difference >10% --> Used difference only	
Garden Valley Blvd	N of Melrose	Melrose	SB	326	213	315	237	335	47.9%	1.9%	41.2%	98	424	460	8%	442	442	Average of Difference and Growth		
	Melrose	N of Melrose	NB	436	320	581	383	633	81.6%	3.3%	65.5%	251	687	722	5%	704	704	Average of Difference and Growth		
	Melrose	Troost	EB	450	393	541	429	571	37.7%	1.5%	33.2%	142	592	599	1%	596	596	Average of Difference and Growth		
	Troost	Melrose	WB	725	672	1051	763	1127	56.4%	2.3%	47.7%	364	1089	1071	2%	1080	1080	Average of Difference and Growth		
	Troost	E of Troost	EB	625	405	579	447	614	43.0%	1.7%	37.4%	167	792	859	8%	825	825	Average of Difference and Growth		
	E of Troost	Troost	WB	900	733	1146	832	1229	56.3%	2.3%	47.6%	396	1296	1329	2%	1313	1313	Average of Difference and Growth		
	W of Kline	Kline	EB	645	401	571	442	605	42.4%	1.7%	36.9%	163	808	883	9%	846	846	Average of Difference and Growth		
	Kline	W of Kline	WB	925	728	1133	825	1214	55.6%	2.2%	47.1%	389	1314	1361	4%	1337	1337	Average of Difference and Growth		
	Kline	E of Kline	EB	955	542	763	595	807	40.8%	1.6%	35.7%	212	1167	1296	10%	1231	1167	Difference Method	Absolute difference >10% --> Used difference only	
	E of Kline	Kline	WB	1120	976	1421	1083	1510	45.6%	1.8%	39.5%	427	1547	1562	1%	1555	1547	Difference Method	Absolute difference >10% --> Used difference only	
	W of Roseburg Mall	Roseburg Mall	EB	955	589	816	643	861	38.5%	1.5%	33.9%	218	1173	1278	9%	1226	1226	Average of Difference and Growth		
	Roseburg Mall	W of Roseburg Mall	WB	1120	1008	1455	1115	1544	44.3%	1.8%	38.5%	429	1549	1551	0%	1550	1550	Average of Difference and Growth		
	Roseburg Mall	Stewart	EB	955	816	1184	904	1258	45.1%	1.8%	39.1%	353	1308	1328	2%	1318	1318	Average of Difference and Growth		
	Stewart	Roseburg Mall	WB	1175	1075	1548	1189	1643	44.0%	1.8%	38.2%	454	1629	1624	0%	1626	1626	Average of Difference and Growth		
	Stewart	Goetz/Duck Pond	EB	1180	1106	1499	1200	1578	35.5%	1.4%	31.4%	377	1557	1551	0%	1554	1554	Average of Difference and Growth		
	Goetz/Duck Pond	Stewart	WB	1415	1192	1376	1236	1413	15.4%	0.6%	14.3%	177	1592	1617	2%	1604	1604	Average of Difference and Growth		
	Goetz/Duck Pond	E of Goetz/Duck Pon	EB	1150	1106	1499	1200	1578	35.5%	1.4%	31.4%	377	1527	1511	1%	1519	1519	Average of Difference and Growth		
	E of Goetz/Duck Pond	Goetz/Duck Pond	WB	1340	1192	1376	1236	1413	15.4%	0.6%	14.3%	177	1517	1531	1%	1524	1524	Average of Difference and Growth		
	W of Walnut	Walnut	EB	915	807	1031	861	1076	27.8%	1.1%	25.0%	215	1130	1144	1%	1137	1137	Average of Difference and Growth		
	Walnut	W of Walnut	WB	920	696	843	731	872	21.1%	0.8%	19.3%	141	1061	1098	3%	1079	1079	Average of Difference and Growth		
	Walnut	E of Walnut	EB	880	807	1031	861	1076	27.8%	1.1%	25.0%	215	1095	1100	0%	1097	1097	Average of Difference and Growth		
	E of Walnut	Walnut	WB	840	696	843	731	872	21.1%	0.8%	19.3%	141	981	1002	2%	992	992	Average of Difference and Growth		
	W of Rocky Ridge	Rocky Ridge	EB	245	4	36	12	42	800.0%	32.0%	263.0%	31	276	889	105%	583	276	Difference Method	Absolute difference >10% --> Used difference only	
	Rocky Ridge	W of Rocky Ridge	WB	130	2	2	2	2	0.0%	0.0%	0.0%	0	130	130	0%	130	130	Difference Method	To be consistent with method used for opposing direction	
	Rocky Ridge	E of Rocky Ridge	EB	170	4	36	12	42	800.0%	32.0%	263.0%	31	201	617	102%	409	201	Difference Method	Absolute difference >10% --> Used difference only	
	E of Rocky Ridge	Rocky Ridge	WB	95	2	2.0	2	2	0.0%	0.0%	0.0%	0	95	95	0%	95	95	Difference Method	To be consistent with method used for opposing direction	
Calkins Ave	W of Troost	Troost	EB	35	50	77	56	82	54.0%	2.2%	45.9%	26	61	51	18%	56	61	Difference Method	Absolute difference >10% --> Used difference only	
	Troost	W of Troost	WB	56	105	190	125	207	81.0%	3.2%	65.1%	82	138	92	39%	115	138	Difference Method	Absolute difference >10% --> Used difference only	
	Troost	E of Troost	EB	65	81	131	93	141	61.7%	2.5%	51.6%	48	113	99	14%	106	113	Difference Method	Absolute difference >10% --> Used difference only	
	E of Troost	Troost	WB	110	162	345	206	382	113.0%	4.5%	85.3%	176	286	204	33%	245	286	Difference Method	Absolute difference >10% --> Used difference only	
	W of Keasey	Keasey	EB	90	25	39	29	41	52.6%	2.1%	44.9%	13	103	130	24%	117	103	Difference Method	Absolute difference >10% --> Used difference only	Model routes onto Beaumont instead of Calkins
	Keasey	W of Keasey	WB	130	45	100	58	111	123.1%	4.9%	91.2%	53	183	249	31%	216	183	Difference Method	Absolute difference >10% --> Used difference only	Model routes onto Beaumont instead of Calkins
Keasey St	N of Calkins	Calkins	SB	130	53	69	57	72	30.2%	1.2%	27.0%	15	145	165	13%	155	145	Difference Method	Absolute difference >10% --> Used difference only	
	Calkins	N of Calkins	NB	70	36	65	43	71	80.6%	3.2%	64.8%	28	98	115	16%	107	98	Difference Method	Absolute difference >10% --> Used difference only	
	Calkins	S of Calkins	SB	155	63	103	73	111	63.5%	2.5%	52.9%	38	193	237	20%	215	193	Difference Method	Absolute difference >10% --> Used difference only	

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				Existing 30HV	Baseline Model	Future Ref Model	Interpolated Model	Forecasted Model	2010-2035 Model Comparison		2016-2040 Model Comparison		Post Processed Volumes Future 2040 No Build Year				Forecast Used			
Road	From	To	Direction	2016	2010	2035	2016	2040	Total Growth	Annual Growth	Total Growth	Volume Difference	Volume Difference	Volume Growth	Absolute Difference	Average		Method Used	Comments	Additional Comments
	S of Calkins	Calkins	NB	135	36	65	43	71	80.6%	3.2%	64.8%	28	163	222	31%	193	163	Difference Method	Absolute difference >10% --> Used difference only	
Troost St	N of Garden Valley	Garden Valley	SB	50	3	7	4	8	133.3%	5.3%	97.0%	4	54	98	59%	76	54	Difference Method	Absolute difference >10% --> Used difference only	Model routes onto Newcastle instead of Troost
	Garden Valley	N of Garden Valley	NB	21	2	4	2	4	100.0%	4.0%	77.4%	2	23	37	48%	30	23	Difference Method	Absolute difference >10% --> Used difference only	Model routes onto Newcastle instead of Troost
	Garden Valley	S of Garden Valley	SB	220	114	156	124	164	36.8%	1.5%	32.5%	40	260	291	11%	276	260	Difference Method	To be consistent with method used for opposing direction	
	S of Garden Valley	Garden Valley	NB	191	64	98	72	105	53.1%	2.1%	45.2%	33	224	277	21%	251	224	Difference Method	Absolute difference >10% --> Used difference only	
	N of Calkins	Calkins	SB	125	34	47	37	50	38.2%	1.5%	33.6%	12	137	167	19%	152	137	Difference Method	Absolute difference >10% --> Used difference only	
	Calkins	N of Calkins	NB	95	52	99	63	108	90.4%	3.6%	71.3%	45	140	163	15%	151	140	Difference Method	Absolute difference >10% --> Used difference only	
	Calkins	S of Calkins	SB	110	36	102	52	115	183.3%	7.3%	122.2%	63	173	244	34%	209	173	Difference Method	Absolute difference >10% --> Used difference only	
	S of Calkins	Calkins	NB	56	27	53	33	58	96.3%	3.9%	75.1%	25	81	98	19%	90	81	Difference Method	Absolute difference >10% --> Used difference only	
Lincoln St	N of Malheur	Malheur	SB	100	62	62	62	62	0.0%	0.0%	0.0%	0	100	100	0%	100	100	Average of Difference and Growth		TAZ should not decrease
	Malheur	N of Malheur	NB	51	154	154	154	154	0.0%	0.0%	0.0%	0	51	51	0%	51	51	Average of Difference and Growth		TAZ should not decrease
	Malheur	S of Malheur	SB	58	1	1.5	1	2	50.0%	2.0%	42.9%	0	58	83	34%	71	58	Difference Method	Absolute difference >10% --> Used difference only	TAZ should not decrease
	S of Malheur	Malheur	NB	32	1	1.5	1	2	50.0%	2.0%	42.9%	0	32	46	34%	39	32	Difference Method	Absolute difference >10% --> Used difference only	TAZ should not decrease
Malheur Ave	W of Lincoln	Lincoln	EB	7	154	154	154	154	0.0%	0.0%	0.0%	0	7	7	0%	7	7	Average of Difference and Growth	Absolute difference >10% --> Used difference only	TAZ should not decrease
	Lincoln	W of Lincoln	WB	9	62	62	62	62	0.0%	0.0%	0.0%	0	9	9	0%	9	9	Average of Difference and Growth	Absolute difference >10% --> Used difference only	TAZ should not decrease
	Lincoln	E of Lincoln	EB	50	50	53	51	54	6.0%	0.2%	5.7%	3	53	53	0%	53	53	Average of Difference and Growth	Absolute difference >10% --> Used difference only	TAZ should not decrease
	E of Lincoln	Lincoln	WB	29	29	29	29	29	0.0%	0.0%	0.0%	0	29	29	0%	29	29	Average of Difference and Growth	To be consistent with method used for opposing direction	TAZ should not decrease
Duck Pond St/Goetz St	N of Garden Valley	Garden Valley	SB	21	21	21	21	21	0.0%	0.0%	0.0%	0	21	21	0%	21	21	Average of Difference and Growth		Dead end street - assume negligable growth (model shows 0)
	Garden Valley	N of Garden Valley	NB	55	55	55	55	55	0.0%	0.0%	0.0%	0	55	55	0%	55	55	Average of Difference and Growth		Dead end street - assume negligable growth (model shows 0)
	Garden Valley	S of Garden Valley	SB	86	86	86	86	86	0.0%	0.0%	0.0%	0	86	86	0%	86	86	Average of Difference and Growth		Fred Meyer Access - assume negligable growth (model shows 0)
	S of Garden Valley	Garden Valley	NB	165	165	165	165	165	0.0%	0.0%	0.0%	0	165	165	0%	165	165	Average of Difference and Growth		Fred Meyer Access - assume negligable growth (model shows 0)
Kline St	N of Garden Valley	Garden Valley	SB	285	154	220	170	233	42.9%	1.7%	37.3%	63	348	391	12%	370	370	Average of Difference and Growth		
	Garden Valley	N of Garden Valley	NB	220	241	305	256	318	26.6%	1.1%	24.0%	61	281	273	3%	277	277	Average of Difference and Growth		
	Garden Valley	S of Garden Valley	SB	130	92	86	91	85	-6.5%	-0.3%	-6.4%	-6	124	122	2%	123	123	Average of Difference and Growth		
	S of Garden Valley	Garden Valley	NB	180	72	74	72	74	2.8%	0.1%	2.6%	2	182	185	2%	183	183	Average of Difference and Growth		
Melrose Rd	W of Garden Valley	Garden Valley	EB	241	210	260	222	270	23.8%	1.0%	21.6%	48	289	293	1%	291	291	Average of Difference and Growth		
	Garden Valley	W of Garden Valley	WB	401	382	499	410	522	30.6%	1.2%	27.4%	112	513	511	0%	512	512	Average of Difference and Growth		
	Garden Valley	E of Garden Valley	EB	12	7	12	8	13	71.4%	2.9%	58.5%	5	17	19	12%	18	18	Average of Difference and Growth		
	E of Garden Valley	Garden Valley	WB	7	8	6	8	6	-25.0%	-1.0%	-25.5%	-2	5	5	3%	5	5	Average of Difference and Growth		
Roseburg Mall/Walmart	W of Stewart	Stewart	EB	100	76	99	82	104	30.3%	1.2%	27.1%	22	122	127	4%	125	122	Difference Method	To be consistent with method used for opposing direction	
	Stewart	W of Stewart	WB	80	35	81	46	90	131.4%	5.3%	95.9%	44	124	157	23%	140	124	Difference Method		
Walmart	Stewart	E of Stewart	EB	250	52	75	58	80	44.2%	1.8%	38.4%	22	272	346	24%	309	272	Difference Method		Existing Wal-Mart driveway - Assume minimal growth
	E of Stewart	Stewart	WB	250	169	200	176	206	18.3%	0.7%	16.9%	30	280	292	4%	286	280	Difference Method		Existing Wal-Mart driveway - Assume minimal growth
Roseburg Mall	N of Garden Valley	Garden Valley	SB	35	246	279	254	286	13.4%	0.5%	12.5%	32	67	39	52%	53	67	Difference Method		
	Garden Valley	N of Garden Valley	NB	90	102	102	102	102	0.0%	0.0%	0.0%	0	90	90	0%	90	90	Average of Difference and Growth		Existing Mall driveway - Assume minimal growth
Valley View Dr	W of Stewart	Stewart	EB	160	134	221	155	238	64.9%	2.6%	53.9%	84	244	246	1%	245	245	Average of Difference and Growth		
	Stewart	W of Stewart	WB	225	242	437	289	476	80.6%	3.2%	64.8%	187	412	371	11%	392	392	Average of Difference and Growth		
Walnut St	N of Garden Valley	Garden Valley	SB	16	16	16	16	16	0.0%	0.0%	0.0%	0	16	16	0%	16	16	Average of Difference and Growth		No Link volume in model - driveway
	Garden Valley	N of Garden Valley	NB	50	16	16	16	16	0.0%	0.0%	0.0%	0	50	50	0%	50	50	Average of Difference and Growth		No Link volume in model - driveway
	Garden Valley	S of Garden Valley	SB	86	36	39	37	40	8.3%	0.3%	7.8%	3	89	93	4%	91	91	Average of Difference and Growth		Model routes all to Cedar instead of Walnut
	S of Garden Valley	Garden Valley	NB	165	61.5	61.5	62	62	0.0%	0.0%	0.0%	0	165	165	0%	165	165	Average of Difference and Growth		Model routes all to Cedar instead of Walnut
Rocky Ridge Dr	N of Garden Valley	Garden Valley	SB	45	1	1	1	1	0.0%	0.0%	0.0%	0	45	45	0%	45	45	Average of Difference and Growth		TAZ should not decrease
	Garden Valley	N of Garden Valley	NB	85	1	1	1	1	0.0%	0.0%	0.0%	0	85	85	0%	85	85	Average of Difference and Growth		TAZ should not decrease
Cedar St	N of Chestnut	Chestnut	SB	70	53	75	58	79	41.5%	1.7%	36.2%	21	91	95	5%	93	93	Average of Difference and Growth		
	Chestnut	N of Chestnut	NB	65	55	66	58	68	20.0%	0.8%	18.3%	11	76	77	2%	76	76	Average of Difference and Growth		
	Chestnut	S of Chestnut	SB	17	16	14	16	14	-14.6%	-0.6%	-14.6%	-2	15	15	1%	15	15	Average of Difference and Growth		Model routes all to Post instead of Cedar
	S of Chestnut	Chestnut	NB	20	16	17	16	18	10.1%	0.4%	9.5%	2	22	22	2%	22	22	Average of Difference and Growth		Model routes all to Post instead of Cedar
Harvey Ave	W of Stewart	Stewart	EB	165	136	224	157	242	64.7%	2.6%	53.8%	84	249	254	2%	252	252	Average of Difference and Growth		
	Stewart	W of Stewart	WB	260	247	407	285	439	64.8%	2.6%	53.8%	154	414	400	3%	407	407	Average of Difference and Growth		
	Stewart	E of Stewart	EB	110	222	207	218	204	-6.8%	-0.3%	-6.6%	-14	96	103	7%	99	96	Difference Method	To be consistent with method used for opposing direction	
	E of Sewart	Stewart	WB	125	332	403	349	417	21.4%	0.9%	19.5%	68	193	149	26%	171	193	Difference Method	Absolute difference >10% --> Used difference only	
Alameda Ave	Stephens	Vine	EB	120	67	159	89	177	137.3%	5.5%	99.1%	88	208	239	14%	224	208	Difference Method	Absolute difference >10% --> Used difference only	
	Vine	Stephens	WB	115	65	149	85	166	129.2%	5.2%	94.7%	81	196	224	13%	210	196	Difference Method	Absolute difference >10% --> Used difference only	
	Vine	E of Vine	EB	135	85	137	97	147	61.2%	2.4%	51.2%	50	185	204	10%	195	195	Average of Difference and Growth		
	E of Vine	Vine	WB	90	98	155	112	166	58.2%	2.3%	49.0%	55	145	134	8%	139	139	Average of Difference and Growth		
Vine St	N of Alameda	Alameda	SB	100	9	18	11	20	100.0%	4.0%	77.4%	9	109	177	48%	143	143	Average of Difference and Growth		
	Alameda	N of Alameda	NB	70	7	13	8	14	85.7%	3.4%	68.2%	6	76	118	43%	97	97	Average of Difference and Growth		
	Alameda	S of Alameda	SB	120	92	156	107	169	69.6%	2.8%	57.2%	61	181	189	4%	185	181	Difference Method	To be consistent with method used for opposing direction	
	S of Alameda	Alameda	NB	130	74	124	86	134	67.6%	2.7%	55.8%	48	178	203	13%	190	178	Difference Method	Absolute difference >10% --> Used difference only	
Airport Rd	N of Stewart	Stewart	SB	185	37	40	38	41	8.1%	0.3%	7.6%	3	188	199	6%	194	194	Average of Difference and Growth		
	Stewart	N of Stewart	NB	80	37	36	37	36	-2.7%	-0.1%	-2.6%	-1	79	78	1%	78	78	Average of Difference and Growth		
	Stewart	S of Stewart	SB	160	29	38	31	40	31.0%	1.2%	27.7%	9	169	204	19%	187	169	Difference Method	Absolute difference >10% --> Used difference only	
	S of Stewart	Stewart	NB	135	18	20	18	20	11.1%	0.4%	10.4%	2	137	149	8%	143	137	Difference Method	To be consistent with method used for opposing direction	
Broad St	W of Edenbower	Edenbower	EB	55	30	40	32	42	33.3%	1.3%	29.6%	10	65	71	10%	68	65	Difference Method	Absolute difference >10% --> Used difference only	
	Edenbower	W of Edenbower	WB	65	66	84	70	88	27.3%	1.1%	24.6%	17	82	81	2%	82	82	Difference Method	To be consistent with method used for opposing direction	
Exit 127 SB Ramps (Off)	N of Edenbower	Edenbower	SB	290	286	413	316	438	44.4%	1.8%	38.5%	122	412	402	3%	407	412	Difference Method	To be consistent with method used for opposing direction	
Exit 127 SB Ramps (On)	Edenbower	S of Edenbower	SB	545	184	442	246	494	140.2%	5.6%	100.7%	248	793	1094	32%	943	793	Difference Method	Absolute difference >10% --> Used difference only	
Exit 127 NB Ramps (Off)	S of Edenbower	Edenbower	NB	285	130	178	142	188	36.9%	1.5%	32.6%	46	331	378	13%	354	331	Difference Method	Absolute difference >10% --> Used difference only	
Exit 127 NB Ramps (On)	Edenbower	North of Edenbower	NB	115	432	605	474	640	40.0%	1.6%	35.1%	166	281	155	58%	218	281	Difference Method	To be consistent with method used for opposing direction	
Exit 123 SB Ramps (Off)	N of Heritage	Heritage	SB	66	32	55	38	60	71.9%	2.9%	58.8%	22	88	105	17%	96	88	Difference Method		
Exit 123 SB Ramps (On)	Heritage	S of Heritage	SB	21	11	24	14	27	118.2%	4.7%	88.4%	12	33	40	17%	37	33	Difference Method		
Exit 123 NB Ramps (Off)	S of Portland	Portland	NB	25	4	6	4	6	50.0%	2.0%	42.9%	2	27	36	28%	31	27	Difference Method	To be consistent with method used for opposing direction	
Exit 123 NB Ramps (On)	Portland	N of Portland	NB	45	27	50	33	55	85.2%	3.4%	67.9%	22	67	76	12%	71	67	Difference Method	Absolute difference >10% --> Used difference only	
Heritage Way/Portland Av	W of Exit 123 SB Ramps	Exit 123 SB Ramps	EB	25	18	37	23	41	105.6%	4.2%	80.9%	18	43	45	4%	44	43	Difference Method	To be consistent with method used for opposing direction	
	Exit 123 SB Ramps	W of Exit 123 SB Ran	WB	50	15	30	19	33	100.0%	4.0%	77.4%	14	64	89	32%	77	64	Difference Method	Absolute difference >10% --> Used difference only	
	Exit 123 SB Ramps	Exit 123 NB Ramps	EB	45	36	64	43	70	77.8%	3.1%	62.9%	27	72	73	2%	73	73	Average of Difference and Growth		
	Exit 123 NB Ramps	Exit 123 SB Ramps	WB	25	13	18	14	19	38.5%	1.5%	33.8%	5	30	33	12%	32	32	Average of Difference and Growth		
	Exit 123 NB Ramps	E of Exit 123 NB Ran	EB	35	20	32	23	34	60.0%	2.4%	50.3%	12	47	53	12%	50	47	Difference Method	Absolute difference >10% --> Used difference only	
	E of Exit 123 NB Ramps	Exit 123 NB Ramps	WB	35	13	18	14	19	38.5%	1.5%	33.8%	5	40	47	16%	43	40	Difference Method	Absolute difference >10% --> Used difference only	
Aviation Dr	N of Edenbower	Edenbower	SB	250	74	103	81	109	39.2%	1.6%	34.4%	28	278	336	19%	307	278	Difference Method	Absolute difference >10% --> Used difference only	
	Edenbower	N of Edenbower	NB	200	152	259	178	280	70.4%	2.8%	57.8%	103	303	316	4%	309	303	Difference Method	To be consistent with method used for opposing direction	
	Edenbower	S of Edenbower	SB	145	23	31	25	33	34.8%	1.4%	30.8%	8	153	190	22%	171	153	Difference Method	Absolute difference >10% --> Used difference only	
	S of Edenbower	Edenbower	NB	135	86	155	103	169	80.2%	3.2%	64.6%	66	201	222	10%	212	201	Difference Method	Absolute difference >10% --> Used difference only	
	N of Stewart	Stewart	SB	130	196	235	205	243	19.9%	0.8%	18.2%	37	167	154	9%	161	161	Average of Difference and Growth		
	Stewart	N of Stewart	NB	85	141	160	146	164	13.5%	0.5%	12.5%	18	103	96	8%	99	99	Average of Difference and Growth		

Existing Year 2016
Project Forecast Year 2040
Model Base Year 2010
Model Forecast Year 2035

Sidestreets not included in the regional model
Greater than 10% difference between difference and growth methods
Numbers adjusted from model to work with spreadsheet (0 growth = 1)
Previous study intersection

					Model Assignment															
				Existing 30HV	Baseline Model	Future Ref Model	Interpolated Model	Forecasted Model	2010-2035 Model Comparison		2016-2040 Model Comparison		Post Processed Volumes Future 2040 No Build Year				Forecast Used			
Road	From	To	Direction	2016	2010	2035	2016	2040	Total Growth	Annual Growth	Total Growth	Volume Difference	Volume Difference	Volume Growth	Absolute Difference	Average		Method Used	Comments	Additional Comments
Mulholland	Stewart	S of Stewart	SB	220	168	492	246	557	192.9%	7.7%	126.6%	311	531	498	6%	515	531	Difference Method	Absolute difference >10% --> Used difference only	
	S of Stewart	Stewart	NB	215	282	522	340	570	85.1%	3.4%	67.8%	230	445	361	21%	403	445	Difference Method	To be consistent with method used for opposing direction	
Stephens St (OR 99)	N of Wilbur	Wilbur	SB	140	133	166	141	173	24.8%	1.0%	22.5%	32	172	171	0%	172	172	Average of Difference and Growth		
	Wilbur	N of Wilbur	NB	245	153	191	162	199	24.8%	1.0%	22.5%	36	281	300	6%	291	291	Average of Difference and Growth		
	Wilbur	Bank	SB	125	132	165	140	172	25.0%	1.0%	22.6%	32	157	153	2%	155	155	Average of Difference and Growth		
	Bank	Wilbur	NB	230	151	190	160	198	25.8%	1.0%	23.3%	37	267	284	6%	276	276	Average of Difference and Growth		
	Bank	S of Bank	SB	130	93	117	99	122	25.8%	1.0%	23.3%	23	153	160	5%	157	157	Average of Difference and Growth		
	S of Bank	Bank	NB	250	117	143	123	148	22.2%	0.9%	20.3%	25	275	301	9%	288	288	Average of Difference and Growth		
	N of Exit 129 NB Ramps	Exit 129 NB Ramps	SB	240	335	335	335	335	0.0%	0.0%	0.0%	0	240	240	0%	240	240	Difference Method	Absolute difference >10% --> Used difference only	Interchange reconstructed between 2010 and 2040
	Exit 129 NB Ramps	N of Exit 129 NB Ran	NB	250	218	218	218	218	0.0%	0.0%	0.0%	0	250	250	0%	250	250	Difference Method	To be consistent with method used for opposing direction	Interchange reconstructed between 2010 and 2040
	Exit 129 NB Ramps	Umpqua College Rd	SB	365	359	457	383	477	27.3%	1.1%	24.6%	94	459	455	1%	457	457	Average of Difference and Growth		Interchange reconstructed between 2010 and 2040
	Umpqua College Rd	Exit 129 NB Ramps	NB	300	152	152	152	152	0.0%	0.0%	0.0%	0	300	300	0%	300	300	Average of Difference and Growth		Interchange reconstructed between 2010 and 2040
	Umpqua College Rd	S of Umpqua College	SB	295	203	450	262	499	121.7%	4.9%	90.4%	237	532	562	5%	547	547	Average of Difference and Growth		Interchange reconstructed between 2010 and 2040
	S of Umpqua College Rd	Umpqua College Rd	NB	325	195	195	195	195	0.0%	0.0%	0.0%	0	325	325	0%	325	325	Difference Method	Absolute difference >10% --> Used difference only	Interchange reconstructed between 2010 and 2040
	N of Kenneth Ford Dr	Kenneth Ford Dr	SB	435	374	524	410	554	40.1%	1.6%	35.1%	144	579	588	2%	583	579	Difference Method	To be consistent with method used for opposing direction	
	Kenneth Ford Dr	N of Kenneth Ford Dr	NB	645	622	845	676	890	35.9%	1.4%	31.7%	214	859	849	1%	854	854	Average of Difference and Growth		
	Kenneth Ford Dr	S of Kenneth Ford Dr	SB	615	374	524	410	554	40.1%	1.6%	35.1%	144	759	831	9%	795	795	Average of Difference and Growth		
	S of Kenneth Ford Dr	Kenneth Ford Dr	NB	610	622	845	676	890	35.9%	1.4%	31.7%	214	824	803	3%	814	814	Average of Difference and Growth		
	N of Edenbower	Edenbower	SB	565	389	721	469	787	85.3%	3.4%	68.0%	319	884	949	7%	916	916	Average of Difference and Growth		
	Edenbower	N of Edenbower	NB	825	657	926	722	980	40.9%	1.6%	35.8%	258	1083	1120	3%	1102	1102	Average of Difference and Growth		
	Edenbower	S of Edenbower	SB	580	381	564	425	601	48.0%	1.9%	41.3%	176	756	820	8%	788	788	Average of Difference and Growth		
	S of Edenbower	Edenbower	NB	850	566	596	573	602	5.3%	0.2%	5.0%	29	879	893	2%	886	886	Average of Difference and Growth		
	N of Newton Creek Rd	Newton Creek Rd	SB	626	304	539	360	586	77.3%	3.1%	62.6%	226	852	1018	18%	935	852	Difference Method	Absolute difference >10% --> Used difference only	
	Newton Creek Rd	N of Newton Creek R	NB	700	541	856	617	919	58.2%	2.3%	49.0%	302	1002	1043	4%	1023	1002	Difference Method	To be consistent with method used for opposing direction	
	Newton Creek Rd	S of Newton Creek R	SB	655	335	575	393	623	71.6%	2.9%	58.7%	230	885	1039	16%	962	885	Difference Method	Absolute difference >10% --> Used difference only	
	S of Newton Creek Rd	Newton Creek Rd	NB	730	630	984	715	1055	56.2%	2.2%	47.5%	340	1070	1077	1%	1073	1070	Difference Method	To be consistent with method used for opposing direction	
	N of Stewart/Alameda																			
	Stewart/Alameda																			
	Stewart/Alameda																			
	S of Stewart/Alameda																			
	N of Chestnut	Chestnut	SB	1170	1295	1756	1406	1848	35.6%	1.4%	31.5%	443	1613	1538	5%	1575	1575	Average of Difference and Growth		
	Chestnut	N of Chestnut	NB	1090	1065	1467	1161	1547	37.7%	1.5%	33.2%	386	1476	1452	2%	1464	1464	Average of Difference and Growth		
	Chestnut	Winchester	SB	1285	1318	1799	1433	1895	36.5%	1.5%	32.2%	462	1747	1699	3%	1723	1723	Average of Difference and Growth		
	Winchester	Chestnut	NB	1205	1081	1481	1177	1561	37.0%	1.5%	32.6%	384	1589	1598	1%	1594	1594	Average of Difference and Growth		
	Winchester	S of Winchester	SB	760	852	1330	967	1426	56.1%	2.2%	47.5%	459	1219	1121	8%	1170	1170	Average of Difference and Growth		
	S of Winchester	Winchester	NB	685	886	1016	917	1042	14.7%	0.6%	13.6%	125	810	778	4%	794	794	Average of Difference and Growth		
	N of Diamond Lake Blvd	Diamond Lake Blvd	SB	655	356	847	474	945	137.9%	5.5%	99.5%	471	1126	1307	15%	1216	1126	Difference Method	Absolute difference >10% --> Used difference only	
	Diamond Lake Blvd	N of Diamond Lake B	NB	580	385	551	425	584	43.1%	1.7%	37.5%	159	739	798	8%	768	739	Difference Method	To be consistent with method used for opposing direction	
	Diamond Lake Blvd	S of Diamond Lake B	SB	855	763	1156	857	1235	51.5%	2.1%	44.0%	377	1232	1231	0%	1232	1232	Average of Difference and Growth		
	S of Diamond Lake Blvd	Diamond Lake Blvd	NB	980	781	1069	850	1127	36.9%	1.5%	32.5%	276	1256	1299	3%	1278	1278	Average of Difference and Growth		
	Mosher	N of Mosher	NB	730	619	718	643	738	16.0%	0.6%	14.8%	95	825	838	2%	831	831	Average of Difference and Growth		
	S of Mosher	Mosher	NB	685	611	704	633	723	15.2%	0.6%	14.1%	89	774	782	1%	778	778	Average of Difference and Growth		
	N of S Gate Shopping Ctr	S Gate Shopping Ctr	SB	581	431	431	431	431	0.0%	0.0%	0.0%	0	581	581	0%	581	581	Average of Difference and Growth		No explanation for decrease - no growth
	S Gate Shopping Ctr	N of S Gate Shopping	NB	480	397	397	397	397	0.0%	0.0%	0.0%	0	480	480	0%	480	480	Average of Difference and Growth		No explanation for decrease - no growth
	S Gate Shopping Ctr	S of S Gate Shopping	SB	536	431	431	431	431	0.0%	0.0%	0.0%	0	536	536	0%	536	536	Average of Difference and Growth		No explanation for decrease - no growth
	S of S Gate Shopping Ctr	S Gate Shopping Ctr	NB	482	397	397	397	397	0.0%	0.0%	0.0%	0	482	482	0%	482	482	Average of Difference and Growth		No explanation for decrease - no growth
S Gate Shopping Ctr	W of Stephens	Stephens	EB	7	1	1	1	1	0.0%	0.0%	0.0%	0	7	7	0%	7	7	Average of Difference and Growth		No Link volume in model - driveway
	Stephens	W of Stephens	WB	4	1	1	1	1	0.0%	0.0%	0.0%	0	4	4	0%	4	4	Average of Difference and Growth		No Link volume in model - driveway
	Stephens	E of Stephens	WB	116	1	1	1	1	0.0%	0.0%	0.0%	0	116	116	0%	116	116	Average of Difference and Growth		No Link volume in model - driveway
	E of Stephens	Stephens	EB	66	1	1	1	1	0.0%	0.0%	0.0%	0	66	66	0%	66	66	Average of Difference and Growth		No Link volume in model - driveway
Pine St	N of Mosher	Mosher	SB	715	757	839	777	855	10.8%	0.4%	10.1%	79	794	787	1%	791	791	Average of Difference and Growth		
	Mosher	S of Mosher	SB	680	463	488	469	493	5.4%	0.2%	5.1%	24	704	715	2%	709	709	Average of Difference and Growth		
Mosher Ave	E of Stephens	Stephens	WB	60	15	18	16	19	20.0%	0.8%	18.3%	3	63	71	12%	67	63	Difference Method	Absolute difference >10% --> Used difference only	
	Stephens	E of Stephens	EB	70	295	345	307	355	16.9%	0.7%	15.6%	48	118	81	37%	99	118	Difference Method	To be consistent with method used for opposing direction	
	Stephens	Pine	WB	50	8	4	7	3	-50.0%	-2.0%	-54.5%	-4	46	23	68%	34	46	Difference Method	Absolute difference >10% --> Used difference only	
	Pine	Stephens	EB	105	296	345	308	355	16.6%	0.7%	15.3%	47	152	121	23%	137	152	Difference Method	To be consistent with method used for opposing direction	
	Pine	W of Pine	WB	55	35	35	35	35	0.0%	0.0%	0.0%	0	55	55	0%	55	55	Average of Difference and Growth		
	W of Pine	Pine	EB	75	29	25	28	24	-13.8%	-0.6%	-13.7%	-4	71	65	9%	68	68	Average of Difference and Growth		
Wilbur Rd	Stephens	W of Stephens	WB	35	1	1	1	1	0.0%	0.0%	0.0%	0	35	35	0%	35	35	Average of Difference and Growth		
	W of Stephens	Stephens	EB	35	2	2	2	2	0.0%	0.0%	0.0%	0	35	35	0%	35	35	Average of Difference and Growth		
Winchester St	Stephens	E of Stephens	EB	530	466	469	467	470	0.6%	0.0%	0.6%	3	533	533	0%	533	533	Difference Method	Absolute difference >10% --> Used difference only	
	E of Stephens	Stephens	WB	525	196	466	261	520	137.8%	5.5%	99.4%	259	784	1047	29%	915	784	Difference Method	To be consistent with method used for opposing direction	
	N of Diamond Lake Blvd	Diamond Lake Blvd	SB	580	733	729	732	728	-0.5%	0.0%	-0.5%	-4	576	577	0%	577	577	Average of Difference and Growth		TPAU STUDIED THIS INTERSECTION
	Diamond Lake Blvd	S of Diamond Lake B	NB	535	604	736	636	762	21.9%	0.9%	19.9%	127	662	642	3%	652	652	Average of Difference and Growth		TPAU STUDIED THIS INTERSECTION
North Bank Rd	Stephens	E of Stephens	EB	60	39	49	41	51	25.6%	1.0%	23.2%	10	70	74	6%	72	72	Average of Difference and Growth		
	E of Stephens	Stephens	WB	45	34	47	37	50	38.2%	1.5%	33.6%	12	57	60	5%	59	59	Average of Difference and Growth		
Exit 129 NB Ramps	Stephens	W of Stephens	WB	145	105	105	105	105	0.0%	0.0%	0.0%	0	145	145	0%	145	145	Average of Difference and Growth		Interchange reconstructed between 2010 and 2040
	W of Stephens	Stephens	EB	220	195	449	256	500	130.3%	5.2%	95.3%	244	464	430	8%	447	447	Average of Difference and Growth		
Exit 129 SB Ramps	N of Del Rio Rd	Del Rio Rd	SB	90	89	181	111	199	103.4%	4.1%	79.5%	88	178	162	10%	170	170	Average of Difference and Growth		
	Del Rio Rd	N of Del Rio rd	NB	240	215	284	232	298	32.1%	1.3%	28.6%	66	306	309	1%	307	307	Average of Difference and Growth		
Umpqua College Rd/Del R	Stephens	Exit 129 SB Ramps	WB	350	312	312	312	312	0.0%	0.0%	0.0%	0	350	350	0%	350	350	Average of Difference and Growth		
	Exit 129 SB Ramps	Stephens	EB	150	113	219	138	240	93.8%	3.8%	73.5%	102	252	260	3%	256	256	Average of Difference and Growth		
	E of Stephens	Stephens	WB	280	200	213	203	216	6.5%	0.3%	6.1%	12	292	297	2%	295	295	Average of Difference and Growth		Interchange reconstructed between 2010 and 2040
	Stephens	E of Stephens	EB	175	84	118	92	125	40.5%	1.6%	35.4%	33	208	237	13%	222	222	Average of Difference and Growth		Interchange reconstructed between 2010 and 2040
	Exit 129 SB Ramps	W of Exit 129 SB Ran	WB	160	125	125	125	125	0.0%	0.0%	0.0%	0	160	160	0%	160	160	Difference Method	Absolute difference >10% --> Used difference only	Interchange reconstructed between 2010 and 2040
	W of Exit 129 SB Ramps	Exit 129 SB Ramps	EB	110	53	78	59	83	47.2%	1.9%	40.7%	24	134	155	14%	144	134	Difference Method	To be consistent with method used for opposing direction	
Kenneth Ford Dr	Stephens	E of Stephens	EB	140	2	14	5	17	537.0%	21.5%	225.2%	12	152	455	100%	303	152	Difference Method		Costco not included in 2010 model - adjust links appropriately
	E of Stephens	Stephens	WB	355	3	9	4	10	240.0%	9.6%	146.2%	6	361	874	83%	617	361	Difference Method		Costco not included in 2010 model - adjust links appropriately
Chestnut Ave	Stephens	W of Stephens	WB	150	54	52	54	52	-3.7%	-0.1%	-3.6%	-2	148	145	2%	146	148	Difference Method	Absolute difference >10% --> Used difference only	
	W of Stephens	Stephens	EB	150	61	81	66	85	32.8%	1.3%	29.2%	19	169	194	14%	181	169	Difference Method	To be consistent with method used for opposing direction	
	E of Cedar	Cedar	WB	76	59	62	60	63	5.1%	0.2%	4.8%	3	79	80	1%	79	79	Average of Difference and Growth		
	Cedar	E of Cedar	EB	80	67	80	70	83	19.4%	0.8%	17.8%	12	92	94	2%	93	93	Average of Difference and Growth		
	Cedar	W of Cedar	WB	60	31	56	37	61	80.6%	3.2%	64.9%	24	84	99	16%	91	84	Difference Method	Absolute difference >10% --> Used difference only	
	W of Cedar	Cedar	EB	56	41	66	47	71	61.0%	2.4%	51.1%	24	80	85	6%	82	80	Difference Method	To be consistent with method used for opposing direction	
Newton Creek Rd	W of Stephens	Stephens	EB	31	1	1	1	1	0.0%	0.0%	0.0%	0	31	31	0%	31	31	Average of Difference and Growth		No Link volume in model - driveway

Existing Year 2016
Project Forecast Year 2040
Model Base Year 2010
Model Forecast Year 2035

Sidestreets not included in the regional model
Greater than 10% difference between difference and growth methods
Numbers adjusted from model to work with spreadsheet (0 growth = 1)
Previous study intersection

					Model Assignment																
				Existing 30HV	Baseline Model	Future Ref Model	Interpolated Model	Forecasted Model	2010-2035 Model Comparison		2016-2040 Model Comparison		Post Processed Volumes Future 2040 No Build Year				Forecast Used	Method Used	Comments	Additional Comments
Road	From	To	Direction	2016	2010	2035	2016	2040	Total Growth	Annual Growth	Total Growth	Volume Difference	Volume Difference	Volume Growth	Absolute Difference	Average				
	Stephens	W of Stephens	WB	12	1	1	1	1	0.0%	0.0%	0.0%	0	12	12	0%	12	**12**	Average of Difference and Growth		No Link volume in model - driveway
	Stephens	E of Stephens	EB	161	89	128	98	136	43.8%	1.8%	38.1%	37	198	222	11%	210	**210**	Average of Difference and Growth		
	E of Stephens	Stephens	WB	141	32	35	33	36	9.4%	0.4%	8.8%	3	144	153	6%	149	**149**	Average of Difference and Growth		
Oak Ave	Rose St	Jackson St	EB	230	312	389	330	404	24.7%	1.0%	22.4%	74	304	281	8%	293	**293**	Average of Difference and Growth		
	Jackson St	Main St	EB	195	308	385	326	400	25.0%	1.0%	22.6%	74	269	239	12%	254	**254**	Average of Difference and Growth		

N-S ID	Synchro ID	Intersection	Direction	Movement	Int ID	2016 Balanced Volumes PM Peak	2040 NCHRP 255-Base Unbalanced Future Baseline	2040 NCHRP 255-Base Rounded Future Baseline	2040 NCHRP 255-Base Volume Balancing Adjustments	240 NCHRP 255-Base Balanced Future Baseline
1	10	OR 99 @ Wilbur Rd.		EBL	1	30	30	30	0	30
	10		EB	EBT	1	0	0	0	0	0
	10	Count Date: 6/15/2015		EBR	1	5	5	5	0	5
	10			WBL	1	0	0	0	0	0
	10		WB	WBT	1	0	0	0	0	0
	10			WBR	1	0	0	0	0	0
	10	PM Peak Hour: 4:30 PM-5:30 PM		NBL	1	15	14	15	0	15
	10	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	1	215	261	260	0	260
	10			NBR	1	0	0	0	0	0
	10			SBL	1	0	0	0	0	0
	10	PHF:	SB	SBT	1	120	150	150	0	150
	10	0.89		SBR	1	20	21	20	0	20
			TEV	**TEV**	**1**	**405**	**481**	**480**	**0**	**480**
2	20	OR 99 @ N. Bank Rd.		EBL	2	0	0	0	0	0
	20		EB	EBT	2	0	0	0	0	0
	20	Count Date: 6/15/2015		EBR	2	0	0	0	0	0
	20			WBL	2	20	23	25	0	25
	20		WB	WBT	2	0	0	0	0	0
	20			WBR	2	25	36	35	0	35
	20	PM Peak Hour: 4:30 PM-5:30 PM		NBL	2	0	0	0	0	0
	20	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	2	205	240	240	0	240
	20			NBR	2	45	50	50	0	50
	20			SBL	2	15	22	20	0	20
	20	PHF:	SB	SBT	2	110	134	135	0	135
	20	0.94		SBR	2	0	0	0	0	0
			TEV	**TEV**	**2**	**420**	**504**	**505**	**0**	**505**
3	30	I-5 Exit 129 @ NB On/Off Ramps/OR 99		EBL	3	85	127	125	0	125
	30		EB	EBT	3	0	0	0	0	0
	30	Count Date: 5/11/2015		EBR	3	135	259	260	0	260
	30			WBL	3	0	0	0	0	0
	30		WB	WBT	3	0	0	0	0	0
	30			WBR	3	0	0	0	0	0
	30	PM Peak Hour: 4:30 PM-5:30 PM		NBL	3	135	136	135	10	145
	30	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	3	165	123	125	50	175
	30			NBR	3	0	0	0	0	0
	30			SBL	3	0	0	0	0	0
	30	PHF:	SB	SBT	3	230	198	200	40	240
	30	0.96		SBR	3	10	9	10	5	15
			TEV	**TEV**	**3**	**760**	**852**	**855**	**105**	**960**
4	40	I-5 Exit 129 @ SB On/Off Ramps/Del Rio Rd.		EBL	4	25	37	35	0	35
	40		EB	EBT	4	85	111	110	0	110
	40	Count Date: 5/11/2015		EBR	4	0	0	0	0	0
	40			WBL	4	0	0	0	0	0
	40		WB	WBT	4	135	117	115	20	135
	40			WBR2	4	215	270	270	0	270
	40	PM Peak Hour: 4:00 PM-5:00 PM		NBL	4	0	0	0	0	0
	40	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	4	0	0	0	0	0
	40			NBR	4	0	0	0	0	0
	40			SBL	4	65	145	145	0	145
	40	PHF:	SB	SBT	4	0	0	0	0	0
	40	0.85		SBR	4	25	43	45	0	45
			TEV	**TEV**	**4**	**550**	**723**	**720**	**20**	**740**
5	50	OR 99 @ Del Rio Rd. /Umpqua College Rd.		EBL	5	45	55	55	0	55
	50		EB	EBT	5	35	54	55	0	55
	50	Count Date: 6/3/2015		EBR	5	70	164	165	-20	145
	50			WBL	5	85	137	135	0	135
	50		WB	WBT	5	140	131	130	35	165
	50			WBR	5	55	46	45	20	65
	50	PM Peak Hour: 4:30 PM-5:30 PM		NBL	5	70	77	75	15	90
	50	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	5	200	199	200	0	200
	50			NBR	5	55	70	70	0	70
	50			SBL	5	85	99	100	5	105
	50	PHF:	SB	SBT	5	140	246	245	0	245
	50	0.91		SBR	5	140	142	140	10	150
			TEV	**TEV**	**5**	**1120**	**1419**	**1415**	**65**	**1480**
6	60	NE Stephens St. @ Kenneth Ford Dr.		EBL	6	0	0	0	0	0
	60		EB	EBT	6	0	0	0	0	0
	60	Count Date: 6/15/2015		EBR	6	0	0	0	0	0
	60			WBL	6	250	271	270	0	270
	60		WB	WBT	6	0	0	0	0	0
	60			WBR	6	105	99	100	15	115
	60	PM Peak Hour: 4:30 PM-5:30 PM		NBL	6	0	0	0	0	0
	60	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	6	540	755	755	0	755

N-S ID	Synchro ID	Intersection	Direction	Movement	Int ID	2016 Balanced Volumes PM Peak	2040 NCHRP 255-Base Unbalanced Future Baseline	2040 NCHRP 255-Base Rounded Future Baseline	2040 NCHRP 255-Base Volume Balancing Adjustments	240 NCHRP 255-Base Balanced Future Baseline
	60			NBR	6	70	80	80	0	80
	60			SBL	6	70	72	70	10	80
	60	PHF:	SB	SBT	6	365	524	525	0	525
	60	0.96		SBR	6	0	0	0	0	0
			TEV	**TEV**	**6**	**1400**	**1801**	**1800**	**25**	**1825**
7	70	NW Edenbower Blvd. @ NW Broad St.(Draft IAMP 1		EBL	7	25		35	35	35
	70		EB	EBT	7	0		0	0	0
	70	Count Date: 6/11/2015		EBR	7	30		35	35	35
	70			WBL	7	0		0	0	0
	70	Signalized	WB	WBT	7	0		0	0	0
	70			WBR	7	0		0	0	0
	70	PM Peak Hour: 4:30 PM-5:30 PM		NBL	7	50		60	60	60
	70	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	7	800		1040	1040	1040
	70			NBR	7	0		0	0	0
	70			SBL	7	0		0	0	0
	70	PHF:	SB	SBT	7	550		685	685	685
	70	0.99		SBR	7	15		20	20	20
			TEV	**TEV**	**7**	**1470**	**0**	**1875**	**1875**	**1875**
8	80	I-5 Exit 127 @ SB On/Off Ramps/NW Edenbower Bl		EBL	8	0		0	0	0
	80		EB	EBT	8	550		645	645	645
	80	Count Date: 6/11/2012		EBR	8	275		430	430	430
	80			WBL	8	270		345	345	345
	80		WB	WBT	8	375		405	405	405
	80			WBR	8	0		0	0	0
	80	PM Peak Hour: 4:30 PM-5:30 PM		NBL	8	0		0	0	0
	80	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	8	0		0	0	0
	80			NBR	8	0		0	0	0
	80			SBL	8	100		100	100	100
	80	PHF:	SB	SBT	8	0		0	0	0
	80	0.93		SBR	8	190		300	300	300
			TEV	**TEV**	**8**	**1760**	**0**	**2225**	**2225**	**2225**
9	90	I-5 Exit 127 @ NB On/Off Ramps/NW Edenbower Bl		EBL	9	0		0	0	0
	90		EB	EBT	9	445		470	470	470
	90	Count Date: 6/11/2012		EBR	9	205		275	275	275
	90			WBL	9	0		0	0	0
	90		WB	WBT	9	600		700	700	700
	90			WBR	9	115		195	195	195
	90	PM Peak Hour: 4:30 PM-5:30 PM		NBL	9	45		50	50	50
	90	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	9	0		5	5	5
	90			NBR	9	240		275	275	275
	90			SBL	9	0		0	0	0
	90	PHF:	SB	SBT	9	0		0	0	0
	90	0.92		SBR	9	0		0	0	0
			TEV	**TEV**	**9**	**1650**	**0**	**1970**	**1970**	**1970**
10	100	NW Edenbower Blvd. @ NW Aviation Dr.(Draft IAMP		EBL	10	100		140	140	140
	100		EB	EBT	10	510		525	525	525
	100	Count Date: 6/11/2012		EBR	10	75		80	80	80
	100			WBL	10	30		30	30	30
	100		WB	WBT	10	495		615	615	615
	100			WBR	10	75		110	110	110
	100	PM Peak Hour: 6:00 PM-7:00 PM		NBL	10	65		95	95	95
	100	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	10	25		45	45	45
	100			NBR	10	45		60	60	60
	100			SBL	10	55		55	55	55
	100	PHF:	SB	SBT	10	40		40	40	40
	100	0.93		SBR	10	155		185	185	185
			TEV	**TEV**	**10**	**1670**	**0**	**1980**	**1980**	**1980**
11	110	NW Edenbower Blvd @ NE Stephens St.(Draft IAMP		EBL	11	340		340	340	340
	110		EB	EBT	11	5		10	10	10
	110	Count Date: 6/11/2015		EBR	11	250		285	285	285
	110			WBL	11	5		5	5	5
	110		WB	WBT	11	10		15	15	15
	110			WBR	11	5		5	5	5
	110	PM Peak Hour: 4:30 PM-5:30 PM		NBL	11	295		385	385	385
	110	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	11	395		435	435	435
	110			NBR	11	5		5	5	5
	110			SBL	11	5		5	5	5
	110	PHF:	SB	SBT	11	375		435	435	435
	110	0.94		SBR	11	295		355	355	355
			TEV	**TEV**	**11**	**1985**	**0**	**2280**	**2280**	**2280**
12	120	NE Stephens St. @ NE Newton Creek Rd.		EBL	12	15	14	15	0	15
	120		EB	EBT	12	1	1	0	1	1

N-S ID	Synchro ID	Intersection	Direction	Movement	Int ID	2016 Balanced Volumes PM Peak	2040 NCHRP 255-Base Unbalanced Future Baseline	2040 NCHRP 255-Base Rounded Future Baseline	2040 NCHRP 255-Base Volume Balancing Adjustments	240 NCHRP 255-Base Balanced Future Baseline
	120	Count Date: 5/14/2015		EBR	12	15	16	15	0	15
	120			WBL	12	75	84	85	0	85
	120		WB	WBT	12	1	1	0	1	1
	120			WBR	12	65	65	65	0	65
	120	PM Peak Hour: 4:00 PM-5:00 PM		NBL	12	10	10	10	0	10
	120	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	12	620	923	925	0	925
	120			NBR	12	100	139	140	0	140
	120			SBL	12	60	70	70	0	70
	120	PHF:	SB	SBT	12	565	786	785	0	785
	120	0.97		SBR	12	1	1	0	1	1
			TEV	**TEV**	**12**	**1528**	**2110**	**2110**	**3**	**2113**
13	130	NW Stewart Pkwy. @ NW Edenbower Blvd.(Draft IA		EBL	13	665		890	890	890
	130		EB	EBT	13	375		570	570	570
	130	Count Date: 6/12/2012		EBR	13	15		25	25	25
	130			WBL	13	85		130	130	130
	130		WB	WBT	13	335		415	415	415
	130			WBR	13	70		85	85	85
	130	PM Peak Hour: 4:30 PM-5:30 PM		NBL	13	35		35	35	35
	130	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	13	165		175	175	175
	130			NBR	13	105		130	130	130
	130			SBL	13	55		80	80	80
	130	PHF:	SB	SBT	13	60		90	90	90
	130	0.93		SBR	13	465		545	545	545
			TEV	**TEV**	**13**	**2430**	**0**	**3170**	**3170**	**3170**
14	140	NW Garden Valley Blvd. @ Melrose Rd.		EBL	14	55	69	70	0	70
	140		EB	EBT	14	1	1	0	1	1
	140	Count Date: 5/18/2015		EBR	14	185	223	225	0	225
	140			WBL	14	5	4	5	5	10
	140		WB	WBT	14	1	1	0	1	1
	140			WBR	14	1	1	0	1	1
	140	PM Peak Hour: 4:45 PM-5:45 PM		NBL	14	335	437	435	0	435
	140	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	14	380	634	635	-5	630
	140			NBR	14	10	15	15	0	15
	140			SBL	14	1	1	0	5	5
	140	PHF:	SB	SBT	14	260	369	370	0	370
	140	0.97		SBR	14	65	75	75	0	75
			TEV	**TEV**	**14**	**1299**	**1830**	**1830**	**8**	**1838**
15	150	NW Garden Valley Blvd. @ NW Troost St.		EBL	15	5	4	5	0	5
	150		EB	EBT	15	420	577	575	0	575
	150	Count Date: 5/18/2015		EBR	15	25	21	20	5	25
	150			WBL	15	190	235	235	0	235
	150		WB	WBT	15	695	1,052	1050	0	1050
	150			WBR	15	15	18	20	0	20
	150	PM Peak Hour: 4:45 PM-5:45 PM		NBL	15	25	23	25	0	25
	150	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	15	1	1	0	1	1
	150			NBR	15	165	202	200	0	200
	150			SBL	15	40	46	45	0	45
	150	PHF:	SB	SBT	15	5	4	5	0	5
	150	0.96		SBR	15	5	4	5	0	5
			TEV	**TEV**	**15**	**1591**	**2188**	**2185**	**6**	**2191**
16	160	NW Garden Valley Blvd. @ NW Kline St.		EBL	16	10	17	15	0	15
	160		EB	EBT	16	600	772	770	0	770
	160	Count Date: 5/18/2015		EBR	16	35	39	40	0	40
	160			WBL	16	75	63	65	0	65
	160		WB	WBT	16	855	1,233	1235	0	1235
	160			WBR	16	190	238	240	0	240
	160	PM Peak Hour: 4:30 PM-5:30 PM		NBL	16	45	58	60	0	60
	160	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	16	20	22	20	0	20
	160			NBR	16	115	100	100	0	100
	160			SBL	16	240	295	295	0	295
	160	PHF:	SB	SBT	16	20	21	20	0	20
	160	0.94		SBR	16	25	46	45	0	45
			TEV	**TEV**	**16**	**2230**	**2905**	**2905**	**0**	**2905**
17	170	NW Garden Valley Blvd. @ Roseburg Valley Mall (M		EBL	17	15	8	10	20	30
	170		EB	EBT	17	940	1,277	1275	-90	1185
	170	Count Date: 5/19/2015		EBR	17	0	0	0	0	0
	170			WBL	17	0	0	0	0	0
	170		WB	WBT	17	1100	1,523	1525	-10	1515
	170			WBR	17	75	82	80	10	90
	170	PM Peak Hour: 4:30 PM-5:30 PM		NBL	17	0	0	0	0	0
	170	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	17	0	0	0	0	0
	170			NBR	17	0	0	0	0	0
	170			SBL	17	15	41	40	0	40

N-S ID	Synchro ID	Intersection	Direction	Movement	Int ID	2016 Balanced Volumes PM Peak	2040 NCHRP 255-Base Unbalanced Future Baseline	2040 NCHRP 255-Base Rounded Future Baseline	2040 NCHRP 255-Base Volume Balancing Adjustments	240 NCHRP 255-Base Balanced Future Baseline
	170	PHF:	SB	SBT	17	0	0	0	0	0
	170	0.92		SBR	17	20	27	25	0	25
			TEV	**TEV**	**17**	**2165**	**2958**	**2955**	**-70**	**2885**
18	180	NW Stewart Pkwy. @ Roseburg Mall Entrance/Walm		EBL	18	50	64	65	0	65
	180		EB	EBT	18	20	21	20	0	20
	180	Count Date: 5/19/2015		EBR	18	30	36	35	0	35
	180			WBL	18	185	201	200	0	200
	180		WB	WBT	18	10	14	15	0	15
	180			WBR	18	55	63	65	0	65
	180	PM Peak Hour: 4:45 PM-5:45 PM		NBL	18	50	77	75	0	75
	180	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	18	675	872	870	0	870
	180			NBR	18	175	186	185	0	185
	180			SBL	18	55	65	65	0	65
	180	PHF:	SB	SBT	18	955	1,296	1295	0	1295
	180	0.93		SBR	18	20	34	35	0	35
			TEV	**TEV**	**18**	**2280**	**2928**	**2925**	**0**	**2925**
19	190	NW Stewart Pkwy. @ NW Aviation Dr. /NW Mullholla		EBL	19	20	43	45	0	45
	190		EB	EBT	19	445	820	820	0	820
	190	Count Date: 2/27/2013		EBR	19	90	363	365	0	365
	190			WBL	19	80	96	95	0	95
	190		WB	WBT	19	370	620	620	0	620
	190			WBR	19	35	22	20	15	35
	190	PM Peak Hour: 5:15 PM-6:15 PM		NBL	19	110	336	335	0	335
	190	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	19	30	35	35	0	35
	190			NBR	19	75	75	75	0	75
	190			SBL	19	55	37	35	20	55
	190	PHF:	SB	SBT	19	50	73	75	0	75
	190	0.85		SBR	19	25	51	50	0	50
			TEV	**TEV**	**19**	**1385**	**2568**	**2570**	**35**	**2605**
20	200	NW Garden Valley Blvd. @ NW Stewart Pkwy.(Draft		EBL	20	300	450	450	450	450
	200		EB	EBT	20	545	725	725	725	725
	200	Count Date: 9/27/2012		EBR	20	65	95	95	95	95
	200			WBL	20	330	390	390	390	390
	200		WB	WBT	20	830	1040	1040	1040	1040
	200			WBR	20	295	335	335	335	335
	200	PM Peak Hour: 4:30 PM-5:30 PM		NBL	20	105	150	150	150	150
	200	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	20	310	400	400	400	400
	200			NBR	20	195	240	240	240	240
	200			SBL	20	440	420	420	420	420
	200	PHF:	SB	SBT	20	365	400	400	400	400
	200	0.93		SBR	20	360	435	435	435	435
			TEV	**TEV**	**20**	**4140**	**5080**	**5080**	**5080**	**5080**
21	210	NW Stewart Pkwy. @ NW Valley View Dr.		EBL	21	80	128	130	0	130
	210		EB	EBT	21	0	0	0	0	0
	210	Count Date: 6/10/2015		EBR	21	80	116	115	0	115
	210			WBL	21	0	0	0	0	0
	210		WB	WBT	21	0	0	0	0	0
	210			WBR	21	0	0	0	0	0
	210	PM Peak Hour: 4:45 PM-5:45 PM		NBL	21	35	59	60	0	60
	210	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	21	505	636	635	0	635
	210			NBR	21	0	0	0	0	0
	210			SBL	21	0	0	0	0	0
	210	PHF:	SB	SBT	21	605	725	725	0	725
	210	0.91		SBR	21	190	333	335	0	335
			TEV	**TEV**	**21**	**1495**	**1996**	**2000**	**0**	**2000**
22	220	NW Stewart Pkwy. @ NE Airport Rd.		EBL	22	50	59	60	0	60
	220		EB	EBT	22	480	833	835	0	835
	220	Count Date: 5/21/2015		EBR	22	85	112	110	0	110
	220			WBL	22	30	28	30	0	30
	220		WB	WBT	22	280	514	515	0	515
	220			WBR	22	5	4	5	0	5
	220	PM Peak Hour: 4:15 PM-5:15 PM		NBL	22	65	85	85	0	85
	220	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	22	25	15	15	0	15
	220			NBR	22	45	39	40	0	40
	220			SBL	22	15	13	15	0	15
	220	PHF:	SB	SBT	22	45	29	30	0	30
	220	0.88		SBR	22	125	156	155	0	155
			TEV	**TEV**	**22**	**1250**	**1886**	**1895**	**0**	**1895**
22.5	225	NW Stewart Pkwy. @ NE Stephens St.		EBL	22.5	225				360
	225		EB	EBT	22.5	40				70
	225	Count Date:		EBR	22.5	275				460
	225			WBL	22.5	60				100

N-S ID	Synchro ID	Intersection	Direction	Movement	Int ID	2016 Balanced Volumes PM Peak	2040 NCHRP 255-Base Unbalanced Future Baseline	2040 NCHRP 255-Base Rounded Future Baseline	2040 NCHRP 255-Base Volume Balancing Adjustments	240 NCHRP 255-Base Balanced Future Baseline
	225		WB	WBT	22.5	40				70
	225			WBR	22.5	15				25
	225	PM Peak Hour: 3:00 PM-4:00 PM		NBL	22.5	260				400
	225	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	22.5	800				900
	225			NBR	22.5	40				70
	225			SBL	22.5	40				65
	225	PHF:	SB	SBT	22.5	580				590
	225	#DIV/0!		SBR	22.5	15				75
			TEV	**TEV**	**22.5**	**2390**	**0**	**0**	**0**	**3185**
23	230	NE Vine St. @ NE Alameda Ave.		EBL	23	15	27	25	0	25
	230		EB	EBT	23	70	116	115	0	115
	230	Count Date: 6/8/2015		EBR	23	35	65	65	0	65
	230			WBL	23	25	33	35	0	35
	230		WB	WBT	23	55	93	95	0	95
	230			WBR	23	10	13	15	0	15
	230	PM Peak Hour: 4:30 PM-5:30 PM		NBL	23	40	67	65	0	65
	230	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	23	45	57	55	0	55
	230			NBR	23	45	53	55	0	55
	230			SBL	23	20	25	25	0	25
	230	PHF:	SB	SBT	23	60	83	85	0	85
	230	0.93		SBR	23	20	35	35	0	35
			TEV	**TEV**	**23**	**440**	**668**	**670**	**0**	**670**
24	240	NW Troost St. @ NW Calkins Rd.		EBL	24	25	34	35	0	35
	240		EB	EBT	24	10	26	25	0	25
	240	Count Date: 5/19/2015		EBR	24	0	0	0	5	5
	240			WBL	24	50	122	120	0	120
	240		WB	WBT	24	25	95	95	0	95
	240			WBR	24	35	68	70	0	70
	240	PM Peak Hour: 4:15 PM-5:15 PM		NBL	24	1	2	0	5	5
	240	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	24	35	38	40	0	40
	240			NBR	24	20	41	40	0	40
	240			SBL	24	35	46	45	0	45
	240	PHF:	SB	SBT	24	60	51	50	10	60
	240	0.84		SBR	24	30	40	40	0	40
			TEV	**TEV**	**24**	**326**	**564**	**560**	**20**	**580**
25	250	NW Keasey St. @ NW Calkins Rd.		EBL	25	20	29	30	0	30
	250		EB	EBT	25	0	0	0	0	0
	250	Count Date: 6/9/2015		EBR	25	70	89	90	0	90
	250			WBL	25	0	0	0	0	0
	250		WB	WBT	25	0	0	0	0	0
	250			WBR	25	0	0	0	0	0
	250	PM Peak Hour: 5:15 PM-6:15 PM		NBL	25	85	119	120	0	120
	250	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	25	50	69	70	0	70
	250			NBR	25	0	0	0	0	0
	250			SBL	25	0	0	0	0	0
	250	PHF:	SB	SBT	25	85	104	105	0	105
	250	0.93		SBR	25	45	64	65	0	65
			TEV	**TEV**	**25**	**355**	**474**	**480**	**0**	**480**
26	260	NW Garden Valley Blvd. @ NW Goetz Street/Duck P		EBL	26	40	42	40	0	40
	260		EB	EBT	26	1090	1,459	1460	0	1460
	260	Count Date: 4/25/2016		EBR	26	50	53	55	0	55
	260			WBL	26	35	32	30	5	35
	260		WB	WBT	26	1295	1,484	1485	0	1485
	260			WBR	26	10	9	10	0	10
	260	PM Peak Hour: 4:30 PM-5:30 PM		NBL	26	110	111	110	0	110
	260	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	26	5	4	5	0	5
	260			NBR	26	50	50	50	0	50
	260			SBL	26	10	10	10	0	10
	260	PHF:	SB	SBT	26	1	1	0	5	5
	260	0.97		SBR	26	10	10	10	0	10
			TEV	**TEV**	**26**	**2706**	**3265**	**3265**	**10**	**3275**
27	270	NW Garden Valley Blvd. @ Centennial Dr./NE Este		EBL	27	15				30
	270		EB	EBT	27	1100				1215
	270	Count Date: 10/8/2014		EBR	27	35				100
	270			WBL	27	35				70
	270		WB	WBT	27	1215				1280
	270			WBR	27	15				25
	270	PM Peak Hour: 4:30 PM-5:30 PM		NBL	27	85				160
	270	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	27	5				5
	270			NBR	27	155				235
	270			SBL	27	25				40
	270	PHF:	SB	SBT	27	1				1
	270	0.95		SBR	27	40				65

N-S ID	Synchro ID	Intersection	Direction	Movement	Int ID	2016 Balanced Volumes PM Peak	2040 NCHRP 255-Base Unbalanced Future Baseline	2040 NCHRP 255-Base Rounded Future Baseline	2040 NCHRP 255-Base Volume Balancing Adjustments	240 NCHRP 255-Base Balanced Future Baseline
			TEV	**TEV**	**27**	**2726**	**0**	**0**	**0**	**3226**
28	280	NW Garden Valley Blvd. @ Garden Valley Shopping		EBL	28	160				235
	280		EB	EBT	28	1120				1270
	280	Count Date:		EBR	28	5				5
	280			WBL	28	5				5
	280		WB	WBT	28	1070				1275
	280			WBR	28	55				55
	280	PM Peak Hour: 3:00 PM-4:00 PM		NBL	28	15				25
	280	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	28	5				5
	280			NBR	28	25				25
	280			SBL	28	305				315
	280	PHF:	SB	SBT	28	1				1
	280	#DIV/0!		SBR	28	145				305
			TEV	**TEV**	**28**	**2911**	**0**	**0**	**0**	**3521**
29	290	I-5 Exit 125 @ SB On-Ramp/NW Garden Valley Blvd		EBL	29	0		0	0	0
	290		EB	EBT	29	1625		1875	1875	1875
	290	Count Date: 10/1/2012		EBR	29	605		630	630	630
	290			WBL	29	0		0	0	0
	290		WB	WBT	29	1385		1570	1570	1570
	290			WBR	29	290		530	530	530
	290	PM Peak Hour: 4:30 PM-5:30 PM		NBL	29	0		0	0	0
	290	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	29	0		0	0	0
	290			NBR	29	0		0	0	0
	290			SBL	29	100		145	145	145
	290	PHF:	SB	SBT	29	0		0	0	0
	290	0.92		SBR	29	140		190	190	190
			TEV	**TEV**	**29**	**4145**	**0**	**4940**	**4940**	**4940**
30	300	I-5 Exit 125 @ NB Off-Ramp/NW Garden Valley Blvd		EBL	30	50		65	65	65
	300		EB	EBT	30	825		955	955	955
	300	Count Date: 10/1/2012		EBR	30	160		230	230	230
	300			WBL	30	**130**		**165**	165	165
	300		WB	WBT	30	1080		1355	1355	1355
	300			WBR	30	25		40	40	40
	300	PM Peak Hour: 4:30 PM-5:30 PM		NBL	30	485		560	560	560
	300	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	30	160		225	225	225
	300			NBR	30	245		315	315	315
	300			SBL	30	35		45	45	45
	300	PHF:	SB	SBT	30	0		0	0	0
	300	0.96		SBR	30	240		265	265	265
			TEV	**TEV**	**30**	**3435**	**0**	**4220**	**4220**	**4220**
31	310	NE Garden Valley Blvd. @ NE Airport Rd./NE Cedar		EBL	31	115		130	130	130
	310		EB	EBT	31	825		970	970	970
	310	Count Date: 9/27/2012		EBR	31	75		105	105	105
	310			WBL	31	40		50	50	50
	310		WB	WBT	31	855		1055	1055	1055
	310			WBR	31	30		30	30	30
	310	PM Peak Hour: 4:15 PM-5:15 PM		NBL	31	95		130	130	130
	310	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	31	40		45	45	45
	310			NBR	31	40		50	50	50
	310			SBL	31	55		60	60	60
	310	PHF:	SB	SBT	31	60		75	75	75
	310	0.98		SBR	31	75		90	90	90
			TEV	**TEV**	**31**	**2305**	**0**	**2790**	**2790**	**2790**
32	320	NE Garden Valley Blvd. @ NE Walnut Street		EBL	32	40	41	40	0	40
	320		EB	EBT	32	825	1,043	1045	0	1045
	320	Count Date: 4/25/2016		EBR	32	50	55	55	0	55
	320			WBL	32	35	35	35	0	35
	320		WB	WBT	32	800	957	955	0	955
	320			WBR	32	5	5	5	0	5
	320	PM Peak Hour: 4:30 PM-5:30 PM		NBL	32	110	112	110	0	110
	320	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	32	5	4	5	0	5
	320			NBR	32	50	49	50	0	50
	320			SBL	32	5	5	5	0	5
	320	PHF:	SB	SBT	32	1	1	0	1	1
	320	0.96		SBR	32	10	10	10	0	10
			TEV	**TEV**	**32**	**1936**	**2318**	**2315**	**1**	**2316**
33	330	***NE Garden Valley Blvd. @ NE Stephens St.(Draf***		EBL	33	225		280	280	280
	330		EB	EBT	33	210		285	285	285
	330	Count Date: 9/27/2012		EBR	33	325		340	340	340
	330			WBL	33	255		325	325	325
	330		WB	WBT	33	220		300	300	300
	330			WBR	33	35		50	50	50

N-S ID	Synchro ID	Intersection	Direction	Movement	Int ID	2016 Balanced Volumes PM Peak	2040 NCHRP 255-Base Unbalanced Future Baseline	2040 NCHRP 255-Base Rounded Future Baseline	2040 NCHRP 255-Base Volume Balancing Adjustments	240 NCHRP 255-Base Balanced Future Baseline
	330	PM Peak Hour: 4:45 PM-5:45 PM		NBL	33	525		595	595	595
	330	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	33	875		1075	1075	1075
	330			NBR	33	45		60	60	60
	330			SBL	33	30		45	45	45
	330	PHF:	SB	SBT	33	705		865	865	865
	330	0.84		SBR	33	180		240	240	240
			TEV	**TEV**	**33**	**3630**	**0**	**4460**	**4460**	**4460**
34	340	NE Garden Valley Blvd. @ NE Rocky Ridge Dr.		EBL	34	80	80	80	0	80
	340		EB	EBT	34	165	195	195	0	195
	340	Count Date: 6/9/2015		EBR	34	0	0	0	0	0
	340			WBL	34	0	0	0	0	0
	340		WB	WBT	34	90	90	90	0	90
	340			WBR	34	5	5	5	0	5
	340	PM Peak Hour: 4:00 PM-5:00 PM		NBL	34	0	0	0	0	0
	340	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	34	0	0	0	0	0
	340			NBR	34	0	0	0	0	0
	340			SBL	34	5	5	5	0	5
	340	PHF:	SB	SBT	34	0	0	0	0	0
	340	0.72		SBR	34	40	40	40	0	40
			TEV	**TEV**	**34**	**385**	**416**	**415**	**0**	**415**
35	350	NW Stewart Pkwy. @ NW Harvey Ave.		EBL	35	25	49	50	0	50
	350		EB	EBT	35	20	22	20	0	20
	350	Count Date: 5/19/2015		EBR	35	120	179	180	0	180
	350			WBL	35	45	56	55	0	55
	350		WB	WBT	35	15	31	30	0	30
	350			WBR	35	65	106	105	0	105
	350	PM Peak Hour: 4:45 PM-5:45 PM		NBL	35	205	299	300	0	300
	350	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	35	470	543	545	0	545
	350			NBR	35	20	13	15	0	15
	350			SBL	35	70	61	60	0	60
	350	PHF:	SB	SBT	35	595	697	695	0	695
	350	0.88		SBR	35	40	77	75	0	75
			TEV	**TEV**	**35**	**1690**	**2132**	**2130**	**0**	**2130**
36	360	NE Chestnut Ave. @ NE Cedar St.		EBL	36	20	34	35	0	35
	360		EB	EBT	36	35	43	45	0	45
	360	Count Date: 6/9/2015		EBR	36	1	1	0	1	1
	360			WBL	36	1	0	0	1	1
	360		WB	WBT	36	40	46	45	0	45
	360			WBR	36	35	31	30	5	35
	360	PM Peak Hour: 4:15 PM-5:15 PM		NBL	36	5	7	5	5	10
	360	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	36	10	11	10	0	10
	360			NBR	36	5	4	5	0	5
	360			SBL	36	40	47	45	0	45
	360	PHF:	SB	SBT	36	15	13	15	0	15
	360	0.72		SBR	36	15	31	30	0	30
			TEV	**TEV**	**36**	**222**	**268**	**265**	**12**	**277**
37	370	NE Stephens St. @ NE Chestnut Ave.		EBL	37	10	10	10	0	10
	370		EB	EBT	37	0	0	0	1	1
	370	Count Date: 5/20/2015		EBR	37	140	160	160	0	160
	370			WBL	37	0	0	0	1	1
	370		WB	WBT	37	0	0	0	1	1
	370			WBR	37	0	0	0	1	1
	370	PM Peak Hour: 4:45 PM-5:45 PM		NBL	37	125	126	125	0	125
	370	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	37	1080	1,454	1455	0	1455
	370			NBR	37	0	0	0	1	1
	370			SBL	37	0	0	0	1	1
	370	PHF:	SB	SBT	37	1145	1,563	1565	0	1565
	370	0.90		SBR	37	25	22	20	0	20
			TEV	**TEV**	**37**	**2525**	**3335**	**3335**	**6**	**3341**
38	380	NE Stephens St. @ NE Winchester St.		EBL	38	0	0	0	0	0
	380		EB	EBT	38	0	0	0	0	0
	380	Count Date: 5/20/2015		EBR	38	0	0	0	0	0
	380			WBL	38	0	0	0	0	0
	380		WB	WBT	38	0	0	0	0	0
	380			WBR	38	525	794	795	0	795
	380	PM Peak Hour: 4:15 PM-5:15 PM		NBL	38	0	0	0	0	0
	380	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	38	680	800	800	0	800
	380			NBR	38	5	3	5	0	5
	380			SBL	38	525	529	530	0	530
	380	PHF:	SB	SBT	38	760	1,170	1170	0	1170
	380	0.89		SBR	38	0	0	0	0	0
			TEV	**TEV**	**38**	**2495**	**3296**	**3300**	**0**	**3300**

N-S ID	Synchro ID	Intersection	Direction	Movement	Int ID	2016 Balanced Volumes PM Peak	2040 NCHRP 255-Base Unbalanced Future Baseline	2040 NCHRP 255-Base Rounded Future Baseline	2040 NCHRP 255-Base Volume Balancing Adjustments	240 NCHRP 255-Base Balanced Future Baseline
39	390	NE Lincoln St. @ NE Malheur Ave.		EBL	39	1	1	0	1	1
	390		EB	EBT	39	5	5	5	0	5
	390	Count Date: 6/16/2015		EBR	39	1	1	0	1	1
	390			WBL	39	2	2	0	5	5
	390		WB	WBT	39	2	2	0	5	5
	390			WBR	39	25	25	25	0	25
	390	PM Peak Hour: 4:30 PM-5:30 PM		NBL	39	2	2	0	5	5
	390	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	39	25	25	25	0	25
	390			NBR	39	5	6	5	0	5
	390			SBL	39	40	42	40	5	45
	390	PHF:	SB	SBT	39	55	55	55	0	55
	390	0.72		SBR	39	5	5	5	0	5
			TEV	**TEV**	**39**	**168**	**171**	**160**	**22**	**182**
40	400	W. Harvard Ave. @ Lookingglass Rd.		EBL	40	0	0	0	0	0
	400		EB	EBT	40	155	211	210	5	215
	400	Count Date: 5/14/2015		EBR	40	5	5	5	5	10
	400			WBL	40	280	504	505	0	505
	400		WB	WBT	40	260	376	375	5	380
	400			WBR	40	0	0	0	0	0
	400	PM Peak Hour: 4:30 PM-5:30 PM		NBL	40	10	9	10	0	10
	400	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	40	0	0	0	0	0
	400			NBR	40	180	274	275	0	275
	400			SBL	40	0	0	0	0	0
	400	PHF:	SB	SBT	40	0	0	0	0	0
	400	0.93		SBR	40	0	0	0	0	0
			TEV	**TEV**	**40**	**890**	**1379**	**1380**	**15**	**1395**
41	410	W. Harvard Ave. @ W. Broccoli St.		EBL	41	10	13	15	0	15
	410		EB	EBT	41	320	465	465	0	465
	410	Count Date: 6/5/2015		EBR	41	5	12	10	0	10
	410			WBL	41	65	149	150	0	150
	410		WB	WBT	41	510	851	850	0	850
	410			WBR	41	55	65	65	0	65
	410	PM Peak Hour: 5:00 PM-6:00 PM		NBL	41	2	4	5	0	5
	410	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	41	1	1	0	1	1
	410			NBR	41	45	74	75	0	75
	410			SBL	41	45	48	50	0	50
	410	PHF:	SB	SBT	41	5	9	10	0	10
	410	0.92		SBR	41	25	32	30	0	30
			TEV	**TEV**	**41**	**1088**	**1724**	**1725**	**1**	**1726**
42	420	W. Harvard Ave. @ NW Stewart Pkwy.(Draft IAMP 1		EBL	42	220		270	270	270
	420		EB	EBT	42	375		515	515	515
	420	Count Date: 10/2/2012		EBR	42	1		2	2	2
	420			WBL	42	1		2	2	2
	420		WB	WBT	42	515		715	715	715
	420			WBR	42	555		655	655	655
	420	PM Peak Hour: 4:45 PM-5:45 PM		NBL	42	10		10	10	10
	420	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	42	20		20	20	20
	420			NBR	42	10		10	10	10
	420			SBL	42	440		465	465	465
	420	PHF:	SB	SBT	42	5		5	5	5
	420	0.93		SBR	42	300		335	335	335
			TEV	**TEV**	**42**	**2452**	**0**	**3004**	**3004**	**3004**
43	430	W. Harvard Ave. @ W. Keady Ct.		EBL	43	1	0	0	1	1
	430		EB	EBT	43	795	1,037	1035	0	1035
	430	Count Date: 6/10/2015		EBR	43	20	18	20	0	20
	430			WBL	43	40	43	45	0	45
	430		WB	WBT	43	865	1,325	1325	0	1325
	430			WBR	43	1	0	0	1	1
	430	PM Peak Hour: 4:30 PM-5:30 PM		NBL	43	55	56	55	0	55
	430	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	43	1	0	0	1	1
	430			NBR	43	75	76	75	0	75
	430			SBL	43	1	0	0	1	1
	430	PHF:	SB	SBT	43	1	0	0	1	1
	430	0.87		SBR	43	1	0	0	1	1
			TEV	**TEV**	**43**	**1856**	**2555**	**2555**	**6**	**2561**
44	440	W. Harvard Ave. @ Centennial Dr.		EBL	44	20	20	20	5	25
	440		EB	EBT	44	850	1,102	1100	0	1100
	440	Count Date: 6/10/2015		EBR	44	0	0	0	0	0
	440			WBL	44	0	0	0	0	0
	440		WB	WBT	44	875	1,271	1270	0	1270
	440			WBR	44	50	85	85	0	85
	440	PM Peak Hour: 4:30 PM-5:30 PM		NBL	44	0	0	0	0	0
	440	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	44	0	0	0	0	0

N-S ID	Synchro ID	Intersection	Direction	Movement	Int ID	2016 Balanced Volumes PM Peak	2040 NCHRP 255-Base Unbalanced Future Baseline	2040 NCHRP 255-Base Rounded Future Baseline	2040 NCHRP 255-Base Volume Balancing Adjustments	240 NCHRP 255-Base Balanced Future Baseline
	440			NBR	44	0	0	0	0	0
	440			SBL	44	105	446	445	0	445
	440	PHF:	SB	SBT	44	0	0	0	0	0
	440	0.88		SBR	44	35	96	95	0	95
			TEV	**TEV**	**44**	**1935**	**3019**	**3015**	**5**	**3020**
45	450	W. Harvard Ave. @ W. Maple St.(Draft IAMP 124)		EBL	45	5		5	0	5
	450		EB	EBT	45	1105		1390	0	1390
	450	Count Date: 10/10/2012		EBR	45	0		0	0	0
	450			WBL	45	0		0	0	0
	450		WB	WBT	45	1195		1520	0	1520
	450			WBR	45	15		30	0	30
	450	PM Peak Hour: 4:45 PM-5:45 PM		NBL	45	0		0	0	0
	450	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	45	0		0	0	0
	450			NBR	45	0		0	0	0
	450			SBL	45	15		40	0	40
	450	PHF:	SB	SBT	45	0		0	0	0
	450	0.86		SBR	45	10		20	0	20
			TEV	**TEV**	**45**	**2345**	**0**	**3005**	**0**	**3005**
46	460	W. Harvard Ave. @ W. Harrison St.(Draft IAMP 124)		EBL	46	5		10	0	10
	460		EB	EBT	46	1100		1410	0	1410
	460	Count Date: 10/3/2012		EBR	46	15		15	0	15
	460			WBL	46	10		10	0	10
	460		WB	WBT	46	1165		1505	0	1505
	460			WBR	46	20		20	0	20
	460	PM Peak Hour: 4:45 PM-5:45 PM		NBL	46	20		20	0	20
	460	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	46	1		2	0	2
	460			NBR	46	30		30	0	30
	460			SBL	46	20		20	0	20
	460	PHF:	SB	SBT	46	1		2	0	2
	460	0.83		SBR	46	25		25	0	25
			TEV	**TEV**	**46**	**2412**	**0**	**3069**	**0**	**3069**
47	470	W. Harvard Ave. @ W. Umpqua St.(Draft IAMP 124)		EBL	47	25		35	0	35
	470		EB	EBT	47	1060		1360	0	1360
	470	Count Date: 10/2/2012		EBR	47	15		15	0	15
	470			WBL	47	25		25	0	25
	470		WB	WBT	47	1090		1410	0	1410
	470			WBR	47	75		105	0	105
	470	PM Peak Hour: 4:15 PM-5:15 PM		NBL	47	20		20	0	20
	470	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	47	1		2	0	2
	470			NBR	47	25		25	0	25
	470			SBL	47	120		170	0	170
	470	PHF:	SB	SBT	47	1		2	0	2
	470	0.92		SBR	47	30		40	0	40
			TEV	**TEV**	**47**	**2487**	**0**	**3209**	**0**	**3209**
48	480	I-5 Exit 124 @ SB On/Off Ramps/W. Harvard Ave.(D		EBL	48	30		30	0	30
	480		EB	EBT	48	870		1085	0	1085
	481	Count Date: 10/1/2012		EBR	48	295		400	0	400
	480			WBL	48	145		240	0	240
	480		WB	WBT	48	910		1215	0	1215
	480			WBR	48	5		5	0	5
	480	PM Peak Hour: 4:00 PM-5:00 PM		NBL	48	240		290	0	290
	480	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	48	30		30	0	30
	480			NBR	48	260		350	0	350
	480			SBL	48	40		40	0	40
	480	PHF:	SB	SBT	48	10		15	0	15
	480	0.95		SBR	48	50		45	0	45
			TEV	**TEV**	**48**	**2885**	**0**	**3745**	**0**	**3745**
49	490	I-5 Exit 124 @ NB On-Ramp/W. Harvard Ave.(Draft		EBL	49	0		15	-15	0
	490		EB	EBT	49	1170		1045	315	1360
	490	Count Date:		EBR	49	0			0	0
	490			WBL	49	0		0	0	0
	490		WB	WBT	49	1065		1765	-330	1435
	490			WBR	49	440		590	0	590
	490	PM Peak Hour: 4:30 PM-5:30 PM		NBL	49	0			0	0
	490	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	49	0			0	0
	490			NBR	49	0			0	0
	490			SBL	49	0			0	0
	490	PHF:	SB	SBT	49	0			0	0
	490	#DIV/0!		SBR	49	0			0	0
			TEV	**TEV**	**49**	**2675**	**0**	**3415**	**-30**	**3385**
50	500	I-5 Exit 124 @ NB On/Off Ramps/W. Harvard Ave.(D		EBL	50	15		15	0	15
	500		EB	EBT	50	845		1045	0	1045

N-S ID	Synchro ID	Intersection	Direction	Movement	Int ID	2016 Balanced Volumes PM Peak	2040 NCHRP 255-Base Unbalanced Future Baseline	2040 NCHRP 255-Base Rounded Future Baseline	2040 NCHRP 255-Base Volume Balancing Adjustments	240 NCHRP 255-Base Balanced Future Baseline
	500	Count Date:		EBR	50	310		300	-300	0
	500			WBL	50	0		0	0	0
	500		WB	WBT	50	1305		1765	0	1765
	500			WBR	50	20		25	0	25
	500	PM Peak Hour: 4:30 PM-5:30 PM		NBL	50	165		225	0	225
	500	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	50	5		2	0	2
	500			NBR	50	110		170	0	170
	500			SBL	50	15		15	0	15
	500	PHF:	SB	SBT	50	0		0	0	0
	500	0.89		SBR	50	35		35	0	35
			TEV	**TEV**	**50**	**2825**	**0**	**3597**	**-300**	**3297**
51	510	W. Harvard Ave. @ W. Corey St.(Draft IAMP 124)		EBL	51	0		0	0	0
	510		EB	EBT	51	940		1200	0	1200
	510	Count Date: 10/3/2012		EBR	51	30		30	0	30
	510			WBL	51	5		5	0	5
	510		WB	WBT	51	1320		1780	0	1780
	510			WBR	51	0		0	0	0
	510	PM Peak Hour: 4:30 PM-5:30 PM		NBL	51	10		10	0	10
	510	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	51	0		0	0	0
	510			NBR	51	15		90	0	90
	510			SBL	51	0		0	0	0
	510	PHF:	SB	SBT	51	0		0	0	0
	510	0.81		SBR	51	0		0	0	0
			TEV	**TEV**	**51**	**2320**	**0**	**3115**	**0**	**3115**
52	520	SE Washington Ave. @ W. Madrone St.(Draft IAMP		EBL	52	50		40	0	40
	520		EB	EBT	52	0		0	0	0
	520	Count Date: 10/2/2012		EBR	52	920		1235	0	1235
	520			WBL	52	5		10	0	10
	520		WB	WBT	52	1210		1635	0	1635
	520			WBR	52	45		50	0	50
	520	PM Peak Hour: 4:30 PM-5:30 PM		NBL	52	0		0	0	0
	520	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	52	0		0	0	0
	520			NBR	52	0		0	0	0
	520			SBL	52	40		5	0	5
	520	PHF:	SB	SBT	52	0		0	0	0
	520	0.88		SBR	52	115		150	0	150
			TEV	**TEV**	**52**	**2385**	**0**	**3125**	**0**	**3125**
53	530	NE Diamond Lake Blvd. @ SE Stephens St.(OR 138		EBL	53	0		0	0	0
	530		EB	EBT	53	0		0	0	0
	530	Count Date: 12/12/2012		EBR	53	0		0	0	0
	530			WBL	53	420		675	0	675
	530		WB	WBT	53	0			0	0
	530			WBR	53	70			0	0
	530	PM Peak Hour: 4:30 PM-5:30 PM		NBL	53	0			0	0
	530	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	53	510		760	0	760
	530			NBR	53	470		530	0	530
	530			SBL	53	220		490	0	490
	530	PHF:	SB	SBT	53	435		620	0	620
	530	0.95		SBR	53	0			0	0
			TEV	**TEV**	**53**	**2125**	**0**	**3075**	**0**	**3075**
54	540	NE Diamond Lake Blvd. @ NE Jackson St./NE Winc		EBL	54	55	57	55	55	110
	540		EB	EBT	54	560	858	860	-35	825
	540	Count Date: 5/13/2015		EBR	54	75	78	80	5	85
	540			WBL	54	20	27	25	60	85
	540		WB	WBT	54	390	501	500	70	570
	540			WBR	54	380	504	505	-55	450
	540	PM Peak Hour: 4:15 PM-5:15 PM		NBL	54	35	31	30	-30	0
	540	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	54	100	90	90	10	100
	540			NBR	54	15	20	20	20	40
	540			SBL	54	390	436	435	5	440
	540	PHF:	SB	SBT	54	125	94	95	-30	65
	540	0.95		SBR	54	65	48	50	55	105
			TEV	**TEV**	**54**	**2210**	**2743**	**2745**	**130**	**2875**
55	550	NE Diamond Lake Blvd. @ NE Fulton St.		EBL	55	25	28	30	0	30
	550		EB	EBT	55	775	1,063	1065	0	1065
	550	Count Date: 5/12/2015		EBR	55	5	6	5	0	5
	550			WBL	55	5	7	5	0	5
	550		WB	WBT	55	625	826	825	0	825
	550			WBR	55	10	12	10	0	10
	550	PM Peak Hour: 4:15 PM-5:15 PM		NBL	55	5	7	5	0	5
	550	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	55	1	1	0	1	1
	550			NBR	55	1	2	0	1	1
	550			SBL	55	15	20	20	0	20

N-S ID	Synchro ID	Intersection	Direction	Movement	Int ID	2016 Balanced Volumes PM Peak	2040 NCHRP 255-Base Unbalanced Future Baseline	2040 NCHRP 255-Base Rounded Future Baseline	2040 NCHRP 255-Base Volume Balancing Adjustments	240 NCHRP 255-Base Balanced Future Baseline
	550	PHF:	SB	SBT	55	1	1	0	1	1
	550	0.96		SBR	55	30	36	35	0	35
			TEV	**TEV**	**55**	**1498**	**2008**	**2000**	**3**	**2003**
56	560	NE Diamond Lake Blvd. @ NE Rifle Range St.		EBL	56	35	52	50	0	50
	560		EB	EBT	56	670	931	930	0	930
	560	Count Date: 5/13/2015		EBR	56	80	96	95	0	95
	560			WBL	56	15	18	20	0	20
	560		WB	WBT	56	550	734	735	0	735
	560			WBR	56	1	1	0	5	5
	560	PM Peak Hour: 4:00 PM-5:00 PM		NBL	56	55	69	70	0	70
	560	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	56	5	7	5	0	5
	560			NBR	56	25	32	30	0	30
	560			SBL	56	5	7	5	0	5
	560	PHF:	SB	SBT	56	5	6	5	0	5
	560	0.91		SBR	56	30	42	40	0	40
			TEV	**TEV**	**56**	**1476**	**1997**	**1985**	**5**	**1990**
57	570	NE Diamond Lake Blvd. @ NE Douglas Ave.		EBL	57	0	0	0	0	0
	570		EB	EBT	57	560	748	750	0	750
	570	Count Date: 6/3/2015		EBR	57	5	5	5	5	10
	570			WBL	57	10	10	10	5	15
	570		WB	WBT	57	375	499	500	0	500
	570			WBR	57	0	0	0	0	0
	570	PM Peak Hour: 4:45 PM-5:45 PM		NBL	57	5	5	5	5	10
	570	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	57	0	0	0	0	0
	570			NBR	57	15	15	15	5	20
	570			SBL	57	0	0	0	0	0
	570	PHF:	SB	SBT	57	0	0	0	0	0
	570	0.92		SBR	57	0	0	0	0	0
			TEV	**TEV**	**57**	**970**	**1282**	**1285**	**20**	**1305**
58	580	SE Washington Ave. @ SE Spruce St.(Draft IAMP 1		EBL	58	0		0	0	0
	580		EB	EBT	58	0		0	0	0
	580	Count Date: 10/3/2012		EBR	58	0		0	0	0
	580			WBL	58	10		15	0	15
	580		WB	WBT	58	1085		1465	0	1465
	580			WBR	58	10		10	0	10
	580	PM Peak Hour: 4:45 PM-5:45 PM		NBL	58	80		85	0	85
	580	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	58	120		120	0	120
	580			NBR	58	0		0	0	0
	580			SBL	58	0		0	0	0
	580	PHF:	SB	SBT	58	10		10	0	10
	580	0.78		SBR	58	95		145	0	145
			TEV	**TEV**	**58**	**1410**	**0**	**1850**	**0**	**1850**
59	590	SE Stephens St. @ SE Douglas Ave.(OR 138E Solu		EBL	59	80		135	0	135
	590		EB	EBT	59	95		55	0	55
	590	Count Date: 1/19/2011		EBR	59	10		5	0	5
	590			WBL	59	130		220	0	220
	590		WB	WBT	59	35		15	0	15
	590			WBR	59	105		0	0	0
	590	PM Peak Hour: 4:15 PM-5:15 PM		NBL	59	80		65	0	65
	590	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	59	795		1155	0	1155
	590			NBR	59	65		0	0	0
	590			SBL	59	85		185	0	185
	590	PHF:	SB	SBT	59	730		1035	0	1035
	590	0.87		SBR	59	40		75	0	75
			TEV	**TEV**	**59**	**2250**	**0**	**2945**	**0**	**2945**
60	600	SE Washington Ave. @ SE Pine St.(Draft IAMP 124		EBL	60	0			0	0
	600		EB	EBT	60	0			0	0
	600	Count Date: 1/19/2011		EBR	60	0			0	0
	600			WBL	60	0			0	0
	600		WB	WBT	60	0			0	0
	600			WBR	60	0			0	0
	600	PM Peak Hour: 4:15 PM-5:15 PM		NBL	60	0			0	0
	600	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	60	1230			1575	1575
	600			NBR	60	0			0	0
	600			SBL	60	0			0	0
	600	PHF:	SB	SBT	60	0			0	0
	600	0.83		SBR	60	630			920	920
			TEV	**TEV**	**60**	**1860**	**0**	**0**	**2495**	**2495**
61	610	SE Washington Ave. @ SE Stephens St.(Draft IAMP		EBL	61	0		0	0	0
	610		EB	EBT	61	0		0	0	0
	610	Count Date:		EBR	61	0		0	0	0
	610			WBL	61	30		55	0	55

N-S ID	Synchro ID	Intersection	Direction	Movement	Int ID	2016 Balanced Volumes PM Peak	2040 NCHRP 255-Base Unbalanced Future Baseline	2040 NCHRP 255-Base Rounded Future Baseline	2040 NCHRP 255-Base Volume Balancing Adjustments	240 NCHRP 255-Base Balanced Future Baseline
	610		WB	WBT	61	145		155	0	155
	610			WBR	61	35		70	0	70
	610	PM Peak Hour: 4:30 PM-5:30 PM		NBL	61	290		405	0	405
	610	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	61	940		1170	0	1170
	610			NBR	61	0		0	0	0
	610			SBL	61	0		0	0	0
	610	PHF:	SB	SBT	61	600		865	0	865
	610	0.81		SBR	61	240		395	0	395
			TEV	**TEV**	**61**	**2280**	**0**	**3115**	**0**	**3115**
62	620	SE Douglas Ave. @ NE Jackson St.		EBL	62	35	59	60	0	60
	620		EB	EBT	62	135	643	645	-515	130
	620	Count Date: 5/13/2015		EBR	62	25	56	55	5	60
	620			WBL	62	20	19	20	0	20
	620		WB	WBT	62	185	448	450	-235	215
	620			WBR	62	70	50	50	20	70
	620	PM Peak Hour: 4:30 PM-5:30 PM		NBL	62	0	0	0	0	0
	620	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	62	0	0	0	0	0
	620			NBR	62	0	0	0	0	0
	620			SBL	62	105	120	120	5	125
	620	PHF:	SB	SBT	62	75	40	40	5	45
	620	0.86		SBR	62	40	56	55	0	55
			TEV	**TEV**	**62**	**690**	**1491**	**1495**	**-715**	**780**
63	630	SE Oak Ave. @ SE Spruce St.(Draft IAMP 124)		EBL	63	190		190	0	190
	630		EB	EBT	63	765		1015	0	1015
	630	Count Date: 10/4/2012		EBR	63	0		2	-1	1
	630			WBL	63	0			0	0
	630		WB	WBT	63	0			0	0
	630			WBR	63	0			0	0
	630	PM Peak Hour: 4:15 PM-5:15 PM		NBL	63	0			0	0
	630	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	63	0			1	1
	630			NBR	63	0			5	5
	630			SBL	63	20		20	0	20
	630	PHF:	SB	SBT	63	0			1	1
	630	0.94		SBR	63	0			0	0
			TEV	**TEV**	**63**	**975**	**0**	**1227**	**6**	**1233**
64	640	SE Oak Ave. @ SE Pine St.(Draft IAMP 124)		EBL	64	0		0	0	0
	640		EB	EBT	64	475		620	0	620
	640	Count Date:		EBR	64	260		285	0	285
	640			WBL	64	0		0	0	0
	640		WB	WBT	64	0		0	0	0
	640			WBR	64	0		0	0	0
	640	PM Peak Hour: 4:30 PM-5:30 PM		NBL	64	0		0	0	0
	640	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	64	0		0	0	0
	640			NBR	64	0		0	0	0
	640			SBL	64	30		100	0	100
	640	PHF:	SB	SBT	64	600		820	0	820
	640	0.87		SBR	64	0		0	0	0
			TEV	**TEV**	**64**	**1365**	**0**	**1825**	**0**	**1825**
65	650	SE Oak Ave. @ SE Stephens St.(Draft IAMP 124)		EBL	65	300		505	0	505
	650		EB	EBT	65	205		215	0	215
	650	Count Date:		EBR	65	0			0	0
	650			WBL	65	0		0	0	0
	650		WB	WBT	65	0		0	0	0
	650			WBR	65	0		0	0	0
	650	PM Peak Hour: 4:30 PM-5:30 PM		NBL	65	0		0	0	0
	650	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	65	925		1080	0	1080
	650			NBR	65	60		125	0	125
	650			SBL	65	0		0	0	0
	650	PHF:	SB	SBT	65	0		0	0	0
	650	0.89		SBR	65	0		0	0	0
			TEV	**TEV**	**65**	**1490**	**0**	**1925**	**0**	**1925**
66	660	SE Washington Ave. @ SE Jackson St.		EBL	66	0	0	0	0	0
	660		EB	EBT	66	0	0	0	0	0
	660	Count Date: 6/9/2015		EBR	66	0	0	0	0	0
	660			WBL	66	35	48	50	-5	45
	660		WB	WBT	66	195	277	275	-35	240
	660			WBR	66	0	0	0	0	0
	660	PM Peak Hour: 4:15 PM-5:15 PM		NBL	66	0	0	0	0	0
	660	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	66	0	0	0	0	0
	660			NBR	66	0	0	0	0	0
	660			SBL	66	0	0	0	0	0
	660	PHF:	SB	SBT	66	80	76	75	10	85
	660	0.70		SBR	66	40	39	40	0	40

N-S ID	Synchro ID	Intersection	Direction	Movement	Int ID	2016 Balanced Volumes PM Peak	2040 NCHRP 255-Base Unbalanced Future Baseline	2040 NCHRP 255-Base Rounded Future Baseline	2040 NCHRP 255-Base Volume Balancing Adjustments	240 NCHRP 255-Base Balanced Future Baseline
			TEV	**TEV**	**66**	**350**	**440**	**440**	**-30**	**410**
67	670	SE Douglas Ave. @ SE Kane St.		EBL	67	0	0	0	0	0
	670		EB	EBT	67	175	180	180	0	180
	670	Count Date: 6/08/2015		EBR	67	65	74	75	0	75
	670			WBL	67	65	127	125	-35	90
	670		WB	WBT	67	210	225	225	35	260
	670			WBR	67	0	0	0	0	0
	670	PM Peak Hour: 4:30 PM-5:30 PM		NBL	67	60	45	45	0	45
	670	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	67	0	0	0	0	0
	670			NBR	67	70	85	85	0	85
	670			SBL	67	0	0	0	0	0
	670	PHF:	SB	SBT	67	0	0	0	0	0
	670	0.82		SBR	67	0	0	0	0	0
			TEV	**TEV**	**67**	**645**	**736**	**735**	**0**	**735**
68	680	SE Douglas Ave. @ SE Ramp Rd.		EBL	68	0	0	0	0	0
	680		EB	EBT	68	85	94	95	0	95
	680	Count Date: 6/2/2015		EBR	68	80	92	90	0	90
	680			WBL	68	35	51	50	0	50
	680		WB	WBT	68	55	62	60	5	65
	680			WBR	68	0	0	0	0	0
	680	PM Peak Hour: 5:00 PM-6:00 PM		NBL	68	45	65	65	0	65
	680	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	68	0	0	0	0	0
	680			NBR	68	25	44	45	0	45
	680			SBL	68	0	0	0	0	0
	680	PHF:	SB	SBT	68	0	0	0	0	0
	680	0.83		SBR	68	0	0	0	0	0
			TEV	**TEV**	**68**	**325**	**408**	**405**	**5**	**410**
69	690	NE Douglas Ave. @ NE Rifle Range St.		EBL	69	60	92	90	0	90
	690		EB	EBT	69	50	42	40	10	50
	690	Count Date: 6/3/2015		EBR	69	0	0	0	0	0
	690			WBL	69	0	0	0	0	0
	690		WB	WBT	69	30	25	25	5	30
	690			WBR	69	10	16	15	0	15
	690	PM Peak Hour: 4:45 PM-5:45 PM		NBL	69	0	0	0	0	0
	690	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	69	0	0	0	0	0
	690			NBR	69	0	0	0	0	0
	690			SBL	69	20	31	30	0	30
	690	PHF:	SB	SBT	69	0	0	0	0	0
	690	0.89		SBR	69	60	86	85	0	85
			TEV	**TEV**	**69**	**230**	**293**	**285**	**15**	**300**
70	700	SE Oak Ave. @ SE Jackson St.		EBL	70	0	0	0	0	0
	700		EB	EBT	70	170	224	225	0	225
	700	Count Date: 6/8/2015		EBR	70	60	67	65	0	65
	700			WBL	70	0	0	0	0	0
	700		WB	WBT	70	0	0	0	0	0
	700			WBR	70	0	0	0	0	0
	700	PM Peak Hour: 4:15 PM-5:15 PM		NBL	70	0	0	0	0	0
	700	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	70	0	0	0	0	0
	700			NBR	70	0	0	0	0	0
	700			SBL	70	25	30	30	0	30
	700	PHF:	SB	SBT	70	90	93	95	5	100
	700	0.90		SBR	70	0	0	0	0	0
			TEV	**TEV**	**70**	**345**	**414**	**415**	**5**	**420**
71	710	SE Pine St. @ SE Mosher Ave.		EBL	71	0	0	0	0	0
	710		EB	EBT	71	50	53	55	0	55
	710	Count Date: 5/21/2015		EBR	71	25	16	15	0	15
	710			WBL	71	30	28	30	0	30
	710		WB	WBT	71	20	18	20	0	20
	710			WBR	71	0	0	0	0	0
	710	PM Peak Hour: 4:15 PM-5:15 PM		NBL	71	0	0	0	0	0
	710	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	71	0	0	0	0	0
	710			NBR	71	0	0	0	0	0
	710			SBL	71	55	99	100	0	100
	710	PHF:	SB	SBT	71	625	665	665	0	665
	710	0.79		SBR	71	35	37	35	0	35
			TEV	**TEV**	**71**	**840**	**916**	**920**	**0**	**920**
72	720	SE Stephens St. @ SE Mosher Ave.		EBL	72	50	59	60	0	60
	720		EB	EBT	72	55	93	95	0	95
	720	Count Date: 5/20/2015		EBR	72	0	0	0	0	0
	720			WBL	72	0	0	0	0	0
	720		WB	WBT	72	30	28	30	0	30
	720			WBR	72	30	35	35	0	35

N-S ID	Synchro ID	Intersection	Direction	Movement	Int ID	2016 Balanced Volumes PM Peak	2040 NCHRP 255-Base Unbalanced Future Baseline	2040 NCHRP 255-Base Rounded Future Baseline	2040 NCHRP 255-Base Volume Balancing Adjustments	240 NCHRP 255-Base Balanced Future Baseline
	720	PM Peak Hour: 4:15 PM-5:15 PM		NBL	72	20	18	20	0	20
	720	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	72	650	737	735	0	735
	720			NBR	72	15	25	25	0	25
	720			SBL	72	0	0	0	0	0
	720	PHF:	SB	SBT	72	0	0	0	0	0
	720	0.87		SBR	72	0	0	0	0	0
			TEV	**TEV**	**72**	**850**	**996**	**1000**	**0**	**1000**
73	730	I-5 Exit 123 @ SB On/Off Ramps/SW Portland Ave.		EBL	73	0	0	0	0	0
	730		EB	EBT	73	20	35	35	0	35
	730	Count Date: 6/3/2015		EBR	73	5	10	10	0	10
	730			WBL	73	15	22	20	0	20
	730		WB	WBT	73	10	11	10	5	15
	730			WBR	73	0	0	0	0	0
	730	PM Peak Hour: 5:00 PM-6:00 PM		NBL	73	0	0	0	0	0
	730	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	73	0	0	0	0	0
	730			NBR	73	0	0	0	0	0
	730			SBL	73	25	37	35	5	40
	730	PHF:	SB	SBT	73	1	2	0	1	1
	730	0.76		SBR	73	40	53	55	0	55
			TEV	**TEV**	**73**	**116**	**170**	**165**	**11**	**176**
74	740	I-5 Exit 123 @ NB On/Off Ramps/SW Portland Ave.		EBL	74	20	38	40	0	40
	740		EB	EBT	74	25	37	35	0	35
	740	Count Date: 6/4/2015		EBR	74	0	0	0	0	0
	740			WBL	74	0	0	0	0	0
	740		WB	WBT	74	15	19	20	0	20
	740			WBR	74	20	23	25	0	25
	740	PM Peak Hour: 5:00 PM-6:00 PM		NBL	74	10	13	15	0	15
	740	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	74	5	6	5	0	5
	740			NBR	74	10	9	10	0	10
	740			SBL	74	0	0	0	0	0
	740	PHF:	SB	SBT	74	0	0	0	0	0
	740	0.95		SBR	74	0	0	0	0	0
			TEV	**TEV**	**74**	**105**	**145**	**150**	**0**	**150**
75	750	SE Stephens St. @ S. Gate Shopping Center Entran		EBL	75	5	5	5	0	5
	750		EB	EBT	75	1	1	0	1	1
	750	Count Date: 6/15/2015		EBR	75	1	1	0	1	1
	750			WBL	75	25	25	25	0	25
	750		WB	WBT	75	1	1	0	1	1
	750			WBR	75	40	40	40	0	40
	750	PM Peak Hour: 4:30 PM-5:30 PM		NBL	75	2	2	0	2	2
	750	PM Peak Hour Used: 4:30 PM-5:30 PM	NB	NBT	75	435	435	435	0	435
	750			NBR	75	45	45	45	0	45
	750			SBL	75	70	70	70	0	70
	750	PHF:	SB	SBT	75	510	510	510	0	510
	750	0.90		SBR	75	1	1	0	1	1
			TEV	**TEV**	**75**	**1136**	**1136**	**1130**	**6**	**1136**

APPENDIX C: SYNCHRO OUTPUTS

ROSEBURG UGB EXCHANGE

Harvard Ave at Stewart Parkway

2021 Existing Conditions											C
Phase						Critical Pairs					
1	SBL	339	1667	0.203	Prot	1,2	0.210				
2	NBTR	10	1606	0.006		5,6	0.247	0.247		Cycle Length	120
	EBL	243	1667	0.146	Perm	4 perm L	0.146			Lost Time/phase	4
4	EBT	435	3350	0.130		4	0.130			# phases	3
5	NBL	5	1667	0.003	Prot	8 Perm L	0.001			Total Lost Time	12
6	SBTR	362	1484	0.244		8	0.190	0.190			
	WBL	1	968	0.001	Perm				Critical	v/c	0.49
8	WBT	626	3299	0.190		Critical Pairs	0.437				

2040 Background											E
Phase						Critical Pairs					
1	SBL	489	1399	0.350	Prot	1,2	0.369				
2	NBTR	32	1648	0.019		5,6	0.251	0.369		Cycle Length	120
	EBL	284	1667	0.170	Perm	4 perm	0.170			Lost Time/phase	4
4	EBT	542	3345	0.162		4	0.162			# phases	3
5	NBL	11	1040	0.011	Prot	8 Perm	0.001			Total Lost Time	12
6	SBTR	358	1486	0.241		8	0.228	0.228			
	WBL	2	1667	0.001	Perm				Critical	v/c	0.66
8	WBT	753	3299	0.228		Critical Pairs	0.597				

2040 Build											F
Phase						Critical Pairs					
1	SBL	519	1399	0.371	Prot	1,2	0.390				
2	NBTR	32	1648	0.019		5,6	0.271	0.390		Cycle Length	120
	EBL	326	1667	0.196	Perm	4 perm	0.196			Lost Time/phase	4
4	EBT	542	3345	0.162		4	0.162			# phases	3
5	NBL	11	1012	0.011	Prot	8 Perm	0.001			Total Lost Time	12
6	SBTR	387	1486	0.260		8	0.228	0.228			
	WBL	2	1667	0.001	Perm				Critical	v/c	0.69
8	WBT	753	3299	0.228		Critical Pairs	0.619				

Garcen Valley at NB

2021 Existing Conditions											C
Phase											
2	NBL	529	1630	0.325	Perm	2	0.325				
2	NBTR	378	1560	0.242		6	0.179	0.325		Cycle Length	120
										Lost Time/phase	4
4	EBT	900	3260	0.276		4	0.276			# phases	3
6	SBL	39	484	0.081	Perm	7,8	0.396	0.396		Total Lost Time	12
	SBR	261	1458	0.179							
7	EBL	54	1630	0.033	Prot	Critical Pairs	0.720		Critical	v/c	0.80
8	WBT	1178	3249	0.363							

2040 Background											D
Phase											
2	NBL	583	1630	0.358	Perm	2	0.358				
	NBT	234	1716	0.136		6	0.189	0.358		Cycle Length	120
	NBR	328	1458	0.225						Lost Time/phase	4
4	EBT	995	3260	0.305		4	0.305			# phases	3
6	SBL	47	905	0.052	Perm	7,8	0.476	0.476		Total Lost Time	12
	SBR	276	1458	0.189							
7	EBL	68	1630	0.042	Prot	Critical Pairs	0.834		Critical	v/c	0.93
8	WBT	1411	3246	0.435							

2040 Build											D
Phase											
2	NBL	604	1630	0.371	Perm	2	0.371				
	NBT	234	1716	0.136		6	0.198	0.371		Cycle Length	120
	NBR	328	1458	0.225						Lost Time/phase	4
4	EBT	1023	3260	0.314		4	0.314			# phases	3
6	SBL	47	937	0.050	Perm	7,8	0.492	0.492		Total Lost Time	12
	SBR	288	1458	0.198							
7	EBL	70	1630	0.043	Prot	Critical Pairs	0.863		Critical	v/c	0.96
8	WBT	1458	3246	0.449							

Stewart at Harvey

2021 Existing Conditions											B
Phase											
1	SBL	48	1667	0.029	Prot	EBL PM, PT	0.018	NBL PM, PT	0.150		
		36	1667	0.022	Perm	EBL PT, WBL PM	0.017	NBL PT, SBL PM	0.128		
2	NBT	562	3249	0.173		EBL PT, WBT	0.068	NBL PT, SBT	0.334	Cycle Length	120
3	WBL	33	1662	0.020	Prot	WBL PM, PT	0.032	SBL PM, PT	0.050	Lost Time/phase	4
		20	1662	0.012	Perm	WBL PT, EBL PM	0.032	SBL PT, NBL PM	0.072	# phases	4
4	EBT	24	200	0.120		WBL PT, EBT	0.140	SBL PT, NBT	0.202	Total Lost Time	16
5	NBL	174	1630	0.107	Prot		0.140		0.334		
		71	1630	0.044	Perm						
6	SBT	712	3137	0.227							
7	EBL	9	1662	0.005	Prot					Critical v/c	0.55
		21	1662	0.013	Perm						
8	WBT	18	286	0.063		Critical Pairs	0.474				

2040 Background											B
Phase											
1	SBL	36	1667	0.022	Prot	EBL PM, PT	0.032	NBL PM, PT	0.193		
		27	1667	0.016	Perm	EBL PT, WBL PM	0.033	NBL PT, SBL PM	0.159		
2	NBT	574	3304	0.174		EBL PT, WBT	0.109	NBL PT, SBT	0.386	Cycle Length	120
3	WBL	30	1667	0.018	Prot	WBL PM, PT	0.035	SBL PM, PT	0.038	Lost Time/phase	4
		28	1667	0.017	Perm	WBL PT, EBL PM	0.034	SBL PT, NBL PM	0.072	# phases	4
4	EBT	21	151	0.139		WBL PT, EBT	0.157	SBL PT, NBT	0.195	Total Lost Time	16
5	NBL	234	1641	0.143	Prot		0.157		0.386		
		82	1641	0.050	Perm						
6	SBT	732	3004	0.244							
7	EBL	27	1667	0.016	Prot					Critical v/c	0.63
		26	1667	0.016	Perm						
8	WBT	32	344	0.093		Critical Pairs	0.543				

2040 Build											C
Phase											
1	SBL	36	1667	0.022	Prot	EBL PM, PT	0.032	NBL PM, PT	0.270		
		27	1667	0.016	Perm	EBL PT, WBL PM	0.033	NBL PT, SBL PM	0.227		
2	NBT	574	3304	0.174		EBL PT, WBT	0.109	NBL PT, SBT	0.455	Cycle Length	120
3	WBL	30	1667	0.018	Prot	WBL PM, PT	0.035	SBL PM, PT	0.038	Lost Time/phase	4
		28	1667	0.017	Perm	WBL PT, EBL PM	0.034	SBL PT, NBL PM	0.081	# phases	4
4	EBT	21	177	0.119		WBL PT, EBT	0.137	SBL PT, NBT	0.195	Total Lost Time	16
5	NBL	346	1641	0.211	Prot		0.137		0.455		
		97	1641	0.059	Perm						
6	SBT	732	3004	0.244							
7	EBL	27	1667	0.016	Prot					Critical v/c	0.68
		27	1667	0.016	Perm						
8	WBT	32	344	0.093		Critical Pairs	0.591				

Troost at GV

2021 Existing Conditions												B
Phase												
2	NBL	28	1427	0.020	Perm	EBL PM, PT	0.003	NBL	0.020			
2	NBTR	186	1484	0.125		EBL PT, WBL PM	0.057	NBTR	0.125		Cycle Length	120
3	WBL	122	1667	0.073	Prot	EBL PT, WBT	0.002	SBL	0.037		Lost Time/phase	4
		92	1667	0.055	Perm	WBL PM, PT	0.128	SBTR	0.006		# phases	3
4	EBTR	472	2891	0.163		WBL PT, EBL PM	0.074				Total Lost Time	12
6	SBL	45	1217	0.037	Perm	WBL PT, EBT	0.236					
6	SBTR	10	1606	0.006			0.236		0.125			
7	EBL	3	1667	0.002	Prot					Critical	v/c	0.40
		2	1667	0.001	Perm							
8	WBT	0	3273	0.000		Critical Pairs	0.362					

2040 Background												B
Phase												
2	NBL	26	1427	0.018	Perm	EBL PM, PT	0.003	NBL	0.018			
2	NBTR	209	1484	0.141		EBL PT, WBL PM	0.057	NBTR	0.141		Cycle Length	120
3	WBL	154	1667	0.092	Prot	EBL PT, WBT	0.337	SBL	0.039		Lost Time/phase	4
		91	1667	0.055	Perm	WBL PM, PT	0.147	SBTR	0.006			
4	EBTR	599	2943	0.204		WBL PT, EBL PM	0.093				# phases	3
6	SBL	47	1191	0.039	Perm	WBL PT, EBT	0.296				Total Lost Time	12
6	SBTR	10	1606	0.006			0.337		0.141			
7	EBL	4	1667	0.002	Prot					Critical	v/c	0.49
		1	1667	0.001	Perm							
8	WBT	1094	3273	0.334		Critical Pairs	0.477					

2040 Build												C
Phase												
2	NBL	47	1421	0.033	Perm	EBL PM, PT	0.003	NBL	0.033			
2	NBTR	338	1487	0.227		EBL PT, WBL PM	0.084	NBTR	0.227		Cycle Length	120
3	WBL	265	1667	0.159	Prot	EBL PT, WBT	0.337	SBL	0.044		Lost Time/phase	4
		136	1667	0.082	Perm	WBL PM, PT	0.241	SBTR	0.009			
4	EBTR	599	2831	0.212		WBL PT, EBL PM	0.160				# phases	3
6	SBL	47	1059	0.044	Perm	WBL PT, EBT	0.371				Total Lost Time	12
6	SBTR	15	1651	0.009			0.371		0.227			
7	EBL	4	1667	0.002	Prot					Critical	v/c	0.61
		1	1667	0.001	Perm							
8	WBT	1094	3273	0.334		Critical Pairs	0.598					

Harvard at SB Ramps

2021 Existing Conditions											C
Phase											
1	SBL	13	1641	0.008	Prot			NBL PM, PT	0.175		
		34	1641	0.021	Perm	EBL PT, WBT	0.354	NBL PT, SBL PM	0.126		
2	NBT	36	1723	0.021				NBL PT, SBT	0.153	Cycle Length	120
	NBR	310	1460	0.212				SBL PM, PT	0.029		
3	WBL	173	1641	0.105	Prot			SBL PT, NBL PM	0.078	Lost Time/phase	4
4	EBT	1038	3273	0.317		WBL PT, EBT	0.423	SBL PT, NBT	0.029	# phases	4
	EBR	0	1460	0.000			0.423		0.175		
5	NBL	172	1641	0.105	Prot					Total Lost Time	16
		115	1641	0.070	Perm						
6	SBTR	72	1498	0.048							
7	EBL	36	1641	0.022	Prot					Critical v/c	0.69
8	WBT	1087	3273	0.332							
	WBR	0	1460	0.000		Critical Pairs	0.597				

2040 Background											C
Phase											
1	SBL	12	1641	0.007	Prot			NBL PM, PT	0.175		
		35	1641	0.021	Perm	EBL PT, WBT	0.410	NBL PT, SBL PM	0.119		
2	NBT	32	1723	0.019				NBL PT, SBT	0.140	Cycle Length	120
	NBR	368	1460	0.252				SBL PM, PT	0.029		
3	WBL	253	1641	0.154	Prot			SBL PT, NBL PM	0.084	Lost Time/phase	4
4	EBT	1142	3273	0.349		WBL PT, EBT	0.503	SBL PT, NBT	0.026	# phases	4
	EBR	0	1460	0.000			0.503		0.175		
5	NBL	161	1641	0.098	Prot					Total Lost Time	16
		126	1641	0.077	Perm						
6	SBTR	63	1519	0.041							
7	EBL	32	1641	0.020	Prot					Critical v/c	0.78
8	WBT	1279	3273	0.391							
	WBR	0	1460	0.000		Critical Pairs	0.678				

2040 Build											C
Phase											
1	SBL	11	1641	0.007	Prot			NBL PM, PT	0.194		
		34	1641	0.021	Perm	EBL PT, WBT	0.426	NBL PT, SBL PM	0.135		
2	NBT	32	1723	0.019				NBL PT, SBT	0.157	Cycle Length	120
	NBR	368	1460	0.252				SBL PM, PT	0.027		
3	WBL	253	1641	0.154	Prot			SBL PT, NBL PM	0.086	Lost Time/phase	4
4	EBT	1156	3273	0.353		WBL PT, EBT	0.507	SBL PT, NBT	0.025	# phases	4
	EBR	0	1460	0.000			0.507		0.194		
5	NBL	188	1641	0.115	Prot					Total Lost Time	16
		130	1641	0.079	Perm						
6	SBTR	65	1517	0.043							
7	EBL	33	1641	0.020	Prot					Critical v/c	0.81
8	WBT	1328	3273	0.406							
	WBR	0	1460	0.000		Critical Pairs	0.701				

Garden Valley at Stewart Pkwy

2021 Existing Conditions									E
Phase									
1	SBL	432	3208	0.135					
2	NBT	270	3325	0.081	1,2,3,4	0.645		Cycle Length	120
3	WBL	325	1667	0.195	1,2,7,8	0.616		Lost Time/phase	4
4	EBT	697	2981	0.234	5,6,3,4	0.625		# phases	4
5	NBL	108	1628	0.066	5,6,7,8	0.596		Total Lost Time	16
6	SBT	432	3325	0.130					
7	EBL	260	1654	0.157	Critical Pairs	0.645	Critical	v/c	0.74
8	WBT	795	3273	0.243					

2040 Background									F
Phase									
1	SBL	433	3208	0.135					
2	NBT	412	3325	0.124	1,2,3,4	0.757		Cycle Length	120
3	WBL	402	1667	0.241	1,2,7,8	0.867		Lost Time/phase	4
4	EBT	747	2909	0.257	5,6,3,4	0.717		# phases	4
5	NBL	155	1628	0.095	5,6,7,8	0.827		Total Lost Time	16
6	SBT	412	3325	0.124					
7	EBL	464	1654	0.281	Critical Pairs	0.867	Critical	v/c	1.00
8	WBT	1072	3273	0.328					

2040 Build									F
Phase									
1	SBL	433	3208	0.135					
2	NBT	415	3325	0.125	1,2,3,4	0.792		Cycle Length	120
3	WBL	429	1667	0.257	1,2,7,8	0.909		Lost Time/phase	4
4	EBT	808	2939	0.275	5,6,3,4	0.762		# phases	4
5	NBL	155	1628	0.095	5,6,7,8	0.878		Total Lost Time	16
6	SBT	446	3325	0.134					
7	EBL	500	1654	0.302	Critical Pairs	0.909	Critical	v/c	1.05
8	WBT	1134	3273	0.346					

Garden Valley at Kline

2021 Existing Conditions									C
Phase									
1	SBL	271	1667	0.163					
2	NBTR	152	1517	0.100	1,2,3,4	0.533		Cycle Length	120
3	WBL	85	1667	0.051	1,2,7,8	0.632		Lost Time/phase	4
4	EBT	679	3096	0.219	5,6,3,4	0.333		# phases	4
5	NBL	51	1667	0.031	5,6,7,8	0.432		Total Lost Time	16
6	SBTR	51	1588	0.032					
7	EBL	12	1433	0.008	Critical Pairs	0.632	Critical	v/c	0.73
8	WBT	967	2683	0.360					

2040 Background									D
Phase									
1	SBL	311	1667	0.187					
2	NBT	21	254	0.083	1,2,3,4	0.570		Cycle Length	120
3	WBL	67	1667	0.040	1,2,7,8	0.751		Lost Time/phase	4
4	EBT	811	3116	0.260	5,6,3,4	0.382		# phases	4
5	NBL	63	1667	0.038	5,6,7,8	0.564		Total Lost Time	16
6	SBT	21	481	0.044					
7	EBL	16	1433	0.011	Critical Pairs	0.751	Critical	v/c	0.87
8	WBT	1300	2760	0.471					

2040 Build									D
Phase									
1	SBL	311	1667	0.187					
2	NBT	26	290	0.090	1,2,3,4	0.621		Cycle Length	120
3	WBL	84	1667	0.050	1,2,7,8	0.795		Lost Time/phase	4
4	EBT	925	3138	0.295	5,6,3,4	0.447		# phases	4
5	NBL	63	1667	0.038	5,6,7,8	0.621		Total Lost Time	16
6	SBT	32	499	0.064					
7	EBL	16	1433	0.011	Critical Pairs	0.795	Critical	v/c	0.92
8	WBT	1426	2807	0.508					

GV at SB Ramp

2021 Existing Conditions									C
Phase									
1	SBR	159	1458	0.109					
2					1,2,3,4	0.882		Cycle Length	120
3					1,2,7,8	0.589		Lost Time/phase	4
4	EBT	2521	3260	0.773	5,6,3,4	0.773		# phases	2
5					5,6,7,8	0.480		Total Lost Time	8
6									
7					Critical Pairs	0.882	Critical	v/c	0.95
8	WBT	1565	3260	0.480					

2040 Background									D
Phase									
1	SBR	200	1458	0.137					
2					1,2,3,4	0.946		Cycle Length	120
3					1,2,7,8	0.644		Lost Time/phase	4
4	EBT	2637	3260	0.809	5,6,3,4	0.809		# phases	2
5					5,6,7,8	0.507		Total Lost Time	8
6									
7					Critical Pairs	0.946	Critical	v/c	1.01
8	WBT	1653	3260	0.507					

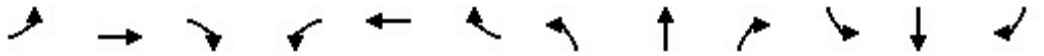
2040 Build									D
Phase									
1	SBR	200	1458	0.137					
2					1,2,3,4	0.963		Cycle Length	120
3					1,2,7,8	0.665		Lost Time/phase	4
4	EBT	2692	3260	0.826	5,6,3,4	0.826		# phases	2
5					5,6,7,8	0.528		Total Lost Time	8
6									
7					Critical Pairs	0.963	Critical	v/c	1.03
8	WBT	1722	3260	0.528					

Harvard at NB Ramps

2021 Existing Conditions								B
Phase								
1	SBL	17	1630	0.010				
2	NBT	1452	3253	0.446	1,2,3,4	0.474	Cycle Length	120
3					1,2,7,8	0.474	Lost Time/phase	4
4	EBTR	25	1468	0.017	5,6,3,4	0.305	# phases	3
5					5,6,7,8	0.305	Total Lost Time	12
6	SBT	940	3260	0.288				
7					Critical Pairs	0.474	Critical v/c	0.53
8	WBL	17	996	0.017				

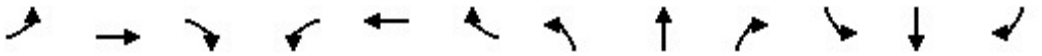
2040 Background								B
Phase								
1	SBL	16	1630	0.010				
2	NBT	1858	3253	0.571	1,2,3,4	0.651	Cycle Length	120
3					1,2,7,8	0.599	Lost Time/phase	4
4	EBTR	103	1461	0.070	5,6,3,4	0.408	# phases	3
5					5,6,7,8	0.355	Total Lost Time	12
6	SBT	1100	3260	0.337				
7					Critical Pairs	0.651	Critical v/c	0.72
8	WBL	16	897	0.018				

2040 Build								
Phase								
1	SBL	17	1630	0.010				
2	NBT	1897	3253	0.583	1,2,3,4	0.663	Cycle Length	120
3					1,2,7,8	0.611	Lost Time/phase	4
4	EBTR	102	1461	0.070	5,6,3,4	0.410	# phases	3
5					5,6,7,8	0.358	Total Lost Time	12
6	SBT	1109	3260	0.340				
7					Critical Pairs	0.663	Critical v/c	0.74
8	WBL	16	921	0.017				



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	252	676	73	341	771	367	105	262	246	419	419	388
Future Volume (vph)	252	676	73	341	771	367	105	262	246	419	419	388
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1646	3215		1662	3260	1473	1614	3325	1488	3193	3325	1473
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1646	3215		1662	3260	1473	1614	3325	1488	3193	3325	1473
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	260	697	75	352	795	378	108	270	254	432	432	400
RTOR Reduction (vph)	0	7	0	0	0	140	0	0	210	0	0	310
Lane Group Flow (vph)	260	765	0	352	795	238	108	270	44	432	432	90
Heavy Vehicles (%)	1%	2%	1%	0%	2%	1%	3%	0%	0%	1%	0%	1%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	19.4	26.7		24.6	31.9	47.7	10.3	17.6	17.6	15.8	23.1	23.1
Effective Green, g (s)	19.4	26.7		24.6	31.9	47.7	10.3	17.6	17.6	15.8	23.1	23.1
Actuated g/C Ratio	0.19	0.26		0.24	0.31	0.46	0.10	0.17	0.17	0.15	0.22	0.22
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	3.0		2.0	3.0	2.0	2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	310	835		398	1012	748	161	569	255	491	747	331
v/s Ratio Prot	0.16	c0.24		c0.21	0.24	0.05	0.07	0.08		c0.14	c0.13	
v/s Ratio Perm						0.11			0.03			0.06
v/c Ratio	0.84	0.92		0.88	0.79	0.32	0.67	0.47	0.17	0.88	0.58	0.27
Uniform Delay, d1	40.1	36.9		37.7	32.3	17.3	44.6	38.4	36.3	42.5	35.5	32.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.0	16.5		19.7	6.1	0.1	8.3	0.9	0.4	15.9	1.3	0.6
Delay (s)	57.1	53.4		57.4	38.4	17.4	52.9	39.2	36.8	58.4	36.8	33.5
Level of Service	E	D		E	D	B	D	D	D	E	D	C
Approach Delay (s)		54.3			37.6			40.6			43.1	
Approach LOS		D			D			D			D	

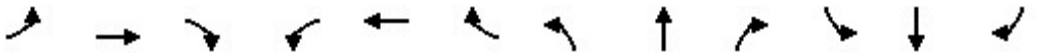
Intersection Summary			
HCM 2000 Control Delay	43.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	676	73	341	771	367	105	262	246	419	419	388
Future Volume (veh/h)	252	676	73	341	771	367	105	262	246	419	419	388
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1723	1736	1750	1723	1736	1709	1750	1750	1736	1750	1736
Adj Flow Rate, veh/h	260	697	75	352	795	378	108	270	254	432	432	400
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	2	1	0	2	1	3	0	0	1	0	1
Cap, veh/h	285	702	75	361	915	616	131	830	370	446	1023	453
Arrive On Green	0.17	0.24	0.24	0.22	0.28	0.28	0.08	0.25	0.25	0.14	0.31	0.31
Sat Flow, veh/h	1654	2981	321	1667	3273	1471	1628	3325	1483	3208	3325	1471
Grp Volume(v), veh/h	260	382	390	352	795	378	108	270	254	432	432	400
Grp Sat Flow(s),veh/h/ln	1654	1637	1665	1667	1637	1471	1628	1663	1483	1604	1663	1471
Q Serve(g_s), s	17.4	26.3	26.4	23.7	26.1	22.7	7.4	7.5	17.5	15.1	11.7	29.2
Cycle Q Clear(g_c), s	17.4	26.3	26.4	23.7	26.1	22.7	7.4	7.5	17.5	15.1	11.7	29.2
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	285	385	392	361	915	616	131	830	370	446	1023	453
V/C Ratio(X)	0.91	0.99	0.99	0.97	0.87	0.61	0.82	0.33	0.69	0.97	0.42	0.88
Avail Cap(c_a), veh/h	294	385	392	361	915	616	180	1036	462	446	1130	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	43.1	43.1	43.9	38.7	25.7	51.1	34.6	38.4	48.4	31.1	37.2
Incr Delay (d2), s/veh	29.4	44.1	44.0	40.2	11.0	4.5	14.1	0.3	3.9	34.4	0.4	16.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	15.1	15.4	13.6	11.6	8.5	3.5	3.0	6.7	8.1	4.7	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.3	87.2	87.2	84.1	49.7	30.2	65.3	34.9	42.3	82.9	31.5	53.7
LnGrp LOS	E	F	F	F	D	C	E	C	D	F	C	D
Approach Vol, veh/h		1032			1525			632			1264	
Approach Delay, s/veh		84.2			52.8			43.1			56.1	
Approach LOS		F			D			D			E	

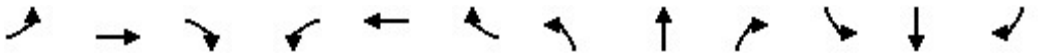
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.2	32.7	29.0	31.1	13.6	39.3	24.0	36.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.7	35.2	24.5	26.6	12.5	38.4	20.1	31.0
Max Q Clear Time (g_c+I1), s	17.1	19.5	25.7	28.4	9.4	31.2	19.4	28.1
Green Ext Time (p_c), s	0.0	3.6	0.0	0.0	0.1	3.6	0.1	2.3

Intersection Summary	
HCM 6th Ctrl Delay	59.6
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	231	413	1	1	595	467	5	5	5	322	1	343
Future Volume (vph)	231	413	1	1	595	467	5	5	5	322	1	343
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.93		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	3259		1662	3292	1473	1662	1619		1662	1488	
Flt Permitted	0.38	1.00		0.49	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	665	3259		852	3292	1473	1662	1619		1662	1488	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	243	435	1	1	626	492	5	5	5	339	1	361
RTOR Reduction (vph)	0	0	0	0	0	214	0	5	0	0	163	0
Lane Group Flow (vph)	243	436	0	1	626	278	5	5	0	339	199	0
Heavy Vehicles (%)	0%	2%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8						
Actuated Green, G (s)	50.6	50.6		50.6	50.6	50.6	0.9	1.1		24.3	24.5	
Effective Green, g (s)	50.6	50.6		50.6	50.6	50.6	0.9	1.1		24.3	24.5	
Actuated g/C Ratio	0.57	0.57		0.57	0.57	0.57	0.01	0.01		0.27	0.27	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	375	1842		481	1861	832	16	19		451	407	
v/s Ratio Prot		0.13			0.19		0.00	0.00		c0.20	c0.13	
v/s Ratio Perm	c0.37			0.00		0.19						
v/c Ratio	0.65	0.24		0.00	0.34	0.33	0.31	0.27		0.75	0.49	
Uniform Delay, d1	13.3	9.8		8.5	10.4	10.4	44.0	43.8		29.8	27.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.4	0.3		0.0	0.5	1.1	4.0	2.7		6.2	0.3	
Delay (s)	21.7	10.1		8.5	10.9	11.5	48.0	46.5		36.0	27.6	
Level of Service	C	B		A	B	B	D	D		D	C	
Approach Delay (s)		14.2			11.2			47.0			31.7	
Approach LOS		B			B			D			C	

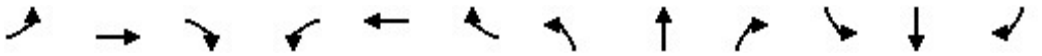
Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	89.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	231	413	1	1	595	467	5	5	5	322	1	343
Future Volume (veh/h)	231	413	1	1	595	467	5	5	5	322	1	343
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1723	1750	1750	1736	1736	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	243	435	1	1	626	492	5	5	5	339	1	361
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
Percent Heavy Veh, %	0	2	0	0	1	1	0	0	0	0	0	0
Cap, veh/h	322	1912	4	572	1883	840	7	41	41	376	1	404
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.00	0.05	0.05	0.23	0.27	0.27
Sat Flow, veh/h	512	3350	8	968	3299	1471	1667	803	803	1667	4	1480
Grp Volume(v), veh/h	243	212	224	1	626	492	5	0	10	339	0	362
Grp Sat Flow(s),veh/h/ln	512	1637	1721	968	1650	1471	1667	0	1606	1667	0	1484
Q Serve(g_s), s	41.6	5.7	5.7	0.0	8.9	19.1	0.3	0.0	0.5	17.5	0.0	20.8
Cycle Q Clear(g_c), s	50.5	5.7	5.7	5.7	8.9	19.1	0.3	0.0	0.5	17.5	0.0	20.8
Prop In Lane	1.00		0.00	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	322	934	982	572	1883	840	7	0	82	376	0	405
V/C Ratio(X)	0.75	0.23	0.23	0.00	0.33	0.59	0.77	0.00	0.12	0.90	0.00	0.89
Avail Cap(c_a), veh/h	322	934	982	572	1883	840	94	0	577	456	0	855
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.6	9.4	9.4	10.8	10.1	12.2	44.0	0.0	40.1	33.3	0.0	30.9
Incr Delay (d2), s/veh	15.1	0.6	0.5	0.0	0.5	3.0	49.1	0.0	0.2	16.7	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	2.0	2.1	0.0	3.0	6.2	0.2	0.0	0.2	8.5	0.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.7	9.9	9.9	10.8	10.5	15.2	93.2	0.0	40.3	50.0	0.0	33.8
LnGrp LOS	D	A	A	B	B	B	F	A	D	D	A	C
Approach Vol, veh/h		679			1119			15			701	
Approach Delay, s/veh		20.2			12.6			58.0			41.6	
Approach LOS		C			B			E			D	

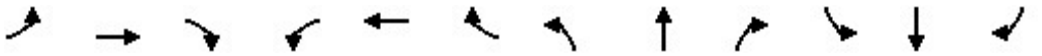
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.5	9.0		55.0	4.8	28.6		55.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	24.2	31.8		50.5	5.0	51.0		50.5				
Max Q Clear Time (g_c+I1), s	19.5	2.5		52.5	2.3	22.8		21.1				
Green Ext Time (p_c), s	0.5	0.0		0.0	0.0	1.4		10.2				

Intersection Summary												
HCM 6th Ctrl Delay			23.0									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	21	139	47	16	69	216	495	21	74	627	42
Future Volume (vph)	26	21	139	47	16	69	216	495	21	74	627	42
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.87		1.00	0.88		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	1522		1662	1537		1630	3305		1662	3263	
Flt Permitted	0.69	1.00		0.40	1.00		0.29	1.00		0.43	1.00	
Satd. Flow (perm)	1216	1522		700	1537		506	3305		753	3263	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	30	24	158	53	18	78	245	562	24	84	712	48
RTOR Reduction (vph)	0	145	0	0	70	0	0	2	0	0	2	0
Lane Group Flow (vph)	30	37	0	53	26	0	245	585	0	84	759	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	1%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	11.4	8.3		14.8	10.0		71.2	62.1		61.8	57.2	
Effective Green, g (s)	11.4	8.3		14.8	10.0		71.2	62.1		61.8	57.2	
Actuated g/C Ratio	0.12	0.08		0.15	0.10		0.73	0.63		0.63	0.58	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	155	129		153	157		477	2098		518	1908	
v/s Ratio Prot	0.01	0.02		c0.02	0.02		c0.05	0.18		0.01	0.23	
v/s Ratio Perm	0.02			c0.04			c0.32			0.09		
v/c Ratio	0.19	0.29		0.35	0.17		0.51	0.28		0.16	0.40	
Uniform Delay, d1	38.9	42.0		36.6	40.1		5.4	7.9		7.0	11.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.5		0.5	0.2		0.4	0.3		0.1	0.6	
Delay (s)	39.1	42.4		37.1	40.3		5.8	8.2		7.0	11.6	
Level of Service	D	D		D	D		A	A		A	B	
Approach Delay (s)		42.0			39.1			7.5			11.1	
Approach LOS		D			D			A			B	

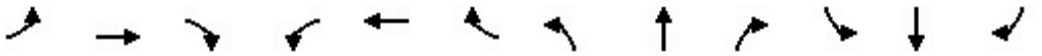
Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	97.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	21	139	47	16	69	216	495	21	74	627	42
Future Volume (veh/h)	26	21	139	47	16	69	216	495	21	74	627	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1750	1750	1750	1723	1750	1750	1750	1736	1750
Adj Flow Rate, veh/h	30	24	158	53	18	78	245	562	24	84	712	48
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	2	0	0	0	1	0
Cap, veh/h	240	29	188	163	46	197	510	1967	84	574	1758	118
Arrive On Green	0.02	0.14	0.14	0.04	0.16	0.16	0.08	0.61	0.61	0.04	0.56	0.56
Sat Flow, veh/h	1667	200	1314	1667	286	1240	1641	3249	139	1667	3137	211
Grp Volume(v), veh/h	30	0	182	53	0	96	245	287	299	84	374	386
Grp Sat Flow(s),veh/h/ln	1667	0	1513	1667	0	1527	1641	1663	1725	1667	1650	1698
Q Serve(g_s), s	1.6	0.0	11.8	2.7	0.0	5.7	6.0	8.3	8.4	2.2	13.0	13.1
Cycle Q Clear(g_c), s	1.6	0.0	11.8	2.7	0.0	5.7	6.0	8.3	8.4	2.2	13.0	13.1
Prop In Lane	1.00		0.87	1.00		0.81	1.00		0.08	1.00		0.12
Lane Grp Cap(c), veh/h	240	0	216	163	0	243	510	1006	1044	574	925	952
V/C Ratio(X)	0.12	0.00	0.84	0.32	0.00	0.40	0.48	0.29	0.29	0.15	0.40	0.41
Avail Cap(c_a), veh/h	298	0	412	210	0	430	773	1006	1044	624	925	952
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	0.0	42.2	35.9	0.0	38.1	8.5	9.5	9.5	8.7	12.6	12.6
Incr Delay (d2), s/veh	0.1	0.0	3.4	0.4	0.0	0.4	0.3	0.7	0.7	0.0	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	4.6	1.1	0.0	2.2	2.0	3.1	3.2	0.8	5.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	0.0	45.6	36.3	0.0	38.5	8.7	10.2	10.2	8.7	13.9	13.9
LnGrp LOS	D	A	D	D	A	D	A	B	B	A	B	B
Approach Vol, veh/h		212			149			831			844	
Approach Delay, s/veh		44.3			37.7			9.8			13.4	
Approach LOS		D			D			A			B	

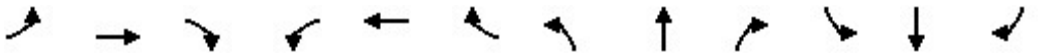
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	65.7	8.2	19.0	12.8	61.2	6.5	20.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.8	61.2	6.5	27.5	24.5	43.5	5.5	28.5
Max Q Clear Time (g_c+I1), s	4.2	10.4	4.7	13.8	8.0	15.1	3.6	7.7
Green Ext Time (p_c), s	0.0	6.4	0.0	0.6	0.3	7.9	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	453	27	205	750	16	27	1	178	43	5	5
Future Volume (vph)	5	453	27	205	750	16	27	1	178	43	5	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.85		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	2962		1662	3260	1488	1662	1474		1662	1619	
Flt Permitted	0.36	1.00		0.43	1.00	1.00	0.75	1.00		0.50	1.00	
Satd. Flow (perm)	623	2962		753	3260	1488	1314	1474		875	1619	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	5	472	28	214	781	17	28	1	185	45	5	5
RTOR Reduction (vph)	0	2	0	0	0	5	0	167	0	0	5	0
Lane Group Flow (vph)	5	498	0	214	781	12	28	19	0	45	5	0
Heavy Vehicles (%)	0%	12%	0%	0%	2%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	56.6	55.7		67.3	61.9	61.9	8.0	8.0		8.0	8.0	
Effective Green, g (s)	56.6	55.7		67.3	61.9	61.9	8.0	8.0		8.0	8.0	
Actuated g/C Ratio	0.67	0.66		0.80	0.73	0.73	0.09	0.09		0.09	0.09	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	429	1957		677	2393	1092	124	139		83	153	
v/s Ratio Prot	0.00	0.17		c0.03	c0.24			0.01			0.00	
v/s Ratio Perm	0.01			0.23		0.01	0.02			c0.05		
v/c Ratio	0.01	0.25		0.32	0.33	0.01	0.23	0.13		0.54	0.04	
Uniform Delay, d1	4.6	5.8		2.2	3.9	3.0	35.3	35.0		36.4	34.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.3		0.1	0.4	0.0	0.3	0.2		3.8	0.0	
Delay (s)	4.6	6.1		2.3	4.3	3.0	35.6	35.1		40.2	34.7	
Level of Service	A	A		A	A	A	D	D		D	C	
Approach Delay (s)		6.1			3.8			35.2			39.2	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	84.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	453	27	205	750	16	27	1	178	43	5	5
Future Volume (veh/h)	5	453	27	205	750	16	27	1	178	43	5	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1586	1750	1750	1723	1750	1750	1750	1736	1750	1750	1750
Adj Flow Rate, veh/h	5	472	28	214	781	17	28	1	185	45	5	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	12	0	0	2	0	0	0	1	0	0	0
Cap, veh/h	478	1744	103	678	2198	996	324	1	262	151	142	142
Arrive On Green	0.00	0.60	0.60	0.07	0.67	0.67	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1667	2891	171	1667	3273	1483	1427	8	1476	1217	803	803
Grp Volume(v), veh/h	5	245	255	214	781	17	28	0	186	45	0	10
Grp Sat Flow(s),veh/h/ln	1667	1507	1555	1667	1637	1483	1427	0	1484	1217	0	1606
Q Serve(g_s), s	0.1	7.1	7.1	4.1	9.4	0.3	1.5	0.0	10.8	3.3	0.0	0.5
Cycle Q Clear(g_c), s	0.1	7.1	7.1	4.1	9.4	0.3	2.0	0.0	10.8	14.1	0.0	0.5
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.99	1.00		0.50
Lane Grp Cap(c), veh/h	478	909	938	678	2198	996	324	0	263	151	0	285
V/C Ratio(X)	0.01	0.27	0.27	0.32	0.36	0.02	0.09	0.00	0.71	0.30	0.00	0.04
Avail Cap(c_a), veh/h	572	909	938	1131	2198	996	687	0	640	460	0	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.1	8.6	8.6	5.4	6.5	5.0	32.0	0.0	35.4	42.1	0.0	31.2
Incr Delay (d2), s/veh	0.0	0.7	0.7	0.1	0.5	0.0	0.0	0.0	1.3	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	2.2	1.0	2.6	0.1	0.5	0.0	4.0	1.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.2	9.3	9.3	5.5	6.9	5.0	32.1	0.0	36.8	42.5	0.0	31.2
LnGrp LOS	A	A	A	A	A	A	C	A	D	D	A	C
Approach Vol, veh/h		505			1012			214			55	
Approach Delay, s/veh		9.3			6.6			36.1			40.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.7	11.1	59.7		20.7	4.9	66.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		39.5	31.5	35.5		39.5	5.5	61.5				
Max Q Clear Time (g_c+I1), s		12.8	6.1	9.1		16.1	2.1	11.4				
Green Ext Time (p_c), s		0.8	0.6	10.0		0.1	0.0	23.6				

Intersection Summary												
HCM 6th Ctrl Delay			12.0									
HCM 6th LOS			B									

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	36	1	23	44	0	14
Future Vol, veh/h	36	1	23	44	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	7	0	13
Mvmt Flow	38	1	24	46	0	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	39	0	133	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	94	-
Critical Hdwy	-	-	4.1	-	6.4	6.33
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.417
Pot Cap-1 Maneuver	-	-	1584	-	866	1002
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	935	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1584	-	852	1002
Mov Cap-2 Maneuver	-	-	-	-	852	-
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	920	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1002	-	-	1584	-
HCM Lane V/C Ratio	0.015	-	-	0.015	-
HCM Control Delay (s)	8.6	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	65	19	5	52	15	2
Future Vol, veh/h	65	19	5	52	15	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	70	20	5	56	16	2

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	0	33	61
Stage 1	-	-	0	0
Stage 2	-	-	33	61
Critical Hdwy	-	-	6.42	6.52
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.42	5.52
Follow-up Hdwy	-	-	3.518	4.018
Pot Cap-1 Maneuver	-	-	980	830
Stage 1	-	-	-	-
Stage 2	-	-	989	844
Platoon blocked, %	-	-		
Mov Cap-1 Maneuver	-	-	980	0
Mov Cap-2 Maneuver	-	-	980	0
Stage 1	-	-	-	0
Stage 2	-	-	989	0

Approach	NB	SB
HCM Control Delay, s	0	8.7
HCM LOS		A

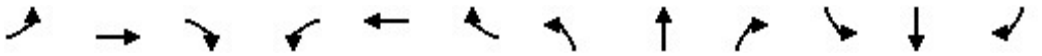
Minor Lane/Major Mvmt	NBT	NBR	SBLn1
Capacity (veh/h)	-	-	980
HCM Lane V/C Ratio	-	-	0.019
HCM Control Delay (s)	-	-	8.7
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	12	0	58	29	41	1	41	23	41	70	35
Future Vol, veh/h	29	12	0	58	29	41	1	41	23	41	70	35
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	0	0	0	0	5	3	0	0	5	3	2	0
Mvmt Flow	35	14	0	69	35	49	1	49	27	49	83	42
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

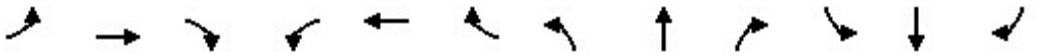
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	8.5	7.8	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	71%	45%	28%
Vol Thru, %	63%	29%	23%	48%
Vol Right, %	35%	0%	32%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	41	128	146
LT Vol	1	29	58	41
Through Vol	41	12	29	70
RT Vol	23	0	41	35
Lane Flow Rate	77	49	152	174
Geometry Grp	1	1	1	1
Degree of Util (X)	0.094	0.065	0.187	0.213
Departure Headway (Hd)	4.354	4.787	4.426	4.417
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	823	748	811	813
Service Time	2.378	2.815	2.45	2.438
HCM Lane V/C Ratio	0.094	0.066	0.187	0.214
HCM Control Delay	7.8	8.1	8.5	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.2	0.7	0.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	638	37	80	909	202	48	21	122	255	21	27
Future Volume (vph)	11	638	37	80	909	202	48	21	122	255	21	27
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.87		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1409	3173		1662	3208		1662	1513		1662	1601	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1409	3173		1662	3208		1662	1513		1662	1601	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	12	679	39	85	967	215	51	22	130	271	22	29
RTOR Reduction (vph)	0	3	0	0	12	0	0	120	0	0	22	0
Lane Group Flow (vph)	12	715	0	85	1170	0	51	32	0	271	29	0
Heavy Vehicles (%)	18%	4%	3%	0%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.9	41.8		6.0	46.9		3.8	7.1		19.6	22.9	
Effective Green, g (s)	0.9	41.8		6.0	46.9		3.8	7.1		19.6	22.9	
Actuated g/C Ratio	0.01	0.45		0.06	0.51		0.04	0.08		0.21	0.25	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	4.0		2.0	4.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	13	1433		107	1626		68	116		352	396	
v/s Ratio Prot	0.01	0.23		c0.05	c0.36		0.03	c0.02		c0.16	0.02	
v/s Ratio Perm												
v/c Ratio	0.92	0.50		0.79	0.72		0.75	0.28		0.77	0.07	
Uniform Delay, d1	45.8	17.9		42.6	17.7		43.9	40.3		34.3	26.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	205.3	1.2		30.3	2.8		33.1	0.5		8.8	0.0	
Delay (s)	251.0	19.2		73.0	20.5		77.0	40.7		43.2	26.7	
Level of Service	F	B		E	C		E	D		D	C	
Approach Delay (s)		23.0			24.0			49.9			40.5	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	92.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	638	37	80	909	202	48	21	122	255	21	27
Future Volume (veh/h)	11	638	37	80	909	202	48	21	122	255	21	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1504	1695	1709	1750	1736	1750	1750	1750	1736	1750	1750	1750
Adj Flow Rate, veh/h	12	679	39	85	967	215	51	22	130	271	22	29
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	18	4	3	0	1	0	0	0	1	0	0	0
Cap, veh/h	12	1315	75	108	1290	286	64	27	162	305	185	244
Arrive On Green	0.01	0.42	0.42	0.06	0.48	0.48	0.04	0.13	0.13	0.18	0.27	0.27
Sat Flow, veh/h	1433	3096	178	1667	2683	596	1667	219	1297	1667	685	903
Grp Volume(v), veh/h	12	353	365	85	594	588	51	0	152	271	0	51
Grp Sat Flow(s),veh/h/ln	1433	1611	1663	1667	1650	1629	1667	0	1517	1667	0	1588
Q Serve(g_s), s	0.7	14.4	14.4	4.5	26.0	26.1	2.7	0.0	8.7	14.1	0.0	2.2
Cycle Q Clear(g_c), s	0.7	14.4	14.4	4.5	26.0	26.1	2.7	0.0	8.7	14.1	0.0	2.2
Prop In Lane	1.00		0.11	1.00		0.37	1.00		0.86	1.00		0.57
Lane Grp Cap(c), veh/h	12	684	707	108	793	783	64	0	190	305	0	429
V/C Ratio(X)	0.97	0.52	0.52	0.79	0.75	0.75	0.80	0.00	0.80	0.89	0.00	0.12
Avail Cap(c_a), veh/h	81	684	707	182	793	783	178	0	579	384	0	803
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.1	18.9	18.9	41.0	18.7	18.8	42.5	0.0	37.8	35.5	0.0	24.5
Incr Delay (d2), s/veh	64.4	2.8	2.7	4.7	6.4	6.5	8.5	0.0	3.0	16.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	5.5	5.7	1.9	10.4	10.4	1.3	0.0	3.4	7.0	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.5	21.6	21.5	45.7	25.1	25.3	50.9	0.0	40.8	51.8	0.0	24.5
LnGrp LOS	F	C	C	D	C	C	D	A	D	D	A	C
Approach Vol, veh/h		730			1267			203			322	
Approach Delay, s/veh		23.0			26.6			43.3			47.4	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.8	15.6	10.3	42.3	7.9	28.5	5.3	47.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	34.0	9.7	37.8	9.5	45.0	5.0	42.5
Max Q Clear Time (g_c+I1), s	16.1	10.7	6.5	16.4	4.7	4.2	2.7	28.1
Green Ext Time (p_c), s	0.2	0.5	0.1	13.1	0.0	0.1	0.0	12.9

Intersection Summary	
HCM 6th Ctrl Delay	29.6
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	75	91	54	91	48
Future Vol, veh/h	21	75	91	54	91	48
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	93	93	93	93	93	93
Heavy Vehicles, %	5	0	0	0	0	0
Mvmt Flow	23	81	98	58	98	52

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	378	124	150	0	-	0
Stage 1	124	-	-	-	-	-
Stage 2	254	-	-	-	-	-
Critical Hdwy	6.45	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	618	932	1444	-	-	-
Stage 1	894	-	-	-	-	-
Stage 2	781	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	575	932	1444	-	-	-
Mov Cap-2 Maneuver	575	-	-	-	-	-
Stage 1	831	-	-	-	-	-
Stage 2	781	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	4.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1444	-	821	-	-
HCM Lane V/C Ratio	0.068	-	0.126	-	-
HCM Control Delay (s)	7.7	0	10	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

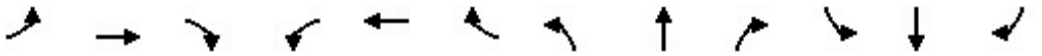
Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	53	84	190	133	7
Future Vol, veh/h	1	53	84	190	133	7
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	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	61	97	218	153	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	315	0	-	0	269	206
Stage 1	-	-	-	-	206	-
Stage 2	-	-	-	-	63	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1245	-	-	-	720	835
Stage 1	-	-	-	-	829	-
Stage 2	-	-	-	-	960	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1245	-	-	-	719	835
Mov Cap-2 Maneuver	-	-	-	-	719	-
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	960	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1245	-	-	-	724
HCM Lane V/C Ratio	0.001	-	-	-	0.222
HCM Control Delay (s)	7.9	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8

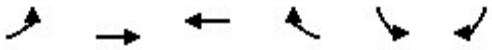


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	864	0	0	1131	26	508	168	257	37	0	251
Future Volume (vph)	52	864	0	0	1131	26	508	168	257	37	0	251
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5		4.5		4.5
Lane Util. Factor	1.00	0.95			0.95		1.00	1.00		1.00		1.00
Frt	1.00	1.00			1.00		1.00	0.91		1.00		0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95		1.00
Satd. Flow (prot)	1630	3260			3249		1630	1560		1630		1458
Flt Permitted	0.95	1.00			1.00		0.95	1.00		0.28		1.00
Satd. Flow (perm)	1630	3260			3249		1630	1560		484		1458
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	54	900	0	0	1178	27	529	175	268	39	0	261
RTOR Reduction (vph)	0	0	0	0	2	0	0	65	0	0	0	98
Lane Group Flow (vph)	54	900	0	0	1203	0	529	378	0	39	0	163
Turn Type	Prot	NA			NA		Perm	NA		Perm		Perm
Protected Phases	7	4			8			2				
Permitted Phases							2			6		6
Actuated Green, G (s)	4.0	46.4			37.9		30.7	30.7		30.7		30.7
Effective Green, g (s)	4.0	46.4			37.9		30.7	30.7		30.7		30.7
Actuated g/C Ratio	0.05	0.54			0.44		0.36	0.36		0.36		0.36
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5		4.5		4.5
Vehicle Extension (s)	2.0	4.0			4.0		2.0	2.0		2.0		2.0
Lane Grp Cap (vph)	75	1756			1430		581	556		172		519
v/s Ratio Prot	0.03	c0.28			c0.37			0.24				
v/s Ratio Perm							c0.32			0.08		0.11
v/c Ratio	0.72	0.51			0.84		0.91	0.68		0.23		0.31
Uniform Delay, d1	40.5	12.6			21.4		26.4	23.5		19.4		20.1
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00		1.00
Incremental Delay, d2	23.9	1.1			6.2		18.2	2.6		0.2		0.1
Delay (s)	64.4	13.7			27.6		44.6	26.1		19.6		20.2
Level of Service	E	B			C		D	C		B		C
Approach Delay (s)		16.6			27.6			36.2			20.1	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	86.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology does not support Non-NEMA phasing.

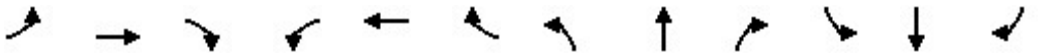


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↰	↱
Traffic Volume (vph)	0	2319	1440	0	104	146
Future Volume (vph)	0	2319	1440	0	104	146
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.5	4.5		4.5	4.5
Lane Util. Factor		0.95	0.95		1.00	1.00
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		3260	3260		1630	1458
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		3260	3260		1630	1458
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2521	1565	0	113	159
RTOR Reduction (vph)	0	0	0	0	0	21
Lane Group Flow (vph)	0	2521	1565	0	113	138
Turn Type		NA	NA		Perm	Perm
Protected Phases		4	8			
Permitted Phases					6	6
Actuated Green, G (s)		53.4	53.4		11.1	11.1
Effective Green, g (s)		53.4	53.4		11.1	11.1
Actuated g/C Ratio		0.73	0.73		0.15	0.15
Clearance Time (s)		4.5	4.5		4.5	4.5
Vehicle Extension (s)		4.0	4.0		2.0	2.0
Lane Grp Cap (vph)		2368	2368		246	220
v/s Ratio Prot		c0.77	0.48			
v/s Ratio Perm					0.07	c0.09
v/c Ratio		1.06	0.66		0.46	0.63
Uniform Delay, d1		10.1	5.3		28.5	29.3
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		38.5	1.5		0.5	4.0
Delay (s)		48.6	6.8		29.0	33.2
Level of Service		D	A		C	C
Approach Delay (s)		48.6	6.8		31.4	
Approach LOS		D	A		C	

Intersection Summary			
HCM 2000 Control Delay	32.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	73.5	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology does not support Non-NEMA phasing.

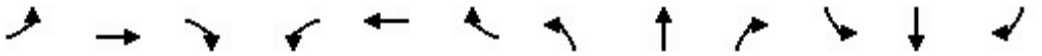


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	174	5	116	16	0	37	0	1379	21	16	893	328
Future Volume (vph)	174	5	116	16	0	37	0	1379	21	16	893	328
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00		1.00		0.95		1.00	0.95	1.00
Frt	1.00	0.86		1.00		0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	1.00
Satd. Flow (prot)	1630	1468		1630		1458		3253		1630	3260	1458
Flt Permitted	0.95	1.00		0.58		1.00		1.00		0.95	1.00	1.00
Satd. Flow (perm)	1630	1468		996		1458		3253		1630	3260	1458
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	183	5	122	17	0	39	0	1452	22	17	940	345
RTOR Reduction (vph)	0	102	0	0	0	33	0	0	0	0	0	22
Lane Group Flow (vph)	183	25	0	17	0	6	0	1474	0	17	940	323
Turn Type	Perm	NA		Perm		Perm		NA		Prot	NA	Perm
Protected Phases		4						2		1	6	
Permitted Phases	4			8		8						6
Actuated Green, G (s)	18.3	18.3		18.3		18.3		77.1		2.6	84.2	84.2
Effective Green, g (s)	18.3	18.3		18.3		18.3		77.1		2.6	84.2	84.2
Actuated g/C Ratio	0.16	0.16		0.16		0.16		0.69		0.02	0.76	0.76
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	4.0	4.0		4.0		4.0		2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	267	240		163		239		2249		38	2461	1101
v/s Ratio Prot		0.02						c0.45		0.01	c0.29	
v/s Ratio Perm	c0.11			0.02		0.00						0.22
v/c Ratio	0.69	0.10		0.10		0.03		0.66		0.45	0.38	0.29
Uniform Delay, d1	43.9	39.6		39.6		39.1		9.7		53.7	4.7	4.3
Progression Factor	1.00	1.00		1.00		1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	7.7	0.3		0.4		0.1		1.5		3.0	0.5	0.7
Delay (s)	51.6	39.9		40.0		39.2		11.2		56.8	5.1	5.0
Level of Service	D	D		D		D		B		E	A	A
Approach Delay (s)		46.8			39.4			11.2			5.8	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	111.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology does not support Non-NEMA phasing.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	924	313	154	967	5	255	32	276	42	11	53
Future Volume (vph)	32	924	313	154	967	5	255	32	276	42	11	53
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1630	3260	1458	1630	3260	1458	1630	1716	1458	1630	1501	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.40	1.00	1.00	0.73	1.00	
Satd. Flow (perm)	1630	3260	1458	1630	3260	1458	686	1716	1458	1259	1501	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	36	1038	352	173	1087	6	287	36	310	47	12	60
RTOR Reduction (vph)	0	0	91	0	0	2	0	0	77	0	56	0
Lane Group Flow (vph)	36	1038	261	173	1087	4	287	36	233	47	16	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8	2		2	6		
Actuated Green, G (s)	3.9	46.3	46.3	13.8	56.2	56.2	21.4	14.0	27.8	8.7	5.8	
Effective Green, g (s)	3.9	46.3	46.3	13.8	56.2	56.2	21.4	14.0	27.8	8.7	5.8	
Actuated g/C Ratio	0.04	0.49	0.49	0.15	0.59	0.59	0.23	0.15	0.29	0.09	0.06	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0	4.0	3.0	2.0	2.0	3.0	2.0	
Lane Grp Cap (vph)	66	1588	710	236	1928	862	264	252	495	126	91	
v/s Ratio Prot	0.02	c0.32		c0.11	0.33		c0.13	0.02	0.07	0.01	0.01	
v/s Ratio Perm			0.18			0.00	c0.12		0.09	0.02		
v/c Ratio	0.55	0.65	0.37	0.73	0.56	0.00	1.09	0.14	0.47	0.37	0.17	
Uniform Delay, d1	44.7	18.3	15.2	38.8	11.9	7.9	35.2	35.3	27.6	40.4	42.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.9	2.1	1.5	9.7	1.2	0.0	80.6	0.1	0.3	1.9	0.3	
Delay (s)	49.5	20.4	16.7	48.5	13.1	8.0	115.8	35.4	27.8	42.2	42.7	
Level of Service	D	C	B	D	B	A	F	D	C	D	D	
Approach Delay (s)		20.2			17.9			68.2			42.5	
Approach LOS		C			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	29.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

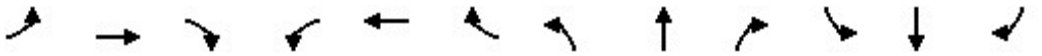
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	924	313	154	967	5	255	32	276	42	11	53
Future Volume (veh/h)	32	924	313	154	967	5	255	32	276	42	11	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	36	1038	0	173	1087	0	287	36	310	47	12	60
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	1469		204	1790		374	357	484	270	33	165
Arrive On Green	0.03	0.45	0.00	0.12	0.55	0.00	0.11	0.21	0.21	0.04	0.13	0.13
Sat Flow, veh/h	1641	3273	1460	1641	3273	1460	1641	1723	1460	1641	250	1248
Grp Volume(v), veh/h	36	1038	0	173	1087	0	287	36	310	47	0	72
Grp Sat Flow(s),veh/h/ln	1641	1637	1460	1641	1637	1460	1641	1723	1460	1641	0	1498
Q Serve(g_s), s	2.1	25.2	0.0	10.2	22.2	0.0	11.0	1.7	17.7	2.4	0.0	4.3
Cycle Q Clear(g_c), s	2.1	25.2	0.0	10.2	22.2	0.0	11.0	1.7	17.7	2.4	0.0	4.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.83
Lane Grp Cap(c), veh/h	43	1469		204	1790		374	357	484	270	0	198
V/C Ratio(X)	0.83	0.71		0.85	0.61		0.77	0.10	0.64	0.17	0.00	0.36
Avail Cap(c_a), veh/h	120	1469		292	1790		374	629	715	295	0	457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.7	21.9	0.0	42.1	15.1	0.0	34.4	31.6	27.9	35.0	0.0	38.9
Incr Delay (d2), s/veh	13.8	2.9	0.0	10.5	1.5	0.0	9.3	0.0	0.5	0.3	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	9.8	0.0	4.7	8.1	0.0	2.6	0.7	6.1	1.0	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.4	24.8	0.0	52.7	16.7	0.0	43.7	31.6	28.4	35.3	0.0	39.4
LnGrp LOS	E	C		D	B		D	C	C	D	A	D
Approach Vol, veh/h		1074	A		1260	A		633			119	
Approach Delay, s/veh		26.0			21.6			35.5			37.8	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	24.9	16.8	48.6	15.5	17.5	7.1	58.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	35.9	17.5	43.5	11.0	30.0	7.2	53.8
Max Q Clear Time (g_c+I1), s	4.4	19.7	12.2	27.2	13.0	6.3	4.1	24.2
Green Ext Time (p_c), s	0.0	0.6	0.2	8.8	0.0	0.2	0.0	13.0

Intersection Summary	
HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

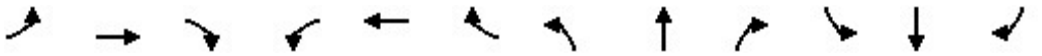
Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	450	725	95	390	1040	335	150	400	240	420	400	435
Future Volume (vph)	450	725	95	390	1040	335	150	400	240	420	400	435
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	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1646	3207		1662	3260	1473	1614	3325	1488	3193	3325	1473
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1646	3207		1662	3260	1473	1614	3325	1488	3193	3325	1473
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	464	747	98	402	1072	345	155	412	247	433	412	448
RTOR Reduction (vph)	0	8	0	0	0	71	0	0	34	0	0	32
Lane Group Flow (vph)	464	837	0	402	1072	274	155	412	213	433	412	416
Heavy Vehicles (%)	1%	2%	1%	0%	2%	1%	3%	0%	0%	1%	0%	1%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Actuated Green, G (s)	23.5	34.5		20.5	31.5	44.0	11.9	19.2	39.7	12.5	19.8	43.3
Effective Green, g (s)	24.0	35.0		21.0	32.0	45.0	12.4	19.7	40.7	13.0	20.3	44.3
Actuated g/C Ratio	0.23	0.33		0.20	0.31	0.43	0.12	0.19	0.39	0.12	0.19	0.42
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	3.0		2.0	3.0	2.0	2.0	4.0	2.0	2.0	4.0	2.0
Lane Grp Cap (vph)	377	1072		333	996	689	191	625	635	396	644	679
v/s Ratio Prot	c0.28	c0.26		0.24	c0.33	0.05	0.10	0.12	0.07	c0.14	0.12	c0.14
v/s Ratio Perm						0.14			0.08			0.14
v/c Ratio	1.23	0.78		1.21	1.08	0.40	0.81	0.66	0.34	1.09	0.64	0.61
Uniform Delay, d1	40.4	31.4		41.9	36.4	20.5	45.0	39.4	22.5	45.9	38.8	23.5
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	125.0	5.7		118.1	51.4	0.1	21.3	2.8	0.1	72.8	2.4	1.2
Delay (s)	165.4	37.1		160.0	87.7	20.7	66.3	42.2	22.6	118.6	41.2	24.7
Level of Service	F	D		F	F	C	E	D	C	F	D	C
Approach Delay (s)		82.5			91.0			40.8			61.4	
Approach LOS		F			F			D			E	

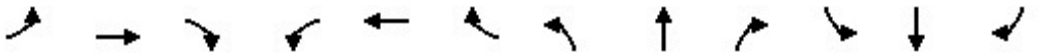
Intersection Summary			
HCM 2000 Control Delay	73.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	104.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	450	725	95	390	1040	335	150	400	240	420	400	435
Future Volume (veh/h)	450	725	95	390	1040	335	150	400	240	420	400	435
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1723	1736	1750	1723	1736	1709	1750	1750	1736	1750	1736
Adj Flow Rate, veh/h	464	747	98	402	1072	345	155	412	247	433	412	448
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	2	1	0	2	1	3	0	0	1	0	1
Cap, veh/h	339	871	114	299	896	566	174	908	671	357	922	710
Arrive On Green	0.21	0.30	0.30	0.18	0.27	0.27	0.11	0.27	0.27	0.11	0.28	0.28
Sat Flow, veh/h	1654	2909	382	1667	3273	1471	1628	3325	1483	3208	3325	1471
Grp Volume(v), veh/h	464	420	425	402	1072	345	155	412	247	433	412	448
Grp Sat Flow(s),veh/h/ln	1654	1637	1654	1667	1637	1471	1628	1663	1483	1604	1663	1471
Q Serve(g_s), s	24.0	28.3	28.3	21.0	32.0	22.0	11.0	12.0	12.8	13.0	12.0	26.5
Cycle Q Clear(g_c), s	24.0	28.3	28.3	21.0	32.0	22.0	11.0	12.0	12.8	13.0	12.0	26.5
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	339	490	495	299	896	566	174	908	671	357	922	710
V/C Ratio(X)	1.37	0.86	0.86	1.34	1.20	0.61	0.89	0.45	0.37	1.21	0.45	0.63
Avail Cap(c_a), veh/h	339	490	495	299	896	566	174	995	710	357	1010	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	38.6	38.6	48.0	42.5	28.9	51.5	35.3	21.0	52.0	34.9	22.5
Incr Delay (d2), s/veh	182.9	17.4	17.3	175.0	99.3	4.8	38.0	0.5	0.5	119.3	0.5	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.9	13.5	13.6	23.1	25.0	8.3	6.3	4.9	4.4	11.1	4.8	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	229.3	56.0	55.9	223.0	141.8	33.7	89.5	35.8	21.5	171.3	35.3	24.4
LnGrp LOS	F	E	E	F	F	C	F	D	C	F	D	C
Approach Vol, veh/h		1309			1819			814			1293	
Approach Delay, s/veh		117.4			139.2			41.7			77.1	
Approach LOS		F			F			D			E	

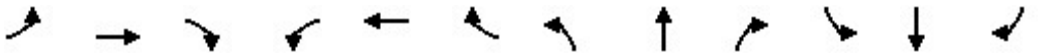
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	35.9	25.0	39.0	16.5	36.4	28.0	36.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.5	34.5	20.5	34.5	12.0	35.0	23.5	31.5
Max Q Clear Time (g_c+I1), s	15.0	14.8	23.0	30.3	13.0	28.5	26.0	34.0
Green Ext Time (p_c), s	0.0	5.2	0.0	2.9	0.0	3.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	103.3
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	515	2	2	715	655	10	20	10	465	5	335
Future Volume (vph)	270	515	2	2	715	655	10	20	10	465	5	335
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	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	3258		1662	3292	1473	1662	1660		1662	1491	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.36	1.00		0.74	1.00	
Satd. Flow (perm)	1662	3258		1662	3292	1473	637	1660		1289	1491	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	284	542	2	2	753	689	11	21	11	489	5	353
RTOR Reduction (vph)	0	0	0	0	0	441	0	7	0	0	208	0
Lane Group Flow (vph)	284	544	0	2	753	248	11	25	0	489	150	0
Heavy Vehicles (%)	0%	2%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	15.5	49.5		1.0	35.0	35.0	34.6	34.6		34.6	34.6	
Effective Green, g (s)	16.0	50.0		1.5	35.5	35.5	35.1	35.1		35.1	35.1	
Actuated g/C Ratio	0.16	0.51		0.02	0.36	0.36	0.36	0.36		0.36	0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	4.0		3.0	4.0	4.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	269	1652		25	1185	530	226	590		458	530	
v/s Ratio Prot	c0.17	0.17		0.00	c0.23			0.02			0.10	
v/s Ratio Perm						0.17	0.02			c0.38		
v/c Ratio	1.06	0.33		0.08	0.64	0.47	0.05	0.04		1.07	0.28	
Uniform Delay, d1	41.3	14.4		47.9	26.2	24.3	20.8	20.8		31.7	22.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	70.3	0.5		1.4	2.6	3.0	0.0	0.0		61.3	0.1	
Delay (s)	111.6	14.9		49.2	28.8	27.2	20.8	20.8		93.0	22.8	
Level of Service	F	B		D	C	C	C	C		F	C	
Approach Delay (s)		48.1			28.1			20.8			63.4	
Approach LOS		D			C			C			E	

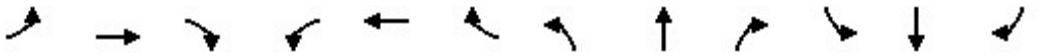
Intersection Summary			
HCM 2000 Control Delay	42.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	98.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	515	2	2	715	655	10	20	10	465	5	335
Future Volume (veh/h)	270	515	2	2	715	655	10	20	10	465	5	335
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1723	1750	1750	1736	1736	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	284	542	2	2	753	689	11	21	11	489	5	353
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
Percent Heavy Veh, %	0	2	0	0	1	1	0	0	0	0	0	0
Cap, veh/h	281	1660	6	13	1108	494	252	400	209	575	8	541
Arrive On Green	0.17	0.50	0.50	0.01	0.34	0.34	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1667	3345	12	1667	3299	1471	1040	1082	567	1399	21	1465
Grp Volume(v), veh/h	284	265	279	2	753	689	11	0	32	489	0	358
Grp Sat Flow(s),veh/h/ln	1667	1637	1720	1667	1650	1471	1040	0	1648	1399	0	1486
Q Serve(g_s), s	16.0	9.3	9.3	0.1	18.7	31.9	0.8	0.0	1.2	32.8	0.0	19.0
Cycle Q Clear(g_c), s	16.0	9.3	9.3	0.1	18.7	31.9	19.9	0.0	1.2	34.0	0.0	19.0
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.34	1.00		0.99
Lane Grp Cap(c), veh/h	281	812	854	13	1108	494	252	0	609	575	0	549
V/C Ratio(X)	1.01	0.33	0.33	0.15	0.68	1.39	0.04	0.00	0.05	0.85	0.00	0.65
Avail Cap(c_a), veh/h	281	812	854	96	1108	494	252	0	609	575	0	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.5	14.4	14.4	46.8	27.2	31.5	33.1	0.0	19.3	30.2	0.0	24.9
Incr Delay (d2), s/veh	56.7	1.1	1.0	5.1	3.4	189.6	0.0	0.0	0.0	11.0	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	3.5	3.6	0.1	7.5	36.7	0.2	0.0	0.4	12.2	0.0	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.2	15.5	15.4	51.9	30.5	221.1	33.1	0.0	19.3	41.2	0.0	27.1
LnGrp LOS	F	B	B	D	C	F	C	A	B	D	A	C
Approach Vol, veh/h		828			1444			43			847	
Approach Delay, s/veh		43.1			121.5			22.8			35.2	
Approach LOS		D			F			C			D	

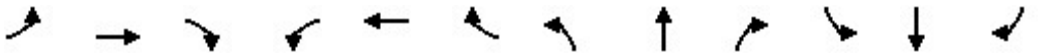
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		39.1	4.8	51.1		39.1	20.0	35.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.6	5.0	41.9		34.6	15.5	31.4				
Max Q Clear Time (g_c+I1), s		21.9	2.1	11.3		36.0	18.0	33.9				
Green Ext Time (p_c), s		0.0	0.0	9.1		0.0	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			76.5									
HCM 6th LOS			E									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	20	180	55	30	105	300	545	15	60	695	75
Future Volume (vph)	50	20	180	55	30	105	300	545	15	60	695	75
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		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.88		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	1514		1662	1546		1630	3311		1662	3247	
Flt Permitted	0.49	1.00		0.48	1.00		0.26	1.00		0.43	1.00	
Satd. Flow (perm)	864	1514		843	1546		447	3311		751	3247	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	21	189	58	32	111	316	574	16	63	732	79
RTOR Reduction (vph)	0	173	0	0	102	0	0	1	0	0	5	0
Lane Group Flow (vph)	53	37	0	58	41	0	316	589	0	63	806	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	1%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.2	7.6		13.6	7.8		70.6	61.9		56.4	52.2	
Effective Green, g (s)	14.2	8.1		14.6	8.3		71.1	62.4		57.4	52.7	
Actuated g/C Ratio	0.15	0.08		0.15	0.09		0.73	0.64		0.59	0.54	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	175	125		179	131		500	2119		486	1755	
v/s Ratio Prot	0.02	0.02		c0.02	0.03		c0.09	0.18		0.01	0.25	
v/s Ratio Perm	0.03			c0.03			c0.37			0.07		
v/c Ratio	0.30	0.29		0.32	0.32		0.63	0.28		0.13	0.46	
Uniform Delay, d1	36.8	42.0		36.6	41.9		6.6	7.7		8.6	13.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.5		0.4	0.5		1.9	0.3		0.0	0.9	
Delay (s)	37.2	42.5		37.0	42.4		8.5	8.0		8.6	14.6	
Level of Service	D	D		D	D		A	A		A	B	
Approach Delay (s)		41.4			40.9			8.2			14.1	
Approach LOS		D			D			A			B	

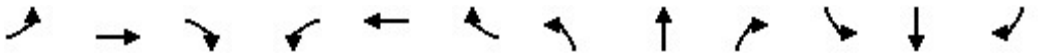
Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	97.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	20	180	55	30	105	300	545	15	60	695	75
Future Volume (veh/h)	50	20	180	55	30	105	300	545	15	60	695	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1750	1750	1750	1723	1750	1750	1750	1736	1750
Adj Flow Rate, veh/h	53	21	189	58	32	111	316	574	16	63	732	79
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
Percent Heavy Veh, %	0	0	0	0	0	0	2	0	0	0	1	0
Cap, veh/h	244	25	225	180	58	202	501	1978	55	561	1571	169
Arrive On Green	0.04	0.17	0.17	0.04	0.17	0.17	0.11	0.60	0.60	0.04	0.52	0.52
Sat Flow, veh/h	1667	151	1355	1667	344	1192	1641	3304	92	1667	3004	324
Grp Volume(v), veh/h	53	0	210	58	0	143	316	289	301	63	402	409
Grp Sat Flow(s),veh/h/ln	1667	0	1506	1667	0	1535	1641	1663	1733	1667	1650	1678
Q Serve(g_s), s	2.7	0.0	13.9	2.9	0.0	8.8	8.5	8.6	8.7	1.8	15.8	15.8
Cycle Q Clear(g_c), s	2.7	0.0	13.9	2.9	0.0	8.8	8.5	8.6	8.7	1.8	15.8	15.8
Prop In Lane	1.00		0.90	1.00		0.78	1.00		0.05	1.00		0.19
Lane Grp Cap(c), veh/h	244	0	250	180	0	260	501	995	1038	561	863	878
V/C Ratio(X)	0.22	0.00	0.84	0.32	0.00	0.55	0.63	0.29	0.29	0.11	0.47	0.47
Avail Cap(c_a), veh/h	323	0	399	253	0	407	767	995	1038	606	863	878
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.7	0.0	41.5	34.2	0.0	39.0	10.5	10.0	10.0	10.4	15.4	15.4
Incr Delay (d2), s/veh	0.2	0.0	4.6	0.4	0.0	0.7	0.5	0.7	0.7	0.0	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	5.5	1.2	0.0	3.4	2.9	3.3	3.4	0.7	6.2	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.9	0.0	46.0	34.6	0.0	39.7	11.0	10.7	10.7	10.4	17.2	17.2
LnGrp LOS	C	A	D	C	A	D	B	B	B	B	B	B
Approach Vol, veh/h		263			201			906			874	
Approach Delay, s/veh		43.6			38.2			10.8			16.7	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	65.4	8.5	21.0	15.4	57.6	8.2	21.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.9	60.9	8.5	26.7	27.5	39.3	8.5	26.7
Max Q Clear Time (g_c+I1), s	3.8	10.7	4.9	15.9	10.5	17.8	4.7	10.8
Green Ext Time (p_c), s	0.0	6.4	0.0	0.6	0.4	7.7	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	575	25	235	1050	20	25	1	200	45	5	5
Future Volume (vph)	5	575	25	235	1050	20	25	1	200	45	5	5
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	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.85		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	2963		1662	3260	1488	1662	1474		1662	1619	
Flt Permitted	0.26	1.00		0.37	1.00	1.00	0.75	1.00		0.44	1.00	
Satd. Flow (perm)	457	2963		648	3260	1488	1314	1474		778	1619	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	5	599	26	245	1094	21	26	1	208	47	5	5
RTOR Reduction (vph)	0	1	0	0	0	5	0	186	0	0	4	0
Lane Group Flow (vph)	5	624	0	245	1094	16	26	23	0	47	6	0
Heavy Vehicles (%)	0%	12%	0%	0%	2%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	57.1	56.2		68.3	62.9	62.9	8.5	8.5		8.5	8.5	
Effective Green, g (s)	58.1	56.7		68.8	63.4	63.4	9.0	9.0		9.0	9.0	
Actuated g/C Ratio	0.68	0.66		0.80	0.74	0.74	0.10	0.10		0.10	0.10	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	329	1958		615	2408	1099	137	154		81	169	
v/s Ratio Prot	0.00	0.21		c0.04	c0.34			0.02			0.00	
v/s Ratio Perm	0.01			0.28		0.01	0.02			c0.06		
v/c Ratio	0.02	0.32		0.40	0.45	0.01	0.19	0.15		0.58	0.03	
Uniform Delay, d1	4.5	6.3		2.3	4.4	3.0	35.1	34.9		36.6	34.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.4		0.2	0.6	0.0	0.2	0.2		6.6	0.0	
Delay (s)	4.5	6.7		2.5	5.0	3.0	35.3	35.1		43.2	34.5	
Level of Service	A	A		A	A	A	D	D		D	C	
Approach Delay (s)		6.7			4.5			35.1			41.7	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	85.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	575	25	235	1050	20	25	1	200	45	5	5
Future Volume (veh/h)	5	575	25	235	1050	20	25	1	200	45	5	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1586	1750	1750	1723	1750	1750	1750	1736	1750	1750	1750
Adj Flow Rate, veh/h	5	599	26	245	1094	21	26	1	208	47	5	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	12	0	0	2	0	0	0	1	0	0	0
Cap, veh/h	347	1736	75	613	2181	988	351	1	292	155	159	159
Arrive On Green	0.01	0.59	0.59	0.09	0.67	0.67	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1667	2943	128	1667	3273	1483	1427	7	1477	1191	803	803
Grp Volume(v), veh/h	5	306	319	245	1094	21	26	0	209	47	0	10
Grp Sat Flow(s),veh/h/ln	1667	1507	1563	1667	1637	1483	1427	0	1484	1191	0	1606
Q Serve(g_s), s	0.1	9.9	9.9	4.9	15.8	0.5	1.4	0.0	12.4	3.6	0.0	0.5
Cycle Q Clear(g_c), s	0.1	9.9	9.9	4.9	15.8	0.5	1.9	0.0	12.4	16.1	0.0	0.5
Prop In Lane	1.00		0.08	1.00		1.00	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	347	889	922	613	2181	988	351	0	293	155	0	317
V/C Ratio(X)	0.01	0.34	0.35	0.40	0.50	0.02	0.07	0.00	0.71	0.30	0.00	0.03
Avail Cap(c_a), veh/h	438	889	922	1017	2181	988	658	0	612	411	0	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.0	10.0	10.0	6.2	7.9	5.3	31.4	0.0	35.4	42.9	0.0	30.6
Incr Delay (d2), s/veh	0.0	1.1	1.0	0.2	0.8	0.0	0.0	0.0	1.2	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.0	3.1	1.3	4.5	0.1	0.5	0.0	4.6	1.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	11.0	11.0	6.3	8.7	5.4	31.4	0.0	36.6	43.3	0.0	30.6
LnGrp LOS	A	B	B	A	A	A	C	A	D	D	A	C
Approach Vol, veh/h		630			1360			235			57	
Approach Delay, s/veh		11.0			8.3			36.1			41.1	
Approach LOS		B			A			D			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	22.7	12.1	59.8	22.7	4.9	67.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	38.5	30.5	37.5	38.5	5.5	62.5
Max Q Clear Time (g_c+I1), s	14.4	6.9	11.9	18.1	2.1	17.8
Green Ext Time (p_c), s	0.9	0.6	12.3	0.1	0.0	31.7

Intersection Summary	
HCM 6th Ctrl Delay	12.7
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	64	2	41	79	0	24
Future Vol, veh/h	64	2	41	79	0	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	7	0	13
Mvmt Flow	67	2	43	83	0	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	69	0	237	68
Stage 1	-	-	-	-	68	-
Stage 2	-	-	-	-	169	-
Critical Hdwy	-	-	4.1	-	6.4	6.33
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.417
Pot Cap-1 Maneuver	-	-	1545	-	756	965
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	866	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1545	-	734	965
Mov Cap-2 Maneuver	-	-	-	-	734	-
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	841	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	965	-	-	1545	-
HCM Lane V/C Ratio	0.026	-	-	0.028	-
HCM Control Delay (s)	8.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.3

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	8	93	116	32	26	4
Future Vol, veh/h	8	93	116	32	26	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	100	125	34	28	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	159	0	-	0	260	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	118	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1420	-	-	-	729	906
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	907	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1420	-	-	-	724	906
Mov Cap-2 Maneuver	-	-	-	-	724	-
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	907	-

Approach	NB	SB	SE
HCM Control Delay, s	0.6	0	10.1
HCM LOS			B

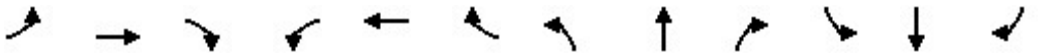
Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	1420	-	744	-	-
HCM Lane V/C Ratio	0.006	-	0.043	-	-
HCM Control Delay (s)	7.6	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	25	5	120	95	70	5	40	40	45	60	40
Future Vol, veh/h	35	25	5	120	95	70	5	40	40	45	60	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	5	3	0	0	5	3	2	0
Mvmt Flow	38	27	5	130	103	76	5	43	43	49	65	43
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

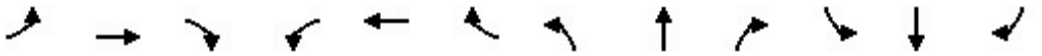
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	10.4	8.4	9.2
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	54%	42%	31%
Vol Thru, %	47%	38%	33%	41%
Vol Right, %	47%	8%	25%	28%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	65	285	145
LT Vol	5	35	120	45
Through Vol	40	25	95	60
RT Vol	40	5	70	40
Lane Flow Rate	92	71	310	158
Geometry Grp	1	1	1	1
Degree of Util (X)	0.121	0.097	0.389	0.212
Departure Headway (Hd)	4.724	4.929	4.524	4.852
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	754	723	793	736
Service Time	2.782	2.987	2.569	2.904
HCM Lane V/C Ratio	0.122	0.098	0.391	0.215
HCM Control Delay	8.4	8.5	10.4	9.2
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.4	0.3	1.9	0.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	770	40	65	1235	240	60	20	100	295	20	45
Future Volume (vph)	15	770	40	65	1235	240	60	20	100	295	20	45
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		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.88		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1409	3175		1662	3217		1662	1519		1662	1569	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1409	3175		1662	3217		1662	1519		1662	1569	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	811	42	68	1300	253	63	21	105	311	21	47
RTOR Reduction (vph)	0	3	0	0	12	0	0	99	0	0	38	0
Lane Group Flow (vph)	16	850	0	68	1541	0	63	27	0	311	30	0
Heavy Vehicles (%)	18%	4%	3%	0%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	1.9	68.0		5.7	71.8		4.7	6.3		19.5	21.1	
Effective Green, g (s)	2.4	68.5		6.2	72.3		5.2	6.8		20.0	21.6	
Actuated g/C Ratio	0.02	0.58		0.05	0.62		0.04	0.06		0.17	0.18	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	28	1850		87	1979		73	87		282	288	
v/s Ratio Prot	0.01	0.27		c0.04	c0.48		0.04	c0.02		c0.19	0.02	
v/s Ratio Perm												
v/c Ratio	0.57	0.46		0.78	0.78		0.86	0.31		1.10	0.10	
Uniform Delay, d1	57.0	14.0		55.0	16.7		55.8	53.1		48.8	39.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.3	0.8		33.2	3.1		59.2	0.7		84.0	0.1	
Delay (s)	73.3	14.8		88.2	19.8		115.0	53.8		132.7	39.9	
Level of Service	E	B		F	B		F	D		F	D	
Approach Delay (s)		15.9			22.7			74.2			116.1	
Approach LOS		B			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	117.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	770	40	65	1235	240	60	20	100	295	20	45
Future Volume (veh/h)	15	770	40	65	1235	240	60	20	100	295	20	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1504	1695	1709	1750	1736	1750	1750	1750	1736	1750	1750	1750
Adj Flow Rate, veh/h	16	811	42	68	1300	253	63	21	105	311	21	47
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
Percent Heavy Veh, %	18	4	3	0	1	0	0	0	1	0	0	0
Cap, veh/h	22	1732	90	92	1643	316	86	22	109	281	97	218
Arrive On Green	0.02	0.56	0.56	0.06	0.60	0.60	0.05	0.09	0.09	0.17	0.20	0.20
Sat Flow, veh/h	1433	3116	161	1667	2760	531	1667	254	1268	1667	481	1076
Grp Volume(v), veh/h	16	419	434	68	771	782	63	0	126	311	0	68
Grp Sat Flow(s),veh/h/ln	1433	1611	1666	1667	1650	1641	1667	0	1522	1667	0	1556
Q Serve(g_s), s	1.3	18.6	18.6	4.8	42.2	43.8	4.4	0.0	9.8	20.0	0.0	4.3
Cycle Q Clear(g_c), s	1.3	18.6	18.6	4.8	42.2	43.8	4.4	0.0	9.8	20.0	0.0	4.3
Prop In Lane	1.00		0.10	1.00		0.32	1.00		0.83	1.00		0.69
Lane Grp Cap(c), veh/h	22	895	926	92	982	977	86	0	131	281	0	316
V/C Ratio(X)	0.71	0.47	0.47	0.74	0.79	0.80	0.73	0.00	0.96	1.11	0.00	0.22
Avail Cap(c_a), veh/h	66	895	926	109	982	977	93	0	131	281	0	316
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	58.2	15.8	15.8	55.3	18.3	18.6	55.5	0.0	54.1	49.4	0.0	39.5
Incr Delay (d2), s/veh	14.3	1.8	1.7	14.9	6.3	6.9	20.3	0.0	67.0	85.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.0	7.2	2.4	16.5	17.2	2.4	0.0	6.2	15.1	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.5	17.6	17.5	70.1	24.5	25.5	75.8	0.0	121.1	135.2	0.0	39.6
LnGrp LOS	E	B	B	E	C	C	E	A	F	F	A	D
Approach Vol, veh/h		869			1621			189			379	
Approach Delay, s/veh		18.6			26.9			106.0			118.1	
Approach LOS		B			C			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	70.0	10.1	28.1	5.9	74.7	24.0	14.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.3	65.5	6.1	23.1	5.0	67.8	19.5	9.7
Max Q Clear Time (g_c+I1), s	6.8	20.6	6.4	6.3	3.3	45.8	22.0	11.8
Green Ext Time (p_c), s	0.0	17.6	0.0	0.1	0.0	19.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	90	120	70	105	65
Future Vol, veh/h	30	90	120	70	105	65
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	93	93	93	93	93	93
Heavy Vehicles, %	5	0	0	0	0	0
Mvmt Flow	32	97	129	75	113	70

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	481	148	183	0	-	0
Stage 1	148	-	-	-	-	-
Stage 2	333	-	-	-	-	-
Critical Hdwy	6.45	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	539	904	1404	-	-	-
Stage 1	872	-	-	-	-	-
Stage 2	719	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	487	904	1404	-	-	-
Mov Cap-2 Maneuver	487	-	-	-	-	-
Stage 1	788	-	-	-	-	-
Stage 2	719	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.8	4.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1404	-	745	-	-
HCM Lane V/C Ratio	0.092	-	0.173	-	-
HCM Control Delay (s)	7.8	0	10.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.6	-	-

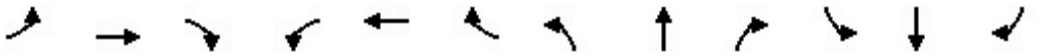
Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	82	165	240	168	9
Future Vol, veh/h	1	82	165	240	168	9
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	89	179	261	183	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	440	0	-	0	401	310
Stage 1	-	-	-	-	310	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1120	-	-	-	605	730
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	933	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1120	-	-	-	604	730
Mov Cap-2 Maneuver	-	-	-	-	604	-
Stage 1	-	-	-	-	743	-
Stage 2	-	-	-	-	933	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1120	-	-	-	609
HCM Lane V/C Ratio	0.001	-	-	-	0.316
HCM Control Delay (s)	8.2	0	-	-	13.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1.4

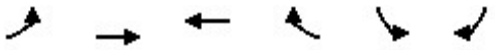


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	955	0	0	1355	40	560	225	315	45	0	265
Future Volume (vph)	65	955	0	0	1355	40	560	225	315	45	0	265
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	0.95			0.95		1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00			1.00		1.00	1.00	0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1630	3260			3246		1630	1716	1458	1630		1458
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00	0.53		1.00
Satd. Flow (perm)	1630	3260			3246		1630	1716	1458	905		1458
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	68	995	0	0	1411	42	583	234	328	47	0	276
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	60	0	0	88
Lane Group Flow (vph)	68	995	0	0	1451	0	583	234	268	47	0	188
Turn Type	Prot	NA			NA		Perm	NA	Perm	Perm		Perm
Protected Phases	7	4			8			2				
Permitted Phases							2		2	6		6
Actuated Green, G (s)	4.1	49.1			40.5		32.5	32.5	32.5	32.5		32.5
Effective Green, g (s)	4.6	49.6			41.0		33.0	33.0	33.0	33.0		33.0
Actuated g/C Ratio	0.05	0.55			0.45		0.36	0.36	0.36	0.36		0.36
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5	4.5	4.5		4.5
Vehicle Extension (s)	2.0	4.0			4.0		2.0	2.0	2.0	2.0		2.0
Lane Grp Cap (vph)	82	1784			1468		593	625	531	329		531
v/s Ratio Prot	c0.04	0.31			c0.45			0.14				
v/s Ratio Perm							c0.36		0.18	0.05		0.13
v/c Ratio	0.83	0.56			0.99		0.98	0.37	0.50	0.14		0.35
Uniform Delay, d1	42.6	13.4			24.6		28.5	21.2	22.4	19.3		21.0
Progression Factor	1.00	1.00			1.00		1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	45.3	1.3			20.9		32.4	0.1	0.3	0.1		0.1
Delay (s)	87.9	14.6			45.4		60.9	21.3	22.7	19.4		21.2
Level of Service	F	B			D		E	C	C	B		C
Approach Delay (s)		19.3			45.4			41.9			20.9	
Approach LOS		B			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.6	Sum of lost time (s)	12.5
Intersection Capacity Utilization	103.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology does not support Non-NEMA phasing.

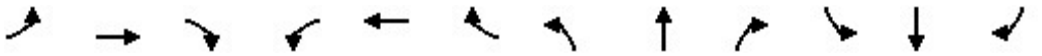


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↰	↱
Traffic Volume (vph)	0	2505	1570	0	145	190
Future Volume (vph)	0	2505	1570	0	145	190
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.95	0.95		1.00	1.00
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		3260	3260		1630	1458
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		3260	3260		1630	1458
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	2637	1653	0	153	200
RTOR Reduction (vph)	0	0	0	0	0	26
Lane Group Flow (vph)	0	2637	1653	0	153	174
Turn Type		NA	NA		Perm	Perm
Protected Phases		4	8			
Permitted Phases					6	6
Actuated Green, G (s)		75.1	75.1		16.0	16.0
Effective Green, g (s)		75.6	75.6		16.5	16.5
Actuated g/C Ratio		0.76	0.76		0.16	0.16
Clearance Time (s)		4.5	4.5		4.5	4.5
Vehicle Extension (s)		4.0	4.0		2.0	2.0
Lane Grp Cap (vph)		2462	2462		268	240
v/s Ratio Prot		c0.81	0.51			
v/s Ratio Perm					0.09	c0.12
v/c Ratio		1.07	0.67		0.57	0.73
Uniform Delay, d1		12.2	6.1		38.5	39.7
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		40.7	1.5		1.8	8.9
Delay (s)		52.9	7.6		40.4	48.5
Level of Service		D	A		D	D
Approach Delay (s)		52.9	7.6		45.0	
Approach LOS		D	A		D	

Intersection Summary			
HCM 2000 Control Delay	36.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	100.1	Sum of lost time (s)	8.5
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology does not support Non-NEMA phasing.

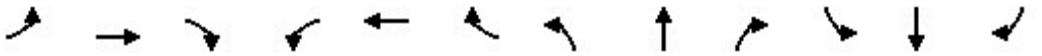


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	2	170	15	0	35	0	1765	25	15	1045	300
Future Volume (vph)	225	2	170	15	0	35	0	1765	25	15	1045	300
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0		4.0		4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00		1.00		0.95		1.00	0.95	1.00
Frt	1.00	0.85		1.00		0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	1.00
Satd. Flow (prot)	1630	1461		1630		1458		3253		1630	3260	1458
Flt Permitted	0.95	1.00		0.52		1.00		1.00		0.95	1.00	1.00
Satd. Flow (perm)	1630	1461		897		1458		3253		1630	3260	1458
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	237	2	179	16	0	37	0	1858	26	16	1100	316
RTOR Reduction (vph)	0	78	0	0	0	29	0	0	0	0	0	25
Lane Group Flow (vph)	237	103	0	16	0	8	0	1884	0	16	1100	291
Turn Type	Perm	NA		Perm		Perm		NA		Prot	NA	Perm
Protected Phases		4						2		1	6	
Permitted Phases	4			8		8						6
Actuated Green, G (s)	18.1	18.1		18.1		18.1		52.6		1.3	58.4	58.4
Effective Green, g (s)	18.6	18.6		18.6		18.6		53.1		1.8	58.9	58.9
Actuated g/C Ratio	0.22	0.22		0.22		0.22		0.62		0.02	0.69	0.69
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	4.0	4.0		4.0		4.0		2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	354	317		195		317		2020		34	2245	1004
v/s Ratio Prot		0.07						c0.58		0.01	c0.34	
v/s Ratio Perm	c0.15			0.02		0.01						0.20
v/c Ratio	0.67	0.32		0.08		0.03		0.93		0.47	0.49	0.29
Uniform Delay, d1	30.6	28.2		26.6		26.3		14.6		41.4	6.2	5.2
Progression Factor	1.00	1.00		1.00		1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	5.2	0.8		0.2		0.0		9.4		3.7	0.8	0.7
Delay (s)	35.8	29.0		26.9		26.4		24.0		45.1	7.0	5.9
Level of Service	D	C		C		C		C		D	A	A
Approach Delay (s)		32.9			26.5			24.0			7.2	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	85.5	Sum of lost time (s)	12.5
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

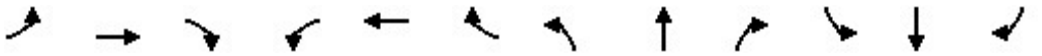
HCM 6th Edition methodology does not support Non-NEMA phasing.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	1085	400	240	1215	5	290	30	350	40	15	45
Future Volume (vph)	30	1085	400	240	1215	5	290	30	350	40	15	45
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	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1630	3260	1458	1630	3260	1458	1630	1716	1458	1630	1524	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.44	1.00	1.00	0.74	1.00	
Satd. Flow (perm)	1630	3260	1458	1630	3260	1458	751	1716	1458	1263	1524	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	1142	421	253	1279	5	305	32	368	42	16	47
RTOR Reduction (vph)	0	0	86	0	0	2	0	0	73	0	44	0
Lane Group Flow (vph)	32	1142	335	253	1279	3	305	32	295	42	19	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8	2		2	6		
Actuated Green, G (s)	2.9	45.7	45.7	18.5	61.3	61.3	17.9	10.5	29.0	8.7	5.8	
Effective Green, g (s)	3.4	46.2	46.2	19.0	61.8	61.8	18.4	11.0	30.0	9.7	6.3	
Actuated g/C Ratio	0.04	0.48	0.48	0.20	0.65	0.65	0.19	0.12	0.31	0.10	0.07	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0	4.0	3.0	2.0	2.0	3.0	2.0	
Lane Grp Cap (vph)	57	1575	704	323	2107	942	219	197	518	141	100	
v/s Ratio Prot	0.02	c0.35		c0.16	0.39		c0.12	0.02	c0.11	0.01	0.01	
v/s Ratio Perm			0.23			0.00	c0.15		0.09	0.02		
v/c Ratio	0.56	0.73	0.48	0.78	0.61	0.00	1.39	0.16	0.57	0.30	0.19	
Uniform Delay, d1	45.4	19.6	16.6	36.3	9.8	6.0	37.6	38.1	27.4	39.6	42.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.3	2.9	2.3	10.9	1.3	0.0	202.2	0.1	0.9	1.2	0.3	
Delay (s)	52.7	22.6	18.9	47.2	11.1	6.0	239.8	38.3	28.4	40.8	42.6	
Level of Service	D	C	B	D	B	A	F	D	C	D	D	
Approach Delay (s)		22.2			17.1			120.3			41.9	
Approach LOS		C			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	38.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	95.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



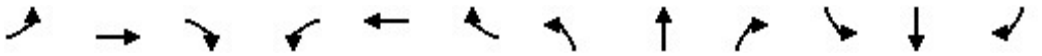
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	1085	400	240	1215	5	290	30	350	40	15	45
Future Volume (veh/h)	30	1085	400	240	1215	5	290	30	350	40	15	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	32	1142	0	253	1279	0	305	32	368	42	16	47
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	1338		287	1818		401	396	591	319	74	218
Arrive On Green	0.03	0.41	0.00	0.17	0.56	0.00	0.08	0.23	0.23	0.04	0.19	0.19
Sat Flow, veh/h	1641	3273	1460	1641	3273	1460	1641	1723	1460	1641	386	1133
Grp Volume(v), veh/h	32	1142	0	253	1279	0	305	32	368	42	0	63
Grp Sat Flow(s),veh/h/ln	1641	1637	1460	1641	1637	1460	1641	1723	1460	1641	0	1519
Q Serve(g_s), s	2.1	34.1	0.0	16.2	30.7	0.0	8.1	1.6	21.6	2.2	0.0	3.8
Cycle Q Clear(g_c), s	2.1	34.1	0.0	16.2	30.7	0.0	8.1	1.6	21.6	2.2	0.0	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.75
Lane Grp Cap(c), veh/h	46	1338		287	1818		401	396	591	319	0	292
V/C Ratio(X)	0.70	0.85		0.88	0.70		0.76	0.08	0.62	0.13	0.00	0.22
Avail Cap(c_a), veh/h	84	1338		305	1818		401	551	722	342	0	450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.8	28.9	0.0	43.3	17.4	0.0	37.3	32.5	25.5	32.7	0.0	36.6
Incr Delay (d2), s/veh	6.9	7.1	0.0	22.7	2.3	0.0	8.2	0.0	0.5	0.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	14.3	0.0	8.3	11.5	0.0	4.9	0.7	7.4	0.9	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.7	35.9	0.0	66.0	19.7	0.0	45.5	32.5	26.0	32.9	0.0	36.7
LnGrp LOS	E	D		E	B		D	C	C	C	A	D
Approach Vol, veh/h		1174	A		1532	A		705			105	
Approach Delay, s/veh		36.6			27.4			34.7			35.2	
Approach LOS		D			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	28.7	22.8	48.0	12.1	24.7	7.0	63.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	33.9	19.5	43.5	7.6	31.4	5.0	58.0
Max Q Clear Time (g_c+I1), s	4.2	23.6	18.2	36.1	10.1	5.8	4.1	32.7
Green Ext Time (p_c), s	0.0	0.6	0.1	5.2	0.0	0.2	0.0	14.4

Intersection Summary	
HCM 6th Ctrl Delay	32.2
HCM 6th LOS	C

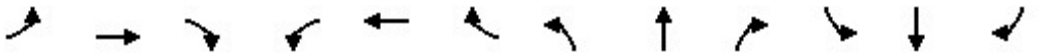
Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	485	784	95	416	1100	335	150	403	243	420	433	490
Future Volume (vph)	485	784	95	416	1100	335	150	403	243	420	433	490
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1646	3210		1662	3260	1473	1614	3325	1488	3193	3325	1473
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1646	3210		1662	3260	1473	1614	3325	1488	3193	3325	1473
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	500	808	98	429	1134	345	155	415	251	433	446	505
RTOR Reduction (vph)	0	7	0	0	0	70	0	0	34	0	0	31
Lane Group Flow (vph)	500	899	0	429	1134	275	155	415	217	433	446	474
Heavy Vehicles (%)	1%	2%	1%	0%	2%	1%	3%	0%	0%	1%	0%	1%
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases						8			2			6
Actuated Green, G (s)	24.5	35.5		20.5	31.5	43.0	9.5	19.3	39.8	11.5	21.3	45.8
Effective Green, g (s)	24.5	35.5		20.5	31.5	43.0	9.5	19.3	39.8	11.5	21.3	45.8
Actuated g/C Ratio	0.23	0.34		0.20	0.30	0.41	0.09	0.18	0.38	0.11	0.20	0.44
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	3.0		2.0	3.0	2.0	2.0	4.0	2.0	2.0	4.0	2.0
Lane Grp Cap (vph)	384	1087		325	979	667	146	612	628	350	675	706
v/s Ratio Prot	c0.30	c0.28		0.26	c0.35	0.05	0.10	0.12	0.07	c0.14	0.13	c0.16
v/s Ratio Perm						0.14			0.08			0.17
v/c Ratio	1.30	0.83		1.32	1.16	0.41	1.06	0.68	0.35	1.24	0.66	0.67
Uniform Delay, d1	40.1	31.8		42.1	36.6	21.9	47.6	39.9	23.2	46.6	38.4	23.5
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	153.8	7.2		164.1	82.8	0.2	91.9	3.3	0.1	128.9	2.7	2.0
Delay (s)	193.9	39.1		206.2	119.5	22.1	139.5	43.1	23.3	175.6	41.1	25.5
Level of Service	F	D		F	F	C	F	D	C	F	D	C
Approach Delay (s)		94.1			121.4			55.3			77.5	
Approach LOS		F			F			E			E	

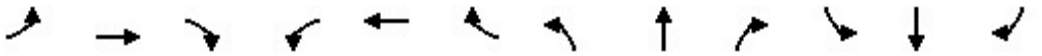
Intersection Summary			
HCM 2000 Control Delay	93.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	104.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	102.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	485	784	95	416	1100	335	150	403	243	420	433	490
Future Volume (veh/h)	485	784	95	416	1100	335	150	403	243	420	433	490
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1723	1736	1750	1723	1736	1709	1750	1750	1736	1750	1736
Adj Flow Rate, veh/h	500	808	98	429	1134	345	155	415	251	433	446	505
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	2	1	0	2	1	3	0	0	1	0	1
Cap, veh/h	342	879	107	288	869	533	130	928	670	311	985	740
Arrive On Green	0.21	0.30	0.30	0.17	0.27	0.27	0.08	0.28	0.28	0.10	0.30	0.30
Sat Flow, veh/h	1654	2939	356	1667	3273	1471	1628	3325	1483	3208	3325	1471
Grp Volume(v), veh/h	500	450	456	429	1134	345	155	415	251	433	446	505
Grp Sat Flow(s),veh/h/ln	1654	1637	1659	1667	1637	1471	1628	1663	1483	1604	1663	1471
Q Serve(g_s), s	24.5	31.5	31.5	20.5	31.5	23.2	9.5	12.2	13.2	11.5	12.9	30.8
Cycle Q Clear(g_c), s	24.5	31.5	31.5	20.5	31.5	23.2	9.5	12.2	13.2	11.5	12.9	30.8
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	342	490	496	288	869	533	130	928	670	311	985	740
V/C Ratio(X)	1.46	0.92	0.92	1.49	1.30	0.65	1.19	0.45	0.37	1.39	0.45	0.68
Avail Cap(c_a), veh/h	342	490	496	288	869	533	130	967	688	311	1023	757
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	40.2	40.2	49.1	43.6	31.5	54.6	35.2	21.4	53.6	33.9	22.3
Incr Delay (d2), s/veh	224.3	24.8	24.6	237.9	145.5	6.0	138.5	0.5	0.5	195.1	0.5	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.2	15.8	16.0	27.4	30.0	8.9	8.9	4.9	4.6	13.0	5.2	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	271.3	64.9	64.7	286.9	189.0	37.4	193.0	35.7	21.9	248.7	34.4	25.1
LnGrp LOS	F	E	E	F	F	D	F	D	C	F	C	C
Approach Vol, veh/h		1406			1908			821			1384	
Approach Delay, s/veh		138.3			183.6			61.2			98.0	
Approach LOS		F			F			E			F	

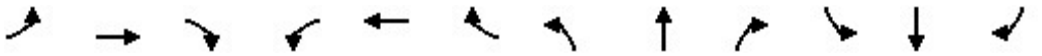
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	37.6	25.0	40.0	14.0	39.6	29.0	36.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	34.5	20.5	35.5	9.5	36.5	24.5	31.5
Max Q Clear Time (g_c+I1), s	13.5	15.2	22.5	33.5	11.5	32.8	26.5	33.5
Green Ext Time (p_c), s	0.0	5.2	0.0	1.5	0.0	2.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	132.4
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	515	2	2	715	736	10	20	10	493	5	363
Future Volume (vph)	310	515	2	2	715	736	10	20	10	493	5	363
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	3258		1662	3292	1473	1662	1660		1662	1491	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.34	1.00		0.74	1.00	
Satd. Flow (perm)	1662	3258		1662	3292	1473	604	1660		1289	1491	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	326	542	2	2	753	775	11	21	11	519	5	382
RTOR Reduction (vph)	0	0	0	0	0	493	0	7	0	0	239	0
Lane Group Flow (vph)	326	544	0	2	753	282	11	25	0	519	148	0
Heavy Vehicles (%)	0%	2%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	19.7	53.8		1.0	35.1	35.1	40.3	40.3		40.3	40.3	
Effective Green, g (s)	19.7	53.8		1.0	35.1	35.1	40.3	40.3		40.3	40.3	
Actuated g/C Ratio	0.18	0.50		0.01	0.32	0.32	0.37	0.37		0.37	0.37	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	4.0		3.0	4.0	4.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	301	1614		15	1063	476	224	616		478	553	
v/s Ratio Prot	c0.20	0.17		0.00	c0.23			0.02			0.10	
v/s Ratio Perm						0.19	0.02			c0.40		
v/c Ratio	1.08	0.34		0.13	0.71	0.59	0.05	0.04		1.09	0.27	
Uniform Delay, d1	44.4	16.6		53.4	32.3	30.8	21.9	21.8		34.1	23.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	75.8	0.6		4.0	4.0	5.3	0.0	0.0		66.3	0.1	
Delay (s)	120.3	17.2		57.4	36.2	36.1	21.9	21.8		100.5	23.9	
Level of Service	F	B		E	D	D	C	C		F	C	
Approach Delay (s)		55.8			36.2			21.8			67.8	
Approach LOS		E			D			C			E	

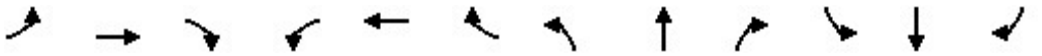
Intersection Summary			
HCM 2000 Control Delay	49.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	108.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	515	2	2	715	736	10	20	10	493	5	363
Future Volume (veh/h)	310	515	2	2	715	736	10	20	10	493	5	363
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1723	1750	1750	1736	1736	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	326	542	2	2	753	775	11	21	11	519	5	382
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
Percent Heavy Veh, %	0	2	0	0	1	1	0	0	0	0	0	0
Cap, veh/h	313	1622	6	4	990	441	237	415	217	588	7	563
Arrive On Green	0.19	0.48	0.48	0.00	0.30	0.30	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1667	3345	12	1667	3299	1471	1012	1082	567	1399	19	1467
Grp Volume(v), veh/h	326	265	279	2	753	775	11	0	32	519	0	387
Grp Sat Flow(s),veh/h/ln	1667	1637	1720	1667	1650	1471	1012	0	1648	1399	0	1486
Q Serve(g_s), s	19.7	10.5	10.5	0.1	21.7	31.5	1.0	0.0	1.3	38.9	0.0	22.8
Cycle Q Clear(g_c), s	19.7	10.5	10.5	0.1	21.7	31.5	23.7	0.0	1.3	40.2	0.0	22.8
Prop In Lane	1.00		0.01	1.00		1.00	1.00		0.34	1.00		0.99
Lane Grp Cap(c), veh/h	313	794	834	4	990	441	237	0	633	588	0	570
V/C Ratio(X)	1.04	0.33	0.33	0.44	0.76	1.76	0.05	0.00	0.05	0.88	0.00	0.68
Avail Cap(c_a), veh/h	313	794	834	79	990	441	237	0	633	588	0	570
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.7	16.6	16.6	52.3	33.3	36.7	36.8	0.0	20.3	33.0	0.0	27.0
Incr Delay (d2), s/veh	62.4	1.1	1.1	56.5	5.5	349.2	0.0	0.0	0.0	14.1	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.3	4.0	4.2	0.1	9.2	53.7	0.2	0.0	0.5	14.9	0.0	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	105.1	17.8	17.7	108.8	38.8	386.0	36.9	0.0	20.3	47.1	0.0	29.6
LnGrp LOS	F	B	B	F	D	F	D	A	C	D	A	C
Approach Vol, veh/h		870			1530			43			906	
Approach Delay, s/veh		50.5			214.8			24.6			39.6	
Approach LOS		D			F			C			D	

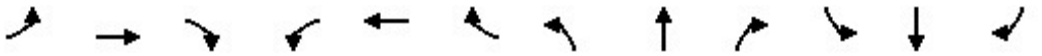
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		44.8	4.8	55.4		44.8	24.2	36.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		40.3	5.0	46.2		40.3	19.7	31.5				
Max Q Clear Time (g_c+I1), s		25.7	2.1	12.5		42.2	21.7	33.5				
Green Ext Time (p_c), s		0.0	0.0	9.4		0.0	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			122.3									
HCM 6th LOS			F									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	20	236	55	30	105	421	545	15	60	695	75
Future Volume (vph)	50	20	236	55	30	105	421	545	15	60	695	75
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.88		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	1508		1662	1546		1630	3311		1662	3247	
Flt Permitted	0.50	1.00		0.49	1.00		0.22	1.00		0.43	1.00	
Satd. Flow (perm)	875	1508		854	1546		376	3311		751	3247	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	21	248	58	32	111	443	574	16	63	732	79
RTOR Reduction (vph)	0	228	0	0	102	0	0	1	0	0	6	0
Lane Group Flow (vph)	53	41	0	58	41	0	443	589	0	63	805	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	1%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.1	8.0		13.5	8.2		71.9	63.1		47.2	42.9	
Effective Green, g (s)	13.1	8.0		13.5	8.2		71.9	63.1		47.2	42.9	
Actuated g/C Ratio	0.13	0.08		0.14	0.08		0.73	0.64		0.48	0.43	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	156	122		160	128		585	2116		398	1411	
v/s Ratio Prot	0.02	0.03		c0.02	0.03		c0.19	0.18		0.01	0.25	
v/s Ratio Perm	0.03			c0.03			c0.36			0.07		
v/c Ratio	0.34	0.34		0.36	0.32		0.76	0.28		0.16	0.57	
Uniform Delay, d1	38.4	42.8		38.2	42.6		13.0	7.8		14.0	21.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.6		0.5	0.5		5.0	0.3		0.1	1.7	
Delay (s)	38.9	43.4		38.7	43.2		18.0	8.1		14.0	22.7	
Level of Service	D	D		D	D		B	A		B	C	
Approach Delay (s)		42.7			41.9			12.4			22.0	
Approach LOS		D			D			B			C	

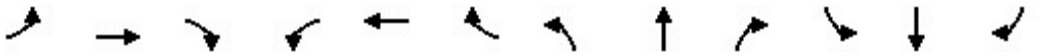
Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	98.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	20	236	55	30	105	421	545	15	60	695	75
Future Volume (veh/h)	50	20	236	55	30	105	421	545	15	60	695	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1750	1750	1750	1750	1750	1723	1750	1750	1750	1736	1750
Adj Flow Rate, veh/h	53	21	248	58	32	111	443	574	16	63	732	79
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
Percent Heavy Veh, %	0	0	0	0	0	0	2	0	0	0	1	0
Cap, veh/h	275	23	274	155	69	240	507	1870	52	486	1303	141
Arrive On Green	0.03	0.20	0.20	0.04	0.20	0.20	0.17	0.57	0.57	0.03	0.43	0.43
Sat Flow, veh/h	1667	117	1384	1667	344	1192	1641	3304	92	1667	3004	324
Grp Volume(v), veh/h	53	0	269	58	0	143	443	289	301	63	402	409
Grp Sat Flow(s),veh/h/ln	1667	0	1501	1667	0	1535	1641	1663	1733	1667	1650	1678
Q Serve(g_s), s	2.8	0.0	19.2	3.0	0.0	9.0	15.5	10.0	10.0	2.3	20.0	20.0
Cycle Q Clear(g_c), s	2.8	0.0	19.2	3.0	0.0	9.0	15.5	10.0	10.0	2.3	20.0	20.0
Prop In Lane	1.00		0.92	1.00		0.78	1.00		0.05	1.00		0.19
Lane Grp Cap(c), veh/h	275	0	298	155	0	309	507	941	981	486	716	728
V/C Ratio(X)	0.19	0.00	0.90	0.37	0.00	0.46	0.87	0.31	0.31	0.13	0.56	0.56
Avail Cap(c_a), veh/h	322	0	363	203	0	377	745	941	981	523	716	728
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.7	0.0	42.9	34.9	0.0	38.6	16.9	12.5	12.5	16.2	23.2	23.2
Incr Delay (d2), s/veh	0.1	0.0	20.3	0.6	0.0	0.4	5.7	0.8	0.8	0.0	3.2	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	8.8	1.3	0.0	3.5	6.2	3.9	4.1	0.9	8.4	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	0.0	63.2	35.5	0.0	39.0	22.7	13.3	13.3	16.2	26.4	26.4
LnGrp LOS	C	A	E	D	A	D	C	B	B	B	C	C
Approach Vol, veh/h		322			201			1033			874	
Approach Delay, s/veh		58.4			38.0			17.3			25.7	
Approach LOS		E			D			B			C	

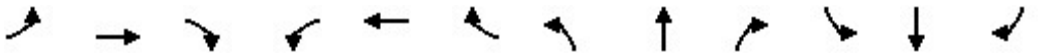
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	66.6	8.7	26.3	22.7	52.1	8.3	26.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.1	62.1	7.3	26.5	34.1	34.1	6.9	26.9
Max Q Clear Time (g_c+I1), s	4.3	12.0	5.0	21.2	17.5	22.0	4.8	11.0
Green Ext Time (p_c), s	0.0	6.4	0.0	0.6	0.7	5.5	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	27.5
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	575	45	385	1050	20	45	6	319	45	10	5
Future Volume (vph)	5	575	45	385	1050	20	45	6	319	45	10	5
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.85		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	2959		1662	3260	1488	1662	1478		1662	1662	
Flt Permitted	0.26	1.00		0.34	1.00	1.00	0.75	1.00		0.38	1.00	
Satd. Flow (perm)	457	2959		596	3260	1488	1308	1478		667	1662	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	5	599	47	401	1094	21	47	6	332	47	10	5
RTOR Reduction (vph)	0	3	0	0	0	6	0	292	0	0	4	0
Lane Group Flow (vph)	5	643	0	401	1094	15	47	46	0	47	11	0
Heavy Vehicles (%)	0%	12%	0%	0%	2%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	50.2	49.4		67.4	62.1	62.1	10.5	10.5		10.5	10.5	
Effective Green, g (s)	50.2	49.4		67.4	62.1	62.1	10.5	10.5		10.5	10.5	
Actuated g/C Ratio	0.58	0.57		0.78	0.71	0.71	0.12	0.12		0.12	0.12	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	275	1682		627	2329	1063	158	178		80	200	
v/s Ratio Prot	0.00	0.22		c0.10	0.34			0.03			0.01	
v/s Ratio Perm	0.01			c0.40		0.01	0.04			c0.07		
v/c Ratio	0.02	0.38		0.64	0.47	0.01	0.30	0.26		0.59	0.05	
Uniform Delay, d1	7.8	10.3		3.9	5.3	3.6	34.8	34.7		36.2	33.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.7		1.6	0.7	0.0	0.4	0.3		6.9	0.0	
Delay (s)	7.8	11.0		5.5	6.0	3.6	35.2	35.0		43.1	33.8	
Level of Service	A	B		A	A	A	D	C		D	C	
Approach Delay (s)		11.0			5.8			35.0			40.8	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	86.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	575	45	385	1050	20	45	6	319	45	10	5
Future Volume (veh/h)	5	575	45	385	1050	20	45	6	319	45	10	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1750	1586	1750	1750	1723	1750	1750	1750	1736	1750	1750	1750
Adj Flow Rate, veh/h	5	599	47	401	1094	21	47	6	332	47	10	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	12	0	0	2	0	0	0	1	0	0	0
Cap, veh/h	273	1251	98	555	1931	875	453	7	404	137	304	152
Arrive On Green	0.00	0.44	0.44	0.15	0.59	0.59	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1667	2831	222	1667	3273	1483	1421	26	1461	1059	1101	550
Grp Volume(v), veh/h	5	318	328	401	1094	21	47	0	338	47	0	15
Grp Sat Flow(s),veh/h/ln	1667	1507	1546	1667	1637	1483	1421	0	1487	1059	0	1651
Q Serve(g_s), s	0.2	15.6	15.6	12.8	21.5	0.6	2.6	0.0	22.2	4.5	0.0	0.7
Cycle Q Clear(g_c), s	0.2	15.6	15.6	12.8	21.5	0.6	3.3	0.0	22.2	26.7	0.0	0.7
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.98	1.00		0.33
Lane Grp Cap(c), veh/h	273	666	683	555	1931	875	453	0	411	137	0	457
V/C Ratio(X)	0.02	0.48	0.48	0.72	0.57	0.02	0.10	0.00	0.82	0.34	0.00	0.03
Avail Cap(c_a), veh/h	354	666	683	805	1931	875	598	0	564	245	0	626
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.2	20.6	20.6	13.3	13.2	8.9	28.7	0.0	35.3	47.8	0.0	27.5
Incr Delay (d2), s/veh	0.0	2.5	2.4	0.7	1.2	0.1	0.0	0.0	5.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.5	5.7	4.1	7.1	0.2	0.9	0.0	8.6	1.2	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.2	23.0	23.0	14.0	14.4	8.9	28.8	0.0	40.3	48.4	0.0	27.5
LnGrp LOS	B	C	C	B	B	A	C	A	D	D	A	C
Approach Vol, veh/h		651			1516			385			62	
Approach Delay, s/veh		23.0			14.2			38.9			43.3	
Approach LOS		C			B			D			D	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.3	20.4	50.5		33.3	4.9	66.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		39.5	31.5	35.5		39.5	5.5	61.5				
Max Q Clear Time (g_c+I1), s		24.2	14.8	17.6		28.7	2.2	23.5				
Green Ext Time (p_c), s		1.4	1.1	10.0		0.1	0.0	28.1				

Intersection Summary												
HCM 6th Ctrl Delay			20.7									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	107	7	166	324	5	99
Future Vol, veh/h	107	7	166	324	5	99
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	7	0	13
Mvmt Flow	113	7	175	341	5	104

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	120	0	808	117
Stage 1	-	-	-	-	117	-
Stage 2	-	-	-	-	691	-
Critical Hdwy	-	-	4.1	-	6.4	6.33
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.417
Pot Cap-1 Maneuver	-	-	1480	-	353	906
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	501	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1480	-	301	906
Mov Cap-2 Maneuver	-	-	-	-	301	-
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	428	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	826	-	-	1480	-
HCM Lane V/C Ratio	0.133	-	-	0.118	-
HCM Control Delay (s)	10	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.4	-

Intersection	
Int Delay, s/veh	0.7

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	8	319	501	32	26	4
Future Vol, veh/h	8	319	501	32	26	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	343	539	34	28	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	573	0	-	0	917	556
Stage 1	-	-	-	-	556	-
Stage 2	-	-	-	-	361	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1000	-	-	-	302	531
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	705	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1000	-	-	-	299	531
Mov Cap-2 Maneuver	-	-	-	-	299	-
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	705	-

Approach	NB	SB	SE
HCM Control Delay, s	0.2	0	17.6
HCM LOS			C

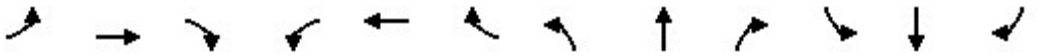
Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	1000	-	317	-	-
HCM Lane V/C Ratio	0.009	-	0.102	-	-
HCM Control Delay (s)	8.6	0	17.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Intersection Delay, s/veh	33.5
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	25	5	330	95	70	5	184	122	45	235	40
Future Vol, veh/h	35	25	5	330	95	70	5	184	122	45	235	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	5	3	0	0	5	3	2	0
Mvmt Flow	38	27	5	359	103	76	5	200	133	49	255	43
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.3	52.3	19.9	22
HCM LOS	B	F	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	54%	67%	14%
Vol Thru, %	59%	38%	19%	73%
Vol Right, %	39%	8%	14%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	311	65	495	320
LT Vol	5	35	330	45
Through Vol	184	25	95	235
RT Vol	122	5	70	40
Lane Flow Rate	338	71	538	348
Geometry Grp	1	1	1	1
Degree of Util (X)	0.619	0.154	0.952	0.655
Departure Headway (Hd)	6.589	7.872	6.368	6.781
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	544	459	565	529
Service Time	4.682	5.872	4.441	4.872
HCM Lane V/C Ratio	0.621	0.155	0.952	0.658
HCM Control Delay	19.9	12.3	52.3	22
HCM Lane LOS	C	B	F	C
HCM 95th-tile Q	4.2	0.5	12.5	4.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	879	40	80	1355	240	60	25	105	295	30	65
Future Volume (vph)	15	879	40	80	1355	240	60	25	105	295	30	65
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.88		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1409	3178		1662	3222		1662	1525		1662	1572	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1409	3178		1662	3222		1662	1525		1662	1572	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	16	925	42	84	1426	253	63	26	111	311	32	68
RTOR Reduction (vph)	0	2	0	0	9	0	0	104	0	0	57	0
Lane Group Flow (vph)	16	965	0	84	1670	0	63	33	0	311	43	0
Heavy Vehicles (%)	18%	4%	3%	0%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	1.9	48.1		6.9	53.1		5.3	6.2		14.6	15.5	
Effective Green, g (s)	1.9	48.1		6.9	53.1		5.3	6.2		14.6	15.5	
Actuated g/C Ratio	0.02	0.51		0.07	0.57		0.06	0.07		0.16	0.17	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	2.0		2.0	2.0		2.0	2.0		2.0	4.0	
Lane Grp Cap (vph)	28	1629		122	1823		93	100		258	259	
v/s Ratio Prot	0.01	0.30		c0.05	c0.52		0.04	c0.02		c0.19	0.03	
v/s Ratio Perm												
v/c Ratio	0.57	0.59		0.69	0.92		0.68	0.33		1.21	0.17	
Uniform Delay, d1	45.5	16.0		42.4	18.3		43.4	41.8		39.6	33.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.2	1.6		12.1	8.8		14.3	0.7		123.2	0.4	
Delay (s)	70.7	17.6		54.5	27.1		57.7	42.5		162.8	34.0	
Level of Service	E	B		D	C		E	D		F	C	
Approach Delay (s)		18.4			28.4			47.3			131.4	
Approach LOS		B			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	39.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	93.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	879	40	80	1355	240	60	25	105	295	30	65
Future Volume (veh/h)	15	879	40	80	1355	240	60	25	105	295	30	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1504	1695	1709	1750	1736	1750	1750	1750	1736	1750	1750	1750
Adj Flow Rate, veh/h	16	925	42	84	1426	253	63	26	111	311	32	68
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
Percent Heavy Veh, %	18	4	3	0	1	0	0	0	1	0	0	0
Cap, veh/h	26	1502	68	106	1471	257	80	33	140	256	109	232
Arrive On Green	0.02	0.48	0.48	0.06	0.52	0.52	0.05	0.11	0.11	0.15	0.22	0.22
Sat Flow, veh/h	1433	3138	142	1667	2807	490	1667	290	1237	1667	499	1060
Grp Volume(v), veh/h	16	475	492	84	828	851	63	0	137	311	0	100
Grp Sat Flow(s),veh/h/ln	1433	1611	1670	1667	1650	1648	1667	0	1527	1667	0	1559
Q Serve(g_s), s	1.0	20.5	20.5	4.7	45.3	47.8	3.5	0.0	8.2	14.5	0.0	5.0
Cycle Q Clear(g_c), s	1.0	20.5	20.5	4.7	45.3	47.8	3.5	0.0	8.2	14.5	0.0	5.0
Prop In Lane	1.00		0.09	1.00		0.30	1.00		0.81	1.00		0.68
Lane Grp Cap(c), veh/h	26	771	799	106	864	864	80	0	173	256	0	342
V/C Ratio(X)	0.62	0.62	0.62	0.79	0.96	0.98	0.79	0.00	0.79	1.21	0.00	0.29
Avail Cap(c_a), veh/h	76	771	799	164	864	864	184	0	536	256	0	615
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.0	18.2	18.2	43.5	21.5	22.1	44.4	0.0	40.7	39.9	0.0	30.7
Incr Delay (d2), s/veh	21.3	3.7	3.5	6.2	22.0	27.2	6.5	0.0	3.1	126.3	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	7.9	8.1	2.1	20.9	23.0	1.6	0.0	3.2	14.9	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.2	21.8	21.7	49.7	43.5	49.2	50.9	0.0	43.8	166.2	0.0	31.4
LnGrp LOS	E	C	C	D	D	D	D	A	D	F	A	C
Approach Vol, veh/h		983			1763			200			411	
Approach Delay, s/veh		22.5			46.6			46.1			133.4	
Approach LOS		C			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.5	49.6	9.0	25.2	6.2	53.9	19.0	15.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.3	45.1	10.4	37.2	5.0	49.4	14.5	33.1
Max Q Clear Time (g_c+I1), s	6.7	22.5	5.5	7.0	3.0	49.8	16.5	10.2
Green Ext Time (p_c), s	0.0	13.8	0.0	0.5	0.0	0.0	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	50.1
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	46	146	241	70	105	129
Future Vol, veh/h	46	146	241	70	105	129
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	93	93	93	93	93	93
Heavy Vehicles, %	5	0	0	0	0	0
Mvmt Flow	49	157	259	75	113	139

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	776	183	252	0	-	0
Stage 1	183	-	-	-	-	-
Stage 2	593	-	-	-	-	-
Critical Hdwy	6.45	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	362	865	1325	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	546	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	288	865	1325	-	-	-
Mov Cap-2 Maneuver	288	-	-	-	-	-
Stage 1	669	-	-	-	-	-
Stage 2	546	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.5	6.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1325	-	584	-	-
HCM Lane V/C Ratio	0.196	-	0.354	-	-
HCM Control Delay (s)	8.4	0	14.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.7	-	1.6	-	-

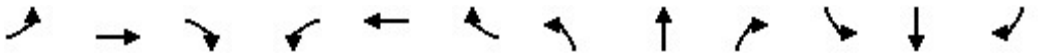
Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	82	165	361	224	9
Future Vol, veh/h	1	82	165	361	224	9
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	89	179	392	243	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	571	0	-	0	466	375
Stage 1	-	-	-	-	375	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1002	-	-	-	555	671
Stage 1	-	-	-	-	695	-
Stage 2	-	-	-	-	933	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1002	-	-	-	554	671
Mov Cap-2 Maneuver	-	-	-	-	554	-
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	933	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1002	-	-	-	558
HCM Lane V/C Ratio	0.001	-	-	-	0.454
HCM Control Delay (s)	8.6	0	-	-	16.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	2.3

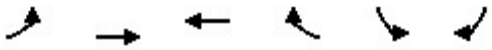


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	982	0	0	1400	40	580	225	315	45	0	276
Future Volume (vph)	67	982	0	0	1400	40	580	225	315	45	0	276
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5			4.5		4.5	4.5	4.5	4.5		4.5
Lane Util. Factor	1.00	0.95			0.95		1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00			1.00		1.00	1.00	0.85	1.00		0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00	0.95		1.00
Satd. Flow (prot)	1630	3260			3246		1630	1716	1458	1630		1458
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00	0.55		1.00
Satd. Flow (perm)	1630	3260			3246		1630	1716	1458	937		1458
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	70	1023	0	0	1458	42	604	234	328	47	0	288
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	45	0	0	88
Lane Group Flow (vph)	70	1023	0	0	1498	0	604	234	283	47	0	200
Turn Type	Prot	NA			NA		Perm	NA	Perm	Perm		Perm
Protected Phases	7	4			8			2				
Permitted Phases							2		2	6		6
Actuated Green, G (s)	4.0	46.1			37.6		34.3	34.3	34.3	34.3		34.3
Effective Green, g (s)	4.0	46.1			37.6		34.3	34.3	34.3	34.3		34.3
Actuated g/C Ratio	0.04	0.52			0.42		0.38	0.38	0.38	0.38		0.38
Clearance Time (s)	4.5	4.5			4.5		4.5	4.5	4.5	4.5		4.5
Vehicle Extension (s)	2.0	4.0			4.0		2.0	2.0	2.0	2.0		2.0
Lane Grp Cap (vph)	72	1681			1365		625	658	559	359		559
v/s Ratio Prot	c0.04	0.31			c0.46			0.14				
v/s Ratio Perm							c0.37		0.19	0.05		0.14
v/c Ratio	0.97	0.61			1.10		0.97	0.36	0.51	0.13		0.36
Uniform Delay, d1	42.6	15.3			25.9		27.0	19.7	21.1	17.9		19.7
Progression Factor	1.00	1.00			1.00		1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	95.7	1.6			55.5		27.4	0.1	0.3	0.1		0.1
Delay (s)	138.3	16.9			81.4		54.3	19.8	21.3	17.9		19.8
Level of Service	F	B			F		D	B	C	B		B
Approach Delay (s)		24.7			81.4			38.1			19.6	
Approach LOS		C			F			D			B	

Intersection Summary			
HCM 2000 Control Delay	48.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	89.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	108.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology does not support Non-NEMA phasing.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↰	↱
Traffic Volume (vph)	0	2557	1636	0	145	200
Future Volume (vph)	0	2557	1636	0	145	200
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.5	4.5		4.5	4.5
Lane Util. Factor		0.95	0.95		1.00	1.00
Frt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		3260	3260		1630	1458
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		3260	3260		1630	1458
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	2692	1722	0	153	211
RTOR Reduction (vph)	0	0	0	0	0	40
Lane Group Flow (vph)	0	2692	1722	0	153	171
Turn Type		NA	NA		Perm	Perm
Protected Phases		4	8			
Permitted Phases					6	6
Actuated Green, G (s)		88.9	88.9		16.7	16.7
Effective Green, g (s)		88.9	88.9		16.7	16.7
Actuated g/C Ratio		0.78	0.78		0.15	0.15
Clearance Time (s)		4.5	4.5		4.5	4.5
Vehicle Extension (s)		4.0	4.0		2.0	2.0
Lane Grp Cap (vph)		2528	2528		237	212
v/s Ratio Prot		c0.83	0.53			
v/s Ratio Perm					0.09	c0.12
v/c Ratio		1.06	0.68		0.65	0.81
Uniform Delay, d1		12.8	6.1		46.2	47.4
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		38.1	1.5		4.5	18.6
Delay (s)		51.0	7.6		50.6	66.0
Level of Service		D	A		D	E
Approach Delay (s)		51.0	7.6		59.5	
Approach LOS		D	A		E	

Intersection Summary			
HCM 2000 Control Delay	36.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	114.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

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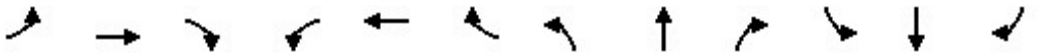
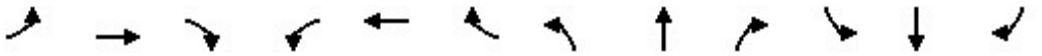


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	2	170	15	0	40	0	1802	25	16	1054	303
Future Volume (vph)	230	2	170	15	0	40	0	1802	25	16	1054	303
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00		1.00		0.95		1.00	0.95	1.00
Frt	1.00	0.85		1.00		0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	1.00
Satd. Flow (prot)	1630	1461		1630		1458		3253		1630	3260	1458
Flt Permitted	0.95	1.00		0.54		1.00		1.00		0.95	1.00	1.00
Satd. Flow (perm)	1630	1461		921		1458		3253		1630	3260	1458
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	242	2	179	16	0	42	0	1897	26	17	1109	319
RTOR Reduction (vph)	0	79	0	0	0	33	0	0	0	0	0	25
Lane Group Flow (vph)	242	102	0	16	0	9	0	1923	0	17	1109	294
Turn Type	Perm	NA		Perm		Perm		NA		Prot	NA	Perm
Protected Phases		4						2		1	6	
Permitted Phases	4			8		8						6
Actuated Green, G (s)	18.3	18.3		18.3		18.3		51.4		2.5	58.4	58.4
Effective Green, g (s)	18.3	18.3		18.3		18.3		51.4		2.5	58.4	58.4
Actuated g/C Ratio	0.21	0.21		0.21		0.21		0.60		0.03	0.68	0.68
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		4.5	4.5	4.5
Vehicle Extension (s)	4.0	4.0		4.0		4.0		2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	348	311		196		311		1951		47	2221	993
v/s Ratio Prot		0.07						c0.59		0.01	c0.34	
v/s Ratio Perm	c0.15			0.02		0.01						0.20
v/c Ratio	0.70	0.33		0.08		0.03		0.99		0.36	0.50	0.30
Uniform Delay, d1	31.1	28.5		27.0		26.7		16.8		40.8	6.6	5.4
Progression Factor	1.00	1.00		1.00		1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	6.4	0.8		0.2		0.1		17.2		1.7	0.8	0.8
Delay (s)	37.5	29.4		27.2		26.7		34.0		42.5	7.4	6.2
Level of Service	D	C		C		C		C		D	A	A
Approach Delay (s)		34.0			26.9			34.0			7.5	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	24.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	85.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

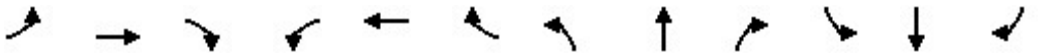
HCM 6th Edition methodology does not support Non-NEMA phasing.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	1098	404	240	1262	5	302	30	350	40	15	47
Future Volume (vph)	31	1098	404	240	1262	5	302	30	350	40	15	47
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1630	3260	1458	1630	3260	1458	1630	1716	1458	1630	1522	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.41	1.00	1.00	0.74	1.00	
Satd. Flow (perm)	1630	3260	1458	1630	3260	1458	696	1716	1458	1263	1522	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	1156	425	253	1328	5	318	32	368	42	16	49
RTOR Reduction (vph)	0	0	87	0	0	2	0	0	71	0	46	0
Lane Group Flow (vph)	33	1156	338	253	1328	3	318	32	297	42	19	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8	2		2	6		
Actuated Green, G (s)	2.9	45.6	45.6	18.9	61.6	61.6	18.9	11.5	30.4	8.8	5.9	
Effective Green, g (s)	2.9	45.6	45.6	18.9	61.6	61.6	18.9	11.5	30.4	8.8	5.9	
Actuated g/C Ratio	0.03	0.47	0.47	0.20	0.64	0.64	0.20	0.12	0.31	0.09	0.06	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0	4.0	3.0	2.0	2.0	3.0	2.0	
Lane Grp Cap (vph)	48	1534	686	317	2072	926	217	203	525	125	92	
v/s Ratio Prot	0.02	c0.35		c0.16	0.41		c0.13	0.02	c0.11	0.01	0.01	
v/s Ratio Perm			0.23			0.00	c0.16		0.09	0.02		
v/c Ratio	0.69	0.75	0.49	0.80	0.64	0.00	1.47	0.16	0.57	0.34	0.21	
Uniform Delay, d1	46.6	21.0	17.7	37.2	10.9	6.4	37.8	38.3	27.7	41.1	43.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	27.8	3.5	2.5	12.3	1.5	0.0	232.9	0.1	0.8	1.6	0.4	
Delay (s)	74.4	24.5	20.2	49.4	12.4	6.5	270.7	38.5	28.6	42.7	43.7	
Level of Service	E	C	C	D	B	A	F	D	C	D	D	
Approach Delay (s)		24.4			18.3			136.3			43.3	
Approach LOS		C			B			F			D	

Intersection Summary			
HCM 2000 Control Delay	42.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	96.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	1098	404	240	1262	5	302	30	350	40	15	47
Future Volume (veh/h)	31	1098	404	240	1262	5	302	30	350	40	15	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	33	1156	0	253	1328	0	318	32	368	42	16	49
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	40	1317		280	1796		390	392	581	300	68	208
Arrive On Green	0.02	0.40	0.00	0.17	0.55	0.00	0.08	0.23	0.23	0.03	0.18	0.18
Sat Flow, veh/h	1641	3273	1460	1641	3273	1460	1641	1723	1460	1641	373	1143
Grp Volume(v), veh/h	33	1156	0	253	1328	0	318	32	368	42	0	65
Grp Sat Flow(s),veh/h/ln	1641	1637	1460	1641	1637	1460	1641	1723	1460	1641	0	1517
Q Serve(g_s), s	2.2	35.3	0.0	16.3	33.3	0.0	8.5	1.6	21.9	2.2	0.0	4.0
Cycle Q Clear(g_c), s	2.2	35.3	0.0	16.3	33.3	0.0	8.5	1.6	21.9	2.2	0.0	4.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.75
Lane Grp Cap(c), veh/h	40	1317		280	1796		390	392	581	300	0	276
V/C Ratio(X)	0.83	0.88		0.90	0.74		0.82	0.08	0.63	0.14	0.00	0.24
Avail Cap(c_a), veh/h	76	1317		296	1796		390	540	707	323	0	428
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.5	29.8	0.0	44.0	18.5	0.0	38.8	32.9	26.2	34.2	0.0	37.8
Incr Delay (d2), s/veh	14.9	8.5	0.0	27.2	2.8	0.0	12.7	0.0	0.6	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	15.0	0.0	8.7	12.6	0.0	5.8	0.7	7.6	0.9	0.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.4	38.3	0.0	71.2	21.3	0.0	51.4	32.9	26.8	34.4	0.0	38.0
LnGrp LOS	E	D		E	C		D	C	C	C	A	D
Approach Vol, veh/h		1189	A		1581	A		718			107	
Approach Delay, s/veh		39.1			29.3			38.0			36.6	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	29.1	22.9	48.0	13.0	24.1	7.1	63.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.1	33.9	19.5	43.5	8.5	30.5	5.0	58.0
Max Q Clear Time (g_c+I1), s	4.2	23.9	18.3	37.3	10.5	6.0	4.2	35.3
Green Ext Time (p_c), s	0.0	0.6	0.1	4.5	0.0	0.2	0.0	14.0

Intersection Summary	
HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

Notes

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

APPENDIX D: QUEUING OUTPUTS

ROSEBURG UGB EXCHANGE

Intersection: 9: Garden Valley Rd & Stewart Pkwy, Interval #1

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	T	R	L
Maximum Queue (ft)	1025	1920	1941	1025	2957	2966	140	203	250	225	195	931
Average Queue (ft)	923	1310	1173	949	2428	2442	128	137	124	118	87	657
95th Queue (ft)	1235	2350	2268	1318	3684	3682	188	212	221	186	159	1022
Link Distance (ft)		1947	1947		2937	2937			264	264		
Upstream Blk Time (%)		13	5		5	7			0	0		
Queuing Penalty (veh)		72	28		42	62			1	0		
Storage Bay Dist (ft)	1000			1000			115	185			190	1000
Storage Blk Time (%)	62	14		0	58	70	1	7	0	0	0	0
Queuing Penalty (veh)	223	64		0	224	234	4	14	1	1	1	0

Intersection: 9: Garden Valley Rd & Stewart Pkwy, Interval #1

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	970	1052	991	145
Average Queue (ft)	692	459	436	133
95th Queue (ft)	1069	1094	1000	168
Link Distance (ft)		1555	1555	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	1000			120
Storage Blk Time (%)	3	3	10	14
Queuing Penalty (veh)	6	14	43	28

Intersection: 9: Garden Valley Rd & Stewart Pkwy, Interval #2

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	T	R	L
Maximum Queue (ft)	1025	1920	1941	1025	2957	2966	140	203	250	225	195	931
Average Queue (ft)	923	1310	1173	949	2428	2442	128	137	124	118	87	657
95th Queue (ft)	1235	2350	2268	1318	3684	3682	188	212	221	186	159	1022
Link Distance (ft)		1947	1947		2937	2937			264	264		
Upstream Blk Time (%)		13	5		5	7			0	0		
Queuing Penalty (veh)		72	28		42	62			1	0		
Storage Bay Dist (ft)	1000			1000			115	185			190	1000
Storage Blk Time (%)	62	14		0	58	70	1	7	0	0	0	0
Queuing Penalty (veh)	223	64		0	224	234	4	14	1	1	1	0

Intersection: 9: Garden Valley Rd & Stewart Pkwy, Interval #2

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	970	1052	991	145
Average Queue (ft)	692	459	436	133
95th Queue (ft)	1069	1094	1000	168
Link Distance (ft)		1555	1555	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	1000			120
Storage Blk Time (%)	3	3	10	14
Queuing Penalty (veh)	6	14	43	28

Intersection: 9: Garden Valley Rd & Stewart Pkwy, All Intervals

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	T	R	L	T	T	R	L
Maximum Queue (ft)	1025	1920	1941	1025	2957	2966	140	203	250	225	195	931
Average Queue (ft)	923	1310	1173	949	2428	2442	128	137	124	118	87	657
95th Queue (ft)	1235	2350	2268	1318	3684	3682	188	212	221	186	159	1022
Link Distance (ft)		1947	1947		2937	2937			264	264		
Upstream Blk Time (%)		13	5		5	7			0	0		
Queuing Penalty (veh)		72	28		42	62			1	0		
Storage Bay Dist (ft)	1000			1000			115	185			190	1000
Storage Blk Time (%)	62	14		0	58	70	1	7	0	0	0	0
Queuing Penalty (veh)	223	64		0	224	234	4	14	1	1	1	0

Intersection: 9: Garden Valley Rd & Stewart Pkwy, All Intervals

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	970	1052	991	145
Average Queue (ft)	692	459	436	133
95th Queue (ft)	1069	1094	1000	168
Link Distance (ft)		1555	1555	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	1000			120
Storage Blk Time (%)	3	3	10	14
Queuing Penalty (veh)	6	14	43	28

Intersection: 10: Harvard Ave & Stewart Pkwy, Interval #1

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	B28
Directions Served	L	T	TR	L	T	T	R	L	TR	L	TR	T
Maximum Queue (ft)	135	471	447	23	304	409	190	26	65	115	1113	78
Average Queue (ft)	128	238	192	2	167	201	162	4	22	113	570	3
95th Queue (ft)	149	436	398	14	254	336	228	20	55	121	1230	56
Link Distance (ft)		1477	1477		1998	1998			140		2286	308
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	110			100			165	60		90		
Storage Blk Time (%)	51	3			30	6	7		1	50	6	
Queuing Penalty (veh)	131	7			1	43	27		0	169	28	

Intersection: 10: Harvard Ave & Stewart Pkwy, Interval #2

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	B28
Directions Served	L	T	TR	L	T	T	R	L	TR	L	TR	T
Maximum Queue (ft)	135	471	447	23	304	409	190	26	65	115	1113	78
Average Queue (ft)	128	238	192	2	167	201	162	4	22	113	570	3
95th Queue (ft)	149	436	398	14	254	336	228	20	55	121	1230	56
Link Distance (ft)		1477	1477		1998	1998			140		2286	308
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	110			100			165	60		90		
Storage Blk Time (%)	51	3			30	6	7		1	50	6	
Queuing Penalty (veh)	131	7			1	43	27		0	169	28	

Intersection: 10: Harvard Ave & Stewart Pkwy, All Intervals

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	B28
Directions Served	L	T	TR	L	T	T	R	L	TR	L	TR	T
Maximum Queue (ft)	135	471	447	23	304	409	190	26	65	115	1113	78
Average Queue (ft)	128	238	192	2	167	201	162	4	22	113	570	3
95th Queue (ft)	149	436	398	14	254	336	228	20	55	121	1230	56
Link Distance (ft)		1477	1477		1998	1998			140		2286	308
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	110			100			165	60		90		
Storage Blk Time (%)	51	3			30	6	7		1	50	6	
Queuing Penalty (veh)	131	7			1	43	27		0	169	28	

Intersection: 13: Stewart Pkwy & Harvey Ave, Interval #1

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB		
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR		
Maximum Queue (ft)	86	100	117	153	196	190	173	104	451	420		
Average Queue (ft)	39	59	44	68	116	58	71	38	235	149		
95th Queue (ft)	76	98	90	130	190	136	137	99	409	357		
Link Distance (ft)		91		376		308	308		1791	1791		
Upstream Blk Time (%)	0	4										
Queuing Penalty (veh)	0	11										
Storage Bay Dist (ft)	65		130		175			80				
Storage Blk Time (%)	6	8	0	1	2	0		0	31			
Queuing Penalty (veh)	11	4	0	1	6	0		0	19			

Intersection: 13: Stewart Pkwy & Harvey Ave, Interval #2

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	86	100	117	153	196	190	173	104	451	420
Average Queue (ft)	39	59	44	68	116	58	71	38	235	149
95th Queue (ft)	76	98	90	130	190	136	137	99	409	357
Link Distance (ft)		91		376		308	308		1791	1791
Upstream Blk Time (%)	0	4								
Queuing Penalty (veh)	0	11								
Storage Bay Dist (ft)	65		130		175			80		
Storage Blk Time (%)	6	8	0	1	2	0		0	31	
Queuing Penalty (veh)	11	4	0	1	6	0		0	19	

Intersection: 13: Stewart Pkwy & Harvey Ave, All Intervals

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (ft)	86	100	117	153	196	190	173	104	451	420
Average Queue (ft)	39	59	44	68	116	58	71	38	235	149
95th Queue (ft)	76	98	90	130	190	136	137	99	409	357
Link Distance (ft)		91		376		308	308		1791	1791
Upstream Blk Time (%)	0	4								
Queuing Penalty (veh)	0	11								
Storage Bay Dist (ft)	65		130		175			80		
Storage Blk Time (%)	6	8	0	1	2	0		0	31	
Queuing Penalty (veh)	11	4	0	1	6	0		0	19	

Intersection: 16: NW Troost St & Garden Valley Rd, Interval #1

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	75	409	400	135	391	391	109	64	158	67	41
Average Queue (ft)	6	234	223	108	180	172	11	14	61	25	6
95th Queue (ft)	38	364	352	163	354	346	61	48	115	56	24
Link Distance (ft)		2075	2075		1481	1481			1001		610
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	120			110			140	95		80	
Storage Blk Time (%)		41		20	8	11	0		2	0	
Queuing Penalty (veh)		2		106	19	2	0		1	0	

Intersection: 16: NW Troost St & Garden Valley Rd, Interval #2

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	75	409	400	135	391	391	109	64	158	67	41
Average Queue (ft)	6	234	223	108	180	172	11	14	61	25	6
95th Queue (ft)	38	364	352	163	354	346	61	48	115	56	24
Link Distance (ft)		2075	2075		1481	1481			1001		610
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	120			110			140	95		80	
Storage Blk Time (%)		41		20	8	11	0		2	0	
Queuing Penalty (veh)		2		106	19	2	0		1	0	

Intersection: 16: NW Troost St & Garden Valley Rd, All Intervals

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	75	409	400	135	391	391	109	64	158	67	41
Average Queue (ft)	6	234	223	108	180	172	11	14	61	25	6
95th Queue (ft)	38	364	352	163	354	346	61	48	115	56	24
Link Distance (ft)		2075	2075		1481	1481			1001		610
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	120			110			140	95		80	
Storage Blk Time (%)		41		20	8	11	0		2	0	
Queuing Penalty (veh)		2		106	19	2	0		1	0	

Intersection: 19: Charter Oaks Dr & Troost St, Interval #1

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	35	67
Average Queue (ft)	2	16
95th Queue (ft)	14	45
Link Distance (ft)	613	728
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Charter Oaks Dr & Troost St, Interval #2

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	35	67
Average Queue (ft)	2	16
95th Queue (ft)	14	45
Link Distance (ft)	613	728
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Charter Oaks Dr & Troost St, All Intervals

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	35	67
Average Queue (ft)	2	16
95th Queue (ft)	14	45
Link Distance (ft)	613	728
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 22: Loma Vista Dr, Interval #1

Movement	NB	SE
Directions Served	LT	LR
Maximum Queue (ft)	22	55
Average Queue (ft)	1	18
95th Queue (ft)	13	44
Link Distance (ft)	564	633
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 22: Loma Vista Dr, Interval #2

Movement	NB	SE
Directions Served	LT	LR
Maximum Queue (ft)	22	55
Average Queue (ft)	1	18
95th Queue (ft)	13	44
Link Distance (ft)	564	633
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 22: Loma Vista Dr, All Intervals

Movement	NB	SE
Directions Served	LT	LR
Maximum Queue (ft)	22	55
Average Queue (ft)	1	18
95th Queue (ft)	13	44
Link Distance (ft)	564	633
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 26: NW Troost/Troost St & Calkins Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	58	121	56	102
Average Queue (ft)	29	61	33	48
95th Queue (ft)	49	97	56	84
Link Distance (ft)	312	2632	1346	1924
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: NW Troost/Troost St & Calkins Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	58	121	56	102
Average Queue (ft)	29	61	33	48
95th Queue (ft)	49	97	56	84
Link Distance (ft)	312	2632	1346	1924
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: NW Troost/Troost St & Calkins Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	58	121	56	102
Average Queue (ft)	29	61	33	48
95th Queue (ft)	49	97	56	84
Link Distance (ft)	312	2632	1346	1924
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 29: Kline St & Garden Valley Rd, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	129	665	642	124	478	489	157	201	104	627
Average Queue (ft)	19	248	244	49	151	176	75	92	94	185
95th Queue (ft)	70	592	580	106	336	354	138	171	121	528
Link Distance (ft)		1481	1481		1947	1947		1058		698
Upstream Blk Time (%)										8
Queuing Penalty (veh)										0
Storage Bay Dist (ft)	105			100			275		80	
Storage Blk Time (%)	0	31		1	11			0	40	1
Queuing Penalty (veh)	0	5		4	7			0	26	3

Intersection: 29: Kline St & Garden Valley Rd, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	129	665	642	124	478	489	157	201	104	627
Average Queue (ft)	19	248	244	49	151	176	75	92	94	185
95th Queue (ft)	70	592	580	106	336	354	138	171	121	528
Link Distance (ft)		1481	1481		1947	1947		1058		698
Upstream Blk Time (%)										8
Queuing Penalty (veh)										0
Storage Bay Dist (ft)	105			100			275		80	
Storage Blk Time (%)	0	31		1	11			0	40	1
Queuing Penalty (veh)	0	5		4	7			0	26	3

Intersection: 29: Kline St & Garden Valley Rd, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	129	665	642	124	478	489	157	201	104	627
Average Queue (ft)	19	248	244	49	151	176	75	92	94	185
95th Queue (ft)	70	592	580	106	336	354	138	171	121	528
Link Distance (ft)		1481	1481		1947	1947		1058		698
Upstream Blk Time (%)										8
Queuing Penalty (veh)										0
Storage Bay Dist (ft)	105			100			275		80	
Storage Blk Time (%)	0	31		1	11			0	40	1
Queuing Penalty (veh)	0	5		4	7			0	26	3

Intersection: 32: Keasey St & Calkins Rd, Interval #1

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	60	72	8
Average Queue (ft)	40	16	0
95th Queue (ft)	61	50	3
Link Distance (ft)	2632	2126	737
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 32: Keasey St & Calkins Rd, Interval #2

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	60	72	8
Average Queue (ft)	40	16	0
95th Queue (ft)	61	50	3
Link Distance (ft)	2632	2126	737
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 32: Keasey St & Calkins Rd, All Intervals

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	60	72	8
Average Queue (ft)	40	16	0
95th Queue (ft)	61	50	3
Link Distance (ft)	2632	2126	737
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 34: Harvey Ave & Keasey St, Interval #1

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	45	10	129
Average Queue (ft)	5	0	57
95th Queue (ft)	27	7	102
Link Distance (ft)	738	91	2126
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 34: Harvey Ave & Keasey St, Interval #2

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	45	10	129
Average Queue (ft)	5	0	57
95th Queue (ft)	27	7	102
Link Distance (ft)	738	91	2126
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 34: Harvey Ave & Keasey St, All Intervals

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	45	10	129
Average Queue (ft)	5	0	57
95th Queue (ft)	27	7	102
Link Distance (ft)	738	91	2126
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 35: Exit 125 & Garden Valley , Interval #1

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	TR	L	TR	L	R
Maximum Queue (ft)	88	175	192	1520	1516	1476	1492	72	294
Average Queue (ft)	33	89	106	715	707	1055	870	30	133
95th Queue (ft)	70	156	177	1488	1467	1759	1775	62	252
Link Distance (ft)	1072	1072	1072	1481	1481	1453	1453	543	543
Upstream Blk Time (%)				18	17	34	27		
Queuing Penalty (veh)				0	0	0	0		
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 35: Exit 125 & Garden Valley , Interval #2

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	TR	L	TR	L	R
Maximum Queue (ft)	88	175	192	1520	1516	1476	1492	72	294
Average Queue (ft)	33	89	106	715	707	1055	870	30	133
95th Queue (ft)	70	156	177	1488	1467	1759	1775	62	252
Link Distance (ft)	1072	1072	1072	1481	1481	1453	1453	543	543
Upstream Blk Time (%)				18	17	34	27		
Queuing Penalty (veh)				0	0	0	0		
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 35: Exit 125 & Garden Valley , All Intervals

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	TR	L	TR	L	R
Maximum Queue (ft)	88	175	192	1520	1516	1476	1492	72	294
Average Queue (ft)	33	89	106	715	707	1055	870	30	133
95th Queue (ft)	70	156	177	1488	1467	1759	1775	62	252
Link Distance (ft)	1072	1072	1072	1481	1481	1453	1453	543	543
Upstream Blk Time (%)				18	17	34	27		
Queuing Penalty (veh)				0	0	0	0		
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 38: Garden Valley Rd & Hwy 125, Interval #1

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	T	T	T	L	R
Maximum Queue (ft)	1724	1735	1101	1104	180	196
Average Queue (ft)	1575	1606	687	695	90	98
95th Queue (ft)	1856	1856	1358	1351	154	170
Link Distance (ft)	2937	2937	1072	1072	1104	1104
Upstream Blk Time (%)			7	7		
Queuing Penalty (veh)			73	78		
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 38: Garden Valley Rd & Hwy 125, Interval #2

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	T	T	T	L	R
Maximum Queue (ft)	1724	1735	1101	1104	180	196
Average Queue (ft)	1575	1606	687	695	90	98
95th Queue (ft)	1856	1856	1358	1351	154	170
Link Distance (ft)	2937	2937	1072	1072	1104	1104
Upstream Blk Time (%)			7	7		
Queuing Penalty (veh)			73	78		
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 38: Garden Valley Rd & Hwy 125, All Intervals

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	T	T	T	L	R
Maximum Queue (ft)	1724	1735	1101	1104	180	196
Average Queue (ft)	1575	1606	687	695	90	98
95th Queue (ft)	1856	1856	1358	1351	154	170
Link Distance (ft)	2937	2937	1072	1072	1104	1104
Upstream Blk Time (%)			7	7		
Queuing Penalty (veh)			73	78		
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 40: Freeway Ave/Willow St, Interval #1

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	R	T	TR	L	T	T	R
Maximum Queue (ft)	222	111	47	81	514	506	53	270	295	61
Average Queue (ft)	112	53	11	22	342	284	12	113	141	33
95th Queue (ft)	188	89	34	59	544	481	36	239	275	47
Link Distance (ft)	817	817	228	228	487	487		507	507	
Upstream Blk Time (%)					5	2				
Queuing Penalty (veh)					0	0				
Storage Bay Dist (ft)							400			10
Storage Blk Time (%)									24	3
Queuing Penalty (veh)									71	17

Intersection: 40: Freeway Ave/Willow St, Interval #2

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	R	T	TR	L	T	T	R
Maximum Queue (ft)	222	111	47	81	514	506	53	270	295	61
Average Queue (ft)	112	53	11	22	342	284	12	113	141	33
95th Queue (ft)	188	89	34	59	544	481	36	239	275	47
Link Distance (ft)	817	817	228	228	487	487		507	507	
Upstream Blk Time (%)					5	2				
Queuing Penalty (veh)					0	0				
Storage Bay Dist (ft)							400			10
Storage Blk Time (%)									24	3
Queuing Penalty (veh)									71	17

Intersection: 40: Freeway Ave/Willow St, All Intervals

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	R	T	TR	L	T	T	R
Maximum Queue (ft)	222	111	47	81	514	506	53	270	295	61
Average Queue (ft)	112	53	11	22	342	284	12	113	141	33
95th Queue (ft)	188	89	34	59	544	481	36	239	275	47
Link Distance (ft)	817	817	228	228	487	487		507	507	
Upstream Blk Time (%)					5	2				
Queuing Penalty (veh)					0	0				
Storage Bay Dist (ft)							400			10
Storage Blk Time (%)									24	3
Queuing Penalty (veh)									71	17

Intersection: 42: Harvard Ave & Bellows, Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B6	B6	NB	NB
Directions Served	L	T	T	R	L	T	T	R	T	T	L	T
Maximum Queue (ft)	129	872	938	125	120	324	317	96	500	502	124	417
Average Queue (ft)	38	502	567	115	114	281	278	3	243	245	111	143
95th Queue (ft)	107	916	1011	169	136	354	353	36	526	526	142	370
Link Distance (ft)		2828	2828			220	220		507	507		652
Upstream Blk Time (%)						36	27		0	0		
Queuing Penalty (veh)						370	277		3	3		
Storage Bay Dist (ft)	105			100	95			100			100	
Storage Blk Time (%)	0	52	50	1	46	22	32	0			23	0
Queuing Penalty (veh)	0	15	200	4	282	53	2	0			87	0

Intersection: 42: Harvard Ave & Bellows, Interval #1

Movement	NB	SB	SB
Directions Served	R	L	TR
Maximum Queue (ft)	160	68	93
Average Queue (ft)	111	21	33
95th Queue (ft)	200	53	74
Link Distance (ft)			281
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	135	100	
Storage Blk Time (%)	2	0	0
Queuing Penalty (veh)	8	0	0

Intersection: 42: Harvard Ave & Bellows, Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B6	B6	NB	NB
Directions Served	L	T	T	R	L	T	T	R	T	T	L	T
Maximum Queue (ft)	129	872	938	125	120	324	317	96	500	502	124	417
Average Queue (ft)	38	502	567	115	114	281	278	3	243	245	111	143
95th Queue (ft)	107	916	1011	169	136	354	353	36	526	526	142	370
Link Distance (ft)		2828	2828			220	220		507	507		652
Upstream Blk Time (%)						36	27		0	0		
Queuing Penalty (veh)						370	277		3	3		
Storage Bay Dist (ft)	105			100	95			100			100	
Storage Blk Time (%)	0	52	50	1	46	22	32	0			23	0
Queuing Penalty (veh)	0	15	200	4	282	53	2	0			87	0

Intersection: 42: Harvard Ave & Bellows, Interval #2

Movement	NB	SB	SB
Directions Served	R	L	TR
Maximum Queue (ft)	160	68	93
Average Queue (ft)	111	21	33
95th Queue (ft)	200	53	74
Link Distance (ft)			281
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	135	100	
Storage Blk Time (%)	2	0	0
Queuing Penalty (veh)	8	0	0

Intersection: 42: Harvard Ave & Bellows, All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B6	B6	NB	NB
Directions Served	L	T	T	R	L	T	T	R	T	T	L	T
Maximum Queue (ft)	129	872	938	125	120	324	317	96	500	502	124	417
Average Queue (ft)	38	502	567	115	114	281	278	3	243	245	111	143
95th Queue (ft)	107	916	1011	169	136	354	353	36	526	526	142	370
Link Distance (ft)		2828	2828			220	220		507	507		652
Upstream Blk Time (%)						36	27		0	0		
Queuing Penalty (veh)						370	277		3	3		
Storage Bay Dist (ft)	105			100	95			100			100	
Storage Blk Time (%)	0	52	50	1	46	22	32	0			23	0
Queuing Penalty (veh)	0	15	200	4	282	53	2	0			87	0

Intersection: 42: Harvard Ave & Bellows, All Intervals

Movement	NB	SB	SB
Directions Served	R	L	TR
Maximum Queue (ft)	160	68	93
Average Queue (ft)	111	21	33
95th Queue (ft)	200	53	74
Link Distance (ft)			281
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	135	100	
Storage Blk Time (%)	2	0	0
Queuing Penalty (veh)	8	0	0

Network Summary

Network wide Queuing Penalty, Interval #1: 3242
Network wide Queuing Penalty, Interval #2: 3242
Network wide Queuing Penalty, All Intervals: 3242

Intersection: 9: Garden Valley Rd & Stewart Pkwy, Interval #1

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	B51
Directions Served	L	T	TR	L	T	T	R	L	T	T	R	T
Maximum Queue (ft)	1025	1972	2000	1025	2976	2980	140	210	318	263	201	73
Average Queue (ft)	974	1577	1483	979	2439	2443	121	181	192	133	84	10
95th Queue (ft)	1185	2494	2523	1234	3658	3656	194	246	343	229	168	57
Link Distance (ft)		1947	1947		2937	2937			264	264		1649
Upstream Blk Time (%)		28	13		8	9			16	0		
Queuing Penalty (veh)		174	81		71	84			57	0		
Storage Bay Dist (ft)	1000			1000			115	185			190	
Storage Blk Time (%)	75	19		18	58	70	1	45	2	0	0	
Queuing Penalty (veh)	291	92		100	242	235	6	90	3	1	1	

Intersection: 9: Garden Valley Rd & Stewart Pkwy, Interval #1

Movement	B51	SB	SB	SB	SB	SB
Directions Served	T	L	L	T	T	R
Maximum Queue (ft)	17	977	996	1370	1333	145
Average Queue (ft)	1	724	756	596	567	133
95th Queue (ft)	11	1070	1111	1345	1249	177
Link Distance (ft)	1649			1555	1555	
Upstream Blk Time (%)				2	1	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)		1000	1000			120
Storage Blk Time (%)		2	7	8	13	17
Queuing Penalty (veh)		3	15	33	62	37

Intersection: 9: Garden Valley Rd & Stewart Pkwy, Interval #2

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	B51
Directions Served	L	T	TR	L	T	T	R	L	T	T	R	T
Maximum Queue (ft)	1025	1972	2000	1025	2976	2980	140	210	318	263	201	73
Average Queue (ft)	974	1577	1483	979	2439	2443	121	181	192	133	84	10
95th Queue (ft)	1185	2494	2523	1234	3658	3656	194	246	343	229	168	57
Link Distance (ft)		1947	1947		2937	2937			264	264		1649
Upstream Blk Time (%)		28	13		8	9			16	0		
Queuing Penalty (veh)		174	81		71	84			57	0		
Storage Bay Dist (ft)	1000			1000			115	185			190	
Storage Blk Time (%)	75	19		18	58	70	1	45	2	0	0	
Queuing Penalty (veh)	291	92		100	242	235	6	90	3	1	1	

Intersection: 9: Garden Valley Rd & Stewart Pkwy, Interval #2

Movement	B51	SB	SB	SB	SB	SB
Directions Served	T	L	L	T	T	R
Maximum Queue (ft)	17	977	996	1370	1333	145
Average Queue (ft)	1	724	756	596	567	133
95th Queue (ft)	11	1070	1111	1345	1249	177
Link Distance (ft)	1649			1555	1555	
Upstream Blk Time (%)				2	1	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)		1000	1000			120
Storage Blk Time (%)		2	7	8	13	17
Queuing Penalty (veh)		3	15	33	62	37

Intersection: 9: Garden Valley Rd & Stewart Pkwy, All Intervals

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	B51
Directions Served	L	T	TR	L	T	T	R	L	T	T	R	T
Maximum Queue (ft)	1025	1972	2000	1025	2976	2980	140	210	318	263	201	73
Average Queue (ft)	974	1577	1483	979	2439	2443	121	181	192	133	84	10
95th Queue (ft)	1185	2494	2523	1234	3658	3656	194	246	343	229	168	57
Link Distance (ft)		1947	1947		2937	2937			264	264		1649
Upstream Blk Time (%)		28	13		8	9			16	0		
Queuing Penalty (veh)		174	81		71	84			57	0		
Storage Bay Dist (ft)	1000			1000			115	185			190	
Storage Blk Time (%)	75	19		18	58	70	1	45	2	0	0	
Queuing Penalty (veh)	291	92		100	242	235	6	90	3	1	1	

Intersection: 9: Garden Valley Rd & Stewart Pkwy, All Intervals

Movement	B51	SB	SB	SB	SB	SB
Directions Served	T	L	L	T	T	R
Maximum Queue (ft)	17	977	996	1370	1333	145
Average Queue (ft)	1	724	756	596	567	133
95th Queue (ft)	11	1070	1111	1345	1249	177
Link Distance (ft)	1649			1555	1555	
Upstream Blk Time (%)				2	1	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)		1000	1000			120
Storage Blk Time (%)		2	7	8	13	17
Queuing Penalty (veh)		3	15	33	62	37

Intersection: 10: Harvard Ave & Stewart Pkwy, Interval #1

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	B28
Directions Served	L	T	TR	L	T	T	R	L	TR	L	TR	T
Maximum Queue (ft)	135	524	481	46	348	422	190	39	60	115	1370	270
Average Queue (ft)	132	309	262	3	190	249	179	6	18	114	787	12
95th Queue (ft)	148	518	465	23	284	397	222	25	47	117	1422	129
Link Distance (ft)		1477	1477		1991	1991			140		2197	394
Upstream Blk Time (%)											0	0
Queuing Penalty (veh)											4	1
Storage Bay Dist (ft)	110			100			165	60		90		
Storage Blk Time (%)	62	2			35	7	22	0	0	56	5	
Queuing Penalty (veh)	160	5			1	55	80	0	0	205	25	

Intersection: 10: Harvard Ave & Stewart Pkwy, Interval #2

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	B28
Directions Served	L	T	TR	L	T	T	R	L	TR	L	TR	T
Maximum Queue (ft)	135	524	481	46	348	422	190	39	60	115	1370	270
Average Queue (ft)	132	309	262	3	190	249	179	6	18	114	787	12
95th Queue (ft)	148	518	465	23	284	397	222	25	47	117	1422	129
Link Distance (ft)		1477	1477		1991	1991			140		2197	394
Upstream Blk Time (%)											0	0
Queuing Penalty (veh)											4	1
Storage Bay Dist (ft)	110			100			165	60		90		
Storage Blk Time (%)	62	2			35	7	22	0	0	56	5	
Queuing Penalty (veh)	160	5			1	55	80	0	0	205	25	

Intersection: 10: Harvard Ave & Stewart Pkwy, All Intervals

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	B28
Directions Served	L	T	TR	L	T	T	R	L	TR	L	TR	T
Maximum Queue (ft)	135	524	481	46	348	422	190	39	60	115	1370	270
Average Queue (ft)	132	309	262	3	190	249	179	6	18	114	787	12
95th Queue (ft)	148	518	465	23	284	397	222	25	47	117	1422	129
Link Distance (ft)		1477	1477		1991	1991			140		2197	394
Upstream Blk Time (%)											0	0
Queuing Penalty (veh)											4	1
Storage Bay Dist (ft)	110			100			165	60		90		
Storage Blk Time (%)	62	2			35	7	22	0	0	56	5	
Queuing Penalty (veh)	160	5			1	55	80	0	0	205	25	

Intersection: 13: Stewart Pkwy & Harvey Ave, Interval #1

Movement	EB	EB	WB	WB	NB	NB	NB	B28	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	T	L	T	TR	
Maximum Queue (ft)	85	107	114	151	200	367	250	7	105	537	500	
Average Queue (ft)	40	73	50	63	160	113	75	0	42	304	239	
95th Queue (ft)	80	110	95	115	226	298	155	5	106	565	518	
Link Distance (ft)		91		377		394	394	2197		1791	1791	
Upstream Blk Time (%)	1	11				0						
Queuing Penalty (veh)	0	33				1						
Storage Bay Dist (ft)	65		130		175				80			
Storage Blk Time (%)	6	17	0	1	13	0			0	46		
Queuing Penalty (veh)	15	8	0	0	34	1			1	28		

Intersection: 13: Stewart Pkwy & Harvey Ave, Interval #2

Movement	EB	EB	WB	WB	NB	NB	NB	B28	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	T	L	T	TR
Maximum Queue (ft)	85	107	114	151	200	367	250	7	105	537	500
Average Queue (ft)	40	73	50	63	160	113	75	0	42	304	239
95th Queue (ft)	80	110	95	115	226	298	155	5	106	565	518
Link Distance (ft)		91		377		394	394	2197		1791	1791
Upstream Blk Time (%)	1	11				0					
Queuing Penalty (veh)	0	33				1					
Storage Bay Dist (ft)	65		130		175				80		
Storage Blk Time (%)	6	17	0	1	13	0			0	46	
Queuing Penalty (veh)	15	8	0	0	34	1			1	28	

Intersection: 13: Stewart Pkwy & Harvey Ave, All Intervals

Movement	EB	EB	WB	WB	NB	NB	NB	B28	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	T	L	T	TR
Maximum Queue (ft)	85	107	114	151	200	367	250	7	105	537	500
Average Queue (ft)	40	73	50	63	160	113	75	0	42	304	239
95th Queue (ft)	80	110	95	115	226	298	155	5	106	565	518
Link Distance (ft)		91		377		394	394	2197		1791	1791
Upstream Blk Time (%)	1	11				0					
Queuing Penalty (veh)	0	33				1					
Storage Bay Dist (ft)	65		130		175				80		
Storage Blk Time (%)	6	17	0	1	13	0			0	46	
Queuing Penalty (veh)	15	8	0	0	34	1			1	28	

Intersection: 16: NW Troost St & Garden Valley Rd, Interval #1

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	98	451	429	135	429	414	165	111	204	64	33
Average Queue (ft)	9	264	253	125	230	192	17	32	103	26	8
95th Queue (ft)	51	398	395	157	412	371	91	86	181	59	27
Link Distance (ft)		2075	2075		1481	1481			1001		610
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	120			110			140	95		80	
Storage Blk Time (%)		47		33	6	12	0		9	0	
Queuing Penalty (veh)		2		174	22	2	0		4	0	

Intersection: 16: NW Troost St & Garden Valley Rd, Interval #2

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	98	451	429	135	429	414	165	111	204	64	33
Average Queue (ft)	9	264	253	125	230	192	17	32	103	26	8
95th Queue (ft)	51	398	395	157	412	371	91	86	181	59	27
Link Distance (ft)		2075	2075		1481	1481			1001		610
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	120			110			140	95		80	
Storage Blk Time (%)		47		33	6	12	0		9	0	
Queuing Penalty (veh)		2		174	22	2	0		4	0	

Intersection: 16: NW Troost St & Garden Valley Rd, All Intervals

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	98	451	429	135	429	414	165	111	204	64	33
Average Queue (ft)	9	264	253	125	230	192	17	32	103	26	8
95th Queue (ft)	51	398	395	157	412	371	91	86	181	59	27
Link Distance (ft)		2075	2075		1481	1481			1001		610
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	120			110			140	95		80	
Storage Blk Time (%)		47		33	6	12	0		9	0	
Queuing Penalty (veh)		2		174	22	2	0		4	0	

Intersection: 19: Charter Oaks Dr & Troost St, Interval #1

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	109	73
Average Queue (ft)	25	35
95th Queue (ft)	76	62
Link Distance (ft)	613	728
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Charter Oaks Dr & Troost St, Interval #2

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	109	73
Average Queue (ft)	25	35
95th Queue (ft)	76	62
Link Distance (ft)	613	728
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Charter Oaks Dr & Troost St, All Intervals

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	109	73
Average Queue (ft)	25	35
95th Queue (ft)	76	62
Link Distance (ft)	613	728
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 22: Loma Vista Dr, Interval #1

Movement	NB	SB	SE
Directions Served	LT	TR	LR
Maximum Queue (ft)	47	10	52
Average Queue (ft)	4	0	19
95th Queue (ft)	25	7	46
Link Distance (ft)	564	448	633
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 22: Loma Vista Dr, Interval #2

Movement	NB	SB	SE
Directions Served	LT	TR	LR
Maximum Queue (ft)	47	10	52
Average Queue (ft)	4	0	19
95th Queue (ft)	25	7	46
Link Distance (ft)	564	448	633
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 22: Loma Vista Dr, All Intervals

Movement	NB	SB	SE
Directions Served	LT	TR	LR
Maximum Queue (ft)	47	10	52
Average Queue (ft)	4	0	19
95th Queue (ft)	25	7	46
Link Distance (ft)	564	448	633
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 26: NW Troost/Troost St & Calkins Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	55	268	145	213
Average Queue (ft)	29	120	73	103
95th Queue (ft)	49	209	120	179
Link Distance (ft)	312	2632	1346	1924
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: NW Troost/Troost St & Calkins Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	55	268	145	213
Average Queue (ft)	29	120	73	103
95th Queue (ft)	49	209	120	179
Link Distance (ft)	312	2632	1346	1924
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 26: NW Troost/Troost St & Calkins Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	55	268	145	213
Average Queue (ft)	29	120	73	103
95th Queue (ft)	49	209	120	179
Link Distance (ft)	312	2632	1346	1924
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 29: Kline St & Garden Valley Rd, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	130	1180	1177	124	563	557	136	195	105	714
Average Queue (ft)	32	485	481	57	202	215	72	101	100	401
95th Queue (ft)	108	1092	1088	120	425	435	130	180	114	847
Link Distance (ft)		1481	1481		1947	1947		1058		698
Upstream Blk Time (%)		0	0							34
Queuing Penalty (veh)		1	0							0
Storage Bay Dist (ft)	105			100			275		80	
Storage Blk Time (%)	0	54		1	18			0	66	2
Queuing Penalty (veh)	2	8		7	14			0	62	5

Intersection: 29: Kline St & Garden Valley Rd, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	130	1180	1177	124	563	557	136	195	105	714
Average Queue (ft)	32	485	481	57	202	215	72	101	100	401
95th Queue (ft)	108	1092	1088	120	425	435	130	180	114	847
Link Distance (ft)		1481	1481		1947	1947		1058		698
Upstream Blk Time (%)		0	0							34
Queuing Penalty (veh)		1	0							0
Storage Bay Dist (ft)	105			100			275		80	
Storage Blk Time (%)	0	54		1	18			0	66	2
Queuing Penalty (veh)	2	8		7	14			0	62	5

Intersection: 29: Kline St & Garden Valley Rd, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	130	1180	1177	124	563	557	136	195	105	714
Average Queue (ft)	32	485	481	57	202	215	72	101	100	401
95th Queue (ft)	108	1092	1088	120	425	435	130	180	114	847
Link Distance (ft)		1481	1481		1947	1947		1058		698
Upstream Blk Time (%)		0	0							34
Queuing Penalty (veh)		1	0							0
Storage Bay Dist (ft)	105			100			275		80	
Storage Blk Time (%)	0	54		1	18			0	66	2
Queuing Penalty (veh)	2	8		7	14			0	62	5

Intersection: 32: Keasey St & Calkins Rd, Interval #1

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	119	107	17
Average Queue (ft)	55	44	1
95th Queue (ft)	90	92	10
Link Distance (ft)	2632	2126	737
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 32: Keasey St & Calkins Rd, Interval #2

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	119	107	17
Average Queue (ft)	55	44	1
95th Queue (ft)	90	92	10
Link Distance (ft)	2632	2126	737
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 32: Keasey St & Calkins Rd, All Intervals

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	119	107	17
Average Queue (ft)	55	44	1
95th Queue (ft)	90	92	10
Link Distance (ft)	2632	2126	737
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 34: Harvey Ave & Keasey St, Interval #1

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	65	21	218
Average Queue (ft)	9	1	86
95th Queue (ft)	41	11	171
Link Distance (ft)	738	91	2126
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 34: Harvey Ave & Keasey St, Interval #2

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	65	21	218
Average Queue (ft)	9	1	86
95th Queue (ft)	41	11	171
Link Distance (ft)	738	91	2126
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 34: Harvey Ave & Keasey St, All Intervals

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	65	21	218
Average Queue (ft)	9	1	86
95th Queue (ft)	41	11	171
Link Distance (ft)	738	91	2126
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 35: Exit 125 & Garden Valley , Interval #1

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	TR	L	TR	L	R
Maximum Queue (ft)	116	203	224	1535	1525	1483	1480	73	248
Average Queue (ft)	41	118	137	1096	1083	817	603	29	111
95th Queue (ft)	87	193	215	1777	1761	1611	1506	66	198
Link Distance (ft)	1072	1072	1072	1481	1481	1453	1453	543	543
Upstream Blk Time (%)				35	33	20	15		
Queuing Penalty (veh)				0	0	0	0		
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 35: Exit 125 & Garden Valley , Interval #2

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	TR	L	TR	L	R
Maximum Queue (ft)	116	203	224	1535	1525	1483	1480	73	248
Average Queue (ft)	41	118	137	1096	1083	817	603	29	111
95th Queue (ft)	87	193	215	1777	1761	1611	1506	66	198
Link Distance (ft)	1072	1072	1072	1481	1481	1453	1453	543	543
Upstream Blk Time (%)				35	33	20	15		
Queuing Penalty (veh)				0	0	0	0		
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 35: Exit 125 & Garden Valley , All Intervals

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	T	TR	L	TR	L	R
Maximum Queue (ft)	116	203	224	1535	1525	1483	1480	73	248
Average Queue (ft)	41	118	137	1096	1083	817	603	29	111
95th Queue (ft)	87	193	215	1777	1761	1611	1506	66	198
Link Distance (ft)	1072	1072	1072	1481	1481	1453	1453	543	543
Upstream Blk Time (%)				35	33	20	15		
Queuing Penalty (veh)				0	0	0	0		
Storage Bay Dist (ft)									
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 38: Garden Valley Rd & Hwy 125, Interval #1

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	T	T	T	L	R
Maximum Queue (ft)	1464	1534	1101	1096	201	330
Average Queue (ft)	780	825	593	596	99	140
95th Queue (ft)	1475	1524	1343	1340	166	303
Link Distance (ft)	2937	2937	1072	1072	1104	1104
Upstream Blk Time (%)			6	6		
Queuing Penalty (veh)			64	66		
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 38: Garden Valley Rd & Hwy 125, Interval #2

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	T	T	T	L	R
Maximum Queue (ft)	1464	1534	1101	1096	201	330
Average Queue (ft)	780	825	593	596	99	140
95th Queue (ft)	1475	1524	1343	1340	166	303
Link Distance (ft)	2937	2937	1072	1072	1104	1104
Upstream Blk Time (%)			6	6		
Queuing Penalty (veh)			64	66		
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 38: Garden Valley Rd & Hwy 125, All Intervals

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	T	T	T	L	R
Maximum Queue (ft)	1464	1534	1101	1096	201	330
Average Queue (ft)	780	825	593	596	99	140
95th Queue (ft)	1475	1524	1343	1340	166	303
Link Distance (ft)	2937	2937	1072	1072	1104	1104
Upstream Blk Time (%)			6	6		
Queuing Penalty (veh)			64	66		
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 40: Freeway Ave/Willow St, Interval #1

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB	SB	B6
Directions Served	L	TR	L	R	T	TR	L	T	T	R	T
Maximum Queue (ft)	221	111	38	68	530	528	43	280	297	60	11
Average Queue (ft)	116	50	8	26	462	435	12	107	132	33	0
95th Queue (ft)	187	88	28	60	612	626	34	242	271	47	8
Link Distance (ft)	817	817	228	228	487	487		507	507		220
Upstream Blk Time (%)					36	27					
Queuing Penalty (veh)					0	0					
Storage Bay Dist (ft)							400			10	
Storage Blk Time (%)									23	3	
Queuing Penalty (veh)									68	17	

Intersection: 40: Freeway Ave/Willow St, Interval #2

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB	SB	B6
Directions Served	L	TR	L	R	T	TR	L	T	T	R	T
Maximum Queue (ft)	221	111	38	68	530	528	43	280	297	60	11
Average Queue (ft)	116	50	8	26	462	435	12	107	132	33	0
95th Queue (ft)	187	88	28	60	612	626	34	242	271	47	8
Link Distance (ft)	817	817	228	228	487	487		507	507		220
Upstream Blk Time (%)					36	27					
Queuing Penalty (veh)					0	0					
Storage Bay Dist (ft)							400			10	
Storage Blk Time (%)									23	3	
Queuing Penalty (veh)									68	17	

Intersection: 40: Freeway Ave/Willow St, All Intervals

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB	SB	B6
Directions Served	L	TR	L	R	T	TR	L	T	T	R	T
Maximum Queue (ft)	221	111	38	68	530	528	43	280	297	60	11
Average Queue (ft)	116	50	8	26	462	435	12	107	132	33	0
95th Queue (ft)	187	88	28	60	612	626	34	242	271	47	8
Link Distance (ft)	817	817	228	228	487	487		507	507		220
Upstream Blk Time (%)					36	27					
Queuing Penalty (veh)					0	0					
Storage Bay Dist (ft)							400			10	
Storage Blk Time (%)									23	3	
Queuing Penalty (veh)									68	17	

Intersection: 42: Harvard Ave & Bellows, Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B6	B6	NB	NB
Directions Served	L	T	T	R	L	T	T	R	T	T	L	T
Maximum Queue (ft)	129	600	655	125	120	323	332	100	535	536	124	497
Average Queue (ft)	37	341	405	112	116	293	293	7	367	376	112	137
95th Queue (ft)	107	563	644	172	129	321	323	53	635	633	142	385
Link Distance (ft)		2828	2828			220	220		507	507		652
Upstream Blk Time (%)						43	33		2	2		0
Queuing Penalty (veh)						449	342		18	16		0
Storage Bay Dist (ft)	105			100	95			100			100	
Storage Blk Time (%)	0	46	45	1	51	24	33	0			25	0
Queuing Penalty (veh)	0	14	183	4	319	57	2	0			95	1

Intersection: 42: Harvard Ave & Bellows, Interval #1

Movement	NB	SB	SB
Directions Served	R	L	TR
Maximum Queue (ft)	160	68	103
Average Queue (ft)	105	23	30
95th Queue (ft)	196	57	69
Link Distance (ft)			281
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	135	100	
Storage Blk Time (%)	2		1
Queuing Penalty (veh)	7		0

Intersection: 42: Harvard Ave & Bellows, Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B6	B6	NB	NB
Directions Served	L	T	T	R	L	T	T	R	T	T	L	T
Maximum Queue (ft)	129	600	655	125	120	323	332	100	535	536	124	497
Average Queue (ft)	37	341	405	112	116	293	293	7	367	376	112	137
95th Queue (ft)	107	563	644	172	129	321	323	53	635	633	142	385
Link Distance (ft)		2828	2828			220	220		507	507		652
Upstream Blk Time (%)						43	33		2	2		0
Queuing Penalty (veh)						449	342		18	16		0
Storage Bay Dist (ft)	105			100	95			100			100	
Storage Blk Time (%)	0	46	45	1	51	24	33	0			25	0
Queuing Penalty (veh)	0	14	183	4	319	57	2	0			95	1

Intersection: 42: Harvard Ave & Bellows, Interval #2

Movement	NB	SB	SB
Directions Served	R	L	TR
Maximum Queue (ft)	160	68	103
Average Queue (ft)	105	23	30
95th Queue (ft)	196	57	69
Link Distance (ft)			281
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	135	100	
Storage Blk Time (%)	2		1
Queuing Penalty (veh)	7		0

Intersection: 42: Harvard Ave & Bellows, All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B6	B6	NB	NB
Directions Served	L	T	T	R	L	T	T	R	T	T	L	T
Maximum Queue (ft)	129	600	655	125	120	323	332	100	535	536	124	497
Average Queue (ft)	37	341	405	112	116	293	293	7	367	376	112	137
95th Queue (ft)	107	563	644	172	129	321	323	53	635	633	142	385
Link Distance (ft)		2828	2828			220	220		507	507		652
Upstream Blk Time (%)						43	33		2	2		0
Queuing Penalty (veh)						449	342		18	16		0
Storage Bay Dist (ft)	105			100	95			100			100	
Storage Blk Time (%)	0	46	45	1	51	24	33	0			25	0
Queuing Penalty (veh)	0	14	183	4	319	57	2	0			95	1

Intersection: 42: Harvard Ave & Bellows, All Intervals

Movement	NB	SB	SB
Directions Served	R	L	TR
Maximum Queue (ft)	160	68	103
Average Queue (ft)	105	23	30
95th Queue (ft)	196	57	69
Link Distance (ft)			281
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	135	100	
Storage Blk Time (%)	2		1
Queuing Penalty (veh)	7		0

Network Summary

Network wide Queuing Penalty, Interval #1: 4359
Network wide Queuing Penalty, Interval #2: 4359
Network wide Queuing Penalty, All Intervals: 4359

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